

EXISTENCE VALUE OF KODAGU DEVARA KADU, SACRED GROVES IN INDIA¹

MG Chandrakanth, MS Accavva *, Mahadev G Bhat**, MG Nagaraja***, Guido Van Huylenbroeck****.

*Department of Agricultural Economics, University of Agricultural Sciences, GKVK, Bangalore 560065

** Environmental Studies, Florida International University, Miami

***The Mythic Society, Bangalore

****University of Ghent, Belgium

Abstract

The family tradition of Kodagu community is preserving institution of sacred groves in Westren ghats the world's hot spot of biodiversity in India. This study estimated that the low existence value of sacred grove forming 10 percent of the total economic value is due to (1) dilution of the 'jamma' land tenure enabling sale of lands to non 'kodaga' community, (2) remunerative coffee prices leading to encroachment of sacred groves (3) in-migration of non 'kodaga' ethnic community with little respect to institution of sacred grove. Steps to revive the institution of sacred groves are being taken at the local level for which Governmental support is lacking. The sacred groves of Kodagu are serving the cause of forest ecology leading to climax forests. Further dilution will lead to ecological losses. The ecological economic indicator of dilution of institution is the low existence value of ten percent.

Introduction

Sacred groves are manifested in different parts of the world. They were common among the ancient Germans where people were penalized for debarking. Tree worship was prevalent in ancient Greece and Italy. Sacred groves are found in Europe, North America, Eastern Africa, China and in a few Arabian countries. The park cemeteries of North America, the fetish groves of Nigeria, church forests of Ethiopia, Guthi forests of Nepal, Monastic forests of China, Thailand, The Oostakker sacred grove in Ghent, Belgium, are a few examples (Pictures 1 through 5). In India Devara kadu are commonly found in south India are named as Devara bana, Pavitra vana or Devara kadu in Karnataka, Kavu in Kerala and Kovil kadu in Tamil Nadu. In north India, they are known as Deorais or Devrahalisin in Maharastra, Sarnas in Bihar, Vanis, Orans, Kenkris or Shamlaldehs in Rajasthan and Lawkyntangs in Megalaya.

Kodagu is an unique district in India, where every village has at least one sacred grove ('Devara kadu'). Devara kadu has the sanctum housing the deity, the forest surrounding the deity and a small water source to support the sanctum activities. Our investigations give an indication that the tradition of Devara Kadu existed much earlier, during 1000 BC in Kodagu at Kolathode-Bygode enroute Hathur-Kaikeri in Virajpet taluk (Pictures 1,2,3).

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Picture 1: Big Menhir symbolizing Iyyappa (Ishwara) in Kalathode-Bygode in Iyyappa Devara Kadu, Kodagu (Picture by M.G. Nagaraja)



Picture 2: Small Menhir symbolizing Subramanya in Kalathode-Bygode in Iyyappa Devara Kadu, Kodagu (Picture by M.G. Nagaraja)



Picture 3: Devotees performing traditional rituals around sacred grove, Kodagu, India



Picture 4: Sacred grove in Oostakker, Ghent, Belgium



Picture 5: Devotees drinking holy water at Oostakker Sacred Grove, Ghent, Belgium

History of tree worship

Tree worship in India dates to the vedic period. An example is the "fig deity seal" from the ruins of Mohenjadaró, the center of the Indus valley civilization that flourished about 3000.B.C. Asko Parpola (1989) presented the iconography and inscriptions of the "fig diety seal" at the 10th International Conference of South Asian Archaeologists, Paris. According to him sacred trees are also observed in non- Hindu religion. In Jainism, which is older than Buddhism, each of the 24 Thirthankaras was associated with a different species of trees. Vedic Texts of 2000 B.C. describe fig trees as housing the fertility spirits of "Ghandharva" and "Apsara" . A fig tree (*Ficus religiosa*) alive today in Bodhgaya sheltered Buddha when he gained "Nirvana" (knowledge of the self) in the sixth century B.C. The Budhist emperor Ashoka also planted this species wherever he spread the new religion (Chandrakanth and Jeff Romm (1991)).

