

## **Socio-Economic Condition and Environmental Problems of Dzuluk Village, East Sikkim Himalaya: A Geographical Appraisal**

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**ABSTRACT:** *This paper examines the level and condition of socio-economy of Dzuluk, a village at an altitude of 2,865m in the East Sikkim Himalaya. Over the last fifteen years or so this village has emerged as an important tourist destination in this part of Sikkim where every year thousands of tourists from different parts of India come to enjoy the aesthetic view of the Himalaya. The village is small with about thirty households and the economy of the people is largely based on tourism. Most of the villagers earn their livelihood from tourists as they arrange accommodation and food for them in their home-stays. However, the villagers face certain drawbacks like road blockages due to landslides in the rainy season and snow avalanches in the winter. Socio-economic life has been studied here by generating primary data by door-to-door questionnaire survey and necessary suggestions and recommendations have been provided for the development of environment of the area and livelihood of the villagers.*

**Keywords-** *Socio-economy, tourist destination, aesthetic view, accommodation, livelihood*

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### **I. INTRODUCTION**

The Sikkim Himalaya is a land of diversity. Its diversity ranges from the mighty snow-clad ranges to the inter-montane valleys. Population is sparse and greater part of it lives in the southern and eastern districts of the state where the environmental condition is favorable and transport links are good enough. Dzuluk, located at an altitude of 2,865m in the lap of this East Sikkim Himalaya is a fairly small village with about 30 households and about 150 inhabitants. With attractive aesthetic view this village has enormous potential for development as an attractive tourist destination in this state. Many authors (Dhali, 2015; Hidenori, 2018; Pal and Pal, 2016; Islam and Mustaqim, 2014) have contributed in the study of tourism and local area development through which the local residents find ways to utilize the economic benefits. Future prospect of Dzuluk as a growing tourist centre can be ascertained in this light.

From 1962 onwards, till 2007, this village remained under restricted area for the tourists for strategic reason as it is located close to the Indo-Chinese border. And from 2008 the restriction was lifted and the tourists are now allowed permission to enter into this part of Sikkim by procuring necessary entry permit from the Government of Sikkim. Tourist flow on regular basis started only from that year, and the number is growing steadily from that time rendering enormous help to the local people to develop tourism industry by welcoming the outside visitors to stay in their home stays with provision of food and guidance to tour around the area. The historical Silk Route extends through the village upward connecting Rongli village at the southern foothill up through Thambi View Point (point to have gorgeous view of the Kanchenjunga summit enroute), Gnathang and Kupup to the Nathu La Pass uphill to the east.

### **II. OBJECTIVES OF THE STUDY**

The main objectives of this study are:

- to analyse the socio-economic condition of the people of Dzuluk.
- to identify the major problems faced by the people living there,
- to assess the major drawbacks encountered by the tourists coming to visit this village and the area as well, and
- to suggest possible remedial measures to overcome the problems.

