**Assessing the Living Conditions of Mahouths and their Awareness Towards Welfare Program: A Socioeconomic Study**

**Abstract**

The elephant tourism industry in Southeast Asia, including Karnataka's Dubare Elephant Camp, has raised ethical and welfare concerns, particularly regarding the welfare of mahouts—the individuals who responsible for elephant care. Research highlights the socioeconomic challenges, occupational risks, and welfare needs of mahouts, who often come from marginalized communities. This study investigates the living conditions and welfare program impact on mahouts and kavadigas at Dubare Elephant Camp in Kodagu District, Karnataka. A descriptive design was employed, targeting 60 mahouts and kavadigas, with 40 respondents selected based on their willingness to participate. Primary data was collected through structured interviews and analyzed using simple statistical methods. The findings reveal significant challenges faced by mahouts, including limited educational opportunities, poor sanitation, and occupational risks. Many are illiterate, rely on rivers for drinking water, and lack proper drainage, leading to health risks. Despite some home and land ownership, housing conditions remain precarious. While welfare programs provide partial support, gaps exist, particularly in safety, sanitation, and education. The study emphasizes the need for targeted welfare initiatives to improve housing, healthcare, and sanitation, thereby enhancing the quality of life for mahouts and their families. Social workers and NGOs should advocate for expanded welfare access and community engagement, while policymakers must consider extending program coverage and infrastructure improvements. Future research across India should explore mahout welfare in diverse settings, including temple camps, private facilities, and forest department camps, to address the unique needs of mahouts.

**Keywords:** Socioeconomic Conditions, Mahout Welfare, Living Conditions

1. **Introduction**

The elephant tourism industry in Southeast Asia, including Karnataka's Dubare Elephant Camp, has garnered attention for ethical and welfare considerations. Yet, the welfare of mahouts—those responsible for elephant care—remains understudied (Suter, 2020). This study addresses this gap by examining the socioeconomic status, working conditions, and welfare challenges faced by mahouts at Dubare Elephant Camp. Historically, mahoutship has been a generational practice, fostering cultural bonds with elephants and passing down specialized knowledge within families (Hart & Sundar, 2000). However, changes in employment structures, particularly since the 1970s, have seen mahouts transitioning to government roles within the Forest Department, impacting traditional practices and employment stability (Hart & Sundar, 2000). At Dubare, the mahouts' roles are influenced by tourism trends, with their income and job security often tied to fluctuating tourism demands (Varma et al., 2008; Mumby, 2019). While tourism has increased their economic prospects, it also introduces pressures, such as managing tourist expectations and ensuring elephant welfare, which can affect traditional mahout practices (KC, 2014). This study explores the demographic and socioeconomic profile of Dubare mahouts and assesses the effectiveness of welfare programs and housing schemes in enhancing their living standards.

1. **Literature Review**

Research on mahout welfare across various regions highlights the socioeconomic challenges, occupational risks, and welfare needs of mahouts and their impact on elephant care. Demographic studies show that mahouts often come from marginalized communities with limited access to formal education or training. This contributes to low-income levels and economic insecurity, often exacerbated by the lack of benefits such as health insurance and regular health checks (Varma et al., 2008; Surendra Varma & Ramesh Belagere, 2010).

 Additionally, the profession’s dangers- from handling unpredictable elephants to health risks during musth periods—pose significant occupational hazards. As a result, mahouts may view their work as both "fatal" and "adventurous" (Surendra Varma, 2011), leading many to seek alternative employment for themselves or future generations. In Kerala, for example, over half of the mahouts surveyed expressed a desire to leave the profession, though they felt loyalty to the elephants (Surendra Varma, 2011). Welfare and management challenges remain critical, as mahouts often lack adequate salaries and face limited access to alternative income sources and safe living conditions. Insufficient support from government welfare programs adds to these hardships (Vanitha et al., 2010). Studies also show that alcohol use is prevalent as a coping mechanism among mahouts, pointing to the high-stress levels in the profession (Varma et al., 2016). Traditional knowledge, passed down through generations, remains essential for safe elephant handling. However, the lack of formalized training has led to a knowledge gap, especially as younger mahouts disengage from traditional methods (Srinivasaiah, 2014). To improve living standards and secure the future of both mahouts and elephants, experts recommend formal training, better wages, health programs, and educational opportunities for mahout families (Suter, 2020). Programs tailored to the mahouts' needs in these areas could enhance their well-being and foster a more sustainable mahout-elephant relationship (Mehrkam & Fad, 2020).

Despite their critical role in elephant tourism, the welfare of mahouts at Dubare Elephant Camp remains understudied. Existing research highlights the socioeconomic challenges and occupational risks mahouts face; however, gaps remain in understanding the effectiveness of welfare programs and housing schemes, underscoring the need for targeted interventions to improve their living standards and well-being. Addressing these welfare needs could contribute significantly to both mahout welfare and ethical elephant tourism.

