

COMMON PROPERTY RESOURCES AND THEIR LINKAGES WITH SUSTAINABLE LIVELIHOOD: A STUDY OF TRIBAL CONCENTRATED AREAS IN LAKHIMPUR KHERI OF UTTAR PRADESH

Jai Prakash Verma^{1} and Vinod Kumar Srivastava*

Abstract: *Creating large-scale sustainable livelihoods is one of the main priorities of emerging countries. Modernization, uncontrolled development, colonialism, and rapid economic growth have badly damaged natural resources, resulting in huge destruction in India. This loss of natural assets currently hinders economies' ability to meet the ever-increasing requirements of their populations. The second goal is to restore the forests, biodiversity, wildlife, rivers, land, and ground water to their former grandeur through conservation, protection, good management, and long-term planning. An Indian developing country's third objective and goal is to accelerate economic growth, build and spread sustainable livelihoods, and renew the resource base. Economic policy must priorities establishing the foundation for rapid expansion of sustainable livelihoods and environmental management. This necessitates major shifts in consumption and production. Agribusiness will soon overtake agriculture as the primary employer in rural areas. It is not simply the government's role to create jobs and opportunity. The corporate sector and community-based civic societies must take the lead. Micro-enterprises have the greatest potential to create jobs for women and other disadvantaged individuals. But sustainable livelihoods alone do not guarantee sustainable development. Thus, more environmentally sound and socially equitable production, consumption, and resource development systems are required. Against this backdrop, present paper examines the accessibility and utilization of Common Property Resources and their linkages with sustainable livelihood. The paper is based on primary data collected through field survey in tribal concentrated areas of Lakhimpur Kheri districts of Uttar Pradesh .*

Keywords: *Common property resources, Livelihood development , Natural resources, Sustainable development.*

INTRODUCTION

Common Property Resources (CPRs) are natural resources belonging to every community that each member can access purposefully with specified obligations since no one can have exclusive ownership rights over them (Jodha, 1986). Identifi communities alone have the capacity to access and manage these jointly owned

1. Assistant Professor, Department of Economics, Netaji Subhash Chandra Bose Govt. Girls Post Graduate College, Lucknow Uttar Pradesh, (India) E-mail: jaygdc2012@gmail.com

2. Professor and Head, Department of Economics and Rural Development, Dr. Rammanohar Lohia Avadh University Ayodhya, Uttar Pradesh, (India) E-mail: vksrivastava@rmlau.ac.in

* Corresponding Author E-mail: jaygdc2012@gmail.com

resources. For the rural common man in India, natural resources such as abundant lands, protected and non categorised forests, ponds, rivers, rivulets and waste lands used for agricultural techniques are his primary property. Common Property Resources are the sole source of human nourishment in rural India. CPRs are part of the social and institutional structures designed to help the rural poor. The rural poor, especially the landless, rely heavily on the CPRs. Earlier research indicates that both the poor and the not so poor rely on CPRs for their livelihood. CPRs operate as a buffer during economic crises caused by crop failures, but also as a source of revenue in regular times. The forests have given adequate non-timber forest products (NTFPs) for the rural poor's subsistence. The rural poor collect NTFPs such as wood, bushes, and dried leaves for cooking and heating. Bamboo and cane are used to build houses, while wild grasses and shrubs are used to feed animals. The forest is also a great source of medicinal plants. Rural poor collect fruits, vegetables, and roots for consumption and sale. Natural resources have long been recognised as vital to rural livelihoods. However, efficient resource usage and a key balance between stock and flow are required. Resource overexploitation leads to scarcity. Hardin (1968) introduced the concept of over-exploitation of shared natural resources in his paper 'The Tragedy of the Commons'. The story shows how unlimited access to a finite resource leads to over-exploitation and resource depletion. While acknowledging that depletion of shared natural resources is detrimental to the group's long term best interest, the author argues that people behaving autonomously and rationally leads to depletion of shared natural resources. Common property resources are those that are shared by a community and in which no single person has exclusive ownership rights. The community may have formal ownership rights or basic user rights. Watershed drainage, ponds and tanks, rivers, rivulets, water reservoirs, canals and irrigation channels are all part of CPRs in India (NSSO, 1999). A CPR is vital to rural areas and traditional human settlements. Aids in economic, cultural and social advancement. A resource is said to be common or collectively managed if its users establish a group and create rules and regulations excluding non-members from using it (Arnold, 1993). CPRs can be used in three property rights regimes: open access, communal, and state. Open access properties are non-exclusive and non-transferable. Because rights are shared, everyone has access to them. Communal property user rights belong to a group or community (Mitra, 2020). These are not privately owned or managed. The community owns, maintains, and oversees these resources, as well as their use. The State or nation owns or manages the resources in State property. These are public resources with no established access or usage permissions (Topal, 2015).