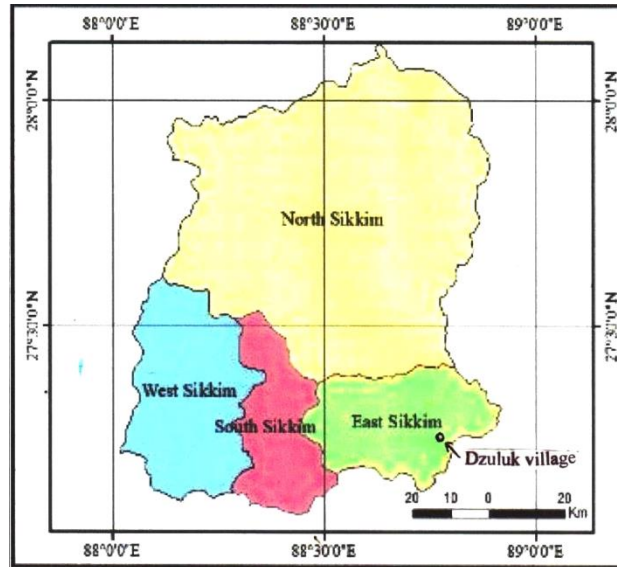


Figure 1: Location of Dzuluk village in the East Sikkim district

### III. METHODOLOGY APPLIED

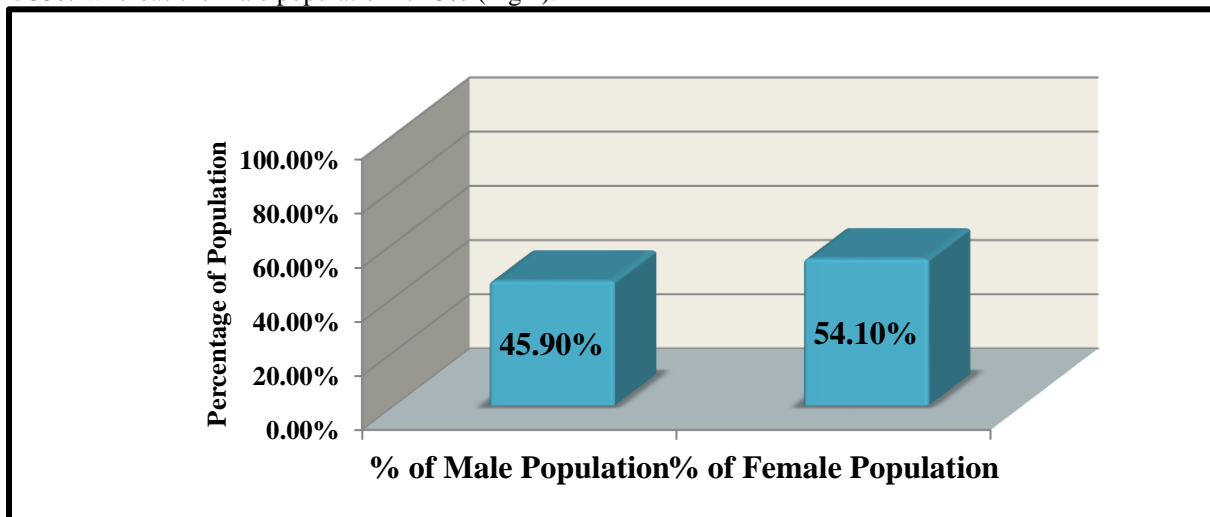
In order to conduct a systematic geographical study relevant primary data were generated through household survey by applying random sampling technique. For conducting door-to-door survey schedule was prepared upon well set questionnaires. All the data were then tabulated and analysed to prepare necessary graphs and secondary tables. All these graphs were analyzed and interpreted to come to final decisions.

Major problems of the study were analysed by adopting weighted score method proposed by Aristidis K Nicolopoulous. About 100 residents (two third of the total) of the village were selected as the sample size and were approached door to door. Perceptions of the people on the problems identified were recorded systematically. Now, the number of respondents was multiplied by the weightage and the weighted score was computed. Graph was prepared using the weighted score and was analysed and the interpreted to understand the intensity of the problem of the environmental constraints. It was assumed that higher the value of weighted score, greater would be the problem of the study area.

### IV. RESULTS AND DISCUSSION

#### Socio-Economic Attributes of Dzuluk Village:

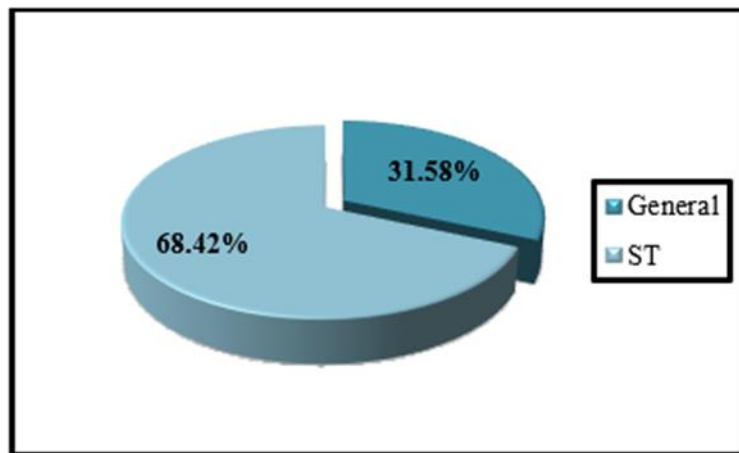
- **Population Structure:** The population structure as calculated and presented in the graphic below shows characteristic population composition of the village Dzuluk. It has been found that in this village female population is higher than the male population. Among the total population, the percentage of female population is 55% whereas the male population is 45% (Fig 2).



