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Understanding the Dependency of Local Village Communities on Commons for livelihood- a case of Villupuram District, Tamil Nadu, India

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Abstract: Commons have provided social, cultural, economic and ecological values to the villages of Tamil Nadu through ages. Since a few decades there has been a steady decline in these values of the commons due to their neglect and improper usage. The major reason behind this negligence is the poor understanding of the importance of commons in livelihood generation for the dependent communities. Hence there is a pressing need to understand the dependency of the local communities on thae commons around them and this study aims to establish the fact that commons contribute to the livelihood of the people and understand the interrelationship between the various factors. The primary objective of this study is to assess the dependency of local village communities on commons and to gain insights into the socio-economic, cultural, and environmental dimensions of this dependency. The study adopted quantitative method to perform the analysis. The paper is based on an intensive field study along with a detailed questionnaire survey targeting the local communities who are directly or indirectly associated with the commons. The data was collected form the people of villages in those four regions. 262 people from Vadakarai Thazhanur, 207 people from Melvalai, 130 people from Vedalam and 137 people from Appananthal through the structured questionnaire. The research focuses on the four villages of the Kandaachipuram Taluk in Villupuram district, Tamil Nadu namely Appananthal, Vedalam, Melvalai and Vadakarai Thazhanur. The present study concluded through identifying the problems and solutions associated with the understanding the dependency of local village communities on commons.

Keywords: Commons, Dependency, Villages, Livelihood, Communities, Management

INTRODUCTION

The commons constitute an integral part of the livelihood of the local communities; however the major issue in this case is the increase of individual interests rather than common interests further fueled by the socio- cultural practices which were followed previously(Adhikari, 2006). Comparatively, the rural commons in the villages of Tamil Nadu tend to survive due to the existing political system in the villages in the form of Panchayat, which are still considered as the smallest yet the strongest tier in the political system of the state (Adhikari, 2003).

As said earlier, the socio- cultural practices of these villages still remain the same except for a few changes in the sharing of the commons and its produce. The religious practices followed are intertwined with the natural resources in the villages(Adhikari et al., 2004)Eg. Shaptha Kanni or the Seven Stones found in the forests (deity of the Scheduled tribes of the villages) are considered to be the keepers or protectors of the groves in the forests. Similarly, the Temples located at the banks of every lake share the same ideology of protecting the water sources.

To add on to the cultural and political factors, the most important but less thought of, is the ecological importance of the commons in achieving a balance in the functioning of the entire rural ecology and also the sustenance of the rural economy. The natural regeneration and restoratio'n of the commons is now at stake due to too much of environmental pressure and change of Land use and Land cover.

The problem recognized is the deficiency of understanding capacity concerning the dependence of rural communities on common wealth. Commons are usually referred to divided resources like land, water, forestry, and some other natural wealth which are mutually accomplished through the municipality. The problem lies in the restricted knowledge and consciousness about the dependence of the public on commons for their livings, cultural ethics, and common well-being. This lack of understanding could lead to the maladministration or corruption of commons that could have negative magnitudes for both the rural communities, atmosphere and the surroundings. Hence the current study states the problems and solutions associated with the understanding the dependency of local village communities on commons. In this regard the study aims to identify and assess the contribution of the Commons to satisfy the individual and community needs of the local population. In addition, the study also aims to assess the awareness of the ecological aspects of the commons amongst the local population while examining the association of community with the commons

This paper offers to analyze the social- cultural, ecological and political interactions related to the commons and its importance in livelihood of the local people and the interrelationship between these factors to promote the rural economy. Further a reading on the importance of commons on the livelihood of the dependent communities reveals a significant body of research emphasizing their crucial role in sustaining local livelihoods, fostering social cohesion, and promoting environmental sustainability.

The paper is ordered in the subsequent flow in which Section 1 provides elaborated overview on understanding the dependency of local village communities on commons. In section 2, prevalent research works associated to present study would be studied. The present study's investigation methodology would be clarified in the section 3. In section 4, the outcome of the analysis would be discussed. In section 5, the result of the analysis would be conversed with prevailing studies. Lastly, in section 6, the short-lived conclusion concerning the present study would be deliberated along with restriction and upcoming commendations of study.

1.1 Background of the study

1.1.1 Commons as Livelihood resources:

Local communities often depend on commons, such as forests, grazing lands, or fisheries, for their livelihoods. This reliance on commons can be seen in various parts of the world. For example, in many rural areas, people rely on communal forests for timber, non-timber forest products, and as a source of fuel wood. Fisher folk often depend on communal fishing grounds for their catch, and pastoralists use common grazing lands for their livestock. A study by Ostrom et al. (1999) found that when communities have well-defined rules and institutions governing the use of commons, they can sustainably manage these resources and ensure their availability for future generations. In contrast, the absence of such rules can lead to overexploitation and resource degradation. Additionally, the economic value of commons to local communities cannot be underestimated. Common-pool resources contribute significantly to the income and food security of many households. For example, in India, studies have shown that over 300 million people depend on forests for their livelihoods.

Commons, often referred to as common-pool resources, are shared resources that are vital for the livelihoods of communities worldwide. These resources can include land, water bodies, forests, pastures, and fisheries, among others. They play a significant role in sustaining the livelihoods of many communities. The fisheries commons in South East Asia reveals the sharing of fishing grounds and traditional resource management. The collective management and protection of community-based forests ensures a sustainable supply of timber and non-timber forest products to the locals of Nepal Ojha et al.

(2009). Historically, Spain has had intricate systems of irrigation canals managed collectively by local communities Lambarraa et al. (2015). Many African pastoralist communities depend on communal pasturelands for livestock grazing. These resources are vital for their livelihoods, McCabe (2002). Water resources in arid regions, like the American Southwest, are often shared among different users. Ostrom's work also offers insights into the management of water as a common-pool resource

1.1.2 Socio cultural significance of commons

Commons have often been used by rural communities for generations. They are deeply embedded in the cultural and historical fabric of these societies. Traditional practices related to the management and use of commons are often passed down through oral traditions and rituals. Commons have played a crucial role in rural communities throughout history. Tragedy of the Commons and Elinor Ostrom's work (1990) on common pool resources are foundational texts in this context. They highlight the dynamics of shared resource management. Commons play a vital role in fostering social cohesion and community bonds. They provide a space for communal activities such as grazing livestock, collecting firewood, and celebrating cultural events. This shared use of resources encourages cooperation and strengthens the sense of belonging within the community.(Bahinipati et al., 2021)Commons often serve as gathering places, fostering social interactions and community cohesion. Research by Berkes and Folke (1998) discusses how commons can build social capital. Many rural communities have deep-rooted cultural practices associated with commons. Research by Ostrom (1990) and Agrawal (2001) delves into how these cultural norms shape resource management. Rural communities heavily rely on commons for their livelihoods. They use these resources for agriculture, fishing, and livestock grazing. Commons contribute to food security and income generation, particularly in areas where alternative economic opportunities are limited. Commons provide essential resources for rural livelihoods, such as grazing land, forests, and water sources. Research by Adhikari and Goldey (2010) explores the relationship between commons and rural livelihoods(Yadav et al., 2015).