Rights/privileges

The privileges and rights such as extraction of firewood for temple worship, materials for erection of pendals and timber for temple construction vests with the temple committee. The villagers generally do not harvest anything from Devara Kadu. They offer social fencing to the Devara Kadu. The forest department has formulated a set of rules to preserve the Devara kadu under section 31 of the Indian forest Act, VII of 1878 as under:

Status of Devarakadu in Kodagu

Devara kadu exists in all villages of Kodagu district and each Devara Kadu is named after a specific deity. Kushalappa² reported that there are about 1214 Devara kadu in Kodagu district, of which 557 (46 per cent) are of less than one acre, 45 percent are around 5 to 10 acres and 4 per cent are more than 25 acres in size

Problem

Devara kadu area has drastically reduced by 62 per cent since 1905. It is in order to analyze the institutional and economic factors for degeneration of Devara kadu. The existence value of the Devara Kadu is estimated to appreciate the preservation value of the village community. Resource economists use the term "existence value" to refer to non-use values accrued due to non-accessibility of the resource. This answers the key question, "even though the interaction (by visit to Devara kadu) is indirect and off-site (akin to the willingness to pay for preservation of Amazon, even though one may not visit at any time), what is the willingness to pay for the preservation of Devara kadu". This study focuses on the factors responsible for preservation and valuation of the institution of Devara kadu in Kodagu district with the objective of:

- 1) Analysis of historical, institutional, social and economical factors influencing preservation of Devara kadu.
- 2) Estimation of existence value of Devara kadu in Kodagu district

Sampling and field data

Kodagu district selected for this study on Devara kadu, has 1214 Devara kadu in 5000 acres. The district has two forest divisions : Madikeri forest division in the high rainfall zone of evergreen forests and the Virajpet division in the drier eastern fringe, with moist deciduous forests. From these two ranges four villages each were selected at random. From each village 10 respondents were chosen at random. Primary data relating to Devara kadu were obtained for 15 Devara kadu(s). Kushalappa (1999) study on Devara Kadu eliciting data from Temple committee members regarding management of Devara Kadu, information on deities associated, festivals celebrated, rituals followed, different communities involved, encroachments and development activities undertaken in the Devara kadu had data on other 25 Devara Kadu(s), which were also used in this study.

In this study data were collected using pre-tested schedule, information regarding knowledge and opinion on Devara kadu, current contribution made towards Devara kadu to which the planter/ farmer respondent visits and also the Devara kadu which s/he does not visit were obtained. Further their willingness to pay annually for preserving the Devara kadu in their village as well as for the Devara kadu in another village that they normally do not visit were also obtained. Information relating to socio economic aspects like social role, education, family composition, land holding and crop economics were also elicited from the respondents. Information regarding the traditional values of the respondents towards their ancestral home - "Tynmane", the ancestral burial place "Kaimada" and contributions towards the same, were also obtained.

Theoretical framework for the analysis of Existence value:

Existence value is commonly known as the value an individual has for the existence of a resource from which s/he does not derive any use now or in future. Krutillia (1967) recognised that existence values were not limited to naturally occurring resource. The concept could also be attributed to man made resources or items such as rare works of art. Uniqueness was the foundation for existence value. Accordingly to Krutilla existence value is the "willingness to pay for retaining an option to use an area or facility that would be difficult or impossible to replace and for which no close substitutes are available. The demand may exist even though there is no current intention to use the area or facility in question and the option may never be exercised. Such a demand may exist among others who place a value on the mere existence of biological and /or geomorphic variety and its widespread distribution."

² Kushalappa, C. G., 1999, Devarakadus-Edging Towards Extinction. *Coffee Land News*, 3(48):1

Method

In this study the respondent knowledge and opinion about preservation of Devara kadu was elicited. Before asking them their actual willingness to pay for preservation of Devara kadu, their actual contribution for the festivals in the Devara kadu of their village and contribution for festivals in another village was obtained. This is done with the objective of making their actual contribution as basis for eliciting the respondent's true willingness to pay for conservation and preservation of the Devara kadu.

A respondent contributing towards preservation of the Devara kadu in his/her village will have non-consumptive value as s/he is deriving an indirect benefit. However since existence value is based on the valuation due to non-accessibility to the resource, we elicit the respondent's willingness to pay for preservation of the Devara kadu in another village which s/he does not visit and thus does not derive any direct benefit from the same. Even when the interaction with the Devara kadu is indirect and offsite, this willingness to pay closely represents the existence value.

