

Full Length Research Paper

Status of quantitative distribution for forest roads based on village development of Tajan forestry project (Mazandaran paper and wood Co)

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This study was conducted for a survey on the role of forest roads in development of forest villages at the north forest margins in villages that are under the coverage of one of the biggest Mazandaran paper & wood company with 112 series and 70 villages in watershed (Tajan, Talar, Siahrood) with respect to last watershed maps (Tajan Talar Siahrood) of Mazandaran paper & wood industries and present villages in this region. Counting of villages with height classes' separation, high to medium, and to low section was performed. Then the portion of roads for accessing the villages was measured in 3 height classes. Finally, the relation between forest road distribution in 3 height classes and village distribution in that height classes was searched in this factory. Research showed regarding to this fact that, the majority of forest margins village which are under the permanent coverage of Mazandaran wood & paper industry company, those that always reside in forest margins, and village distribution in 3 height classes, are proportioned with quantitative distribution of forest roads. Finally, for proportion between forestry project and villages development, the use of all the ecosystem capacity needs quantitative and qualitative development and reasonable distribution.

Key words: Permanent development, social economic problems, village, forest destruction, forest road

INTRODUCTION

Village is an economic, social, political unit, with a formal specific region and domain, (lawful and recorded) that includes a few families and specific administrative such as Islamic council and parliament (Anonymous, 2008). Forests areas that are equal to 26% of total world land are the habitats of large part of the plants and animals species; also they are considered as an important source for villagers livelihood (Bahreini et al., 2001). But today many environmental problems in our country especially in Alborz mountains forests resulted from poverty and weakness of social-economic system about people as a result of lack of environmental awareness and it forces rural communities in forest margins to exert more pressure on environment and forests in village margins for the sake of living (Rezvanfar et al., 1993). To achieve

optimum exploitation of forest, it is necessary to create a network from forest roads with enough density for forest opening and accessing to all of its parts (Mohajer, 2005). Permanent development includes the quality of human life until that time in which ecosystem capacity removes their needs (Karimi, 2004). World Commission of Environment and Development that presents this term for the first time, defines permanent development as a development which provides existing generation needs without making problem in the ability of future generation to provide their demands (Najafi, 2007). The main goal of permanent development is mentioned as providing basic needs, improvement and promotion of living level for all the people, to maintain better land management, more secure and happier future (IUCN/UNEP/WWF, 1980). This goal implies the contradiction that many people know it as the main characteristics of permanent development term; providing needed growth to improve levels of public life and more prosperous future and with

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preserving land, but the issue is that with changes created by humans in environment and natural bed, it reached a critical stage of its history that continuing a healthy life on Earth requires a revision of the assumptions that the common models for planning and development based on them are permanent development proposed as a system that keeps environment quality in addition to strong management in exploitation of resources for providing the needs of people (Psaltopoulos et al., 1993). To achieve permanent development, assessment and description of environment status before any program planning is essential (Makhdoum, 2001). Assessment of ecological ability is a process that tries via adjusting the human relationship with nature, provide an appropriate development that is in accordance with nature. In fact, this assessment is an effective step to obtain a program for permanent development, because with identifying and assessment of the ecological characteristics in each area, development programs can be planned along with nature and the nature itself determines land capacities for development (Amoozade, 2004). Therefore, assessment of ecological potential as a logistics base for land or environmental planning will be inevitable for countries that are trying to achieve the permanent development and saving sources for future generations (Radkliff, 1994). A research that was done in Scotland shows that the role of forestry in rural economy increases followed by description of forest engineering science. Cultivation and exploitation of forests that are near the villages is a great potential for rural economy improvement. As a result, joining of forestry and wood agriculture has had an important role in economic development of Scotland villages (Rezvanfar et al., 1993).

MATERIALS AND METHODS

Study area

The study area is located in the north village part of Iran (Figure 3). Mazandaran Province with an area equal to 2383000 ha includes about 1.5% of Iran area and for space or area, it is the 18th province in the country. Its metropolis is Sari and it is located between circuits from 35° 47' until 36° 30' northern latitude and from 50°34' until 54°10' eastern longitude of Prime Meridian. According to the latest status of national divisions, Mazandaran Province was established in 1316 and it has 17 towns, 52 cities, 45 districts, 115 municipalities and 2427 villages. Also, about 43% of cities are located in the coastal strip. According to the census in 1375, this Province had a population of about 2,206,800 of which about 46% resided in urban areas and 54% were in rural areas (Figure 1) (Frahangsara, 2009).

Characteristics of Mazandaran natural resources

Mazandaran has 2383000 ha area (1.5% of total country area) and the space of natural resources (forest and pasture) in this Province is 2085000 ha (1.22% of total country area, 91% of Province area) with its forest and pasture space and separation of Natural Resources Department field as shown in Figure 2.

Mazandran paper and wood industry

Mazandran paper and wood company is the largest paper producer in Iran and has a capacity of 175000 tonnes paper for newspaper and 9000 tonnes for printing and writing paper and 85000 tonnes for floating paper. This company is a kind of corporation which was opened on 7th May, 1997. Many forestry projects are under the coverage of this company and many margins villages are in this forestry projects.

The research method

Regarding to environmental value of forest and forest roads and its role in economic and social development of villages who live in north forests margins like Mazandran, we are going to search the necessity of this research completely, so this research is done in villages which are under the authority of one of the largest Mazandran paper & wood company (Tajan Talar Siahrood) and has 112 series and 70 villages in watershed (Tajan Talar Siahrood). Our purpose is a survey on the role of forest roads in development of forest villages at the North forest margins. Regarding to the last watershed (Tajan Talar Siahrood) maps of Mazandran Paper & wood industry and existing villages in this watershed, we attempt to count villages with a separation in height classes, low section (<700 m height) medium section (700 to 1800 m height) and high section (>1800 m height): Then we measured the roads portion in this height classes. Finally, we analyzed the relationship between forest roads distribution in 3 height classes and village's distribution in the same height classes (high, medium, and low section) in this company.

