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COMMON LAND RESOURCES, LIVELIHOOD AND SUSTAINING THE RURAL POOR IN INDIA, A GEOGRAPHICAL ANALYSIS.

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Abstract

As the name indicates the common land resources (CLR) have "common access" to all and are used for various economic gains. They include community land, community pastures, community forest, wildlife, wasteland, common dumping, threshing ground, the banks and beds of rivers regulated by social conventions and legally enforceable rules. The forests provide timber; pastures support the livestock whereas agro-forestry and social forestry is also practiced. In general, they account for a substantial share of income, socio-economic development, and livelihood of the poor households in rural India.

The present study is an attempt to analyze the spatio-temporal distribution and change in CLR of Bulandshahr district in the Indo-gangetic plain since last decade. Further, it investigates the role of common lands in providing livelihood to rural poor. The study reveals that there is a decrease in the common land resources during the last decade. The continuous decline in agricultural profits has created a situation where small landholdings are becoming non–viable for agricultural practices. Thus, the majority of the households were found to utilize these resources to supplement their income. Some of the households are even dependent upon them for their livelihood and sustenance. The income from CLR had a significant share in their total household income thereby creating an eminent need for conservation of these resources to ensure livelihood and sustenance of its users.

Keywords: *Landless, poor, livelihood, rural, common property resource, common land resources.*

1. INTRODUCTION

India is an agricultural country where a major part of its population lives in rural areas with agriculture as the main economic activity. Thus the livelihood of the people is highly dependent upon their land resource. Although the Green Revolution has brought tremendous change in production of food grains in India, still the productivity of various food grains is quite low as compared to other agrarian nations. As the maximum utilization of agricultural land has already taken place the areal extent of agricultural activities is not found to be much over the past few decades. Thus, even after the Green Revolution the dependency of Indian agriculture upon the "land resources" is quite an evident. The loss of agricultural land to the non-agricultural sector is also rapidly taking place due to urbanization. Further, natural

hazards like floods and land degradation by soil erosion also accentuate the loss of arable land (Shit P.K, 2015).

Due to continuous fragmentation of land over the past generations the landholders have very small pieces of land and very few have medium or large size of land holdings. Thus, the landless, marginal and small farmers generally constitute more than half of the total households in a most of the Indian villages. Thus, the landless people, marginal and small farmers having insignificant landholdings which are unable to fulfil their needs rely upon the "Common Property Resources" (CPR) for supplementing their income and sometimes for obtaining their livelihood also (Ostrom E., 1990). The studies of common property resources (CPR's) have been undertaken by various scholars at the national and international level since the publication of Hardin's (1968) paper *"The Tragedy of Commons".* The importance of commons lays both in rural and urban space. In urban areas the common public spaces can make people gather and make the surrounding of the place more successful. Furthermore, public common spaces can be useful in applied urban development too, as with using the elaborated methods it might be easier to plan, prepare and effectuate public space developments (Vedredi K., 2016). Traditionally, the rural CPR's include community land, community pastures, community forest, wildlife, wasteland, common dumping and threshing ground, watershed drainages, village ponds, rivers and rivulets and their banks and beds which are regulated by social conventions and legally enforceable rules (Burger J. and Gochfeld M.,1998).

Broadly speaking, common property resources include all such resources that are meant for the common use of the villagers. CPRs include all resources like village pastures and grazing grounds, village forest and woodlots, protected and unprotected government forests, wasteland, common threshing grounds, watershed drainage, ponds and tanks, rivers, rivulets, water reservoirs, canals and irrigation channels (Kumar A., 2013). In the pre-British India, a very large part of the country's natural resources was freely available to the rural population (Singh S., 2013). These resources were largely under the control of local communities. Gradually, with the extension of state control over these resources and the resultant decay of community management system, CPRs available to the villagers declined substantially over the years. Today, in almost all parts of the country, the villagers have a legal right of access only to some specific categories of land and water resources. Nevertheless, it is widely held that CPRs still play an important role in the life and economy of the rural population (NSSO, 1999).