CPRs provide rural residents with food, fuel, small timber, mulch, manure, fruits, medicinal herbs, and other requirements. CPRs also help avoid soil erosion, deforestation, and siltation. In addition to cash and job opportunities, common property resource-based activities benefit rural communities (Beck 1994). Common property resources also provide vital biomass services like fuel and fodder, as well as supplementary occupations like animal husbandry, dairying, and modest forest product gathering. As a result, common property resources can improve rural poor livelihoods. CPRs (common property resources)

are common in rural India. Forests and water resources have always been important CPRs in rural India. The landless, who are usually the poorest and most vulnerable, rely heavily on common property resources. The CPRs are often the poorest only source of food and income. During periods of low agricultural output or periodic food shortages, CPRs help to ensure rural household food security by providing an alternative source of income. Village institutions set standards and constraints for obtaining CPRs, ensuring that the resources are fully utilised. Common property resources are slowly disappearing as natural resources are used and rural institutional processes erode, endangering the rural economy and household food security (Mitra, 2020). Rural populations rely on CPR goods for work and income, especially when other opportunities are limited (Jodha, 1990). Well-managed CPRs benefit local people's long-term livelihoods. It allows people to diversify their income and hence improve their living situations. CPRs support communities in three ways: by providing fuel and feed, by providing income, and by providing capital goods or savings that may be cut and cashed to cover unexpected expenses. Inaccessible or damaged forests, CPRs, and loss of forest cover would negatively affect the poor's life (Chambers, Saxena and Shah, 1991). Woody plants and animals provide a variety of food for rural communities. They can eat these goods all year round and meet their nutritional demands. It also serves as a food safety net in case of seasonal food shortages, low agricultural output, crop loss, or natural calamities. CPRs are vital in providing the villagers' wood needs. Many village houses still use biomass for cooking. Livestock is prized in rural homes. Landless people, often the lowest of the poor, keep cattle and rely entirely on it for their livelihood. It is a secondary source of income for many households. Having access to pasture or community grazing area ensures grass for the livestock. Without CPR fodder and feed supplies, users would have to convert large areas of agricultural land from food and cash crops to cow fodder/feed production, or reduce their cattle herd size (Jodha, 1990). The CPRs are decreasing due to resource deterioration and misuse, and they currently do not deliver significant returns to communities. Globalization has opened the market, putting pressure on the country's natural resources (forest, water, minerals, and land). Land is purchased for industrial reasons, displacing local and indigenous communities. This affects rural communities' individual and common property rights. During industrialization, communities lose ownership of these resources to the state. Privatization has harmed tribal people in India. They've always been close to nature, and natural resources are significantly more valuable to tribal people than anything else. These materials shape their lives and civilizations. Alienation and exclusion from CPRs impact food and livelihood security, as well as socio-cultural sustainability (Behera & Basar, 2014). Displacement causes loss of social capital, including social integration, culture, community life, and involvement. Certainly, industrialization is required for the country's economic growth, but not at the expense of the country's tremendous natural resources.

REVIEW OF LITERATURE

The topic of Common Property Resources (CPRs) has received a lot of attention in both theoretical and empirical studies. Several studies by eminent academics have contributed to

