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### Sowing success: Unraveling the drivers behind agro-ecotourism ventures and visitor engagement

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#### Abstract

Agro-ecotourism, an innovative approach within India's tourism sector, fosters collaboration between the farming sector, tourism industry, and agricultural enterprises, alongside leveraging ecosystem services. This study, conducted in the Chikkamagaluru and Kodagu districts of Karnataka, employed purposive random sampling to select respondents, revealing the positive impact of agro-ecotourism on local communities. In the research area, agro-ecotourism emerged as a significant contributor to employment and income generation for local residents, both through wage labor and entrepreneurial endeavors. The study emphasizes the vital role of agro-ecotourism initiatives in fostering economic growth in rural areas, not only through direct employment opportunities but also through ancillary services and supply chains. By strengthening these linkages between agro-ecotourism and local communities, there is an opportunity to address challenges such as rural youth migration. Empowering rural populations through meaningful employment and income generating activities can contribute to the overall sustainability and prosperity of rural areas, ensuring that the benefits of agro-ecotourism are equitably distributed among all stakeholders.

**Keywords:** Agro-ecotourism, economic growth, employment

#### Introduction

Agro-ecotourism, an emerging concept within the Indian tourism sector, involves a symbiotic relationship between the farming sector, tourism industry, and agricultural enterprises, leveraging ecosystem services (Barbuddhe and Singh, 2014) <sup>[3]</sup>. This entails visitors engaging in activities on active farms or agricultural ventures for leisure, education, or active participation. These experiences offer a retreat from urban life, allowing individuals to immerse themselves in rural settings, sample local cuisine, and gain insights into various agricultural practices. Destinations such as Chikkamagaluru, Madikeri, and Mysuru in Karnataka serve as prime examples of eco-tourism sites.

Focusing on agro-ecotourism has the potential to enhance employment opportunities in both agriculture and tourism sectors by promoting local hiring practices and sourcing, while also fostering tourism activities rooted in local culture and the natural environment. Integration of local populations, particularly those from marginalized communities, into the tourism value chain can spur economic growth within the agro-ecotourism sub-sector through the supply of local goods, labor, and tourism services, while also prioritizing the preservation of natural habitats.

Karnataka, with its diverse natural landscapes, agricultural products, and rural traditions, presents significant potential for the development of agro-ecotourism. Many farmers, particularly those with small-scale family-owned farms,

recognize the need to supplement their agricultural income and are exploring opportunities in agro-ecotourism. Additionally, small investors in rural areas are venturing into agro-ecotourism investments, drawing on their vocational expertise in agriculture. Furthermore, larger investors in the tourism sector are diversifying their portfolios by investing in rural agricultural areas, further contributing to the growth of agro-ecotourism in the region. Therefore, this study aims to delve into the impacts of Agro-ecotourism on local community in the study area and reasons to visit by visitors.

#### Methodology

The study was carried out in Chikkamagaluru and Kodagu districts of Karnataka during the year of 2020-21. Purposive proportionate sampling technique was employed for selection of farm households. Data was collected from 40 local people using pre-tested well-structured schedule through personal interview method. Tabular method of presentation was employed to compile the socio-economic characteristics of local community and impact of agro-ecotourism on them. In order to assist the interpretation of findings, descriptive statistical measures like percentages, averages and ratios were worked out wherever necessary.

#### Chi-square test and ANOVA (F test)

Chi-square test was employed to test the significant difference in socio-economic characteristics of the sample farmers in two districts. To test whether the differences in

average values between the groups (farmers managed tank area, MID managed tank area and control area) is significant or not, Analysis of Variance (F-test) was employed.

$$F \text{ test} = \frac{\text{Between the group sum of squares}}{\text{Within group sum of squares}}$$

**Garrett ranking technique**

Garrett ranking technique was used to rank the benefits of agro-ecotourism on local community by farmers and other stakeholders and to check the reasons for visits by consumers the study area. Farmer and other stakeholders were asked to rank the benefits listed whereas visitors were asked to rank the reasons listed. In this analysis, rank one meant most important benefit and reason and last rank meant less. In the next stage, rank assigned to each benefit and reason by each individual respondent was converted into percent position using the following formula,

$$\text{Percent position} = \frac{100 \times (R_{ij} - 0.50)}{N_j}$$

Where,  $R_{ij}$  stands for rank given for the  $i^{\text{th}}$  constraint ( $i= 1, 2, \dots, n$ ) by the  $j^{\text{th}}$  individual ( $j = 1, 2, \dots, 50$ ) and  $N_j$  stands for number of constraints ranked by  $j^{\text{th}}$  individual.