1. **Methodology**

This study adopts a descriptive design to document the socioeconomic status of mahouts and kavadigas at Dubare Elephant Camp in Kodagu District, Karnataka. Conducted from January to April 2018, the study targeted a population of 60 mahouts and kavadigas, including both permanent and temporary workers. Using a convenience sampling method, 40 respondents were selected from the overall population of 60 based on their willingness to participate in the survey. Primary data was collected through a structured interview schedule, employing a survey method, and analyzed using simple statistical tools. Ethical considerations included obtaining permission from the District Forest Department and securing informed consent from all participants. Limitations of the study include its focus solely on Dubare Camp’s mahouts and kavadigas and the brief study period, which may limit broader generalizations.

**3.1. Study Objectives**

1. To examine the demographic and socioeconomic profile of mahouts at Dubare Elephant Camp.
2. To evaluate the awareness of government welfare programs and housing schemes in improving the living standards of mahouts and their families.

**4. Results**

**Table 1: Demographic and Socioeconomic Information of Respondents**

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Sub-Category | N | % |
| Age group | 18-30 | 25 | 62.5% |
|  | Above 30 | 15 | 37.5% |
| Marital Status | Married | 33 | 82.5% |
|  | Unmarried | 7 | 17.5% |
| Education Status | Illiterate | 28 | 70% |
|  | Literate | 12 | 30% |
| Duration of stay | Up to 5 years | 12 | 30% |
|  | 6 to 10 years | 10 | 25% |
|  | Since birth | 18 | 45% |
| Type of Housing | Hut | 0 | 0% |
|  | Roof | 28 | 70% |
|  | Shed | 12 | 30% |
| Housing Possession | Own | 28 | 73.7% |
|  | Not own | 10 | 26.3% |
| Source of Drinking Water | House Tap | 3 | 7.5 |
|  | River/Other | 37 | 92.5 |
| Drainage Facility | None | 38 | 95 |
|  | Open Drainage | 2 | 5 |

Table 1 show that the age distribution reveals that a significant majority (62.5%) of mahouts fall within the 18-30 age group, indicating a predominantly young workforce. Only 37.5% of respondents are above 30, suggesting that the role might attract or be more suitable for younger individuals, potentially due to the job's physical demands. The marital status data show that a high percentage of respondents (82.5%) are married, reflecting the social stability and perhaps the community norms among mahouts. Regarding educational attainment, a substantial portion (70%) of respondents are illiterate, highlighting a crucial area where educational interventions could be beneficial. Only 30% have achieved literacy, emphasizing the community's need for adult education programs. The duration of stay data indicates that 45% of mahouts have lived at the camp since birth, suggesting generational continuity in this occupation. Meanwhile, 30% have been at the camp for up to five years, and 25% for 6-10 years, indicating a mix of long-term association with the camp and newer entrants. In terms of housing, 70% live in roofed structures, while 30% reside in sheds, suggesting variability in housing quality. Housing possession status reveals that 73.7% of respondents own their homes, while the remaining 26.3% do not, underscoring some degree of housing security but also a segment that might benefit from further support. Access to basic amenities is uneven; only 7.5% have a direct house tap for drinking water, while the majorities (92.5%) rely on rivers or other sources, raising potential health concerns. Additionally, drainage facilities are limited, with 95% lacking any structured drainage and only 5% having open drainage access, presenting a public health risk within the camp.

**Table .2: Welfare Program Benefits and Living Standards of Respondents**

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Sub-Category | N | % |
| Govt. Housing Scheme | Beneficiaries | 23 | 57.5 |
| Non-Beneficiaries | 17 | 42.5 |
| Free Site from Government | Beneficiaries | 23 | 57.5 |
| Non-Beneficiaries | 17 | 42.5 |
| Toilet Facility | Beneficiaries |

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23 | 57.5 |
| Bathroom Facility | None | 40 | 100 |
| Household Assets | Landed Property | 26 | 65 |
| House | 28 | 70 |
| Two Wheeler | 6 | 15 |
| Telivision | 4 | 10 |
| Telephone | 40 | 100 |
| Gold | 4 | 10 |
| Monthly Expenditure | ₹4000-6000 | 25 | 62.5 |
| ₹7000-10000 | 15 | 37.5 |
| Tribal Welfare Programme | Beneficiaries | 23 | 57.5 |
| Non-Beneficiaries | 17 | 42.5 |
| Programmes by Government | IAY | 1 | 2.5 |
| ITDP | 22 | 55 |
| Injury from Elephant | Yes | 18 | 45 |
| No | 22 | 55 |