a better knowledge of the subject. Gordon (1954) was one of the first economists to address the economic theory of optimum natural resource utilisation. Berkes (1989), dispelling the idea of the “Tragedy of the Commons,” describes Common Property Resources as a “class of resources for which exclusion is impossible and collaborative usage requires subtract ability.” Chopra’s (2001) attempt to calculate CPRs in terms of land area, which covered 16 states across the country, was impressive. She used land-use statistics, which she complemented with data from agricultural censuses and satellite photography. CPRs contributed greatly to employment and income production for the rural poor, i.e. labour and small farms, according to Jodha’s (1986) study in dry tropical regions spanning seven states and eighty villages in India. Arnold and Stewart’s (1991) research covered dry and semi-arid regions, hills and forests in high-rainfall areas, and the central Indian forest belt. The data for Menon and Vadivelu’s (2006) study on CPRs came mostly from the 54th wave of the National Sample Survey (1999). *Common property resources (CPRs), according to Mitra (2020), are an integral part of India’s rural life. Dasgupta (2005) believes that the subject of common property resources has spawned a plethora of literature over the last two decades (CPRs).* Rural residents derive most of their income from private and public property. Rural residents’ earnings decline when common property resources dwindle, compelling them to seek jobs in adjacent cities. As a result, degradation of common property resources, poverty, and migration are linked (Mahanta and Das, 2012; Suresh et al., 2010). The Central Plateau and Hills, Eastern Plateau and Hills, Southern Plateau and Hills, and Middle Gangetic Plains have all seen the greatest loss of forest and grazing land in India (Menon and Vadivelu, 2006). As a result, the research area (Gondia) is shrinking. These include common pastures, forests, wastelands, dumping and threshing sites, watershed drainage, village ponds, rivers and their banks and beds (Gowda and Savadatti, 2004). Unlike open access resources, which are utilised by anybody without regard for property rights, CPRs are exclusive to the defined community. The resources have two broad characteristics. For starters, preventing potential beneficiaries from using them would be prohibitively costly. In addition, the use of one user influences the availability of resources for others. These two characteristics necessitate collaboration among the resource’s beneficiaries. Despite the fact that over 75 billion Indians survive off CPRs (Pradhan and Patra, 2011), land use planning in CPRs has been largely overlooked due to the protected nature of these resources, which forbids any change in land use (forests) or features (as in case of village ponds, common grazing land). In practise, each society has its own local resource management system based on users’ expertise and experience (Adhikari, 2004). However, greater CPR use for livelihood security requires better land use planning. In actuality, many of these CPRs have a big impact on land use decisions. Systematic CPR research and use can significantly enhance people’s lives, especially in developing nations.

Bina Agarwal (1997) studied gender, poverty, and the environment in rural India from 1971 to 1991, focusing on regional disparities and temporal shifts. After briefly defining the primary elements behind environmental degradation, the study explores why and how environmental deterioration affects female members of poor rural households. Most

research on rural energy has focused on drier locations where fuel wood supply issues have been discovered and linked to desertification (Digernes 1977 and 1978). The high rate of population growth, growing prices of other fuels and challenges in supplying, along with severe problems developing and using new energy technologies predict that wood use will rise. There is a complex and difficult interplay between poverty, the environment, and development. Poverty is often believed to be the primary driver of environmental degradation, as the impoverished are unable to fully exploit natural resources (Duraippah 1996, Prakash 1997). The decline is expected to worsen poverty. In this view, the impoverished have a short time horizon, discounting future conservation advantages to survive and avoid starvation. With this time frame, natural resources are not used sustainably (Nadkarni, 2000). It takes a lot of planning and effort from poor farmers to build and maintain terraced fields, control soil erosion, grow trees for firewood, feed, and soil mending, and manage irrigation water (Prakash, 1997).

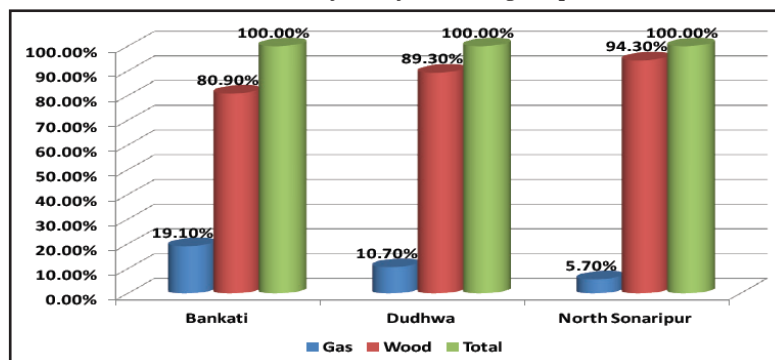
OBJECTIVES AND METHODS

The paper aims at examining the status of common prosperity resources, and their linkages with sustainable livelihood. It also focuses on degradation of common property resources and need for their conservation and effective management. Present paper is based on a major research study conducted during the course of doctoral research. The study was conducted in selected villages from Bankati, Dudhwa and North Sonaripur forest ranges of Palia Tehsil of Lakhimpur Kheri in Uttar Pradesh. The sample of the study comprises of 351 households. The survey was conducted with the help of structured interview schedule. The inferences, results and conclusions were drawn out from the analysis and interpretation of data with use of SPSS and relevant statistical tools.

DISCUSSION OF RESULTS

Most of respondents reported that they are using fuel wood for cooking purposes. It was found more pronouncing in North Sunaripur (94.3 per cent). However, about 19 per cent respondents in Bankati were found using gas for cooking purposes (Cart 1).