After finding the percent positions, the percent position of each rank was converted to scores by referring to table given by Garret and Woodsworth (1969) [4]. Then the scores for each constraint were summed. In this way, total scores were arrived at for each constraint and then mean scores were calculated. Finally, overall ranking of the constraints was done by assigning ranks in the descending order of the mean scores.

**Results**

The socio-economic characteristics of local people are presented in Table 1. Most of the respondents (47.50%) belonged to the middle age category of 35 to 50 years followed by young people (30%) who were below 35 years of age and old age were 22.50 percent up to 50 years and above.

**Table 1:** Socio-economic characteristics of local people

Sl. No.	Particulars	Number	Percentage
<b>I</b>	<b>Age group</b>		
1	Below 35 years	12	30
2	35 to 50 years	19	47.50
3	50 years and above	9	22.50
	Average age (Years)	50.15	
<b>II</b>	<b>Gender</b>		
1	Male	33	82.50
2	Female	7	17.50
<b>III</b>	<b>Educational level</b>		
1	Illiterate	5	12.50
2	Primary School	10	25
3	High School	11	27.50
4	PU College	12	30
5	Degree and above	2	5
<b>IV</b>	<b>Type of family</b>		
1	Nuclear	33	82.50
2	Joint	7	17.50
<b>V</b>	Average Family size		
		4.65	
<b>VI</b>	<b>Monthly family income</b>		
1	Less than Rs. 50,000	31	77.50
2	Rs. 50,000 to Rs. 1,00,000	4	10
3	Rs. 1,00,000 to Rs. 2,00,000	2	5
4	Above Rs. 2,00,000	3	7.50

Among local people interviewed, 33 respondents were male out of 40 followed by female respondents with only 17.50 percent indicating that female participation was less in other local activities in the study area. 30 percent of the respondents had completed their Pre University education followed by high school (27.50%) and primary school (25%). Only five of them were illiterate and two of them had completed degree and above.

Most of the respondents (82.50%) belonged to nuclear family. The average monthly income respondents classified into range starting from below Rs.5,00,000 to above Rs.2,00,000. 77.50 percent of belonged to below Rs. 500000 category followed by 10 percent of respondents in Rs. 50000 to Rs.100000 category, 7.50 percent in above Rs. 2,00,000 category and five percent of them in Rs. 1,00,000 to Rs. 2,00,000 in category.

**Table 2:** Nature of activities among local people in the study area

Sl. No.	Activities	Chikkamagaluru (n=20)		Kodagu (n=20)		Overall (n=40)	
		No.	%	No.	%	No.	%
<b>1</b>	<b>Wage Labour</b>						
a.	Construction work	2	10	1	5	3	7.50
b.	Agriculture labour	2	10	3	15	5	12.50
c.	Vehicle driving	1	5	-	-	1	2.50
d.	Homestay worker	2	10	4	20	6	15.00
e.	Domestic help	3	15	2	10	5	12.50
<b>2</b>	<b>Trade/Own business</b>						
a.	Hotel business	1	5	1	5	2	5.00
b.	Bakery	-	-	1	5	1	2.50
c.	Shop keeping	4	20	6	30	10	25.00
d.	Transportation	3	15	-	-	3	7.50
e.	Vegetable vending	2	10	2	10	4	10.00
	Total	20	100.00	20	100.00	40	100.00

