

Assessing Socioeconomic Status of the Indigenous Lepcha Community: A Case Study from Dzongu in Khangchendzonga Landscape, India

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Abstract—The study deals with the socioeconomic assessment of the Lepchas of Dzongu. Lepchas, the indigenous tribe of the region are known for their rich traditions, cultures and their unmatched knowledge of nature and its resources. The study highlights the present social and economic status of the tribe to serve as the base for further study regarding the tribe and the region. Primary information was gathered through a household survey using structured questionnaire, through Participatory Rural Appraisal (PRA), Focused Group Discussions (FGDs) and secondary data were collected from literature, toposheets, etc. It was analyzed that the people were dependent on agriculture and livestock rearing for livelihood. Among the three major cash crops grown, large cardamom cultivation was profitable in comparison to the other crop cultivation. Thus a gradual shift in the agriculture trend from the cultivation of other crops to the cash crops was found out and has raised concerns regarding the conservation of the traditional agrobiodiversity. Besides, the people were also dependent on the forest resources for fodder, fuelwood, wild edibles, etc. Ecotourism was found to be emerging as a dependable alternative livelihood option for the region. Probable interventions are needed to deal with some of these factors that hamper the economy and also steps to multiply the existing positive factors and values in the region, are needed.

Keywords: Household survey, PRA, Lepcha, Dzongu, Khangchendzonga Landscape, socio-economy, livelihood.

1. INTRODUCTION

The Socioeconomic study forms the backbone for all other kinds of studies, which deals with the analysis of the social, cultural, economic and political factors of a particular region in order to understand how these factors alone or in combination have shaped the community in a particular area. Socioeconomic assessment helps to understand the changes in social and economic structures, agricultural patterns, dependency on natural resources, culture linkages, etc. over time in a region [3]. Gathered information on socioeconomic is imperative especially to understand the significant impact on the present and future structure of the life of community

people, for seeking to achieve the goal of understanding the community closely with all issues, opportunities, priority needs, the factors hindering its growth and other main areas of concern. It gives a holistic knowledge about the land and the people and for proper direction to all kinds of social, ecological and policy related studies in a particular site.

The internationally important landscape with rich cultural and biological hotspot, Khangchendzonga Landscape has an immense and unmatched resource wealth, nurturing thousands of lives. Sikkim combines various ethnic tribe that includes the Lepchas, Bhutias, Nepalese, Rai, Limbu, etc., the Nepalese are the largest in number followed by the Bhutia and Lepcha communities. These groups blend in harmony but still preserve their respective traditional and cultural identities. The distinct practices and the traditions they follow are deeply rooted in their social makeup and the surrounding nature. In the other hand, the present social and economic status along with the changing resource use pattern has significantly affected the surrounding biodiversity of the region and thereby that of the entire landscape. The Lepcha word is the combination of two words, 'lep' and 'tsa' meaning 'to belong to a place' as describing its place of origin [1]. The Lepcha culture and Lepcha language have been considered to be endangered [7, 4] and various initiatives and studies are focused on its study and conservation. Many anthropologists also have a keen interest in studying the cultural heritage of Lepcha tribe of Sikkim [7]. Dzongu, a Lepcha community reserve in the north district of Sikkim, falls within the transition zone of Khangchendzonga Biosphere Reserve. The Lepchas, well known for their unique cultural and traditional practices and their bond with nature. The Indigenous Knowledge of the Lepchas about the surrounding resources and the identification and use of various species are unmatched and needs to be conserved [8]. The resources wealth of the region along with its cultural richness has always

drawn the interest of the scholars to the site for an in-depth study about its biodiversity and resource utilization and culture. This site has largely contributed to the recent inscription of Khangchendzonga National Park as the World Heritage Site.

Realizing the importance of the Lepcha community and location i.e. Dzongu, we initiated socioeconomic study to get a wider and detailed view on the social and economic status of the community, their livelihood, resource use, education, etc. to generate the positive aspects as well as those aspects that need to be focused upon and needs to be improved for the better living and better livelihood of the people in the Lingthem-Lingdem, Gram Panchayat Unit (GPU) under Dzongu. The study also highlights the problems, research gap and gives the baseline knowledge for any conservation and development-related policies and initiatives.