Table 2 shows that the data on government housing scheme benefits reveal that 57.5% of respondents have received housing benefits, with the remainder (42.5%) unassisted, highlighting a need for expanded welfare support. Similarly, 57.5% of respondents report receiving a free site from the government, suggesting moderate success in land allotment initiatives, though a substantial segment remains underserved. Sanitation remains a challenge, as only 57.5% have access to toilet facilities, and none of the respondents have bathroom facilities, indicating critical gaps in basic sanitation that necessitate urgent attention from health and welfare authorities. Household assets reveal some economic diversity: 65% possess landed property, 70% own a house, only 15% own a two-wheeler, and 10% have a television or gold assets. Every respondent has access to a telephone, reflecting high mobile penetration, which could be leveraged for communication and educational outreach. Monthly expenditure patterns show that the majority (62.5%) spend between ₹4000-6000, with a smaller group (37.5%) in the ₹7000-10000 range, indicating modest income levels that may restrict lifestyle improvements. In terms of welfare program participation, 57.5% have benefited from tribal welfare programs, while 42.5% remain non-beneficiaries, suggesting room for broader inclusion. The data on specific government programs show that only 2.5% have benefited from the Indira Awas Yojana (IAY), whereas 55% have received support from the Integrated Tribal Development Programme (ITDP), highlighting ITDP’s role as a significant support mechanism for this community. Finally, occupational health risks are evident, with 45% of respondents reporting injuries from elephants. This emphasizes the need for improved safety protocols and possibly insurance or other compensatory support to mitigate risks associated with working closely with large, potentially dangerous animals.

**Discussion**

Socioeconomic Challenges: Study revealed that a significant portion of mahouts at Dubare Elephant Camp face illiteracy, limiting their access to various opportunities and resources a common finding echoed in broader studies on mahouts across Asia (Hart, 2020; Mumby, 2019). This lack of education restricts mahouts' ability to access or benefit from government programs, as also noted in studies from Nepal and India (Hart & Sundar, 2000). Additionally, while many mahouts own land or property, some still live in makeshift structures, suggesting unstable living conditions despite housing programs like the Indira Awaas Yojana. Similar findings by Rajasekhar et al. (2018) indicate that while these housing programs are beneficial, they often fail to address the broader socioeconomic challenges mahouts face comprehensively. Occupational Hazards and Health Risks: Occupational hazards are a persistent issue in mahout communities. Our study highlighted injuries associated with elephant handling, reflecting findings in related literature, which emphasize the physical risks and stress involved in managing captive elephants (Szydlowski, 2022; Hart, 2020). Additionally, the reliance on rivers for drinking water and the absence of proper drainage in mahout communities reveal inadequate sanitation, which parallels reports from rural elephant camps elsewhere in Asia. Similar to findings from Brijesh (2012) and Esther et al. (2015), poor sanitation and lack of potable water in Dubare Camp contribute to health risks, further exacerbating mahouts' living conditions and productivity.

Impact of Welfare Programs and Housing Schemes: Our research found that government welfare programs and housing schemes have provided some level of support to mahouts, but limitations remain. Although housing schemes, such as the Ashraya Housing Program, have been shown to reduce financial burdens and improve living conditions (Suman, 2018), they do not fully address the mahouts' unique needs. Our study indicates that expanded support and more tailored welfare initiatives would better meet the needs of mahouts, aligning with other studies that report limited impacts of broader welfare programs, such as MGNREGA, on specific populations like mahouts (Gowda, 2015). Further, challenges such as limited awareness and bureaucratic hurdles in accessing these benefits highlight the need for better program implementation, as seen in findings by Varma et al. (2008). Water and Sanitation Access: Improved access to water and sanitation was found to have a direct impact on the health and productivity of mahouts. Our findings align with those of Prabhuswamy (2014), who noted that rural Karnataka communities, including mahouts, often face inadequate sanitation infrastructure. The importance of water access in improving health outcomes is supported by Esther et al. (2015), who found that water and sanitation programs can reduce waterborne diseases by 30-50%. However, our study confirms that even when facilities are available, coverage and usage rates can vary, limiting overall effectiveness. This highlights the importance of not only providing facilities but also ensuring their proper maintenance and utilization.

**Implications for Social Work and Policy**

Our findings indicate that targeted interventions are essential to improve the overall welfare of mahouts and address challenges unique to their profession. Social workers can play a key role in facilitating awareness and access to government welfare programs by organizing regular workshops and advocating for tailored assistance that considers the occupational and social conditions of mahouts. Community engagement initiatives can address issues such as health and sanitation, while partnerships with local NGOs and government agencies can support sustainable livelihood opportunities. These partnerships can help overcome the limitations of existing welfare programs by addressing mahouts' educational needs, occupational hazards, and health challenges more holistically.