The nature of activities among the local people is classified into two groups *i.e.*, wage labour and trade/own business (Table 2). Wage labour includes the respondents who were working as wage labour in and around the agro-ecotourism units which includes construction work, agriculture labour, vehicle driving, homestay worker and domestic help whereas trade/own business comprises of respondents who were carrying out their own business operations in and around agro-ecotourism units which includes hotel business, bakery, shop keeping, transportation and vegetable vending. Six respondents were involved as a homestay worker (15%)

in the study area. About 12 percent of them were involved as agricultural labour and domestic help in the units. This was followed by vegetable vending (10%), construction work (10%) and transportation (10%). Very few members were involved in hotel business (5%), bakery (2.50%) and vehicle driving (2.50%). In Chikkamagaluru, more number of respondents were involved in shop keeping (20%) followed by domestic help (15%) and transportation (15%). Whereas in Kodagu 30 percent of farmers involved in shop keeping, followed by homestay worker (20%) and agriculture labour (15%).

**Table 3:** Employment and income pattern of non-farm activities among local people (Rs. in lakh/ year)

Sl. No.	Activities	Chikkamagaluru (n=20)		Kodagu (n=20)		Overall (n=40)	
		No. of days	Income	No. of days	Income	No. of days	Income
<b>1</b>	<b>Wage Labour</b>						
a.	Construction work	160.00	0.44	220.18	1.15	190.09	0.80
b.	Agriculture labour	280.00	0.24	290.00	0.30	285.00	0.39
c.	Vehicle driver	245.66	0.71	-	-	245.66	0.71
d.	Homestay worker	350.00	0.08	302.50	0.65	350.00	0.04
e.	Domestic help	365.00	0.37	360.00	0.72	362.50	0.54
<b>2</b>	<b>Trade/Own business</b>						
a.	Hotel business	347.14	5.96	360.00	6.60	353.57	6.28
b.	Bakery	-	-	300.00	6.00	325.00	22.20
c.	Shop keeping	353.93	6.66	335.45	7.41	344.69	7.04
d.	Transportation	260.00	7.02	-	-	260.00	7.02
e.	Vegetable vending	250.33	3.35	302.50	2.01	276.42	2.68

The agro-ecotourism offered diverse employment opportunities for the rural population provided them engaging in multiple activities in the study area. The households with more diverse activities like wage labour and own business and cottage industries were employed for more number of days and getting more income compared to earlier in the whole study area (Table 3). Income generation was highest among respondents who owned bakery (Rs. 22.20 lakh) with employment for 325 days in a year even though respondents who were practising were less. This was followed by shop keeping (Rs 7.04 lakh), transportation (Rs. 7.02 lakh) and hotel business (Rs. 6.28 lakh) with employment for 344.69, 260 and 353.57 days, respectively. The respondents involved in domestic help were employed for more number of days (362.50 days) followed by hotel

business (353.57 days), homestay worker (350 days), shop keeping (344.69 days), bakery (325 days), agriculture labour (285 days), vegetable vending (276.42 days), transportation (260 days), vehicle driver (245.66 days) and construction work (190.09 days) with low rate of employment. In Chikkamagaluru, transportation (Rs. 7.02 lakh) was generating more income compared to others whereas in Kodagu more income was from shop keeping (Rs. 7.41 lakh). But the number of days employed was more in case of domestic help for full year in Chikkamagaluru. On the other hand, both hotel business and domestic help were providing full time employment in a year. This signifies that there are opportunities for people to work and generate income through these forward and backward linkages of agro-ecotourism.

**Table 4:** Benefits of agro-ecotourism on local community

Sl. No.	Statements	No.	Percent
<b>Direct benefits</b>			
1	Additional revenue for local business services from tourists	39	97.50
2	Promotes direct sale of products	32	80.00
3	Supplementary employment for the local people	30	75.00
4	Supports local arts and handicrafts	30	75.00
5	Exchange of cultural knowledge	10	25.00
<b>Indirect benefits</b>			
6	Poverty reduction	20	50.00
7	Welfare of the rural society	20	50.00
8	Provides energetic business environment	20	50.00
9	Protection of rural landscape and natural environment	20	50.00
10	Provides sustainable livelihood	10	25.00

Local people in and around the area are the people who can be exposed to any change in the environment. By the adoption of agro-ecotourism by farmers, it has benefited the local people in both direct and indirect ways. The benefits of this agro-ecotourism are summarized in Table 4 are presented under direct benefits and indirect benefits.