2. STUDY AREA

Khangchendzonga Landscape (KL) comprises of the parts of Bhutan, Nepal, and India. The Indian part of the Landscape extends in the parts of northern West Bengal and the entire Sikkim. It is recognized for its rich biodiversity and ethnic cultures [2] Dzongu is a Lepcha reserve which makes cent percent Lepcha dominance and thus conserves the ethnic values and cultures. The study is conducted in Lingthem-Lingdem GPU, located in Upper Dzongu, North Sikkim and consists of five wards namely Lingthem, Mantam, Ruklu-Kayum, Lingdem and Laven (Fig. 1). The GPU lies at a distance of approximately, 95km from Gangtok and 16 km from Mangan. Lingthem-Lingdem GPU halts a total population of 987 people consisting of 186 households. Individually, Lingdem ward consists of 42 households with a population of 189 people, similarly Ruklu-Kayum ward consists of 33 households with a population of 142 people, Laven ward halts 20 households and 113 people population, Lingthem ward consists of 64 households with a population of 387 people and Mantam ward with a total population of 156 people and 27 households [2].

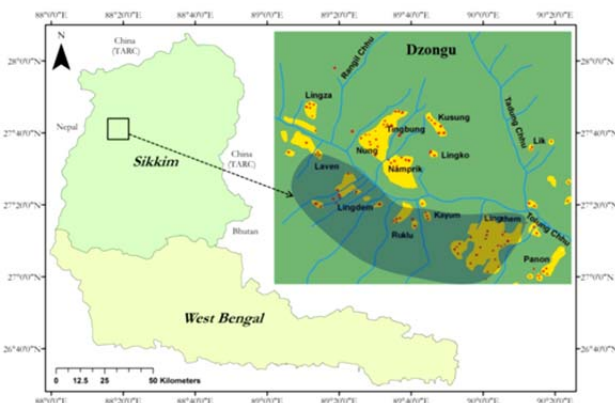


Fig. 1: Location map of Lingthem-Lingdem GPU, Dzongu

3. METHODOLOGY

The study forwards with the household survey, Participatory Rural Appraisal (PRA) and Focused Group Discussions (FGDs) methods to get the primary data about the Social and economic setup of the communities of the area. The structured questionnaires with both open and closed-ended questions were used during our study. The questionnaire was fixed for every household. The PRA is a very useful tool for generating first-hand data from almost every concerned field of study involving the local community people [5] and FGDs is another important step to get an in-depth view over a particular field of study [3]. Among the other PRA tools, Resource mapping, Mobility mapping, Trend lines, Pair-wise ranking, Venn diagram, etc. were used according to the need. Besides, all the needful information were also generated from the secondary literature review. The data generated was further validated by subsequent group discussion for its validation. Demographic profiling was done among the villages in the under the GPU. The information about the governmental and non-governmental organizations in the villages, number of schools, colleges and the literacy rate were also analyzed. Besides, the indicators of the social and economic status like occupation, education, livelihood, dependency on the forest resources were also estimated through the survey as well as through general observations. The factors related to the economic development of the community were also studied both quantitatively and qualitatively. Besides the RS/GIS software was also used to develop a map of study area of the region.

4. RESULTS & DISCUSSIONS

4.1 Demographic profile

Based on the information from the household survey data, a comparison of surveyed village was made. The total percentage of the male population in Ruklu-Kayum village is 59.26% which is the highest as compared to Laven and Lingdem village, whereas the percentage of the female population in Laven village is highest with 49.53% female. These villages are dominated by Lepcha community only with no other communities. Lingdem village has one state Govt. school, here students from adjoining villages including Ruklu-Kayum and Laven village depend for studies. Lingdem has a junior high school. The household data of the site reveals that Ruklu-Kayum village has a high percentage of graduate population having 7.22% compared to Laven and Lingdem village having 4.88% and 3.77% respectively. For attaining higher education, the students has to go either to other Govt. colleges of Sikkim or to other states. The survey data also reveals that education standard of the people in all three villages is only up to graduation level. Ruklu-Kayum village has 91.59% of the literate population which is highest compared to 89.83% in Lingdem and 82.52% in Laven village.

