



RESEARCH ARTICLE

EROSION OF BIODIVERSITY KNOWLEDGE BETWEEN YOUNGER AND OLDER GENERATIONS
IN DODA DISTRICT OF JAMMU AND KASHMIR HIMALAYA (INDIA)

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ABSTRACT

The present study deals with the erosion of biodiversity (plants) knowledge between older and younger generations (both male and female) regarding their identification and respective uses. During the study it was found that the older generations comparatively has a vast knowledge about the local biodiversity including its identification, uses and conservation. An average total of 139.6 plant species were identified and listed by the older generations with their various uses, while the average total of only 88 plant species could be identified by the younger generations. Therefore, an average of 36.96% (51.6 plants) of biodiversity knowledge was eroded in the younger generations regarding their identification as well as 25-37.5% of about various uses of plants as compared to the older generations. This erosion has occurred in the younger generations due to lack of proper interaction with the older generations regarding the local biological diversity knowledge and its importance. The main purpose of this study was to assess the local biodiversity knowledge in the younger generation as compared to the older one and to try to understand the reason responsible for the loss of this knowledge as well as pave this gap through documented literature and the help of older generations of the area.

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INTRODUCTION

Knowledge of biodiversity especially plant diversity is of immense importance for human life because the human beings cannot survive without it. Plant diversity (forest produce and crops) play an important role not only in the existence of human life but also to support its social, cultural, and economic realm. Forests provide us direct as well as indirect benefits at all times. In this regard the older generations possess a vast knowledge about local biodiversity and its uses and conservation at local levels. The knowledge of biodiversity has drastically eroded in the younger generation and this is a serious and aggravating problem. Yet, quantitative work on the loss of biodiversity knowledge and its importance in biodiversity conservation is lacking. The erosion of biodiversity knowledge in younger generations will prove destructive in future because most of the useful species are becoming extinct, rare and endangered day by day. There is a probability in future; the forest cover may be lost due to improper management and lack of proper knowledge about biological diversity and its importance. The results may appear as global warming and the struggle of living beings for existence. In the perspective of biodiversity as well as traditional knowledge, considerable work has been done on the qualitative insight into public knowledge and concern with

biodiversity (Hunter and Brehm, 2003); Public attitudes and knowledge about ecosystem management on department of defense lands in Florida (Jacobson and Marynowski, 1997); Awareness about community and traditional knowledge systems (CKS/TKS) in India until recently has largely been focused on conservation of biodiversity and ensuring ecological sustainability (Gupta 2006), rather than being concerned with protecting indigenous cultures (Singh, 2004). However, there has been growing interest in the potential of community knowledge and its related institutions as a form of social component, and scholars and policy makers are increasingly trying to incorporate it in models of sustainable development (Pretty, 2003; Ladle and Jepson, 2008; Singh et al., 2010); The purpose of this study was to determine understanding of the term biodiversity, knowledge of the causes of species decline, and concern about biodiversity loss. Many people were uncertain about defining biodiversity but managed to create workable definitions by dissecting the term. Species loss was viewed as happening elsewhere like in Asia and Africa. In Indian context, some work has been done on ecological knowledge of rural Children: Educational Innovation and Natural Resource Conservation (Vijaya and Gupta, 1997); overall Community Knowledge Garden (CKG) has significant impact on social and ecological systems of concerned communality. It is an important approach in restoration of plant species, enhancement of livelihoods and conservation of traditional Knowledge systems of tribal

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communities (Singh, 2010); Erosion of biodiversity knowledge between younger and older generations regarding their identification and uses by (Arya and Tewari, 2010).

There was no more available literature found about the erosion of biodiversity knowledge between the younger and older generations in J&K Himalaya. Therefore, keeping this view in mind the present study has been undertaken to assess the erosion of biodiversity knowledge between the younger and the older generations regarding their identification and uses and pave this gap through the results of the findings.

MATERIALS AND METHODS

The present study was conducted in five villages namely Kalaya, Khellani, Paroyte, Saras and Shree of Doda district in the year 2012-2013. Doda district falls between 32° 53' and 34° 21' N latitudes and 75° 1' and 76° 47' E- longitudes and has a total area of about 4500sqft Km (approx). PRA technique was used to assess the erosion of biodiversity knowledge between the younger (20-30 years) and the older generations (above 40 years) in both males and females regarding plant identification and their respective uses (Arya and Tewari, 2010).

10-15 people were involved in each PRA group for gathering information. After long sessions of discussions, the list of plants was recorded with their identification from both the groups separately. Species-wise use of each plant was also recorded. During the study, seven parameters (edible, fodder, medicinal uses, religious, leaf litter for cow dung, timber, agricultural implements and fuel wood) were taken for the uses of various plants. After the collection of information, the data were assessed and analyzed with regard to the erosion of biodiversity knowledge in the younger generations as compared to that of the older generations and then report was documented.