According to the responses given by the local people the main benefit was additional revenue for local business services from tourists (97.50%) followed by promotion of direct sale of products (80.00%). The study by Barbieri and Tew (2010) [2] showed that agro-tourism was perceived as having a positive impact on farm profits, with the majority reporting at least some increase after adding agro-tourism activities and nearly one-fourth reporting a two-fold or more

profit increase. 75 percent of them responded the agro-ecotourism benefit by supplementary employment for the local people and supports arts and culture. 50 percent of them believed that agro-ecotourism helped in poverty reduction by increasing their standard of living, increase the welfare of rural society, provided energetic business environment and further it protected rural landscape and natural environment. This also promoted exchange of cultural knowledge and provided sustainable livelihood to the local people (25%). These results are on par with the study conducted by Visser (2003) [5] who reported that, agro-ecotourism has contributed toward generation of income and employment in deep rural regions.

**Table 5:** Reasons for the visits by visitors

Sl. No.	Statements	Garret Score	Rank
1	Recreation purpose	78.10	1
2	For visiting nearby tourist places	69.70	2
3	To enjoy the weather	60.25	3
4	Desire of peace and tranquility	56.50	4
5	Interest in natural environment	55.65	5
6	For rural experience	49.30	6
7	Corporate trips	43.87	7
8	To savour the fresh agri-products	32.45	8
9	To educate the children	30.00	9
10	Creating awareness among the family members	24.17	10

The reasons for the visits by consumers are mentioned in Table 5. As stated by the visitors, most of them were visiting the agro-ecotourism units for recreation with the highest garret score of 78.10. This was followed by the purpose of visiting nearby tourist places which took the second place.

Third reason was to enjoy the weather, fourth was to attain the desire of peace and tranquility, and fifth was the keen interest in natural environment, sixth for rural experience provided in the study area. Corporate trips arranged by companies took the seventh place, visit to savour the fresh agri-products ranked eighth place followed by the purpose to educate children which had taken ninth place. Lastly, respondents were visiting agro-ecotourism units with family to create awareness among the members. The results defined recreation as the main reason to visit agro-ecotourism unit. So the farmers should create an environment which can attract more number of tourists without harming the ecosystem which is in line with the study conducted by Ahire *et al.* (2018) [1].

**Conclusion**

The majority of stakeholders involved in agro-ecotourism activities were middle-aged males. Education levels varied, with a significant proportion having completed Pre University education. Most respondents belonged to nuclear families with diverse income levels. Respondents were engaged in various occupations, with differences observed between Chikkamagaluru and Kodagu. Shop keeping, transportation, and homestay operations were prominent in both districts, contributing significantly to income generation and employment. Bakery ownership emerged as the highest income-generating activity, followed by shop keeping, transportation, and hotel businesses. Income levels varied between districts, with transportation being more lucrative in Chikkamagaluru and shop keeping in Kodagu. Local stakeholders highlighted additional revenue for local businesses and the promotion of direct product sales as primary benefits of agro-ecotourism. Supplementary employment opportunities and support for arts and culture were also recognized as significant advantages. Visitors

primarily sought recreation during their visits to agro-ecotourism units, followed by exploring nearby tourist attractions. Factors such as age, travel distance, and expenditure significantly influenced visitor behavior. The findings underscore the importance of understanding local demographics, occupations, and preferences in designing and promoting agro-ecotourism initiatives. Tailoring offerings to meet visitor preferences while maximizing benefits for local communities can enhance the sustainability and success of agro-ecotourism ventures. Overall, the study highlights the multifaceted benefits and challenges associated with agro-ecotourism in Chikkamagaluru and Kodagu districts, emphasizing the need for strategic planning and collaboration among stakeholders to leverage its potential for economic and social development in rural areas.

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