Respondents were confronted with the Dichotomous choice (DC) Contingent Valuation questions. The questions pertaining to willingness to pay for preservation of Devara kadu in the respondent's village as well as in another village were of DC format. That is the respondent was confronted with an offered amount; then, in the next two follow up questions, was asked to specify his or her bid. Thus, it is argued that the specified bid amount is the respondents' true willingness to pay. This was mainly because the respondent's annual willingness to pay for preservation of Devara kadu was elicited thus trying to obtain his true willingness to pay. Logit model was used to estimate the willingness to pay for preservation of Devara kadu in their own village (WTP1) and that for preservation of Devara Kadu in another village (WTP2).

The dependent variable used is $X =$ willingness to pay (1/0) towards preservation of Devara kadu, with the independent variables such as $X1 =$ Income, $X2 =$ Education, $X3 =$ Monetary contributions towards family festivals, $X4 =$ Bid amount and $D1 =$ Clan depending on the respondent belonging to Kodava clan (1) or non Kodava clan (0).

The logit model based on the logistic probability is specified as:

$$P_i = f(Z_i) = \frac{1}{1 + e^{-Z_i}}$$

$$\text{Where, } Z_i = \alpha + \beta_i X_i$$

After simplifying the above the form for estimation of the logit model is

$$Z = \log \left(\frac{P_i}{1 - P_i} \right) = \alpha + \beta_i X_i = L_i$$

Here, $P_i =$ Probability that the respondent has willingness to pay for preservation or for enhancing the Devara kadu in his/her village or in another village; $(1 - P_i) =$ Probability that the respondent is not willing to pay for preservation or for enhancing the Devara kadu in his/her village or in another village; $\beta_i =$ coefficient to be estimated. L_i is called the logit as it follows the logistic regression.

The odds ratio is $P_i/(1 - P_i)$ which is the odds ratio in favour of a randomly chosen consumer having willingness to pay. It is the ratio of the number of chances that the respondent is having willingness to pay for preservation or for enhancing the Devara kadu in his/her village or in another village to the chances that he/she is not WTP. An odds ratio of 0.486 indicates that for every one chance that the respondent's WTP, there is 0.5 chance that s/he would not be willing to pay for preservation of the Devara Kadu.

Tobit model

Having estimated the odds ratio, which reflects the probability that a respondent is willing to pay to the probability that the respondent is not willing to pay to preservation, it is in order to estimate the actual willingness to pay for preservation using the Tobit model. The dependent variable in this model used to obtain the existence value is the 'actual amount' that each respondent would pay for preservation. The range of this variable is restricted due to the bid amount (as no bids below 0 are allowed) in the Tobit estimation. Tobit model from the limdep package was used to find the respondents actual willingness to pay towards preservation of Devara kadu in their village and also in the other village to which they do not visit. The respondents' willingness to pay towards the other village for preservation (WTP2) was considered as the existence value the respondent has towards the Devara kadu. This was considered as the willingness to pay is purely based on non-use value as the respondent

does not derive any kind of benefit from the present or in the future from the Devara kadu, which exists in another village. WTP1 was used as the base to check the accuracy of the willingness to pay and also the estimated existence value.

Festivity and social fencing

The Devara kadu festivals are conducted once a year jointly by all the village communities enjoying a sense of belongingness, in different parts of the year according to the tradition. The rituals such as "Tere" "Thadambu dance" "Ethuporata", "Agni keru", "Bolakat", "Kattu" are common in Devara kadu festivals. All the communities in the village participate in the Devara kadu festivity namely Kodavas, Amma Kodavas, Koyyava, Kumbara, Kudiya, Panika, Banna, Heggade, Kaapaala, Kembatti, Irri, Meda, Vakkaliga Gowda, Jamma Gowda, Kuruba, Yerava and Bramhins. However, daily worship in Devara Kadu is not a common practice as in other temples, since Devara Kadu follows the folk tradition and is not a sanskritized temple. Only in a few cases, there are festivals once a month. The institution of Devara Kadu festivity strengthens the 'social fencing' of Devarakadu and thus reduces the transaction cost of protection to the Forest Department.

Economic factors influencing preservation of Devara kadu

Kodagu is the largest coffee-growing district of India contributing around Rs. 1200 crores towards export of coffee from Karnataka. The increase in domestic and export demand for coffee, cardamom, pepper and recently ginger has resulted in increase in cultivation of uncultivated land in Kodagu. This is the motivating factor for increase in cultivated area in Kodagu attracting the private forestlands. This in turn influenced encroachment of Devara kadu lands. Area under Devara kadu varies widely. The size of Devara kadu varied from 0.11 acre to 1315 acres. The Neerulli Bana with 1315 acres is the largest Devara kadu in Kodagu district. The modal size of Devara kadu varied between five and ten acres.