The Common Land Resources (CLR) is the sub-category of CPR. The term "*Common Land Resources*" (CLR) is used to refer to property owned and defended by a community of resource users, to property owned by no one, and to property owned by a government to which the people have "common access" (Jodha N.S., 1986). It includes village pastures, common grazing grounds, bush lands, threshing grounds, waste dumping places uncultivable fields, wastelands and rangelands. The common access and free rider behaviour have led to a continuous decline in the common land over the last decades (Rodgers, C.P. et al., 2011). The CLR in Indian context have been specified into five categories of land use/land cover viz. forest, pasture and grazing land, cultivable wasteland, barren and uncultivated land and fallow lands other than current fallow (Salman M.S. and Munir A., 2013). The CLR are common to all and no one has any exclusive right upon. The forests provide timber, the pastures support the livestock of the farmers and the uncultivated and barren lands are utilize for the construction of houses, poultry farms, animal husbandry, and other uses.

Chadrashekhar A.V. et al. (2016) studied multi-temporal satellite datasets of Sonbhadra and Singrauli Region of Uttar Pradesh and Madhya Pradesh respectively over a period of more than two decades and observed significant land trajectories in various land use land cover classes. Further, most of the change was found in the forest area which converted to mining areas and settlements. A small amount of forestland transformed into scrubland,

agriculture land, and barren land also. The CLR in a village includes the land administered by the village *panchayat* or community including the land which lies within the formal boundary of the village (Jodha, N.S., 1990, Arnold, J.E.M. and Stewart, W.C., 1991). Sometimes, there is a well-defined category of land which referred to as *panchaya*t grazing/pasture land and is known as *gauchar, gochar, gairan* and *gomol* in different agro climatic regions. Apart from that generally, there are some demarcated areas in every village for various purposes and are accessible to all the villagers. They are the areas allotted for processing of agricultural produce, storing of grains, other agricultural produce, firewood, use for other household enterprise, for recreational or religious purposes and to organize village fairs and marriages. Sometimes a portion of the land is allotted for periodic markets also. These all are constituents of CLR.

The continuous fragmentation of the land and increasing cost of production has rendered small pieces of land to become uneconomical (Khan N. et al., 2009). The increasing population has resulted in immense pressure on the land resources of the country, especially the CLR (Jodha, N.S., 1985). The CLR are a source of livelihood for the rural poor (Thomson et al. 2001). Thus, landless people, marginal and small farmers generally utilize the CLR for various economic gains (Munir, et al., 2008) and are one of the important sources of poverty alleviation, sustainable regional development and livelihood to the poor households (Salman M. S., 2015, Ali, Nursadh, 2007). Runge F. (1986) has elaborated a number of reasons why "common resources" may continue to be both efficient and equitable, complementing and combining with private rights in a way consistent with the resource endowments of village economies.

The landless people and small landholders are engaged in different economic activities for their sustenance (Khan N. et al., 2012). The major occupation of the landless people is shop keeping, business, agricultural labour, rickshaw pulling, labour and other petty jobs. Due to low employment opportunities, high competition amongst them, increasing food prices and low remuneration of their work have made them the most deprived section of the villages. The present study aims to understand the role of CLR upon the level of sustenance of the user households.

2. OBJECTIVES AND RESEARCH DESIGN

The present study aims to analyze the spatial distribution, temporal change, status of income and dependence of user households upon CLR in the study area. The study is based on the primary data collected through field survey and secondary data collected from various government sources. Two villages from each 16 blocks (sub divisions) were selected for the detailed survey. Thus total 32 villages were sampled for field survey (Figure 1). They were categorized into two classes. The first class included villages having a maximum population of 2500 persons whereas the population range for second class was 2500 to 5000 persons. Within these two classes one village was selected along the main road while another within a range of 10 km from the main road.