Gender plays a significant role in commons management. Work by Agarwal (1997) examines the gendered dimensions of common property resources and their impact on rural women(Colfer et al., 2005). Commons can be sources of conflicts in rural communities. Ostrom's research (1990) on the design principles for successful commons management discusses conflict resolution mechanisms. Research by Turner et al. (2012) explores how commons can contribute to the resilience and sustainability of rural communities in the face of environmental challenges. Understanding the governance structures of commons is crucial. Dietz et al. (2003) discuss the role of institutions and policies in commons management. Commons are not limited to local communities. Ostrom's Nobel Prize-winning work (2009) highlights the importance of commons in global resource management. Recent research may address contemporary challenges to commons, such as climate change adaptation and privatization pressures(Ribot et al., 2006).

Research questions

1. What are the primary commons utilized by village communities in Villupuram District for their livelihoods?
2. How do socio-economic factors influence the dependence on commons among different villages in the district?
3. What role does agriculture play in the livelihood strategies of communities dependent on commons?
4. How has the access to and management of commons changed over time in Villupuram District?
5. What are the impacts of government policies and interventions on the sustainability of commons in Villupuram District?

LITERATURE REVIEW

The Tragedy of the Commons

The existing paper emphases on the huge body of experiential work on communal property. Its goal is to describecertainimportantactivities of this works, converse some of its enduringshortages, and highpoint shifts in methods and techniques of the research which could aid address the prevailingflaws. In acontinuingattainment, researchers of communal property have visible that marketplaces or isolated property appointments and state proprietorship do not deplete the choice of plausible recognized mechanisms to rulethe use of natural resources.

The prevailing studyinspectsthe roles played out through commons. It must be of attention to people worried with vital commons like ecological systems, water deliveries, and the environment. Additionally, situations of the commons provide analyticallysignificant test couches for lecturing many major questions socially. In observing at the extensive sweep of humanoidantiquity and the large number of societal forms extent across it(Kumar & Shobana, 2024)It defines the man-made work which happened in the middle of 1980s. Constructing on that effort, it illuminates the key notions included in considering the commons. The main contribution of commons allowance has stood to make a clear conceptwhich bears to understand the commons. These involve the critical distinction among the means itself, the preparationsof humans are used to govern the wealth, and the key possessions of the source and the preparationswhich leads the drama.

These works discuss how commons, such as forests, pastures, and water bodies, provide essential resources for rural communities, including food, fuel, and building materials.

Community-Based Management

The existing study(Cox, 2014)familiarizes the Socio-ecological structures meta-analysis databank (SESMAD) project. It is the missionafter the case studies and man-made articles limited in this distinctproblem of the Intercontinental Commons' Journal. SESMAD is agloballycooperative meta-analysis schemewhich constructs on preceding seminally man-madeeffort on small scale and common pool reserve systems directed at the Workspace in Political and Policy Analytical Theory at University in Indiana. In this unusualconcern,the findings of the study describe the conceptual advances of large-scale governance environmentally, through the case studies.

The existing study (McGinnis et al., 2014)encapsulatevariationswhich have been completed to this agenda and converse a little remaining obscurities in its origination. Precisely, the prevailing study offersanuncertainreorganization of the list of pertinent attributes of supremacy systems and converse other methods to create this agendaappropriate to policy backgroundsafar natural resource sets. The SES outline would endure to alter as more investigatorssmear it to supplementary contexts; the foremostdetermination of the existing study is to describe the version which helped as the foundation for the theoreticnovelties and experiential analysis detailed in some other influences to this singularconcern.

These references delve into the significance of community-based management and local governance in sustaining commons and ensuring equitable access to resources.

Livelihood Diversification

The existing studyinspects livelihood divergence as a existenceapproach of countryside households in emergingnations. Though still of essentialprominence, its own farming is progressively unable to supply anadequateworth of existence in rural communities. The objective of the existing paper is to raisecognizance of livingdivergence in methods to rural growth. It also considers the communicationsbetweenchange and poverty, gender associations in rural regions, natural meansorganization and farm efficiency. The third objective is to improve the policy of understanding about diverse rural occupations. The livelihooddiversity is asignificant feature of countrysideexistence but frequently overlooked through the policy architects. Diversity is diligentlyassociated to stability, resilience and flexibility. Diverse livelihood structures are less susceptible than consistent ones. They are probable to demonstrate more maintainable over time exactlyas they permit for optimistic adaptation to varyingconditions.

The preceding study has (Raman & Denis, 2025) examined the experience of households in two squatter settlements on the outskirts of two South Indian cities: Villupuram, a medium-sized town in the state of Tamil Nadu, and Bangalore, a large metropolis in the state of Karnataka. It demonstrates how common land could serve as a foundation for the inclusion of poor communities within the city. The two cases presented in this paper reflect a trend observed in Indian cities since the mid-1990s, whereby rural common lands in urbanised localities, previously allocated to poor households for housing, have been targeted for more profitable development, eventually justified by environmental arguments. Consequently, those in poverty are compelled to compete with more powerful actors in order to assert their right to the common land they occupy for the purpose of housing. The two case studies demonstrate the capacity of such communities to unite and engage in practical political actions to regularise their settlements and dwellings. We describe their engagement with multiple government institutions across the rural and urban continuum and illustrate the influence of contextual factors, including geographical and temporal factors, in shaping the unique and diverse trajectories of commoning.

The idea of maintainable livelihoods is progressivelysignificant in the growth debate. The existing studyplansanoutline for examining sustainable livings, well-defined here in association to 5 main pointers. The outline shows the achievement of different contexts, maintainable livelihoods over the livelihood range of wealth (natural, social capitals, human and economic) that are joint in the search of diverse livelihood policies(agrarian intensification, migration, livelihood diversification and extensification). Leading to the outline is the study of the sort of official and familiarstructural and established factors which impact the outcomes of sustainable livelihood. Conclusively, the preceding study briefly contemplatescertain practical, procedural and functionalinsinuations of a maintainable livelihood method.