It is also revealed from the household data that Laven village is more dependent on the agriculture for their livelihood. The village has 38.68% population under self-employed agriculture occupation categories followed by Lingdem and Ruklu-Kayum village with 27.73 and 20.56% respectively. Whereas wage employed-agricultural category is nil in all of the three villages. Salaried (Private/Govt.) occupation category is highest in Ruklu-Kayum village with a percentage of 14.95% followed by 5.04% in Lingdem and 3.77% in Laven village. It is also clear from survey data that the site has no other livelihood options in the village except agriculture activity. Occupation category also includes others as a category were "Yukmun" (monks) were included in the category. It is also witnessed from the data that a number of migrated populations are less in all the three surveyed villages. It is only 9, 4 and 2 person from Lingdem, Laven and Ruklu-Kayum village respectively migrated from the village.

4.2 Livelihood

4.2.1 Agriculture and dairy farming

Most of the people of Lingthem-Lingdem GPU are dependent on the agriculture for their livelihoods only a few being involved in other works such as government servants or private services, while the rest generate some income from the hundred days of wage-employment scheme of central Government viz. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). The large cardamom, ginger, and orange are the major cash crops grown in the GPU. Because of increasing diseases and changing climatic conditions, from the year 1980 to 2010, people have witnessed decline in the production of large cardamom. However, during PRA exercise, the trend line tool indicated that there was a slight increase in the cardamom production from 2011 to 2015, which according to the informants was due to the shifting of the cardamom cultivation field to the agricultural lands (paddy fields etc.). Ginger cultivation is being practiced since 2000 and its production shows an increasing trend till date. The productivity of rice has been decreasing over the years and is becoming the least preferred agricultural crop because of high investment and low productivity as compared to cultivation of large cardamom and ginger. The high demand and prices of large cardamom and ginger against limited marketing of local rice, maize and other agriculture products (mostly consumed by households) are another reason for above scenario. Unavailability of seeds, diseases, wildlife damages and infestation of red ants are the problems faced by the farmers that has adversely affected the productivity in agriculture and its practices. Livestock rearing viz. pigs, hens, goats, cows, etc. is also a source of income for the villagers. In the pair wise ranking among the profitable crops (Fig. 2), cardamom and ginger were ranked highest, followed by oranges whereas all the vegetables occupied the lowest rank.

	VEGETABLES	CARDAMOM	GINGER	ORANGE	MAIZE	TOMATO	NAKIMA	AMLISO	Total	RANK
VEGETABLES	—	CARDAMOM	GINGER	ORANGE	MAIZE	TOMATO	VEGETABLES	AMLISO	1	6
CARDAMOM	CARDAMOM	—	CARDAMOM	CARDAMOM	CARDAMOM	CARDAMOM	CARDAMOM	CARDAMOM	6	1
GINGER	GINGER	CARDAMOM	—	GINGER	GINGER	GINGER	GINGER	GINGER	6	1
ORANGE	ORANGE	CARDAMOM	GINGER	—	ORANGE	ORANGE	ORANGE	ORANGE	5	2
MAIZE	MAIZE	CARDAMOM	GINGER	ORANGE	—	MAIZE	MAIZE	AMLISO	3	4
TOMATO	TOMATO	CARDAMOM	GINGER	ORANGE	MAIZE	—	TOMATO	AMLISO	2	5
NAKIMA	VEGETABLES	CARDAMOM	GINGER	ORANGE	MAIZE	TOMATO	—	AMLISO	—	7
AMLISO	AMLISO	CARDAMOM	GINGER	ORANGE	AMLISO	AMLISO	AMLISO	—	4	3