Figure 1. Study Area and Location of Sampled Villages.

The total households covered under the survey were 1331. Stratified random sampling was undertaken in all the sampled villages and a well framed questionnaire was used to record the primary data regarding social structure, occupation, income, income through CLR and utilization modes of CLR.

3. GEOGRAPHICAL OUTLINE OF THE STUDY AREA

District Bulandshahr lying between 28.4 0° North and 28.0° north latitude and 77.0° East and 78.0° East longitude is a part of Ganga-Yamuna *doab* (interfluves) in western Uttar Pradesh. The district has a total area of 4512 Km^2 with a population of 34, 99,171 persons (Census 2011). The district is about 84 km in length and 62 km is breadth. The district is 237.44 meters above sea level. Administratively district Bulandshahr is divided into 7 *tehsils* (subdivision) comprising 16 developmental blocks which include 21 towns and 1242 villages. The district shares common boundaries with New Delhi, Meerut, Ghaziabad, Gautam Budh Nagar and Aligarh districts on various sides. A large part of the district comes in National Capital Region (NCR). The river Ganga separates it from Moradabad and Badaun districts and river Yamuna separates the district from Haryana and Delhi state.

4. ANALYSIS

Total reported area of the Bulandshahr district during 2014 was 3, 64,974 hectares. The total area under CLR during 2014 was 19,985 hectares accounting for 5.48 percent of total reported area. Figure 2 shows that the forest has the largest share among the various

categories of CLR in Bulandshahr district. It was found to be 39.00 percent. The next major share was of barren and uncultivable land (29.63 percent) followed by cultivable wasteland (21.42 percent).