The prevailing study (Habanyati et al., 2024) investigated the specific challenges and opportunities faced by organic farmers in Tamil Nadu, focusing on how region-specific practices influence the adoption and success of organic farming. It draws insights from a survey of 300 organic growers across five districts: Coimbatore, Dindigul, Erode, Tirupur, and Villupuram. This study is particularly relevant because there is a lack of comprehensive research on the specific challenges and opportunities faced by organic farmers in Tamil Nadu, with limited data on the long-term impact of government initiatives and region-specific management options, especially for smallholder farmers. These sources explore how commons enable rural communities to diversify their livelihood strategies, reducing vulnerability to shocks and improving overall well-being.

Social Capital and Commons

The existing paper (Pretty, 2003) identifies the propositionwhich natural resources wantdefense from the critical actions of people is broadlyrecognized. Yet societies have demonstrated in the history and progressively today where they couldcooperate for resource management in long-terms. The concept social capital grabs the hint that social promises and standards are serious for maintainability. While social wealth is great in formalized societies, individuals have the assurance to capitalize in collective actions, knowing that others would do so. Certain 0.4 to 0.5 (m) million assemblies have been well-knownever since the initial 90s for crunch, jungle, irrigation, pests, biota, fishery, and management in microfinance. These bid a way to maintainable administration and supremacy of common wealth.

The existing study(Adhikari & Goldey, 2010)inspects the part of social wealth in the maintainability of persuaded(CBOs) community-based officialdoms. Quantitative and qualitative statistics were composed from fourteen rural communities and 129 CBOs located in Southern Nepal. The existing studycontends that social wealth could be both confident and adverse, distressing collective activities and the CBO maintainability. Maindifficulties involve law breaking with license and selected capture of wealth, particularly during the evolutionstage from external and internal organization. While exterior agencies perform an imperative part in persuading and supporting CBOs, they must address the multifacetedconcern of social wealth and its disadvantage.

These studies emphasize the role of social capital in the effective management of commons, fostering cooperation among community members.

Challenges and Threats

A major concern globally is the possible loss of water resources, forests, and fisheries. Considering the procedureswhich lead to developments or worsening of natural wealth is restricted, because logical disciplines apply diverseideas and idioms to define and elucidatemultifaceted(SESs) social-ecological systems. Deprived of a publicagenda to establishconclusions, isolated facts does not accumulate. Recently, acknowledged theory has presumed that mean users would never self-organize to uphold their wealth and that administrationsshould enforceanswers. Study in numerous disciplineshas established that certainpolicies of government quicken resource devastation, while certain wealth users have capitalized their period and dynamism to accomplish maintainability. A commonoutline is applied to classify ten subsystem variables which influence the probability of effortful self-organization to accomplish a maintainable SES.

National administrations in nearly all emergent countries have instigated to regionalize policies and choice making associated to growth, public services, and the atmosphere. Prevailingstudy on the topic has improvedthe comprehension of the belongings of decentralization. It has been an actualmechanism in the support of decentralization. However, most of the studies, particularly where ecological resources are worried, have fewerattention to the governmental coalitions which swift decentralization and the part of property privileges in enabling the application of decentralized choice making. Throughassociating decentralization in 4 cases in Southern Asia. They are Councils of forestsin Kumaon, India;Management of Joint Forest, India; the Gardens and PersonsEven in Terai, Nepal; and lastly, legislation of Community Forestry, Nepal. The prevailing study (Agrawal & Ostrom, 2001)offer responses to decentralize ecological choice making for governments andalso the kinds of property rights that should be decentralisedin effective decision-making.

These references discuss the challenges posed by population growth, external pressures, and policy failures that threaten the sustainability of commons.

1.1 Research Gap

- The existing study(Adhikari, 2002)has not understood the situationbeneath which equitable supply of financial benefits from communal forestry is conceivable and the restrictions facing through the participating forest management. Moreover, the living implications of communal forestry particularly for those who miss their occupation after the beginning of formal structures of community dependent resource management has not been mentioned in this study.
- The prevailing study (Richter, 2019)focusedonly on the process of innovation at the interactionamong rural social initiatives, local and supra-regional networks.Theexisting study concentrated less on the acceptance of innovative resultsthrough rural communities which will be informative for analyzingthe socio-rural enterprises act to encourage people in villages to adopt inventivethoughts and to amend their approaches and performs accordingly.

In conclusion, the literature underscores the essential role of commons in supporting the livelihoods of dependent communities, emphasizing the need for sustainable management, community participation, and policy support to safeguard these valuable resources.