Chart 1 : Use of Fuel for Cooking Purposes



Source: Field Survey.

Out of total family income, agriculture sector constituted 71.17 per cent while income from wages accounted for 10.56 per cent. Services accounted for 14 per cent in family income. Thus, less than 5 per cent income is being generated from common property resources. The income-wise perception about CPR has been computed for finding out the variation among them. The variation among income was tested by ANOVA. The F value is showing significance at the 1% level of significance. The value of correlation is showing negative and non-significant at the desired level of significance between income status and perception about CPR of the respondent. It can be concluded based on the ANOVA test the null hypothesis is rejected (Table 1) .

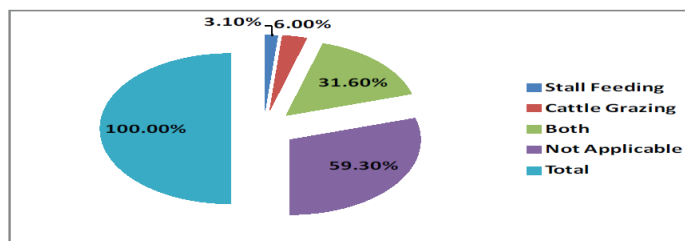
Table 1: Income Level of Respondents Wise Perception about CPRS Total Income from all Sources

Perception level of CPR	Mean
Low	309023
Medium	132707
High	155231
Total	179402
F test	5.637**
Correlation	-0.105

Source: Field Survey.

2/5th respondents reported that their family members are engaged in animal husbandry. It was found more pronouncing in North Sonaripur (56 per cent). Out of those respondents who had animal husbandry, further reported that they have mainly dairy and goatery. However, about 19 per cent respondents in North Sonaripur reported that they have pig for animal husbandry. About 59 per cent respondents reported that they do not rear animals. However, about 1/3rd respondents reported that they are rearing animals through stall feedings as well as grazing. It was found more pronouncing in North Sonaripur (Chart 2).

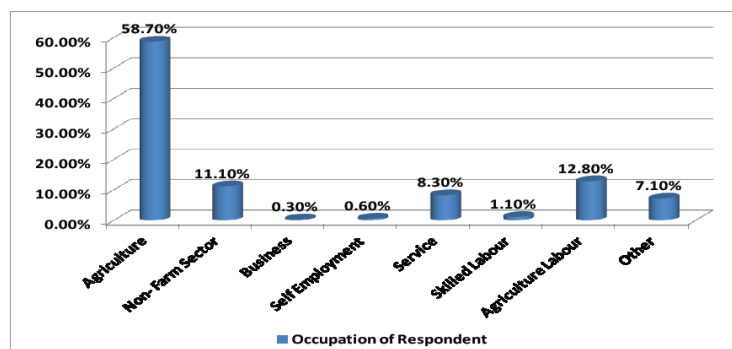
Chart 2: How Do You Rear Animals



Source: Field Survey.

Majority of the respondents reported that their occupation is agriculture and agriculture labour. Agriculture as occupation was recorded high in Dudhwa forest range (71.1 per cent) while agriculture labour as occupation was recorded high in North Sonaripur. About 11 per cent respondents further reported that they had occupation in non-form sector while about 8 per cent respondents reported that they are in service.

Chart 3: Occupation of Respondents



Source: Field Survey.

A negligible proportion of respondents reported that they get employment in common property resources. It was found significant in Bankati forest range (6.7 per cent). As per discussion with 41 villagers get employment in forest department for 418 days. Thus, on an average, Rs. 221 wages per person per day were provided by forest department.

The size of agriculture land-wise distribution by accessibility level of CPR is given in the table. The chi-square test has been applied to test the relation between the size of agriculture land and the accessibility level of CPR. The value of chi-square has been found not significant at the desired level of significance. It can be concluded that there is no relation between the size of agriculture land and the accessibility level of CPR (Table 2).

Table 2: Size of Agriculture Land Wise Accessibility Level To CPR

Size of agriculture land	Accessibility Level to CPR			Total
	Low	Medium	High	
Landless	6	16	18	40
	15.0%	40.0%	45.0%	100.0%
Less than 5 Acres	23	143	111	277
	8.3%	51.6%	40.1%	100.0%
5-8 Acres	1	13	9	23
	4.3%	56.5%	39.1%	100.0%
8-10 Acres	1	7	3	11
	9.1%	63.6%	27.3%	100.0%
Total	31	179	141	351
	8.8%	51.0%	40.2%	100.0%
Chi-Square Tests	4.482 ^{NS}			

NS indicates the value is not significant at the desired level of significance

Source: Field Survey.