Source: Primary Data generated by Field Survey

Figure 2: Population Structure of Dzuluk

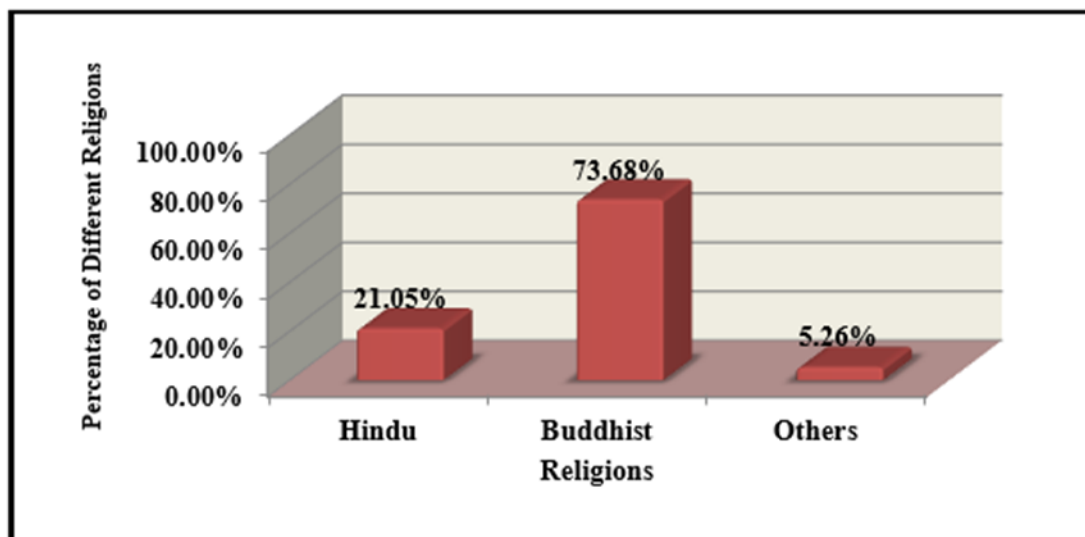
- **Caste Composition:** As per the primary survey conducted on the residents of Dzuluk 68.42% belong to Scheduled Tribe and rest 31.58% belong to the general category. As per the result of survey no SC and OBC population was found in this village. (Fig.3).



*Source: Primary Data generated by Field Survey*

Figure3: Caste Structure of Dzuluk

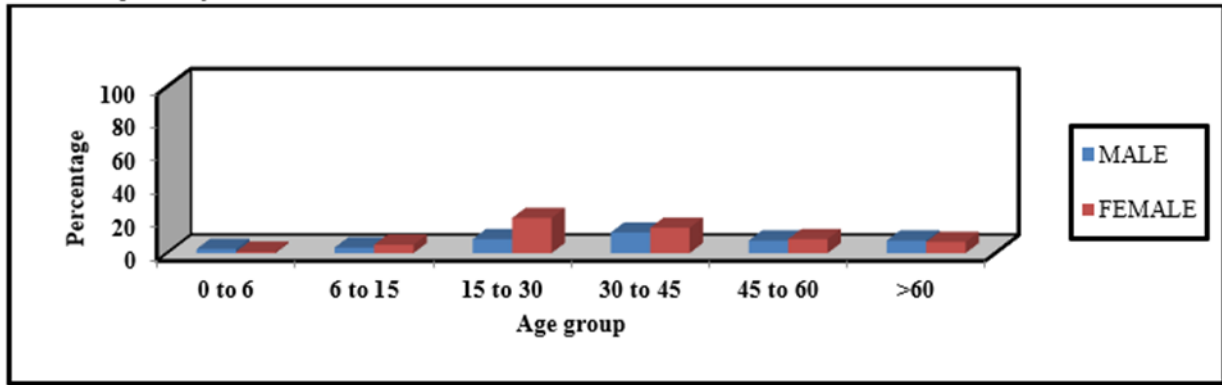
- **Religion practice by the residents:** Among the surveyed population, the percentage belonging to the Buddhist religion is in majority, with 73.68%, whereas among the other religious groups the Hindus account 21.05% and other religious groups constitute very negligible, only 5.26%. (Fig 4).