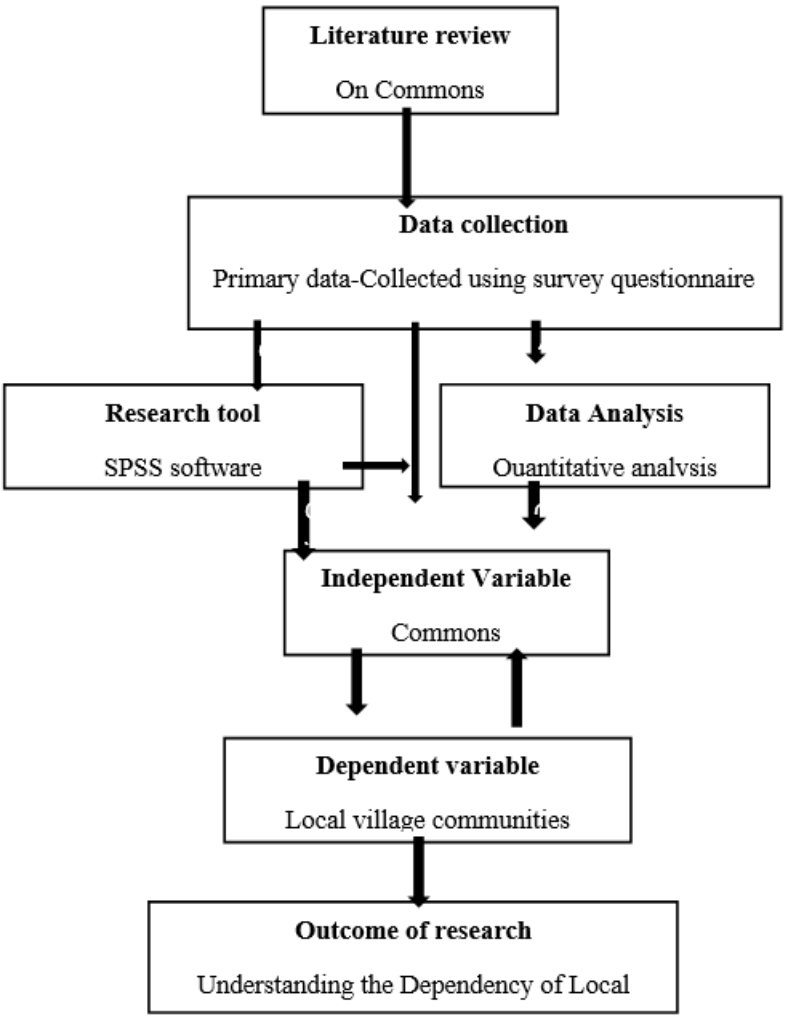
RESEARCH METHODOLOGY

In order to assess the livelihood dependency of the local communities on the commons it is very necessary to place the community as the central core ensuring that their perspectives, knowledge, and needs are considered. Identifying the vulnerabilities of natural resources-dependent communities, including environmental changes, economic fluctuations, and social factors is crucial for designing targeted interventions to enhance resilience.

The research focuses on the four villages of the Kandaachipuram Taluk in Villupuram district, Tamil Nadu namely Appananthal, Vedalam, Melvalai and Vadakarai Thazhanur. The paper is based on an intensive field study along with a detailed questionnaire survey targeting the local communities who are directly or indirectly associated with the commons. Here, the demographic details refer to the name, age, job description, and additional personal details, which will be kept confidentially of each respondent, who are taking part in the survey. The current study does not contain any false data, and under high confidential, all these data collection will be kept.

1.2Research Design

The research design is deemed as the implementation of several processes, instruments and procedures to attain data for the purpose of research. The complete framework and the research flow of the current study in the research design. It is a component of the research and provides an outline for how a study has been carried out, containing the techniques and methods that is applied to analyse and congregate data. A well-organised research study is important for determining the research objectives are acquired and the outcomes are reliable and valid. It incorporates the suitable way of approach for the current research through answering thequestions. Figure. 1 shows the research design of the currentstudy.



3.1.1 Conceptual framework and Modules

The livelihood assessment framework places the community at the center of the decision-making process, ensuring that their perspectives, knowledge, and needs are considered. This participatory approach fosters a sense of ownership and empowerment among community members.The assessment helps in

comprehensively identifying the vulnerabilities of natural resources-dependent communities, including environmental changes, economic fluctuations, and social factors. This knowledge is crucial for designing targeted interventions to enhance resilience.It focuses on recognizing and utilizing the existing assets of these communities, such as traditional knowledge, indigenous skills, and natural resources, as the foundation for sustainable development.The assessment encourages exploring opportunities for diversifying income sources. This is essential for reducing the over-reliance on a single resource, which can be precarious in the face of changing conditions.The insights gained from these assessments can inform the development of policies and programs that are context-specific, ensuring that they effectively address the needs and aspirations of the community.By actively involving the community and addressing their immediate concerns, livelihood assessments contribute to the long-term sustainability and resilience of these communities in the face of environmental and socio-economic challenges.

In conclusion, "Livelihood Assessment: A Participatory Tool for Natural Resources Dependent Communities" is a valuable tool that not only provides a snapshot of the current livelihood situation but also empowers these communities to shape their own destinies. Its success lies in its ability to engage communities in the development process and create solutions that are sustainable, inclusive, and tailored to their unique circumstances**.** Robert Chambers is known for his work on rural development and livelihoods, particularly in the context of poverty reduction. He has identified five capital assets that are essential for improving livelihoods.

Capital Management of Commons in Rural Communities

This refers to the knowledge, skills, and health of individuals. Investment in education, training, and healthcare can enhance human capital, leading to increased opportunities for better livelihoods.Social networks, relationships, and community connections are vital for livelihoods. Strong social capital can provide access to resources, information, and support in times of need.This involves the use and management of natural resources such as land, water, and forests. Sustainable utilization of these resources is crucial for livelihoods, especially in rural areas.Infrastructure, tools, equipment, and technology fall under this category. Access to physical capital can improve productivity and income, for example, through better farming equipment or transportation.Access to financial resources, including savings, credit, and insurance, is essential for managing risks and investing in income-generating activities. Chambers' approach highlights the interconnectedness of these capital assets and their role in improving the well-being of marginalized and impoverished communities.

1.3 Sampling Frame

The stratified simple random sampling is also regarded as the probability sampling that provides similar opportunities to every person in a population. For the research purpose, the sample is selected in a random manner. The random sampling method is simplest than any other probability approaches.Due to its advantages, the present study adopted random sampling technique.

1.4 Source of Data

Data collection method is defined as the procedure of accumulating information from the chosen respondents. The procedure involves gathering, determining and examining the precise explanations needed for the research by using the high-quality techniques. Generally, the data accumulation can be classified into two types, namely primary and secondary data. In this research, the primary data is used for the assessment phase.

The dependency of local village communities on commons for their livelihoods in Villupuram District, Tamil Nadu, lacks clarity and confidence in its presentation and analysis. Specifically, it is unclear how many individuals were originally surveyed and how many actually responded, which raises concerns about the reliability of the data. The research utilized a structured survey questionnaire to collect data from a total of 736 villagers, but without specifying the number of respondents who completed the survey, the findings may not accurately reflect the community's perspectives or needs1. This ambiguity can significantly affect the validity of conclusions drawn regarding the management and utilization of common resources in these villages.

The accumulation of primary data from the residents in the areas of Vadakarai Thazhanur, Melvalai, Vedalam and Appananthal 262 people from Vadakarai Thazhanur, 207 people from Melvalai, 130 people fromVedalam and 137 people from Appananthal through the structured questionnaire.

1.5 Data Analysis

Data analysis is the process of cleaning, inspecting, interpreting and transforming raw data to fetch meaningful perceptions and attain conclusions. It comprised of using different analytical and statistical approaches to expose trends, relationships and patterns in the data. Generally, data analysis can be done through two types of analysis, Quantitative Analysis and Qualitative Analysis. Quantitative analysis has been adopted for the current study because of its efficient outcomes and defined structures.