RESULTS AND DISCUSSION

An average total of 139.6 plant species were responded about by the older generations regarding their identification which of 45.2 trees, 18.6 shrubs, 46.6 herbs, 19.8 grasses, 5 climbers and 4 epiphytes, while an average total of 88 plant species only were responded about by the younger generations, which consisted of 30 trees, 9.4 shrubs, 28.4 herbs, 15 grasses, 3 climbers and 2.2 epiphytes respectively. Therefore, the average of 36.96.3% (51.6 plants) biodiversity knowledge was

Table 1. Showing total plant responded by younger and older generations from five villages of Doda district of Jammu and Kashmir Himalaya

Plant forms	Villages														Average	
	Kalaya		Khellani		Paryote		Saras		Shree		Total		O	Y		
	O	Y	O	Y	O	Y	O	Y	O	Y	O	Y	O	Y		
Trees	48	32	44	34	42	29	46	27	46	28	226	150	45.2	30		
Shrubs	19	10	18	9	21	10	17	6	18	12	93	47	18.6	9.4		
Herbs	48	30	46	28	45	29	47	25	47	30	233	142	46.6	28.4		
Grasses	21	16	18	16	19	13	20	16	21	14	99	75	19.8	15		
Climbers	6	4	4	2	5	4	6	3	4	2	25	15	5	3		
Epiphytes	5	2	4	3	4	2	5	2	4	2	22	11	4.4	2.2		
Grand total	147	94	134	92	136	87	141	79	140	88	698	440	139.6	88		

Key: O=older generation, Y= younger generation

Table 2. Showing the erosion of biodiversity knowledge between younger and older generation of Doda District of Jammu and Kashmir Himalaya

Plant forms	Assessment of biodiversity knowledge between younger and older generations		
	Older generation (O)	Younger generation (Y)	Erosion of knowledge E= (O-Y)
Trees	45.2	30.0	15.2
Shrubs	18.6	9.4	9.2
Herbs	46.6	28.4	18.2
Grasses	19.8	15	4.8
Climbers	5.0	3.0	2.0
Epiphytes	4.4	2.2	2.2
	$\Sigma O = 139.6$	$\Sigma Y = 88$	$\Sigma E = 51.6$

$$\text{Erosion of knowledge (\%)} = \frac{\Sigma E \times 100}{\Sigma O} = \frac{51.6 \times 100}{139.6} = 36.96\%$$

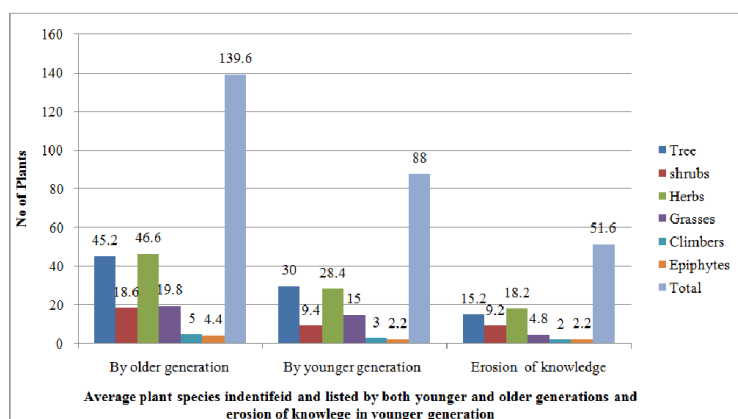


Fig 1. Graphical representation of erosion of biodiversity knowledge between younger and older generation

eroded in the younger generations as compared to that of the older generations. It was higher than the earlier reported values of 27.84% by (Arya and Tewari, 2010). The older generation has given 100% response about the various uses (species-wise use) of plants out of 8 applied parameters (edible, fodder, medicinal uses, religious, leaf litter for cow dung, timber, agricultural implements and fuel wood) whereas, the younger generation was not fully aware about the various uses of plants. They only gave an average 62.5-75% (5-6 parameters) response about the various uses of plants out of applied 8 parameters respectively. Thus 25-37.5% of knowledge was found to be eroded regarding the various uses of plants. The knowledge is being eroded day by day as the younger generations pay less attention towards biodiversity and its immense importance in their living system.

Conclusion

The result reveals that the older generations has a vast knowledge about local plant biodiversity as regards identification and uses whereas in the younger generations it has eroded by the 36.96% regarding identification and 25-37.5 % regarding use. This erosion has occurred in the younger generations due to lack of proper knowledge and awareness about local biodiversity as well as lack of proper interaction with the older generations. There is a need for younger generations to be aware of their biodiversity knowledge through various environmental institutions, universities, older knowledgeable persons, NGOs, etc. at the village level.

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