Fig. 2: Pair-wise ranking of economically important agricultural crops

4.2.2 Dependency on forest resources

Apart from dependence on agriculture and dairy farming, villagers are quite amicable with the extraction and use of natural resources for various purposes like fodder [*Ficus hookeriana* (Nebara), *Ficus nemoralis* (Dudilo), *Ficus benjamina* (Kabra) *Sauria spp.* (Gagun), *Symplocos spp.* (Kholme/Kharaney), *Euria japonica* (Jhinganay), *Evodia fraxinifolia* (Khanakpa), etc], fuelwood species [*Alnus nepalensis* (Uttis), *Castanopsis hystrix* (Patle katus), *Castanopsis tribuloides* (Musray Katus), *Engelhardia spicata* (Mawa), *Nyssa javanica* (Chilawnee)] and wild edibles [*Diplazium species* (Ningro), *Laportea bulbifera* (Patle sisnu), *Urtica dioica* (Gharia sisnu), *Girardinia diversifolia* (Bhangre sisnu), *Elatostema platiphyllum* (Chiplay), *Spondias axillaris* (Lapsee), *Juglans regia* (Okhar) and collection of litter from the forest floor for agricultural needs. The area is rich in edible mushrooms and edible ferns. The fern shoots are harvested seasonally from the forests mainly for the household consumption. Some of the locally available edible ferns are *Diplazium esculatum* (Chiplay ningro), *Diplazium maximum* (Sawaney ningro), *Diplazium polypodiodes* (Kali ningro), *Diplazium stolickzae* (Lekh kalo ningro), *Diplazium succulentum* (Lekh Chipleay ningro), *Tectoria cicutaria* (Kali ningro), *Diplazium dilatatum* (Lekh chipleay ningro).

4.2.3 Tourism or Ecotourism

The popularity of the region is magnified with the surfacing of hot spring since the year 2000, and with it, the tourism has been emerging as an alternative livelihood option for the Lingdem village but it still needs to go long way to develop and be the income generator for the community. In addition, the entire GPU is known for its scenic beauty and is rich in biodiversity, consisting of many waterfalls, short trekking routes, and monasteries. The entire Dzongu region has a wide scope of developing itself through ecotourism [2].

5. MOBILITY OF PEOPLE FOR SOCIAL AND ECONOMIC NEEDS

For another institutional purpose, the people of Lingdem and Ruklu-Kayum frequently visit places outside the village. According to an informant, for Banking purpose they visit Passingdang Block Administrative Centre and the state bank of Sikkim which is 20km from Lingdem and Ruklu-Kayum. Mangan, 30km from the village being the nearest and important business centre, is the most often visited place by the people of Lingdem, Ruklu-Kayum for almost all purposes. For banking, Mangan is visited for banks like State Bank of India (SBI), Central Bank of India (CBI), etc. Sometime they also have to travel long distances to Gangtok in the case of inconvenience in bank services at Mangan. For post office, they have to travel 0.5-3km from Ruklu-Kayum and Lingdem. For official works of Forest, people of Lingdem and Ruklu-Kayum travel 23km to Sangklong and also to Mangan North district. For a collection of LPG, they have to travel around 27km to Chaday.

6. TYPES OF INSTITUTIONS INVOLVED

The village has good linkages with the various Government and Non-Government Organizations (NGOs) such as Forest department, Rural Management Development Department, Public Work department, Schools, Primary Health Sub Centre (PHSC), Self Help Groups (SHGs), Agriculture, Horticulture, Tourism department, Fisheries department, Panchayats and Gumpa (Monastery) committee (Table 1). Venn diagram, one of the Participatory Rural Appraisal (PRA) tools, was made with the local people to identify relationships and linkages of the village with various organizations and also to study their initiatives towards village development. Rural Management Development Department (RMDD) maintains more linkages with the village people at Panchayat level. They avail most of the government scheme like 100 days Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) for their daily wages. Initiatives of tourism department towards village development have been witnessed in the form of promotion of the area with hot spring as a tourist destination and maintenance of the area accompanied with proper infrastructures and foot paths for the tourists. Furthermore, conservation of forest resources through a plantation of saplings in the forests is observed as one of the initiatives of the forest department. In addition, other departments and non-Government organizations also have limited linkages with the Lingthem-Lingdem GPU.