Quantitative analysis

The measurement of the accumulated data from primary data collection technique in the present study is done by SPSS (Statistical Package for Social Science) tool. SPSS software is a set of software programs, which studies and analyses the scientific information that is data regarding social science and research purposes. SPSS needs less execution time with fast results, when compared to other statistical tools for data analysing. Hence, the current study uses SPSS software to analyse and study the research's test hypothesis and finds the understanding on the dependency of local village communities on commons.

3.5 Ethical Consideration

The present research follows certain ethics while performing the analysis research. The demographic details of the respondents are gathered before the survey. Here, the demographic details refer to the name, age, job description, and additional personal details, which will be kept confidentially of each respondent, who are taking part in the survey.The present research of local village communities on commons for livelihood in Villupuram District, Tamil Nadu, has obtained human ethics approval during data collection. While the research emphasizes the socio-economic conditions and the role of Common Property Resources (CPR) in supporting livelihoods, particularly for marginalized groups, ethical considerations regarding participant consent and data handling are not addressed in the available literature. This omission raises questions about the ethical integrity of the research methodology employed in this framework. The current study does not contain any false data, and under high confidential, all these data collection will be kept. Finally, these are the ethical considerations that are used by the researcher for analysis, and it is more precise to the knowledge of the scholar regarding the present study.

RESULTS (JOSHI, 2021)

1.6 Demographic profile

The total number of 126 respondents who are the people of the village depending on the commons is considered as participants of the current research. The demographic details of the respondents are collected from each region and categorized below.

Vadakarai Thazhanur

Table 4.1 Demographic profile of respondents in Vadakarai Thazhanur

Row Labels	Sum of Percentage
Age	**1**
25-35	34%
36-50	40%
51-70	24%
Above 70	2%
Cattle owned	**1**

1 to 10	97%
11 to 50	1%
Nil	1%
UA	1%
Education	**1**
Graduate	30%
Nil	2%
Not educated	18%
School	49%
UA	1%
Gender	**1**
Female	15%
Male	85%
Land owned in acres	**1**
0 to 1 acre	20%
1 to 10 acres	28%
Nil	52%
Occupation	**1**
Agricultural	65%
Nil	2%
Non-agricultural	33%
Grand Total	**6**

From the table 4.1, It summarizes demographic and socioeconomic data across several categories, highlighting the distribution of respondents based on age, cattle ownership, education, gender, land ownership, and occupation. The age distribution indicates that the majority of respondents are aged 36-50 (40%), followed by 25-35 (34%), while only 2% are above 70 years old. In terms of cattle ownership, a striking 97% own between 1 to 10 cattle, with negligible ownership in higher categories. Educationally, most respondents have completed school (49%), with graduates making up 30%, while a small percentage are uneducated (18%). Gender representation is predominantly male at 85%. Regarding land ownership, a significant portion (52%) reports having no land, while 28% own between 1 to 10 acres. Lastly, the occupation data reveals that a substantial majority (65%) are engaged in agricultural work, with only a small fraction involved in non-agricultural jobs (33%). Overall, this data paints a picture of a predominantly young, male population with low levels of land ownership and a strong inclination toward agricultural occupations.

Apanandhal

Table 4.2 Demographic profile of respondents in Apanandhal

Row Labels	Sum of Percentage
Age	**1**
25-35	19%
36-50	48%
51-70	25%

Above 70	7%
UA	1%
Cattle owned	**1**
1 to 10	47%
Nil	39%
UA	14%
Education	**1**
Graduate	2%
Nil	2%
Not educated	65%
School	31%
Gender	**1**
Female	75%
Male	25%
Land owned in acres	**1**
0 to 1 acre	27%
1 to 25 acres	32%
Nil	29%
UA	12%
Occupation	**1**
Agricultural	82%
Nil	2%
Non-agricultural	16%
Grand Total	**6**

From the table 4.2, it presents a demographic and socioeconomic overview of respondents, detailing their distribution across age, cattle ownership, education, gender, land ownership, and occupation. The age distribution shows that 48% of respondents fall within the 36-50 age range, followed by 25% aged 51-70, while only 7% are above 70 years old. In terms of cattle ownership, nearly half (47%) own between 1 to 10 cattle, but a significant portion (39%) report having no cattle at all. Educationally, a large majority (65%) are not educated, with only 2% being graduates and 31% having completed school. Gender demographics reveal a predominantly female population at 75%, compared to 25% male. Regarding land ownership, the data indicates that 32% own between 1 to 25 acres, while 29% have no land and 27% own up to 1 acre. Occupation-wise, a substantial majority (82%) are engaged in agricultural work, with only a small fraction involved in non-agricultural jobs (16%). Overall, the data reflects a predominantly female, less-educated population heavily involved in agriculture with limited cattle and land ownership.

Melvalai

Table 4.3 Demographic profile of respondents in Melvalai

Row Labels	Sum of Percentage
Age	**1**
25-35	7%
36-50	53%
51-70	39%

Above 70	1%
Cattle owned	**1**
1 to 20 cattles	45%
5 to 30 goats	4%
UA	51%
Education	**1**
Graduate	5%
Not educated	36%
School	41%
UA	18%
Gender	**1**
Female	37%
Male	63%
Land owned in acres	**1**
0 to 10 acres	56%
UA	44%
Occupation	**1**
Agricultural	48%
Non-agricultural	41%
UA	11%
Grand Total	**6**

From the table 4.3, provides a demographic and socioeconomic profile of respondents, focusing on age, cattle ownership, education, gender, land ownership, and occupation. The age distribution indicates that the majority (53%) fall within the 36-50 age range, followed by 39% aged 51-70, while only 1% are above 70 years old. In terms of livestock, 45% own between 1 to 20 cattle, but a significant portion (51%) have unspecified cattle ownership (UA). Educationally, 41% have completed school, while 36% are not educated and only 5% are graduates; 18% have unspecified educational status. Gender representation shows a slight male majority at 63%, compared to 37% female. Regarding land ownership, a substantial 56% own up to 10 acres, with 44% having unspecified land ownership. In terms of occupation, nearly half (48%) are engaged in agricultural work, while a significant portion (41%) is involved in non-agricultural jobs; 11% have unspecified occupations. Overall, the data reflects a predominantly middle-aged population with a mix of agricultural and non-agricultural employment, alongside limited educational attainment and significant cattle ownership.