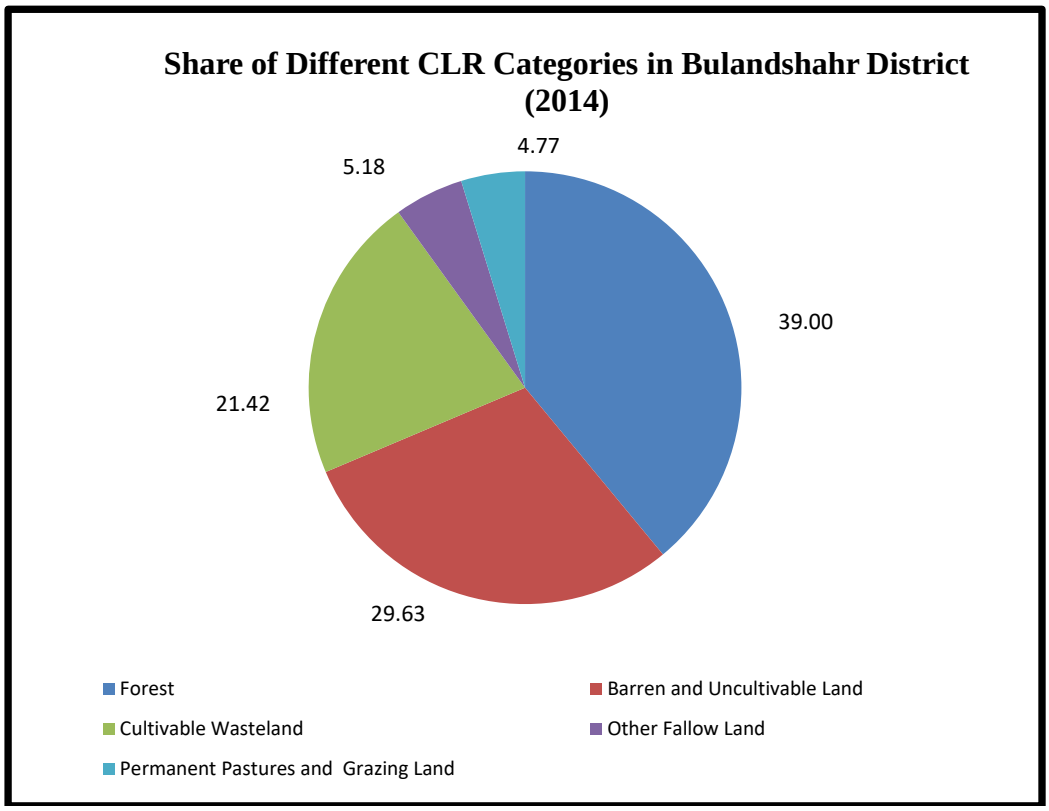

Figure 2. Share of different CLR categories in Bulandshahr District (2014).

The share of other fallow land and permanent grazing and pasture land was 5.18 and 4.77 percent respectively. Table 1 shows that there is an overall decline in CLR of Bulandshahr district during last two decades. The total area under CLR during 1994 was 29,513 hectares which declined to 19,985 hectares in 2014.Thus, there is an overall decline of 9,528 hectares (-32.28 percent) in last two decades. The block-wise analysis reveals that all the blocks have shown a declining trend in the CLR except three blocks which have shown a positive change during the same period. The increase in CLR is these block is due to increase in area under forest in all these blocks. Further, there is an increase in the wasteland, barren land and fallow land in Unchagaon, Dibai and Anupshahr blocks respectively. The decline in the CLR of other blocks was recorded maximum in Pahasu (-64.09 percent) followed by Jahangirabad (-63.23 percent) and Danpur (-56.78 percent) whereas least decline was observed in Arniya (-21.33 percent).

Table 1. Block wise Change in Common Land Resources of Bulandshahr District (1994-2014).

S. No.	Block	Area Under CLR (In Hectares)		Change in CLR (1994-2014)	
		1994	2014	Area	Percentage
1	**Pahasu**	1462	525	-937	-64.09
2	**Jahangirabad**	2456	903	-1553	-63.23
3	**Danpur**	1557	673	-884	-56.78
4	**Lakhaothi**	1682	804	-878	-52.2
5	**Bulandshahr**	1367	712	-655	-47.92
6	**Gulaothi**	559	311	-248	-44.36
7	**Khurja**	4527	2583	-1944	-42.94
8	**B.B. Nagar**	491	285	-206	-41.96
9	**Shikarpur**	2960	1719	-1241	-41.93
10	**Syana**	477	286	-191	-40.04
11	**Sikandrabad**	3828	2521	-1307	-34.14
12	**Araniya**	3181	2492	-689	-21.66
13	**Agauta**	-	475	-	0.00
14	**Dibai**	1283	1406	123	9.59
15	**Anupshahr**	2800	3189	389	13.89
16	**Unchagaon**	883	1101	218	24.69
Total		**29513**	**19985**	**-9528**	**-32.28**

Source: Statistical bulletins of Bulandshahr district (1994 and 2014)

The social structure of India is such that the ownership of land is an important indicator of an individual's socio-economic status in the society. As the land is already very scarce, it is much valued by the Indian people. Thus, land holding is an important feature to determine one's influence in the family, social issues of the village and the society. Further, the individual's decision regarding the utilization of CLR is also affected by one's land ownership. The smaller farmers are more prone to use the CLR for increasing their economic gains than the large farmers. The primary surveys of 1331 household's reveals that only 67.69 percent (901 respondents) households possess land while the rest 32.21 percent (430 households) are landless.

Table 2 reveals that among the landholders the maximum respondents (73.91 percent) have marginal land holdings. The presence of a large number of marginal landholders in a village is an indicator of poor socio-economic condition of the majority of the people in general and the village as a whole.

Table 2. Landholding Status of Sampled Households in Bulandshahr District (2014).