The size of agricultural land wise the average number of days of employment and the average employment wage (Rs.) provided by the forest department are given in table. The

average number of days of employment getting by the sampled per household has been found very low i.e., below 3 days. However maximum wage getting by respondents having 8-10 acres of agricultural land and found minimum for respondents having less than 5 acres of agricultural land. The average wage has been found quite low as compared to the standard wage rate. To test the equality of means of the average number of days and average employment wage by size of landholding the ANOVA test has been applied and F test is applied for its significance. The values of F- test shows there is no significant variation between the various level of size of agricultural land in both (Table 3).

Table 3: Size of Agriculture Land Wise Average Number of Days of Employment and Average Employment Wage (Rs.) Provided By Forest Department

Size of agriculture land	Number of Days of Employment	Average Employment Wages Obtained (Rs.)
Landless	2.00	400
Less than 5 Acres	1.26	284
5-8 Acres	2.17	435
8-10 Acres	2.73	545
Total	1.45	315
F test	0.794 ^{NS}	0.361 ^{NS}

NS indicates the value is not significant at the desired level of significance. Source: Field Survey.

Most of respondents had no access to NTFP, tendu leaves, seeds, plants, manure, and water from river for irrigation, washing of clothes, herbs and medicinal plants and mahua fl rs/seeds. However, accessibility of common property resources to some extent reported mainly for forest produce, fuel woods, timber, fishing and aquatic resources, fire wood and raw materials for cottage industries as well as water for irrigation from pond/lake (Table 4).

Table 4: Accessibility To Common Property Resources

CPRs	Great Extent	Some Extent	No Access	Total
Forest Produce	31	289	31	351
	8.8%	82.3%	8.8%	100.0%
NTFP	0	0	351	351
	0.0%	0.0%	100.0%	100.0%
Tendu Leaves	0	0	351	351
	0.0%	0.0%	100.0%	100.0%
Fuel Wood	122	227	2	351
	34.8%	64.7%	0.6%	100.0%
Fire Wood	190	161	0	351
	54.1%	45.9%	0.0%	100.0%
Timber	121	230	0	351
	34.5%	65.5%	0.0%	100.0%

Bamboo	121	141	89	351
	34.5%	40.2%	25.4%	100.0%
Mahuwa Flowers / Seeds	0	37	314	351
	0.0%	10.5%	89.5%	100.0%
Herbs And Medicinal Plants	0	3	348	351
	0.0%	0.9%	99.1%	100.0%
Fodder Thatched Materials	54	44	253	351
	15.4%	12.5%	72.1%	100.0%
Fishing And Aquatic Resource	71	211	69	351
	20.2%	60.1%	19.7%	100.0%
Water For Irrigation From Pond / Lake	109	158	84	351
	31.1%	45.0%	23.9%	100.0%
Water From River For Irrigation	4	11	336	351
	1.1%	3.1%	95.7%	100.0%
Raw Materials For Cottage Industry	6	83	89	178
	3.4%	46.6%	50.0%	100.0%
Grazing Of Livestock	141	46	164	351
	40.2%	13.1%	46.7%	100.0%
Manure	1	12	338	351
	0.3%	3.4%	96.3%	100.0%
Plants	0	6	345	351
	0.0%	1.7%	98.3%	100.0%
Seeds	0	6	345	351
	0.0%	1.7%	98.3%	100.0%
Washing Of Clothes	0	14	337	351
	0.0%	4.0%	96.0%	100.0%
Other	0	12	339	351
	0.0%	3.4%	96.6%	100.0%

Source: Field Survey.

Frequency of collection of common property resources is shown in Table 5. Majority of respondents reported that they collect common property resources occasionally and sometimes mainly for forest produce, fuel wood, wire wood, timber, bamboo, fishing and aquatic resources, water for irrigation and grazing of livestock. However, NTFP, herbs and medicinal plants, raw materials for cottage industries, manure, seeds, and water from river for irrigation of crop land and manhua flowers/seeds are never collected by the local people.