Vedalam

Table 4.4 Demographic profile of respondents in Vedalam

Row Labels	Sum of Percentage
Age	**1**
25-35	22%
36-50	43%
51-70	35%
Cattle owned	**1**
1 to 10	50%

Nil	50%
Education	**1**
Graduate	3%
Not educated	64%
School	33%
Gender	**1**
Female	75%
Male	25%
Land owned in acres	**1**
0 to 150 acres	53%
Nil	47%
Occupation	**1**
Agricultural	94%
Nil	1%
Non-agricultural	5%
Grand Total	**6**

From the table 4.4 presents a demographic and socioeconomic analysis of respondents, detailing their distribution across age, cattle ownership, education, gender, land ownership, and occupation. The age distribution shows that 43% of respondents are in the 36-50 age range, followed closely by 35% aged 51-70, and 22% in the 25-35 category. Regarding cattle ownership, half of the respondents (50%) own between 1 to 10 cattle, while the other half report having no cattle at all. Educationally, a significant majority (64%) are not educated, with only 3% being graduates and 33% having completed school. Gender demographics indicate a predominantly female population at 75%, compared to 25% male. In terms of land ownership, 53% own up to 150 acres, while 47% have no land. Occupation data reveals that an overwhelming majority (94%) are engaged in agricultural work, with only a small fraction (5%) involved in non-agricultural jobs. Overall, the data highlights a largely female population with low educational attainment and a strong focus on agricultural occupations, alongside a notable division in cattle ownership and land ownership status.

Statistical analysis

Statistical analysis is significant element in research which includes presentation, interpretation, organisation and collection of numerical data. It involves employing several statistical methods to derive valuable conclusion and make decision based on the data.

Hypothesis 1

$H1_1$: The commons satisfy the individual needs of the local population.

$H1_0$: The commons do not satisfy the individual needs of the local population.

One-way Anova

This is a statistical test utilized to examine the variance among the means of two groups or more. The one-way ANOVA method use one independent variable. Hence, the current study implemented ANOVA test for determining the satisfaction on the individual needs of the local population. What are the primary commons utilized by village communities in Villupuram District for their livelihoods?

Table 4.5 Descriptives

	N	Mean(M)	Std. Deviation(SD)	Std. Error(SE)	95% Confidence Interval for Mean		Minimum(Min)	Maximum(Max)
					Lower Bound(LB)	Upper Bound(UB)		
YES	2	1.49	.687	.400	4.73	7.64	1	2
NO	86	1.51	.796	.050	1.29	1.52	1	3
UA	18	1.78	.403	.129	1.54	2.09	1	3
Total(T)	105	1.42	.567	.042	1.53	1.52	1	3

Table 4.6 ANOVA

	Sum of Squares(SOS)	df	Mean Square(M^2)	F	Sig.(S)
Between Groups(Among Grps)	2.501	2	1.002	2.425	.038
Within Groups(Inside Grps)	40.722	103	.405		
T	43.223	105			

The above ANOVA table 4.5 and 4.6 demonstrates the social variables in Apanandhal region regarding whether the commonssatisfies the individual needs of the local population or not. The provided data appears to summarize responses to a survey or study, likely assessing opinions or behaviors related to a specific question, which is not explicitly stated in the data. The groups labeled "YES," "NO," and "UA" (possibly "Unanswered") reflect different response categories, with their respective statistics indicating the mean scores, standard deviations, and confidence intervals for each group. The total number of responses is 105, which suggests that 21 responses (from the total of 126 mentioned) were excluded or categorized as unanswered. This discrepancy raises questions about the methodology used in data collection or analysis. The means for "YES" (1.49) and "NO" (1.51) are quite close, indicating similar levels of agreement or sentiment, while the "UA" group has a higher mean (1.78), suggesting a different perspective among those who did respond positively but did not fall into the binary categories. The ANOVA table would help determine if these differences in means are statistically significant, guiding interpretations about the underlying question being assessed.

The outcome of the analysis p-value is .038 where the significant value is <0.05. The outcome of the ANOVA test demonstrates that the commons (independent variable) satisfies the individual needs of the local population (dependent variable). Therefore, the outcome of ANOVA test proves the positive hypothesis and is opposite to the null hypothesis.

Hypothesis 2

$H2_1$: The commons satisfies the community needs of the local population

$H2_0$: The commons does not satisfy the community needs of the local population

Vedalam

Regression

The regression method is applied to define the arithmetical value of variable. The test is used to assess the relationship among the research variables. Hence, the present research used regression test to find the satisfaction on the community needs of the local population

Table 4.7 Model Summary

Model(Mod)	R	R Square(R^2)	Adjusted R Square(Adj R^2)	Std. Error of the Estimate(SE of Est)
1	.563[a]	.517	.512	.414

Table 4.8 ANOVA[a]

Mod		SOS	df	M^2	F	S
1	Regression(Reg)	10.199	1	10.199	59.542	.000[b]
	Residual(Res)	21.924	128	.171		
	T	32.123	129			

Table 4.9 Coefficients[a]

Mod		Unstandardized Coefficients(Unstd Coeff)		Standardized Coefficients(Std Coeff)	t	S
		B	Std. Error(SE)	Beta(Be)		
1	Constant (Con)	1.704	.079		21.545	.000
	What is the yield from the fishing tender process?	.248	.032	.563	7.716	.000

The table above 4.7, 4.8 and 4.9 illustrates the economic variables in Vedalam region regarding whether the commons satisfies the community needs of the local population or not. The p value below 0.05 indicates there is significant variance among the variables. Here, p value of the ANOVA table is 0.000. The model summary table proves the result of the regression test with R^2value 0.51 whereas R square appropriate value for rejecting null hypothesis must be above 40%. The outcome of regression test demonstrates that the commons (independent variable) satisfies the community needs of the local population (dependent variable). This table provides enough evidence to reject the null hypothesis and support positive hypothesis. The table presents the results of a regression analysis examining the relationship between a predictor variable (likely related to the fishing tender process) and an outcome variable, which is presumably the yield from that process. The constant term (1.704) indicates the baseline yield when the predictor is zero. The unstandardized coefficient for the predictor variable (0.248) suggests that for each unit increase in this predictor, the yield increases by approximately 0.248 units, which is statistically significant ($p < 0.001$). The standardized coefficient (Beta = 0.563) indicates a strong positive relationship, showing that this variable accounts for a substantial portion of the variance in yield.