*Source: Primary Data generated by Field Survey*

Figure 4: Distribution of religious groups in Dzuluk

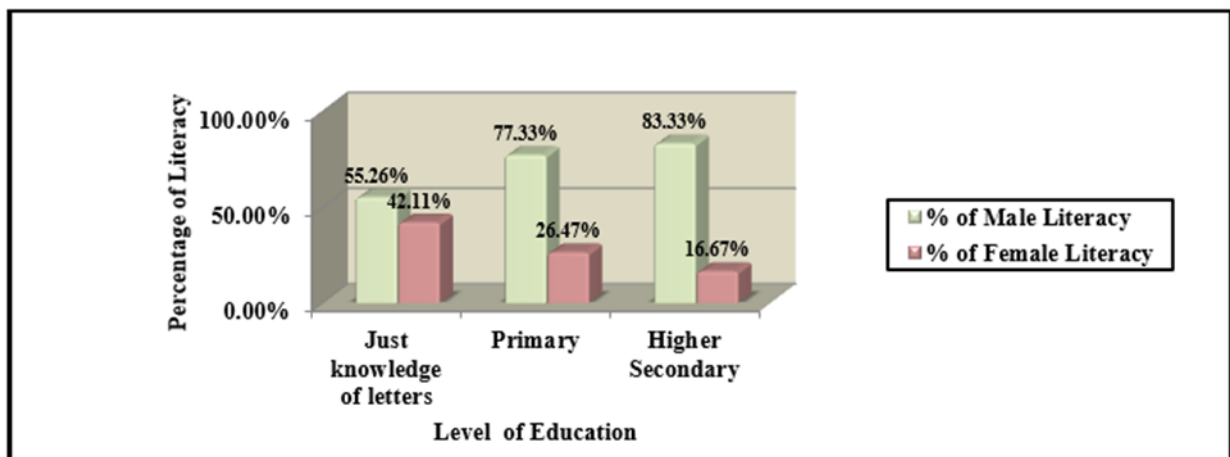
- **Age-Sex Structure:** The Age-sex pyramid of Dzuluk shows that the greater proportion of population belongs to the age group of 15-30 years. In this group the percentage of female population is 20% and the percentage of male population is 10%. In the age group of 30-45 years, the percentage of male population is 12% whereas the percentage of female population is 16%. In the age group of 0-6 years, the percentage of male population is higher than the percentage of female population. The same scenario was observed in the age group of 6-15year class. In the age group of above 60 years the percentage of male population is 8%, and it is greater than the percentage of female population which is 7%. This indicates that the dependency ratio is lower.



Source: Primary Data generated by Field Survey

Figure 5: Age Sex structure of Dzuluk, East Sikkim

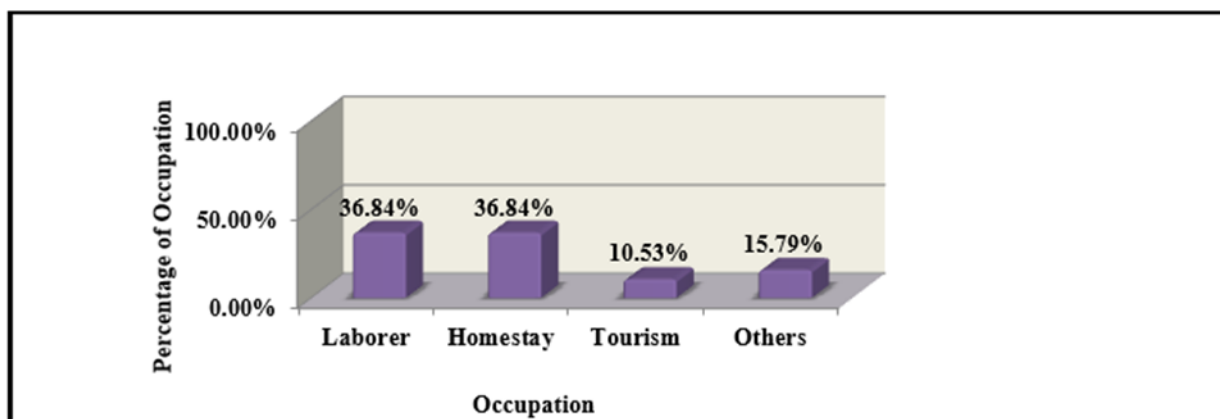
- Level of Education:** The level of education among the residents of Dzuluk village shows that out of the total population 42% of the males and 34% of the females are above literacy level. It was also found that 55.26% of males and 42.11% of females have the knowledge of only alphabets; 77.33% of males and 26.47% of females have passed only primary level of education and 83.33% of males and 16.67% of females have crossed higher secondary level of education (Fig 6). For higher education the people of Dzuluk usually go to the cities like Rongli and Gangtok.