**Conclusion**

In conclusion, while welfare programs have provided some benefits to mahouts at Dubare Elephant Camp, critical gaps remain in addressing their socio-economic and health needs. This study underscores the need for targeted welfare initiatives to improve housing, education, sanitation, and healthcare for mahouts and their families. Mahouts face ongoing challenges, including limited educational access, inadequate sanitation, and occupational risks in high-risk jobs involving close interaction with large animals and uncertain working conditions. Coordinated efforts from social workers, NGOs, and policymakers are essential to increase awareness and accessibility of welfare resources. Expanding program coverage and enhancing infrastructure for housing and clean water can significantly improve the quality of life for mahouts. These findings provide valuable insights for policy development and suggest the importance of conducting further studies across India in various settings, such as temple camps, private facilities, and forest department camps, to comprehensively address the unique needs of mahout communities in different contexts.

**Conflict of Interest**

The author declares no conflict of interest related to this study.

**Ethical Approval**

Ethical approval for this study was obtained from the District Forest Department, Kodagu, Karnataka, and informed consent was secured from all participants and took institutional ethical clearance approval No.IHEC/PU/2025/23/26-03-2025

Consent

As per international standards or university standards, respondents’ written consent has been collected and preserved by the author(s).

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**References**

Brijesh, C., Purohit. (2012). 1. Health Impact of Water Borne Diseases and Regional Disparities in India.

C, H, R, Gowda. (2015). 1. Economic impact of mgnregp on rurallivelihood security in tumkur district,karnataka – a sam analysis.

D., Rajasekhar., M., Devendra, Babu., R., Manjula. (2018). 4. Housing Schemes, Elite and Capture of Benefits. doi: 10.1007/978-981-13-1900-6\_7

Esther, Duflo., Michael, Greenstone., Raymond, Guiteras., Thomas, Clasen. (2015). 4. Toilets Can Work: Short and Medium Run Health Impacts of Addressing Complementarities and Externalities in Water and Sanitation. Research Papers in Economics,

Hart, L., & Sundar. (2000). Family traditions for mahouts of Asian elephants. *Anthrozoös*, *13*(1), 34-42.

Hart, L., & Sundar. (2000). Family traditions for mahouts of Asian elephants. *Anthrozoös*, *13*(1), 34-42.

KC, D. (2014). Tourism and employment: Opportunities and challenges in Karnataka-special reference to Kodagu District. *Journal of Humanities and Social Science, 1*, *11*.

Mumby, H. S. (2019). Mahout perspectives on Asian elephants and their living conditions. *Animals*, *9*(11), 879.

P., Prabhuswamy. (2014). 2. Status of basic amenities in karnataka: an inter-district analysis. Journal of Rural and Development,

Srinivasaiah, N. M., Varma, S., & Raman, S. (2014). Documenting Indigenous Traditional Knowledge of the Asian Elephant in Captivity.

Suman, M., Pujar. (2018). 3. Housing and Employment Schemes Implemented by Gram Panchayat. International Journal of Pure & Applied Bioscience, doi: 10.18782/2320-7051.7234

Surendra Varma and Ramesh Belagere, (2010). An investigation into the Welfare and Management Status of Elephant Mariappan of Samayapuram Mariamman Temple,Thiruchirapalli, Tamil Nadu, southern India, Elephants in Captivity: CUPA/ANCF - Occasional Report. 11

Surendra Varma, T.S.Rajeev, Marshal.C.Radhakrishnan and K.R Rajesh. (2010). Investigations into the Incidents of Elephant killing/Injuring Mahouts, Running amok and Perceptions of Mahouts towards their Profession. Elephants in Captivity-CUPA/ANCF: Occasional Report No.14

Surendra, Varma., Shiela, Rao., Suparna, Ganguly., Harish, Bhat. (2008). 2. Identification of an effective and robust model of elephant keeping and keeper welfare: Insights based on activity budget of elephants in captivity and mahout-elephant interaction in Karnataka.

Suter, I. (2020). Rewilding or reviewing: Conservation and the elephant-based tourism industry. *Animal Sentience*, *5*(28), 3.

Szydlowski, M. (2022). Elephants in Nepal: Correlating disease, tourism, and welfare. *Journal of Applied Animal Welfare Science*, *25*(2), 126-138.

Varma, S., Sujatha S.R., van de Brand, J., Gangly, S. and Sheila R. 2008. Draft concept note on welfare parameters and their significance for captive elephants and their mahouts in India, In: Welfare and management of elephants in Captivity: Proceedings of a Workshop on Welfare Parameters and their Significance for Captive Elephants and their Mahouts in India. (S. Varma and D. Prasad, eds.), pp. 17-53.