Apanandhal

One-way Anova

This is a statistical test utilized to examine the variance among the means of two groups or more. The one-way ANOVA method use one independent variable. Hence, the current study implemented ANOVA test to find the satisfaction on the community needs of the local population

Table 4.10 Descriptives

	N	Mean(M)	Std. Deviation(SD)	Std. Error(SE)	95% Confidence Interval for Mean		Minimum(Min)	Maximum(Max)
					Lower Bound(LB)	Upper Bound(UB)		
YES	2	1.32	.562	.200	4.61	7.25	1	1
NO	86	1.49	.630	.045	1.18	1.48	1	1
UNANSWERED	18	1.63	.509	.092	1.29	2.31	1	1
Total(T)	105	1.38	.540	.031	1.42	1.10	1	2

Table 4.11 ANOVA

	Sum of Squares(SOS)	df	Mean Square(M^2)	F	Sig.(S)
Between Groups(Among Grps)	2.462	2	1.291	2.425	.002
Within Groups(Inside Grps)	39.722	103	.970		
T	41.110	105			

The above ANOVA table 4.10 and 4.11 demonstrates the social variables in Apanandhal region regarding whether the commons satisfies the individual needs of the local population or not. The outcome of the analysis p-value is .002 where the significant value is <0.05. The outcome of the ANOVA test demonstrates that the commons (independent variable) satisfies the community needs of the local population (dependent variable). Therefore, the outcome of ANOVA test proves the positive hypothesis and is opposite to the null hypothesis.

Vadakarai Thazhanur

Regression

The regression method is applied to define the arithmetical value of variable. The test is used to assess the relationship among the research variables. Hence, the present research used regression test to find the satisfaction on the community needs of the local population

Table 4.12 Model Summary

Model(Mod)	R	R Square(R^2)	Adjusted R Square(Adj R^2)	Std. Error of the Estimate(SE of Est)
1	.431[a]	.428	.491	.405

Table 4.13 ANOVA[a]

Mod		SOS	df	M^2	F	S
1	Regression(Reg)	11.200	2	11.200	58.672	.031[b]
	Residual(Res)	20.931	105	.052		
	T	31.120	107			

Table 4.14 Coefficients[a]

Mod		Unstandardized Coefficients(Unstd Coeff)		Standardized Coefficients(Std Coeff)	t	S
		B	Std. Error(SE)	Beta(Be)		
1	Constant (Con)	1.641	.063		21.632	.031
	What is the yield from the fishing tender process?	.290	.028	.521	7.604	.031

The table above 4.12, 4.13 and 4.14 illustrates the economic variables in Vadakarai Thazhanurregion regarding whether the commons satisfies the community needs of the local population or not. The p value below 0.05 indicates there is significant variance among the variables. Here, p value of the ANOVA table is 0.031. The model summary table proves the result of the regression test with R^2 value 0.428 whereas R square appropriate value for rejecting null hypothesis must be above 40%. The outcome of regression test demonstrates that the commons (independent variable) satisfies the community needs of the local population (dependent variable). This table provides enough evidence to reject the null hypothesis and support positive hypothesis.

Melvalai

One-way Anova

This is a statistical test utilized to examine the variance among the means of two groups or more. The one-way ANOVA method use one independent variable. Hence, the current study implemented ANOVA test to find the satisfaction on the community needs of the local population

Table 4.15 Descriptives

	N	Mean(M)	Std. Deviation(SD)	Std. Error(SE)	95% Confidence Interval for Mean		Minimum(Min)	Maximum(Max)
					Lower Bound(LB)	Upper Bound(UB)		
YES	11	1.20	.600	.310	4.21	7.58	1	2
NO	96	1.42	.584	.041	1.50	1.24	1	1
UNANSWERED	100	1.59	.390	.018	1.36	2.00	1	1
Total	207	1.31	.471	.039	1.42	1.37	1	3

Table 4.16 ANOVA

	Sum of Squares(SOS)	df	Mean Square(M^2)	F	Sig.(S)
Between Groups(Among Grps)	2.421	7	1.412	2.425	.001
Within Groups(Inside Grps)	40.615	200	.390		
T	42.971	207			

The above ANOVA table 4.15 and4.16 demonstrates the social variables in Melvalai region regarding whether the commons satisfies the individual needs of the local population or not. The outcome of the analysis p-value is .001 where the significant value is <0.05. The outcome of the ANOVA test demonstrates that the commons (independent variable) satisfies the community needs of the local population (dependent variable). Therefore, the outcome of ANOVA test proves the positive hypothesis and is opposite to the null hypothesis.

Hypothesis 3

$H3_1$: There is an awareness of the ecological aspects of the commons amongst the local population

$H3_0$: There is not an awareness of the ecological aspects of the commons amongst the local population

One-way Anova

This is a statistical test utilized to examine the variance among the means of two groups or more. The one-way ANOVA method use one independent variable(Park, 2009). Hence, the current study implemented ANOVA test for determining the awareness of the ecological aspects of the commons amongst the local population

Table 4.17Descriptive

	N	M	SD	SE	95% ConInt for M		Min	Max
					LB	UB		
YES	2	1.48	.607	.400	3.84	7.76	1	2
NO	86	1.58	.666	.060	1.35	1.56	1	3
UNANSWERED	18	1.62	.423	.127	1.50	2.28	1	3
TOTAL	106	1.42	.565	.073	1.26	1.61	1	3

Table 4.18 ANOVA

	SOS	df	M^2	F	S
Among Grps	2.001	3	1.001	2.364	.032
Inside Grps	42.721	102	.305		
TOTAL	41.628	107			

The above ANOVA table 4.17 and 4.18 demonstrates the ecological variables in Vadakarai Thazhanur region regarding whether there is an awareness of the ecological aspects of the commons amongst the local population or not. The outcome of the analysis p-value is .032 where the significant value is <0.05. The outcome of the ANOVA test demonstrates that there is an awareness of the ecological aspects of the commons (independent variable) amongst the local population (dependent variable). Therefore, the outcome of ANOVA test proves the positive hypothesis and is opposite to the null hypothesis.

