

Conservation of *Ringal* (a dwarf bamboo) through economic development in Rudraprayag district Garhwal (Uttarakhand), India

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ABSTRACT The Himalaya is one of the richest sources with respect to the occurrence of *ringal* in oak forests. *Ringal* is a widely distributed shrub found in the temperate regions of Garhwal Himalaya. This shrub contributes to biodiversity and is important as fodder, basket materials and for household uses. But in future if efforts for *ringal* conservation will not be done it will affect the livelihood of the *ringal* weavers. Out of three blocks, stakeholders of Jakholi (Khod) and Agustamuni (Bhanaj) block are found highly dependent on *ringal* based activities to conduct their livelihood. [The Journal of American Science. 2009; 5(6):23-26]. (ISSN 1545-1003).

Keywords: *Ringal*, oak forests, livelihood activities, Rudraprayag

INTRODUCTION

India greatly depends on the Himalayan region for its forest reserves. In most parts of the Central Himalayas, oak forests are known for their superior ecosystem services. Occurrence of dwarf bamboo *Drepanostachyum falcatum* (Nees) or *Golu ringal* is a common feature in the Himalayas. *Ringal* shrubs are found generally in patches of varying size in tropical evergreen, moist deciduous and in wet subtropical and moist temperate forests. *Ringal* is a non-timber forest produce (NTFP) harvested directly from the oak forest of Garhwal Himalaya without any conservation effort. *Ringal* harvesting is a common practice among the villagers in the temperate belts of Garhwal Himalaya. In the study area (district Rudraprayag) *Drepanostachyum falcatum* and *Thamnocalamus pathiflorus* species of *ringal* are the most harvested species for making baskets, mats, flowerpots etc and other commercial purposes.

Ringal is one of the oldest weaving materials used by mankind and in the district Rudraprayag *ringal* weavers are known as *Rudhiya*. It has been a main source of livelihood for local inhabitants

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due to its multifaceted use. Lack of foresightedness in utilizing the multifaceted *ringal* has resulted in local inhabitants concentrating on agricultural based activities.

In the present paper author has described the *ringal* conservation strategies and economic development followed by the *Rudhiya*'s of Rudraprayag district Uttarakhand. In this connection the unscientific extraction of *ringal* would reduce its diversity as well as biomass.

MATERIALS AND METHODS

Study area: District Rudraprayag (Garhwal) of Uttarakhand state is the remote area in terms of lifestyle and is also rich in botanical resources like *ringal* resource. All three blocks (Ukhimath, Jakholi & Agustamuni) of the district has been covered in the present study. From three blocks total seven villages were selected for conducting the *ringal* study on the basis of availability of *ringal* resource, weavers and remoteness. All the selected areas were similar in *ringal* diversity and its biomass, but different in its harvesting system.

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A. Reconnaissance Survey: The reconnaissance survey was conducted for knowing the traditional method of *ringal* harvesting and involvement of *ringal* stakeholders (called *ringal bunkers*) of different rivals of the area. In Rudraprayag district, *ringal* is traditionally harvested by the *ringal weavers* of Mansuna, Khod, Karandhar, Bhanaj, Sari, Makhanda and Makku villages. These areas come under the Kedarnath forest division. These areas falls within the Garhwal Himalaya region and the forests are dominated with *Quercus semecarpifolia* (brown oak), *Q. floribunda* (green oak) and *Q. leucotrichophora* (white oak) and lies between 1300m to 3000m altitudes of Mandakini valley of district Rudraprayag. Oak forests of the area are rich in *ringal* diversity and biomass.

The traditional weavers harvest *ringal* from the oak forests and prepare the *ringal* products like Kanda, Solta, Changra for collecting fodder and manure. Weavers also sell the *ringal* products at local market like Ukhimath, Agustamuni and Rudraprayag. Some small villagers also sell the products at Rishikesh market of the state. Similarly some weavers also sell the *ringal* products in neighbouring villages of the area.

During the field visit author have interviewed with some *ringal* harvesters and weavers to assess the information on traditional method of *ringal* harvesting, conservation and socioeconomic status of *ringal* in the area.

B. Questionnaire Design: The questionnaire was designed keeping in mind some tasks related to socio-economic and ecological impacts of *ringal*, which is always ignored by various workers.

C. Questionnaire Sampling and Selection of the Respondent: The survey was carried out during August 2007. The questionnaire was used to gather information on conservation efforts and

assessment of annual income from *ringal* sector at different level of stakeholders. The respondents from the area were selected randomly on the basis of their involvement in the *ringal* activity as traditional harvester; trackers (transpiring *ringal* from forest to weaving point/store house), local traders etc. and they were the respondents of the ideal questionnaire.

D. Process of Questionnaire Filling: All questionnaires were filled throughout a long discussion along with the respondent.