Table 1: Various Government / Non-Government Organizations / Basic amenities of Lingthem-Lingdem GPU, Dzongu

Forest Compartment	Dzongu
Forest Block	Dzongu
Forest Range	Dzongu (T)
Name of Forest Division	Mangan north Sikkim
Name GPU	Lingthem-Lingdem GPU

Name of Revenue Block	Passingdang, Dzongu
Name of Police Station	Mangan
Name of nearest Health Centre	Lingdem PHSC, Lingthem PHSC, Passingdang PHC
Name of nearest schools (i) Primary School (PS) (ii) Junior High School (JHS)	1. Laven PS, 2. Lingdem P.S, 3. Mantam P.S 4. Lingthem JHS.
Name of nearest Financial Institutions. (i)Bank (ii) Post office with pin code	1. Passingdang and Mangan
Nearest Market	Mangan
Nearest Animal husbandry department	Tingvong.
Number of SHG	12

7. CONCLUSION

Agriculture is the main livelihood source for the villagers of Lingthem-Lingdem GPU. Many problems are also seen in the agricultural sector like pest/disease infestation in the crops, seed unavailability, wildlife conflict, etc. that has hampered the productivity. The problems need to be addressed well and needful steps should be taken to improve the field. Recent trend suggests that the cultivation of cash crops are preferred more than the traditional crops viz. rice, maize, wheat, millet, etc. Relatively low labour intensive or one-time investment in the cash crop cultivation, high price and market demand are found to be a reason for such shift in the cropping system. Such a change in the cultivation species is a matter of concern for the conservation of traditional agro-biodiversity and the traditional practices involved in the use of such species. In order to conserve indigenous crops of the region, the present study suggests some important intervention such as a development of effective bio-pesticides, allotment of the cold storage facility and proper capacity building on organic farming. It is seen that ecotourism, be it in the initial stage, shows the popularity and the potential to be an alternative livelihood option for the people of the region. The study further highlights some of the factors that oppose or supports the socio-economy of the region (Fig. 3), that needs to be further investigated and managed for better development of the region.

Apart from the Ruklu-Kayum villagers, the salaried workers are relatively lesser in number in the other villages. Education is the base of a developed society. The education facilities in the GPU is poor with only one Government and Junior High School. Education is one of the main reason of migration from all the villages of Dzongu. Although the literacy level is high in all the villages (>80%), only a few people have studied up to graduation. helping each other in every social and personal work demonstrated a good relationship within the households and within the village. The people unite together and help each other in every cultural event as well as in the agricultural works. The practice of teamwork, known as 'lobu' in Lepcha language is followed especially during the cropping seasons.

The Fig. 3 points out the opposing and the supporting forces for the socioeconomic development of the region.

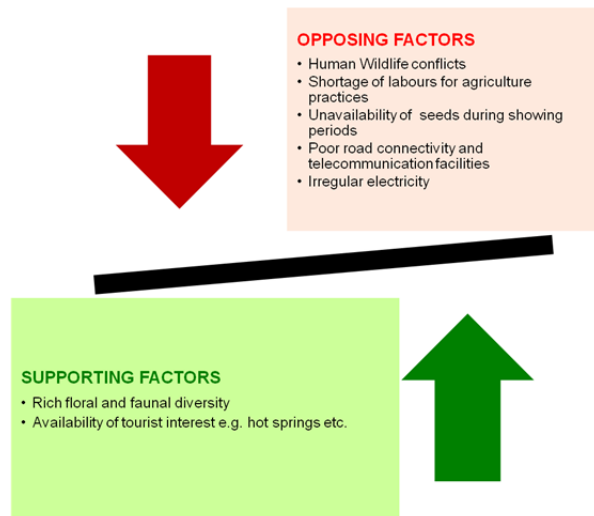


Fig. 3. Factor influencing socioeconomic development

It is observed that the people of the studied villages of Dzongu have a simple life, with most of the family dependent solely on the agriculture. In the case where cash crops are providing higher turnover than the traditional agriculture and farming practices, concerns are needed for revitalizing the neglected crops and traditional practices to conserve the diversity and culture of the people and the region. More focus is needed towards the development of ecotourism in the region to uplift the socioeconomic status of the people without hampering the cultural and traditional setups.

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