Source: Primary Data generated by Field Survey

Figure 6: Education scenario of Dzuluk village

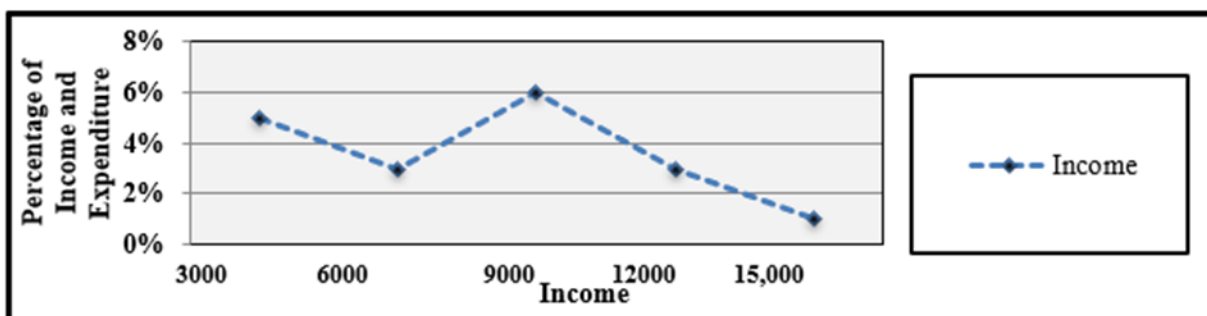
- Occupation Structure:** The occupation structure shows that 36.84% of the working population is employed as daily labours and 36.84% are associated with tourism related businesslike running home stays as their major occupation. As much as 10.53% are directly engaged in tourism and 15.79% have their earnings through other activities (Fig 7).



Source: Primary Data generated by Field Survey

Figure7: Occupation structure of Dzuluk, East Sikkim

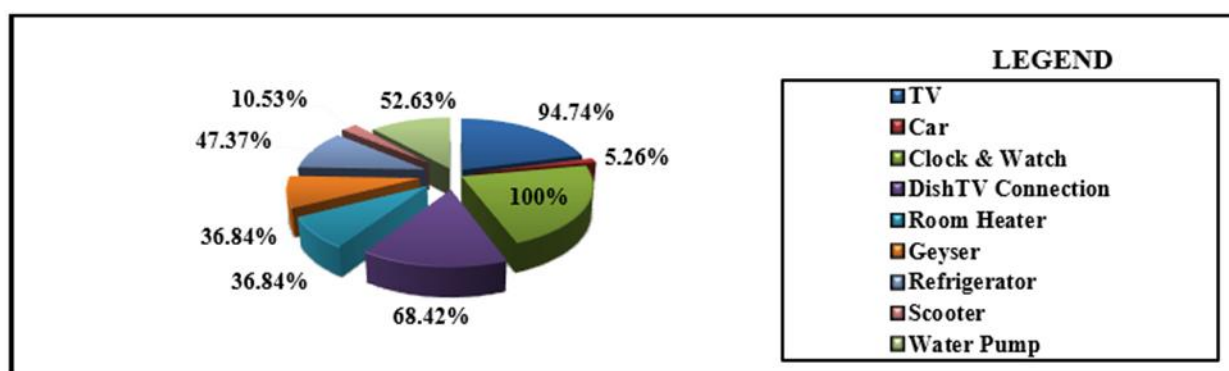
- Level of Income:** A study on the income of the people shows that majority of them have monthly income of Rs 3,000/- to Rs 6,000/- and Rs 9,000/- to Rs 12,000/- (Fig 8). About 3% of the population has monthly income of about Rs 6,000/- to Rs 9,000/- and Rs/ 12,000/- to Rs 15,000/-. A few of them (only 1%) are found to have monthly income higher than Rs 15,000/-.