E. Data Analysis: The data has been analyzed by using the SPSS software.

RESULTS

Total five species of *ringal* viz. *Drepanostachyum falcatum* (Golu/ Garh/ Garila) *Thamnocalamus pathiflorus* (Dev ringal), *T. jonsarensis* (Tham ringal), *Arundineria falcate* (Sararu ringal) and Bhatputra (locally identified) has been recorded from the study area.

Table 2 shows that Schedule Caste families are highly involved in the *ringal* based livelihood activity. Bhanaj village of the Agustamuni block was found maximum (90%) and Maikhanda & Sari villages of the Ukhimath block was found minimum (23%) dependent on *ringal* activity. 100% Generals of Khod and 90% SC of the Bhanaj villages are actively engaged in the *ringal* sector. No any kind of involvement in the *ringal* activity of SC families of Khod village (Jakholi block) has been found. Table 3 shows about 78% annual income of the stakeholders generated from the *ringal* activity and near about 14% and 8% income comes from labour and agricultural activity. Table 4 shows the maximum part of the earned money from *ringal* is used for providing food (53%) and clothes (27%), and remaining about 20% money is used in medicines and marriage & recreations.

Table 1. List of investigated villages according to availability of ringal species

Sl. No.	Name of Village	Altitudes (m) a.m.s.l.	Ringal species used
1.	Mansuna	1000-2000	<i>Drepanostachyum falcatum</i> (Golu ringal)
2.	Karandhar	1000-2000	
3.	Maikhanda	1000-2000	
4.	Makku	2000- >	<i>Thamnocalamus pathiflorus</i> (Dev ringal)
5.	Sari	2000- >	
6.	Bhanaj	2000- >	
7.	Khod	2000- >	

Table 2. Caste wise percentage involvement of the villagers in ringal activity

Sl. No.	Name of Village	Name of Block	Total No. of HH in the village	Percentage of HH engaged in <i>ringal</i> activity	
				SC	General
1.	Mansuna	Ukhimath	148	46	0
2.	Karandhar	Ukhimath	70	56	0
3.	Maikhanda	Ukhimath	68	23	25
4.	Makku	Ukhimath	438	38	0
5.	Sari	Ukhimath	163	23	0
6.	Bhanaj	Agustamuni	286	90	0
7.	Khod	Jakholi	89	0	100

Table 3. Calculation of annual income of ringal stakeholders from different sources

Sl. No.	Name of Village	Annual income of ringal stakeholder from different sources (Rupees/stakeholder/year)			
		Ringal	Agriculture	Labour	Total
1.	Mansuna	17000	9375	2638	29013
2.	Karandhar	6333	0	2833	9166
3.	Maikhanda	5800	0	1000	6800
4.	Makku	9667	0	167	9834
5.	Sari	7000	0	0	7000
6.	Bhanaj	4667	111	2222	7000
7.	Khod	9886	2286	5714	17886

Table 4. Percentage wise use of earned money from ringal

Sl. No.	Name of Village	Percentage wise use of earn money from ringal			
		Food	Cloths	Medicine	Marriage & recreation
1.	Mansuna	51.25	28.75	10	10
2.	Karandhar	55	26.67	10	8.33
3.	Maikhanda	56	24	24	12
4.	Makku	54.52	26.43	26.43	9.64

5.	Sari	50	30	10	10
6.	Bhanaj	57.78	23.33	23.33	9.44
7.	Khod	51.43	28.57	28.57	10

DISCUSSION

In the study area (Rudraprayag) it is found that *ringal* is the primary livelihood activity particularly within the socially backward caste. They are totally dependent on this natural resource and have no other source of income. In all the three blocks *ringal* sector contributes highest to generate income as compared to other sources. *Ringal* is low input cost and high-income generating activity for its weavers.

To increase *Ringal* production, scientific techniques about nursery development through seeds, cuttings and information about time of flowering and seed maturing should be given to the weavers through trainings and meetings. To reduce dependency on forests weavers should be provided the plantation of extensively used *ringal* species in their wastelands. *Ringal* conservation can be improved through livelihood improvement of the weavers and not by direct ban on *Ringal* harvesting. Training and awareness programs should be conducted for *Ringal* weavers for making fancy and modern products of *Ringal* like flowerpots, small baskets, pen stands, file covers, fancy bags etc. and production of traditional products like Kanda, Solta, Changra etc. should

be stopped. Since too much quantity of *Ringal* (20-40 sticks) is used to prepare traditional products (Kanda, Solta, Changra etc.) that too at low cost and through long time taking process therefore the *Ringal* weavers should prepare modern products in which less quantity of *Ringal* (about 2-3 sticks) is used and they can earn too much money in very short time.

Traditional products should be prepared for self-use only and modern products should be prepared for commercial purposes. If the *ringal* based livelihood activity would be started properly, the migration of some unemployed youth of the area to plains can be reduced, because they can get the job opportunity in *Ringal* sector.

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