S. No.	Category	Number	Percentage
1	**Marginal (< 1Hect.)**	658	73.91
2	**Small (1-2 Hect.)**	112	12.33
3	**Semi Medium (2-4 Hect.)**	101	10.62
4	**Medium (4-10 Hect.)**	18	2.01
5	**Large (<10 Hect.)**	12	1.13
Total Landholders		**901**	**100.00**

Source: Field Survey (2014)

The present situation of a large number of marginal land holdings in the villages of India has arisen due to continuous fragmentation of the ancestral land into the family members. The next largest share is of small farmers (12.33 percent) followed by semi medium (10.62 percent), medium (2.01 percent) and large farmers (1.13 percent). The study reveals that there are almost one third landless people in almost every village and the marginal and small landholders constitute about 90 cents of the total landholders. Thus, the users of CLR are mostly landless people, marginal farmers and small farmers rather than the large landholders. Further, the mode of utilization is also governed by the landholding status of the user.

The sources of livelihood, income, and employment of any individual are highly influential in the mode and intensity of utilizing CLR. Therefore, it is worthwhile to analyze the sources of income of the respondents. Table 2 shows the distribution of respondents grouped into five categories according to their major sources of income. In general, the largest share of the respondents was found to be engaged in crop cultivation (37.95 percent) followed by agricultural labour (19.73 percent), animal husbandry (17.11 percent), other employments (13.44 percent) and business/ job (11.78 percent). Although, the share of people engaged in agricultural activities seems to be less than 40 percent but many farmers were practicing agriculture as their second or third occupation. Many marginal farmers have started non-agricultural activities along with the traditional agriculture on their small piece of land. Sometimes they earn more from business, animal husbandry or other occupations rather than crop cultivation. Some of the respondents are found to earn their livelihood through different sources, in different parts of the year or in different seasons as per the availability of employment. The agricultural labours generally work for some months during the sowing and harvesting period. In the other parts of the year they find employment as labour in the nearby town, Bulandshahr city or migrate to other places for few months.

A major share of respondents was found to be engaged in animal husbandry. The present-day agriculture is supplemented by the organic manure produced by the animals. Thus, people find it quite profitable to keep animals for the milk and manure. Further, the cost of feeding is not realized because most of the animals graze on the CLR or rely upon the fodder crops produced in fields of the owner. Very few respondents were found to feed their animals by purchasing the fodder for them. The high demand for milk and meat has resulted in the increase in prices of animals. Thus, people find it very useful to sell the animals when they do not give milk or when they require immediate money. They keep the animals as an asset and get the immediate money by selling them to the nearby livestock market. The high demand of milk and meat gives them good returns. Some of the respondents were found to keep the livestock for a certain period of time and then sell it when they find it difficult to feed them during their difficult times.

The people lying under other employment category are engaged in various activities like rickshaw pulling, conductor, driver, watchman, shop attendant, property dealers, contractors, shopkeepers, masons, milk collection, agricultural marketing and other petty jobs. The primary survey reveals that most of the people are engaged in more than one type of livelihood and thus they have more than one or multiple sources of income. The respondents were found to be engaged in agriculture and some of them even practiced livestock husbandry and business also. Similarly, the people engaged in business may also get some employment as agricultural labour during the harvesting season. Some of the respondents working as labour were also engaged in livestock husbandry and other petty jobs.

The field survey of 1331 household revealed that 992 households (74.53 percent) are using CLR in various ways for economic gains. The respondents were found to utilize CLR's for more than one purpose also. Among the total 992 households utilizing CLR the most common mode of utilization was grazing followed by social forestry, agro-forestry and other uses. The grazing of livestock is being undertaken at large scale among the users both in terms of a number of users engaged in grazing and the magnitude of grazing. Further, many users are able to keep their livestock only because of the access to CLR which is exploited by them without any control or fear of the other users who equally share the CLR. The other uses of CLR included the use of CLR as manure pits, cemeteries, storage grounds, playgrounds, temporary construction of sheds for animals, storage of fodder and agricultural produce etc.

The income generated from the use of CLR is additional income over the income from different sources. Table 3 gives the share of CLR income of the sampled households.