Source: Primary Data generated by Field Survey

Figure 8: Level of income of Dzuluk, East Sikkim

- Amenities as available:** Through the field survey it has been revealed that in this village the families have different types of amenities having Television set (94.74%), Dish TV connection (68.42%), clocks and watches for all room heater (36.84%), car (5.26%), geyser (36.84%), water pump (52.63%), refrigerator (47.37%) and two wheelers (10.53). Following the diagram as presented below it can be concluded that very few people of Dzuluk have their own cars and two wheelers (Fig 9). In this consideration they can be considered as the middleclass people as far as the economic level is concerned.



Source: Primary Data generated by Field Survey

Figure 9: Availability of amenities

**Problems and Prospects of the People of Dzuluk Village (as studied through weighted score method):**

Through analysis it has been explored that the main problems of Dzuluk as a growing tourist village are the following:

- **Lack of medical facilities:** In the village there are no good medical facilities apart from the limited services obtained from the military base camp adjacent to it. In order to obtain the primary healthcare facilities people, have to travel at least 20 kilometers down the road to Rongli township. There is also the lack of availability of Ambulance Services at the times of emergency. Also, no medicine shop is located close to the village. In the case of serious health ailments people have to travel as far as the Siliguri area located at a distance of 132km from Dzuluk or to Gangtok located at a distance of about 88km. Lack of medical facility also poses a serious problem for the tourists as well. Since many tourists on arrival here, often suffers from high altitude sickness. The only resort is the Army Hospital at the far end. The highest weighted score of this as calculated is 78.625 (Fig 10).
- **Lack of education facilities:** No higher education facility is available in this village; only a primary school is located here. For high school education the boys and girls have to go to Rongli and for this they have to arrange lodging there or travel daily for about 30 kilometers in one way. For higher education they have to go as far as to Renock or to Gangtok located at a distance of 45km and 88km respectively. Cases of child labour are also noticed; many teen age boys and girls are employed in the village tea stalls and small groceries. This problem has been given a weightage of 44.02 (Fig 10).
- **Lack of transportation and telecommunication:** There exists a genuine problem of transport and communication, for which the people of Dzuluk have been suffering markedly. Transport services like jeep and bolero are not readily available in the village. The area does not have any car parking facility and the people, both tourists and locals have to depend upon the jeep and bolero services from Rongli Township of about 30km down the hill. Tourists coming to the area are of the opinion that while going to Gnathang valley, Kupuk (Elephant) Lake and Baba mandir from Dzuluk, they have to rely on transport services made available only from Rongli. If any party has to book a car for sightseeing, the car has to come all the way from Rongli covering a distance of about 30km which takes a lot of time and, tourists have to pay a large sum of money and waste considerable time. Owing to its nearness to China Border, mobile phone networks also undergo disturbance and this aggravates the problem of the tourists who face difficulties in contacting their relatives and friends outside. Proper mobile network is available only up to Sillery Gaon and beyond that, to higher altitudes fluctuations are encountered in mobile network service. This turns out to be a serious problem and has been given a high weighted score of 59.13 (Fig 10).
- **Electricity problem:** Power shortage is also a problem here. People living here have always been suffering from irregular power supply. The supply gets seriously affected during the rainy and the winter seasons under the incidences of landslides and snow avalanches for which the electric poles often get dislodged. Homestay owners are of the opinion that power shortage becomes a problem when large number of tourists come to stay in their home stays here. As such this problem has been given the weighted score of 14.382 (Fig 10).
- **Lack of market facility:** There is no market nearby in Dzuluk. For necessary shopping people of this village have to go to Rongli and New Jalpaiguri even for buying commodities like, vegetables, fishes, grocery items, etc. Although Dzuluk is a major tourist spot in East Sikkim, tourists who visit Dzuluk, suffer from genuine drawback for not having any market in the area where they can purchase their necessary items. It is also a certain fact that the price of necessary winter garments like jackets, gloves, mufflers and caps are higher in the Rongli markets as compared to that those of New Jalpaiguri Market. Home stay owners are also of the opinion that due to inaccessibility of market; they are compelled to go to Rongli to purchase their daily needs and in the case of road blocks due to landslide or any other road problem, they have to get stuck at Rongli until the road is cleared for thoroughfare. This hampers the supply of daily needs to the local people. This problem is given high weighted score of 50.32 (Fig 10).
- **Seasonal nature of agriculture:** The growing season is very short here lasting, only four months in the year. Often longer periods the farming areas remain snow-bound. Due to this problem the growing period is markedly short in the year and proper utilization of agricultural lands cannot be done here. This problem has been given a weighted score of 27.186 (Fig 10).
- **Natural hazards:** Landslides during the rainy season and snow avalanches during the winter months are the two major problems of natural hazards that the people of this village suffer drastically. During the rainy season, when landslides take place frequently, the transport and telecommunication services get dislodged seriously. Roads get broken by slides that create problems for both the local people and the tourists, and particularly during the rainy season and in the middle of the winter season. Dzuluk often gets totally disconnected from the nearest market town of Rongli due to these hazards. Electric supply gets hampered and supply of daily needs become suspended for several days at a stretch. However, local residents are accustomed with these events and they know how to cope with them. This problem has been given a weighted score of 17.04 (Fig 10).