The Forestry College, UAS, Ponnampet, recently (2000) conducted the Devara kadu festival where the temple committees met and shared their experiences regarding preservation of Devara kadu. About 25 per cent of the temple committee heads indicated that their Devara kadu has been encroached. The total area of such Devara kadu worked to 557 acres, of which 116 acres were reported as encroached by the temple committees. Thus encroached area formed 21 per cent of the total Devara kadu area (Table 1).

Table 1: Details of encroachment of Devara kadu

Details of data and source	Data from Devara kadu festival	Data from the present study
	n = 40 Devara kadu	n = 17 Devara kadu
Number of Devara kadu where Committees are formed	40 (100)	15 (88)
Number of Devara kadu which reported the fact that their area is encroached	18 (45)	4 (23)
Number of Devara kadu which actually reported extent of encroached area	10 (25)	4 (23)
Extent of Devara kadu Area encroached (acres)	116 (21)*	70 (26)**
Total area of Devara kadu (acres)	1879	267
Total area of Devara kadu which are encroached (acres)	557	80
Number of Devara kadu in which action is taken on encroachers	6 (33)	3 (75)
Number of Devara kadu surveyed by the Department of Survey settlements and Land Records	27 (68)	2 (11)
Protection activity (fencing, planting) undertaken	5 (12)	2 (11)

Note: Data from Devara kadu festival refers to the data filled by the heads of Devara kadu committees who participated in the Devara kadu festival held during Oct 2000. Figures in parentheses are per centages of the total number of Devara kadu under each study.

* 21 per cent (=116/557) is the reported percentage of Devara kadu area encroached out of the total area of Devara kadu which reported the area encroached.

** 26 per cent (=70/267) is the reported percentage of Devara kadu area encroached out of the total area of Devara kadu which are encroached.

In the present study, from the survey of 17 Devara kadu(s), five Devara kadu temple heads reported that there is encroachment and the total encroached area was to the tune of 70.5 acres forming 26 per cent of total Devara kadu area. Thus, from the both the sources of information, the extent of encroachment of Devara kadu area ranged from 21 to 26 per cent, which are comparable.

Land tenure

About 74 per cent of sample respondents had 'jamma'³ land tenure, 14 per cent 'sagu'⁴ tenure, followed by 12 per cent of the respondents who were landless. Jamma land tenure is one of the most important institutional management systems, which has led to preservation of the traditions and culture of Kodagu. It is a joint ownership of the land, among all the eligible members of a family with the senior most member of the family exercising the control. In this system of tenure, the land cannot be sold outside the family fold. In case it has to be sold, then all the joint owners (listed in column 6 of the land records) have to sign. This procedure has necessitated the family to work together reflecting the family system of Kodagu. However, in recent times, there has been some dilution of the Jamma land tenure, the details of which are not available. The annual gross income of the respondents varied from Rs 3,000 to Rs 8,00,000, with an average of Rs. 68,491 per respondent, with the modal income being Rs. 20,000. The size of coffee plantation ranged from one acre to 100 acres in the sample. The slump in the price of coffee from Rs. 1500 per 50 kg during 1999 to Rs. 950 per 50kg bag during 2000, to Rs. 650 per 50-kg bag during 2001 has also contributed to the wide range in gross income (Table 2).

Table 2 Socio-economic characters of the respondents

Variables	Range(Rs)	Modal value(Rs)
Annual gross income of respondents (Rs)	3000 to 800000	20000
Education (years of schooling)	12 to 18	12
Age of the respondent (years)	28 to 85	55
Number of members in the family	3 to 6	4

Accordingly, an estimated 42 per cent of the respondents contributed for the annual Devara kadu festival ranging from Rs. 100 to Rs. 5000 per family, modal value being Rs. 500. About 45 per cent of the respondents, contributed towards renovation of Devara kadu sanctum ranging from Rs. 100 to Rs. 15,000, the modal value being Rs. 1000.

³ Jamma refers to land offered by the then Kodagu kings in recognition of the services rendered. Thus, the ownership of Jamma is not strictly private as it is a public land donated to those who offered their services. Jamma land can be a wet land assessed at one half of normal (sagu) rate of assessment

⁴ Sagu refers to the ordinary ryatwari tenure of land held on full assessment at the ordinary rates.