Table 5: Frequency of Collection of Common Property Resources

Common Property Resources	Regularly	Sometimes	Occasionally	Never	Total
Forest Produce	44	74	225	2	345
	12.8%	21.4%	65.2%	0.6%	100.0%
NTFP	0	22	8	315	345
	0.0%	6.4%	2.3%	91.3%	100.0%
Tendu Leaves	0	3	2	340	345
	0.0%	0.9%	0.6%	98.6%	100.0%
Fuel Wood	133	70	142	0	345
	38.6%	20.3%	41.2%	0.0%	100.0%
Fire Wood	90	189	66	0	345
	26.1%	54.8%	19.1%	0.0%	100.0%
Timber	79	136	126	4	345
	22.9%	39.4%	36.5%	1.2%	100.0%
Bamboo	50	94	110	91	345
	14.5%	27.2%	31.9%	26.4%	100.0%
Mahuwa Flowers / Seeds	0	16	20	309	345
	0.0%	4.6%	5.8%	89.6%	100.0%
Herbs And Medicinal Plants	0	0	4	341	345
	0.0%	0.0%	1.2%	98.8%	100.0%
Fodder Thatched Materials	32	42	70	201	345
	9.3%	12.2%	20.3%	58.3%	100.0%
Fishing And Aquatic Resource	6	80	142	117	345
	1.7%	23.2%	41.2%	33.9%	100.0%
Water For Irrigation From Pond / Lake	25	101	114	105	345
	7.2%	29.3%	33.0%	30.4%	100.0%
Water From River For Irrigation	0	2	3	340	345
	0.0%	0.6%	0.9%	98.6%	100.0%
Raw Materials For Cottage Industry	6	3	3	333	345
	1.7%	0.9%	0.9%	96.5%	100.0%
Grazing Of Livestock	7	51	142	145	345
	2.0%	14.8%	41.2%	42.0%	100.0%
Manure	0	0	0	349	349
	0.0%	0.0%	0.0%	100.0%	100.0%
Plants	0	0	3	346	349
	0.0%	0.0%	0.9%	99.1%	100.0%
Seeds	0	0	1	348	349
	0.0%	0.0%	0.3%	99.7%	100.0%
Others	0	0	1	348	349
	0.0%	0.0%	0.3%	99.7%	100.0%

Source: Field Survey.

Timber, wood, fuel wood, fire wood, thatched /house repair materials, fish and bamboo resources are being collected occasionally, sometimes and even always from forest in the surveyed villages. However, collection of seeds, tendu leave, mahua flowers, NTFP, herbs, plants and hunting of wild animals are never reported in the surveyed areas. A significant proportion of respondents reported that they always collect fodder for draught animals, materials for housing shading of animals and fodder for mulching animals. A large proportion of respondents further reported that they occasionally and sometimes collect fodder /feed for hatcheries, materials for housing and shading of animals and fodder for mulching animals. The respondents were asked that whether they bring common resources from forest. Means for transportation of common property resources from forest were reported mainly head load, cycle and bullock cart for exception cases. All the respondents reported that they collect forest resources for domestic consumption only. Most of the respondents were of the view that extraction of common property resources has affected environmental degradation mainly in terms of shrinking of water bodies, shrinking of grazing land, commercialization of water bodies, decreasing in traditional water structure, decrease in livestock resources and deforestation.

The perception of environmental degradation and CPR perception has been computed for find out the variation among them. The variation among perceptions of environmental degradation was tested by ANOVA. The F value is showing significance at the 1% level of significance. The value of correlation is showing positive and significant at the 1% level of significance between the perception of environmental degradation and perception about CPR of the respondent. It can be concluded based on both tests the null hypothesis is rejected (Table 6).

Table 6: Perception Levels of Respondents Towards Environmental Degradation

Perception level of CPR	Mean
Low	25.64
Medium	25.87
High	26.75
Total	26.30
F test	6.065**
Correlation	0.202**

** . Correlation is significant at the 0.01 level

Source: Field Survey.

The variation among mean scores of perception about CPRs, environmental degradation and forest conservation, biodiversity and sustainable development by age-wise of the respondents have been computed by ANOVA and testing of significance tested by F test. The values of the F test were found non-significant for the perception of CPRs, environmental degradation, forest conservation, and biodiversity and sustainable development. It can be concluded that there are not any significant differences between age-wise classifications in these parameters (Table 7)

Table 7: Age of Respondents Wise Perception Levels of CPRs ,Environmental Degradation and Forest Conservation

Age of Respondents	Perception About CPR	Environmental Degradation	Forest Conservation, Biodiversity and Sustainable Development
Less than 20 years	126.00	25.33	1.33
20-25 years	127.75	26.38	1.08
25-30 years	126.75	26.45	1.24
30-35 years	126.46	26.40	1.30
35-40 years	127.02	27.06	1.27
40-45 years	125.34	25.98	1.34
45-50 years	128.71	26.57	1.50
50+ years	125.13	25.68	1.17
Total	126.43	26.30	1.26
F test	0.475NS	1.468NS	1.147NS

Source: Field Survey.