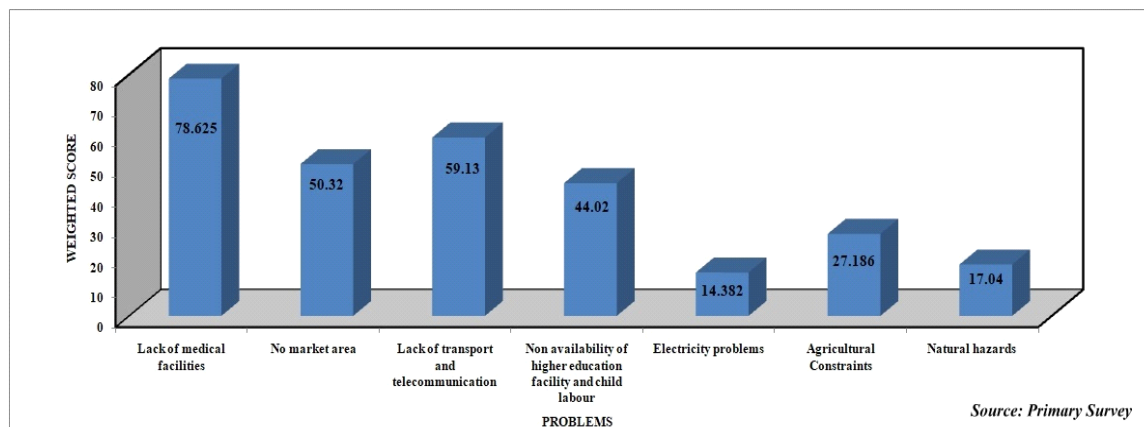


Figure 10: Weighted score of problems at Dzuluk, East Sikkim (After Aristidis K Nicolopoulous)  
 Source: Primary Data generated by Field Survey

### V. SUGGESTIONS AND RECOMMENDATIONS

The following eco-friendly and sustainable measures are recommended to overcome the problems as stated above.

- There is an urgent need to set up provision for ambulances for Dzuluk village so that patients in emergency cases can be escorted quickly to the nearby medical centres. There is also an urgent need to set up a medicine shop along with a health centre with all emergency medicines so that it can benefit both the local people as well as the tourists. Medicine shops as well as the home stays can be equipped with oxygen cylinders and inhalers that will help them to handle cases of breathing trouble. This will be a great benefit for the tourists.
- A car parking area should be set up at Dzuluk which will benefit both the tourists as well as the local people.
- If possible, some car repairing services should also be provided to the students for going to school safely and undisturbed.
- A market area to be set up keeping in mind the needs and demands of both the local people and the tourists.

### VI. CONCLUDING REMARKS

Over the last fifteen years Dzuluk, grown up as a very important tourist spot with popularity, is increasing readily among people with the passage of time. If proper steps are taken to bring about solutions of the existing problems this village can flourish further with the prospect of tourism, which will eventually bring about the development of the people in terms of their social and economic aspects. It is expected that with this it will play a vital role in strengthening the economic base of not only of the Dzuluk area but also the East Sikkim Himalaya as a whole.

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