Table 3. Major Source of Income of Sampled Households in Bulandshahr District (2014).

S. No.	Major Source of Income	Number	Percentage	Avg. Annual Income (In Rs.)
1	**Crop Cultivation**	498	37.95	44580
2	**Agricultural Labour**	276	19.73	23000
3	**Animal Husbandry**	217	17.11	38750
4	**Other Employment**	184	13.44	33285
5	**Business/Job**	156	11.78	37500
Total Sampled Households		1331	100.00	36763

Source: Field Survey (2014)

It is seen that in general the households using CLR obtain 18.79 percent of their total annual income through CLR. (Table 4) The maximum share of CLR income was observed in the income of households exclusively engaged in Animal husbandry (27.72 percent) followed by agricultural labourers (24.02 percent), crop cultivation (16.36 percent), other employments (15.56 percent) and business/ job (9.53 percent).The high share of CLR income in animal husbandry is due to use of CLR for grazing the livestock by CLR users in general and the landless households in particular. Further, social forestry, agro-forestry and other uses also give substantial income to the CLR users.

Table 4. Share of CLR Income in Total Annual Income of Sampled Households in Bulandshahr District (2014).

S.No.	Category	Income of Households Using CLR (In Rs.)			Share of CLR Income (In %)
		Main Occupation	CLR	Total	
1	Crop Cultivation	44580	8720	53300	**16.36**
2	Agricultural Labour	23000	7270	30270	**24.02**
3	Animal Husbandry	38750	14860	53610	**27.72**
4	Other Employment	33285	6133	39418	**15.56**
5	Business/Job	37500	3950	41450	**9.53**
Total Sampled Households		**36763**	8504	45267	**18.79**

The role of landholding status and a major source of income of the respondents greatly determines the use, mode of utilization and intensity of utilizing the CLR.

The mode of land use is also related to the size of landholding. Similarly, the sources of income are also determined by the size of landholding of an individual. Thus, nine variables pertaining to landholding and sources of income and four variables pertaining to use of CLR, income from CLR and its share in the total income of user households (Table 5) were selected at the village level to analyze their relationship in the study area.

Table 5. Selected Variables at Village Level

Variables	Variables of Landholding and Main Source of Income
X_1	Percentage of Landless Households
X_2	Percentage of Marginal Landholders
X_3	Percentage of Small Landholders
X_4	Percentage of Large Landholders
X_5	Percentage of Households with Major Source of Income from Crop Cultivation
X_6	Percentage of Households with Major Source of Income from Business/Job
X_7	Percentage of Households with Major Source of Income from Animal Husbandry
X_8	Percentage of Households with Major Source of Income from Agricultural Labour
X_9	Percentage of Households with Other Employment
Variables	**Variables of CLR: Use and CLR Income**

Y_1	Percentage of Households Using CLR
Y_2	Percentage of Households Using CLR for Pasture/Grazing land
Y_3	Average Annual CLR Income of Household (In Rs/-)
Y_4	Percentage Share of CLR income to Total Household Income

Table 6 gives the coefficient of correlation of the selected variables.

Table 6. Correlation Values of Selected Variables in Sampled Villages of Bulandshahr District.

Variables	**Y_1**	**Y_2**	**Y_3**	**Y_4**
X_1	0.719	0.741	-0.759	0.8
X_2	0.717	0.741	0.759	-0.8
X_3	0.994	0.705	-0.532	0.573
X_4	0.412	-0.776	0.79	-0.583
X_5	0.83	-0.598	0.57	0.472
X_6	0.619	0.437	0.917	0.685
X_7	0.63	0.771	0.458	0.982
X_8	0.638	0.33	0.806	0.444
X_9	-.894*	0.642	0.604	-0.626

*Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed)