The overall analysis shows that finger villages in forest areas are depend on common property resources from forests , common land and water resources for agriculture, livestock resources, cottage industry , and livelihoods . However, agricultural risks , degradation of natural resources, restriction in accessibility and collection of forestry resources/ produce from forests, shrinking of common property resources and commercialization of common resources has affected the livelihoods of tribal people as well as other villagers . The dependency of villagers on fuel wood, fire wood, timber, bamboo, grass land, water bodies etc. has been cause of concern. Hence, effective management of common property resources, ensuring equity in accessibility and utilization of common resources as well as sustainability of common resources is imperative.

CONCLUSION

Food, livelihood, and environmental security depend on natural resources. Their protection and sustainable usage remain huge issues. Circumstances warrant combining environmental and poverty-reduction initiatives. Land, water, forest, and biodiversity management are now universally regarded as critical to food, livelihood, and environmental security. Natural resources require simultaneous conservation, sustainable usage, and equitable benefit sharing. Indeed, development efforts must not lead to severe loss of natural resources and environmental deterioration. Creating large-scale sustainable livelihoods is one of the main priorities of emerging countries. Modernization, uncontrolled development, colonialism, and rapid economic growth have badly damaged natural resources, resulting in huge destruction in India. This loss of natural assets currently limits economies' ability to meet the ever-increasing requirements of their populations. Sustainable livelihoods are widely recognised as a tool for reducing poverty and managing natural resources. In forestry policy and planning, livelihood security and sustainable development are significant development

priorities. It is well known that the farm sector cannot accommodate the rising labour force while the industrial sector has declined over time. So the non-farm sector can create a lot of jobs. While forest dependent people can help conserve and enhance forestry resources as well as wild creatures like tigers, their livelihood security is critical. Providing possibilities for livelihood development and implementing economic activities that promote livelihood development for forest dwellers and farmers nearby can help minimize biotic pressure and stress on forest dependent people. Participatory traditional management system through local community should be promoted to rejuvenate degraded forest. People must observe social fencing and not graze in the designated areas. Rather than conventional forestry, more emphasis should be placed on silvi-pastoral regeneration and development. The promotion of low-caste conservation measures/strategies based on indigenous practises and devices is ensured. Agro-forestry systems have proven potential for reasons that necessitate educating farmers to embrace improved agro-forestry techniques. Agro-forestry and social forestry are essential for agricultural sustainability and increased biomass output. Today's forestry has many interfaces and impacts. An in-depth understanding of forest resources, their use, management, and protection is required. Forest resources and forestlands should be managed to suit current and future generations' social, economic, ecological, cultural, and spiritual needs. Government and research institutes should encourage farmers to invest in farm/agroforestry to increase revenue through improved technology, extension, and credit support. Government strategy and a better legal system should ensure effective environmental regulation.

References

- Adhikari, B., (2004) Social Inequality and Collective Action: An Empirical Study of Forest Commons. IFRI Working Paper W08I-5
- Agarwal, B. (1997) "Environmental Action, Gender Equity and Women's Participation", *Development and Change*, 28, 1-44
- Arnold, J. and W. Stewarts (1991), 'Common Property Resources Management in India', Oxford Forestry Institute, Oxford.
- Arnold, J.E.M. (1993), Management of forest resources as common property. *Commonwealth Forestry Review*. 72(3).
- Beck, T (1994) . "Common Property Resource Access by the Poor and Class Conflict in West Bengal", *Economic and Political Weekly*, 29:4: Resources and the Poor: Findings from West Bengal", *Economic and Political Weekly*. 35:3 , 147-153.
- Behera, M.C and Basar, J. (2014). *Resources, Tribes and Development*. Rawat Publications, Jaipur, India.
- Berkes, Fikret (ed.) (1989), *Common Property Resources; Ecology and Community-Based Sustainable Development*, London, Belhaven.
- Chambers, R., Saxena N.C and Shah, T., (1991) *To the Hands of the Poor-Water and Trees*. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
- Chopra, Kanchan and Dasgupta, P. (2008), 'Nature of household dependence on Common Property Resources: An Empirical Study', *Economic and Political Weekly*, Feb. Vol., 23