Hypothesis 4

$H4_1$: There is a significant relationship between community interactions and commons

$H4_0$: There is not a significant relationship between community interactions and commons

Regression

The regression method is applied to define the arithmetical value of variable. The test is used to assess the relationship among the research variable. Hence, the present research used regression test to find the relationship between community interactions and commons

Table 4.19 ModSummary

Mod	R	R^2	AdjR^2	SE of Est
1	.664[a]	.602	.596	.325

Table 4.20 ANOVA[a]

Mod		SOS	df	M^2	F	S
1	Reg	11.176	1	11.806	62.534	.002[b]
	Res	20.854	129	.151		
	T	31.013	130			

Table 4.21 Coeff[a]

Mod		Unstd Coeff		Std Coeff	t	S
		B	SE	Be		
1	Con	1.620	.068		20.320	.002
	Apart from cattle grazing, what are the other benefits from these lands?	.231	.021	.365	6.810	.002

The table above4.19, 4.20 and 4.21 illustrates thesocio-economic variables in Apanandhal region regarding whether there is a significant relationship between community interactions and commons or not. The p value below 0.05 indicates there is significant variance among the variables. Here, p value of the ANOVA table is 0.002. The model summary table proves the result of the regression test with R^2value 0.60 whereas R square appropriate value for rejecting null hypothesis must be above 40%. The outcome of regression test demonstrates that there is a significant relationship between community interactions (dependent variable) and commons (Independent variable). This table provides enough evidence to reject the null hypothesis and support positive hypothesis. The regression analysis table presents findings on the relationship between the predictor variable (benefits from land use beyond cattle grazing) and an outcome variable, with results indicating a significant positive association. The constant term (1.620) serves as the baseline benefit level when the predictor is absent. The unstandardized coefficient for the predictor (0.231) suggests that for each unit increase in perceived benefits from these lands, there is an increase of approximately 0.231 units in the outcome variable, which is statistically significant (p = 0.002). The standardized coefficient (Beta = 0.365) indicates a moderate positive effect size, reinforcing that as perceived benefits increase, so do the outcomes measured in this analysis. Overall, these results highlight a positive relationship, suggesting that recognizing additional benefits from the land contributes positively to the overall assessment of its value beyond cattle grazing.

DISCUSSION

The existing study(Kostakis et al., 2018) creates the aggregationon the digital commons of design and expertise with desk and the bench tops manufacturing expertise. Some case studies are offered to exemplify three intertwinedperforms of this exemplary for de-growth. It has beencontended that adesign worldwide, production localexemplary, as demonstratedthrough these studies, appears to ascend in a suggestivelydiverse political frugality from that of the conservative industrial exemplary of mass construction. Similarly, the present research assess the dependency of local village communities on commons and to gain insights into the socio-economic, cultural, and environmental dimensions of this

dependency. And also assessed the awareness of the ecological aspects of the commons amongst the local population.

The prevailing study(Villamayor-Tomas & García-López, 2018)discourses the contribution of social activities to the society and sturdiness of (CBNRM)Community Based Natural Resources Management in the arrival of those intimidations. To achieve this, the existing study carried out a qualitative study of 81 cases universally. The evidence demonstrates that the most important effect of actions on CBNRM is the elevation and resistance of communal use and organization rights in contradiction ofsome government choices or movementsthrough global concerns.Similarly, the current study adopted quantitative methodology with data collected from 262 people from Vadakarai Thazhanur, 207 people from Melvalai, 130 people from Vedalam and 137 people from Appananthal through the structured questionnaire.The study also analysed the contribution of the commons to satisfy the community needs of the local population.

The prior study (Schüpf et al., 2025)attempted to evaluate the schemes and policies in managing commons in four villages of Villupuram, Tamil Nadu. Even though the conventional research concentrated on various schemes on common management, scope exists for further development. The present study explored on MGNREGA in managing commons for rural development. The current study uses both qualitative and quantitative research method to collect the data using a structured survey questionnaire from 734villagers.Further, the gathered data has evaluated with an aid of ANOVA, regression, Correlation and chi-square tests in SPSS software. For qualitative research, description analysis is examined using secondary data. The current study outcome has shown that there is an effective implementation of schemes and policies on managing commons and the Local governance plays a significant role in usage and commons management.Also, the study analysed whether the societal structure has impact or not in the commons management and usages. Additionally, the study examined the descriptive analysis for further clearance on the research objective. As per the results from current study, rural development have to adapt and evaluate various schemes and policies to establish the commons management among the rural areas.

The existing study (Richter, 2019) develops the supposition that the embeddedness of societal enterprises in village groups and their capability to associate rural populations with regional systems and decision creators are critical preconditions for creating and nurturing social novelty in the rural area. Likewise, the present study found the significant relationship between community interactions and commons. And also identified the contribution of the commons to satisfy the individual needs of the local population.

The prevailing study(Nawawi et al., 2020) used a qualitative approach which was aimed to describe the employment of the community's Kalesang event as a scarcity alleviation equipment in rural societies. The location of the existing study centers on Marloso, Namlea and Lala with the contemplation of diverse socio-economic atmospheres with other communities in subdistrict named - Namlea. The total of informercross-examined was 45 peoplealienated into groups, village apparatus and communal leaders. Logical techniques are applied to track the idea of Huberman and Miles where actions in the study of qualitative statistics are directedlively and constantly. Likewise, the current research assessed the dependency of local village communities on commons and to gain insights into the socio-economic, cultural, and environmental dimensions of this dependency. And also assessed the awareness of the ecological aspects of the commons amongst the local population.

LIMITATIONS OF THE STUDY

Every study has certain drawbacks. Likewise, the current study also have some constraints. The foremost limitation of research is that it has not adopted qualitative study to implement the analysis which would assist to go through the dependency of rural people on commons. Hence, the results might lack in generalizability. However, the objective modules provided through the study could be useful to advance the local village community.

CONCLUSION

Commons, often referred to as common-pool resources, are shared resources that are vital for the livelihoods of communities worldwide. These resources can include land, water bodies, forests, pastures, and fisheries, among others. They play a significant role in sustaining the livelihoods of many communities. Gender plays a significant role in commons management(Tacconi, 2007). The gendered dimensions of common property resources impact rural women(Joshi, 2021). Local communities often depend on commons, such as forests, grazing lands, or fisheries, for their livelihoods. This reliance on commons can be seen in various parts of the world. For example, in many rural areas, people rely on communal forests for timber, non-timber forest products, and as a source of fuel wood. Commons can be sources of conflicts in rural communities. The present study assessed the awareness of the ecological aspects of the commons amongst the local population. It analyzed the contribution of the commons to satisfy the community needs of the local population. It has found the significant relationship between community interactions and commons. And also identified the contribution of the commons to satisfy the individual needs of the local population. Finally, the study evaluated the dependency of local village communities on commons and to gain insights into the socio-economic, cultural, and environmental dimensions of this dependency.

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