Purposes of visit to Devara kadu

About 40 per cent of the respondents performed different rituals and participated in cultural activities in Devara kadu. About 96 per cent of the respondents visited Devara kadu to seek blessings from the deity. A majority of the respondents participated in Devara kadu festivity to meet other members of their family. Out of the 17 Devara kadu(s) in this study, in nine Devara kadu(s), there was the practice of 'konda' where villagers perform the ritual of running on the burning splinters. For this purpose one or two trees is/are cut. In order to facilitate this, about 43 per cent of the respondents helped in the process of cutting the tree/s and in preparation of the ground for burning splinters in the festival. Among the sample respondents, 20 per cent of them, were those who settled in Kodagu since the last five years. All these respondents who settled in Kodagu recently indicated that they visited Devara kadu for scenic beauty (Table 3)..

Table 3 : Purposes of visit to Devara kadu

Purposes of visit to Devara Kadu	Number of respondents (n = 80)	Per cent
1) To seek blessings	77	96
2) To meet other members of family*	67	84
3) To cut trees for rituals in devara kadu	34	43
4) As a performer of rituals	32	40
5) To collect non timber forest products	16	20
6) To enjoy the scenic beauty	13	16
7) To participate in the festival	11	14
8) To obtain mental peace	10	13
9) To eat fruits	7	9

*Family in Kodagu traditions composes of 20-50-nucleus familird under a particular family name spread over two or three villages. The total in a family may number 100 to 300 or even more.

Willingness to pay for preservation of Devara kadu

About 63 per cent of the respondents were willing to pay for preservation of Devara kadu as they believed, this would also preserve the forests in Kodagu. Similarly, about 60 per cent of the respondents indicated that they are willing to pay for preservation as their entire village would benefit from preservation (Table 4). About 57 per cent of respondents expressed their willingness to pay for preservation of Devara kadu for performing in the festival. About 42 per cent of the respondents were willing to pay for preservation of Devara kadu so as to sustain the traditions of Kodagu. About, 31 per cent were willing to pay, in order to preserve the Devara kadu for future generation.

Table 4: Reasons for willingness to pay for preservation of Devara kadu

Reasons	Number	Per centage
1. To preserve the forests in Kodagu	31	63.26
2. The entire village will benefit from preservation	29	59.18
3. For performing festival	28	57.14
4. To continue the traditions of Kodagu culture	21	42.18
5. To preserve the Devara kadu for future generation	15	30.61
6. To Secure Devara kadu to its original size from encroachment	5	10.2
7. Plantation and farm are benefited by the Devara kadu due to its location	3	6.12

Factors influencing Willingness To Pay (WTP) for preservation of Devara kadu

A logistic regression model was used to estimate the factors influencing the respondent's willingness to pay for preservation of Devara kadu in their village. WTP1 refers to willingness to pay towards preservation of Devara kadu in their own village. The independent variables considered in the model are income, education, bid

amounts, contribution to family festivals, and whether the respondent belongs to the ethnic clan practicing the Kodava culture or otherwise. Education, contribution to family festivals and bid amount are the major factors influencing the respondents' willingness to pay for preservation of Devara kadu in their village (Table 5). Education was significant at 5 per cent while contribution to family festivals and bid amount was significant at one per cent.

WTP2 is the willingness to pay towards preservation of Devara kadu in another village for which the respondents do not have access. The independent variables considered in the model are income, education, bid amount, contribution to family festivals and whether the respondent belongs to the ethnic clan practicing the Kodava culture or not. The result indicates that education and contribution to family festivals are the two key factors influencing the respondent's willingness to pay. Education is significant at one per cent while contribution towards family festival is significant at ten per cent.

Table 5: Factors influencing willingness to pay (WTP) for preserving Devara kadu (logit model results)

Variable	WTP1	WTP2
Constant	-1.496* (0.811)	-2.309** (0.950)
Income	0.34E-02 (0.0057)	-0.0041 (0.0057)
Education	0.155** (0.073)	.171** (0.076)
Contribution	0.398E-03* (0.232E-03)	0.384E-03* (0.076)
Bid amount	-.497E - 03* (0.265E-03)	0.387E-04 (0.258E-03)
Clan (1)	0.877 (0.782)	0.824 (0.828)
Odds ratio: 1 0	1.9 0.79	1.82 0.8
LR test	13.04***	17.24***
P: 1 0	0.65 0.44	0.64 0.43
N	74	74

*** 1% level of significance

** 5% level of significance

* 10% level of significance

WTP1 = Willingness to pay towards preserving Devara kadu in their own village (annual contribution)

WTP2 = Willingness to pay towards preserving Devara kadu in other villages

Figures in the parenthesis represent standard error

Odds ratios for willingness to pay

Odds ratio for WTP1 indicated that the chances for paying towards preservation increased by 1.9 chances when the respondent belongs to the kodava community. There are 1.9 chances in favour of willingness to pay towards preservation to one chance of not willing to pay. If the respondent does not belong to the ethnic kodava community, his/her willingness to pay decreases to 0.79 to one chance of not paying.