The study reveals that landholding is an important indicator for use of CLR. The landless, marginal and small landholders were correlated positively with the use of CLR. Further, landless were found to positively correlated with using CLR for grazing. It was found there was a negative relation between X_1 and Y_3 but as a strong positive relation is observed between X_1 and Y_4 thus it means although the CLR income of landless is quite low but still it contributes a significant share to their total income. This clearly shows the pathetic situation of the landless CLR users and their dependence upon these resources. The marginal and small landholders were also found to be positively associated with grazing of animals on CLR but large landholders were not associated with it. Thus, CLR is not used by large landholders for grazing their animals. The use of CLR showed a most strong positive relation with households having crop cultivation as the main source of income but there is a negative relationship between X_9 and Y_1 thus people with other employments are not using CLR. Those having the main source of income from business or job were having the positive relationship with Y_3 indicating that they are using CLR for obtaining extra income. The households engaged in animal husbandry (X_7) were positively related with Y_2 and Y_4 .Thus, they are dependent upon CLR for grazing their animals.

The share of households using CLR is 74.53 percent. The present study indicates that CLR has become an integral part of the livelihood of maximum households who obtain almost one fifth of their total income from them. Further, the landless who obtain their livelihood from animal husbandry are dependent upon CLR for grazing their animals. In fact, they are only

able to keep their livestock because of the open access to CLR upon which they feed their livestock. The milk obtained from them is one of the major sources of their daily income and is crucial to fulfil their regular financial requirements. They also use the cow dung as fuel thereby saving the cost of purchasing alternative fuel. The landless people are mainly using the CLR's for grazing their animals. They generally keep cows and buffaloes for domestic and business purposes. The declining quality and size of CLR make the landless people prone to loss of their livelihood. Therefore, the role of common land resources in the sustenance of the landless people is quite an evident. Consequently, there is a need to manage these resources for ensuring and providing a better livelihood and economic benefit for its users. The judicial management of these resources will not only lead to social change and social harmony but also lead to sustainable development over times.

The study reveals that there are many problems in managing these resources. The common land resources have an open access to all. This has led to the problem of its preservation and management. Presently, there are no laws for punishing those causing degradation or misuse of these common resources. Until the people are not punished for their undue activities and rampant use there is a meagre chance for the conservation of these resources. Although there are few programs run by the government for land reclamation but the local people do not participate in the programs of land conservation. The lack of interest of the local people has an adverse effect on many government schemes of land reclamation, afforestation and soil conservation. The common land resources are not always accessible to deprived sections of the society and often encroached upon by the wealthy, prosperous and large farmers who do not care for its proper management. The problem is enhanced due to many political issues related to the allotment, management and control of the common land resources. Everyone who has a political influence tries to get the benefit out of these common resources.

5. CONCLUSION AND SUGGESTION

The CLR are declining. The landless people obtain their livelihood from utilizing them. The increasing population is a threat to their degradation and extinction. Thus, there is an immediate need to save them from degradation and extinction. The problems faced in managing CLR are open access, ignorance, lack of suitable laws, social injustice and political problems. Therefore proper survey, suitable laws, protection from encroachment and allocation of CLR to poor and landless people is need of the time. There is a need to educate people regarding conservation of the resources and environment with the help of mass media. The local administration should be vigilant to check the encroachment upon CLR. This can be easily done by involving the local people for the protection of forests and pastures by giving some incentives. A suitable method may be a participatory approach of the locals by the village administration. In this regard, a committee may be constituted in order to govern the use of CLR and also to form suitable conventions or laws in order to protect these resources from rampant use and over exploitation. The poor and landless people should be allotted these lands for a small period of time.

The present paper has elaborated the level of accessibility of rural households to common resources. It further examines the landholding status of the users and their preference of using the common resources. The paper also includes the various sources of income of rural households and the proportionate share of CLR income of different landholding categories. Finally, the present research also analyzes the relationship of landholding and income of users with accessibility, mode of utilization and income from CLR. It was observed that judicious use of commons can only provide sustainable livelihood to rural poor.

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