- Dasgupta, P. (1982) *The control of resources* (Cambridge, MA: Harvard University Press).
- Dasgupta, Partha (2005) *Common Property Resources: Economic Analytics*, South Asian Network of Development and Environmental Economists (SANDEE), Bangalore
- Digernes, T.H. (1977) :Wood for Fuel, Energy Crisis implying desertification. The case of Bara, The Sudan, Unpublished Thesis, University of Bergen
- Digernes, T.H. (1978) : Addendum to thesis : Wood for Fuel .Energy Crisis implying desertification. The case of Bara. The Sudan (Mimeograph) Bergen.
- Duraippah, A. (1996) “Poverty and Environmental Protection: A Literature Review and Analysis”, CREED Working Paper Series No.8, International Institute for Environment and Development, London,
- Gordon H S. (1954) *The Economic Theory of A Common-Property Resource: The Fishery*. I. *Pout. Econ.* 62:124-42, .
- Goswami, B., (2011) *Dependence of the poor on commons (Common Property Resources—CPR)*. Infochange at <http://infochangeindia.org/agenda/enclosure-of-the-commons/dependence-of-the-poor-on-commons.html>
- Gowda Manohara, N., Savadatti, P.M., (2004) *CPRs and rural poor study in North Karnataka*. *Economic and Political Weekly* 39 (33), 3752–3757.
- Hardin, Garrett (1968), ‘*The Tragedy of the Commons*’, 162 *Science*, 1243-1248
- Jodha , N. S (1990) *Rural Common Property Resources : Contribution and Crisis* , *Economic and Political Weekly*, June, 30
- Jodha, N. S. (1986) *Common property resources and the rural poor*. *Economic and Political Weekly* 21, 1169-1181.
- Jodha, N. S. (1986). *Common property resources and rural poor in dry region of India*. *Economic and Political Weekly* 30(27): 1169-1181.
- Jodha, N. S. (1990). *Rural common property resources contribution and crisis*. *Economic and Political Weekly* 25(260: A65-A78.
- Jodha, N. S. (1991) *Rural common property resources: a growing crisis*. Gatekeeper Series Sustainable Agriculture Programme, International Institute for Environment and Development No. 24: 16pp.
- Jodha, N. S. (2001) *Life on the edge, sustaining agriculture and community resources in fragile Environments* (Delhi: Oxford University Press).
- Jodha, N. S. (2008) *Some places again: a ‘restricted’ revisit to dry regions of india*. In *promise, trust, and evolution: managing the commons of South Asia*. Ed. Ghate, Rucha, Jodha, N. S. and Mukhopadhyay. New York, Oxford University Press, 1651-69pp
- Jodha, N. S. 1992. *Common property resources: a missing dimension of development strategies*. World Bank Technical Paper 169: 87pp.\
- Jodha, N.S. (1986), ‘ *Common Property Resources and Rural Poor in Dry Regions of India*’, *Economic and Political Weekly*, 21, No.27, July 5, pp: 1169-1181
- Mahanta, R., Das, D., (2012) *Common property resources degradation and migration:a case study of Assam*. *Journal Human and Ecology* 38 (3), 223–230.
- Menon, Ajit and G.A.Vadivelu (2006), ‘*Common Property Resources in different Agro-Climatic Landscape in India*’, *Conservation and Society*, Vol.,4, No.1, March

- Menon, Ajit and G.A.Vadivelu (2006), 'Common Property Resources in different Agro-Climatic Landscape in India', *Conservation and Society*, Vol.,4, No.1, March,
- Mitra , Shreya (2020) Access To Common Property Resources and Its Impact on Household Food Security In India, *International Journal of Education, Modern Management, Applied Science & Social Science*, Volume 02, No. 01, January - March, 2020, pp.161-167
- Nadkarni, M.V. (2000) "Poverty, Environment, Development: A Many Patterned Nexus", *Economic and Political Weekly*. 35:14 (April): 1184-1190.
- NSSO, (1999) Common Property Resources in India Report No. 452(54/31/4). National Sample Survey Organisation. Department of Statistics and Programme Implementation Government of India.
- Pradhan, A.K., Patra, R., (2011). Common property resources in rural India: dependence, depletion and current status. *The IUP Journal of Managerial Economics* 9(1), 6–20.
- Prakash, Ram (2019) Importance Of Common Property Resources For Livestock Development: A Case Study Of Uttar Pradesh, *International Journal of Current Advanced Research*, Volume 8; Issue 04 (B); April
- Suresh, A., Gupta, D.C., Mann, J.S., (2010) . Study on production and utilisation of wool and wool products in India. *Agricultural Economics Research Review* 23, 47–56.
- Topal, Y.P.S., (2015), Sustainable management of common property resources in Uttarakhand: Factors at work. *International Journal of Advanced Research in Management and Social Sciences*. 4(7).