Odds ratio for WTP2 indicated that the chances for paying towards preservation increased by 1.82 chances when the respondent belongs to the ethnic kodava community and was 0.8 when s/he did not belong to the community.

Existence Value of Devara Kadu

In this study, willingness to pay towards their own village Devara Kadu is the use value as indirect benefits are derived in the form of environmental benefits and increase in farm production. Willingness to pay towards preserving Devara kadu in other village is considered as existence value of the respondent towards his/her Devara kadu since s/he wants the Devara kadu to exist even though s/he does not derive any direct or indirect benefit from the sacred grove.

The results obtained in Table 6 bring out the estimated willingness to pay for preservation of Devara kadu in their village as well as their neighbouring village. As expected the mean willingness to pay towards their own village was much higher at Rs.702 per family (US \$ 14). The estimated mean willingness to pay towards preservation of Devara kadu in another village was estimated as Rs 87 per family (US \$1.74), which is a flow concept in which the contribution is made annually. In the study, as the willingness to pay towards other Devara kadu is interpreted as existence value, the estimated existence value for preserving the Devara kadu worked to Rs 87 per family (US \$1.74).

Table 6: Estimation of willingness to pay for preservation of Devara kadu in Kodagu district - 2001 (Tobit model)

Variable	WTP1	WTP2	Mean of X
Constant	204.135 (1256.27)	-383.11 (331.31)	
Income	6.693* 3.91	.754 (331.31)	66.13
Education	117.081** (59.40)	28.55* (16.06)	10.97
Age	-35.198 (18.26)	-3.127 (4.63)	53.37
Contribution	.273 (.10)	.118E-01 (.245E-01)	1064
Bid amount	-.501E-01*** (.195)	.913E-01* (.480E-01)	2096
Clan (1)	467.058 (658.05)	69.55 (175.66)	
Log likelihood function	-416.8638	-344.1938	
Estimated mean willingness to pay (1/0)	702(Rs) 235(Rs)	87(Rs) 15(Rs)	
N	74	74	

*** 1% level of significance

** 5% level of significance

* 10% level of significance

WTP1 = Willingness to pay towards preserving Devara kadu in their own village (annual contribution).

WTP2 = Willingness to pay towards preserving Devara kadu in other villages.

Figures in the parenthesis represent standard error

Implications

The existence value of Kodagu sacred groves per family (\$1.74) formed 10 percent of the total economic value (\$15.74), while the use value formed the rest. The use value is dominating over the existence value (non use value) and hence largely responsible for encroachments and the current status of sacred groves. Hence, there has been a reduction in the area of Devara kadu due to encroachment and conversion of forest area into plantations.. In addition, immigration of diverse cultures who have no commitment to preserve the sacred grove as they do not form part of their native culture, weak management, remunerative coffee prices, led to the dilution of the Devara kadu institution and the corresponding existence value. Hence greater concern has to be directed towards preserving the Devara kadu (forests) for our future generation from the point of maintaining biodiversity.

Education and contributions to the family festivals are crucial factors influencing the respondents willingness to pay towards preservation of Devara kadu. A mechanism has to be developed to involve all communities in the locality for preserving Devara kadu. The willingness to pay by the respondents indicates that the people in Kodagu are ready to contribute for preserving Devara kadu. However it is necessary to ensure that their contribution are properly used by developing a set of guidelines. In this direction, the proposal to form a committee at the village level and a federation of Thakkmukyastha at the district level is worth considering. The committees formed at the village and the district levels are be vested with powers to restore and preserve Devara kadu involving the participation of local people. The Devara kadu land converted to plantations should be reverted to forest land since the land under forest is on the decline especially at the village level. More emphasis has to be laid towards preserving Devara kadu as forests reflecting the local bio diversity for the benefit of future generation. The success stories regarding restoring encroachments be highlighted along with the need for preserving Devara kadu through mass media need to be highlighted..

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