RESULTS

The result of this article is shown in Tables 1, 2 and 3. Studies and searches indicate that, the majority of villages in forests margins, which are under the authority of Mazandran paper and wood company, are permanent and they always reside in this forest margins. Respect to this fact that respectively 16/74, 31/42, 51/48% of forest roads that are in this authority field, with separation in height are in low section (<700 m height), medium section (700 to 1800 m height), and high section (>1800 m height), also if respectively 22/85, 40, 37/10% of villages in forest margins of Tajan Talar Siahrood watershed of Mazandran paper and wood company, with a separation in height are in low section (<700 m height), medium section (700 to 1800 m height) and high section (>1800 m height), so road portion and the road development state is suitable for village development.

DISCUSSION AND CONCLUSION

According to census of forest, pastures and watershed management organization in North watershed has 4316 village, of which 3401 village of it located in the forest. According to the estimation of province, Natural Resources Department in forests which are under the authority of department field. In the past, there were over 6/1 Million livestock units (in the form of about 1100

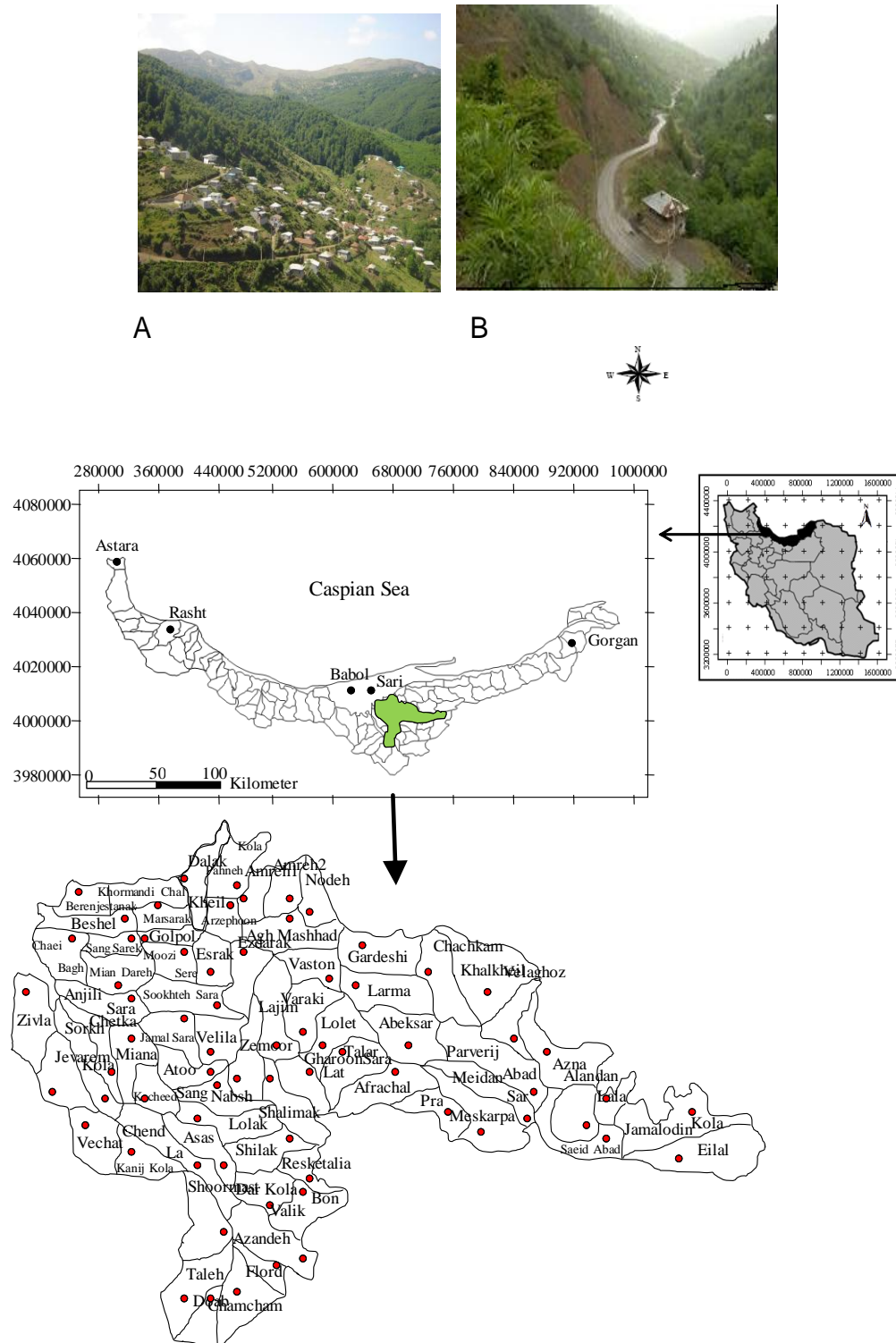


Figure 1. Status of village establishment in the forest and in forest margins.

livestock units) with 7300 livestock farmers. Until the end of 1386, about 370000 livestock unit was exited. Still about 2/1 million livestock units in the form of 8600 livestock husbandry were present in forest areas. In Sari

forests reside, there were about 992 villages with 22000 people (4300 families) in the form of scattered single family inside the forest. Until now, 19 villages with a population of 1850 people (795 families) has exited from



Figure 2. Forest and pastures area of Mazandaran (Department of Sari and Noshahre).

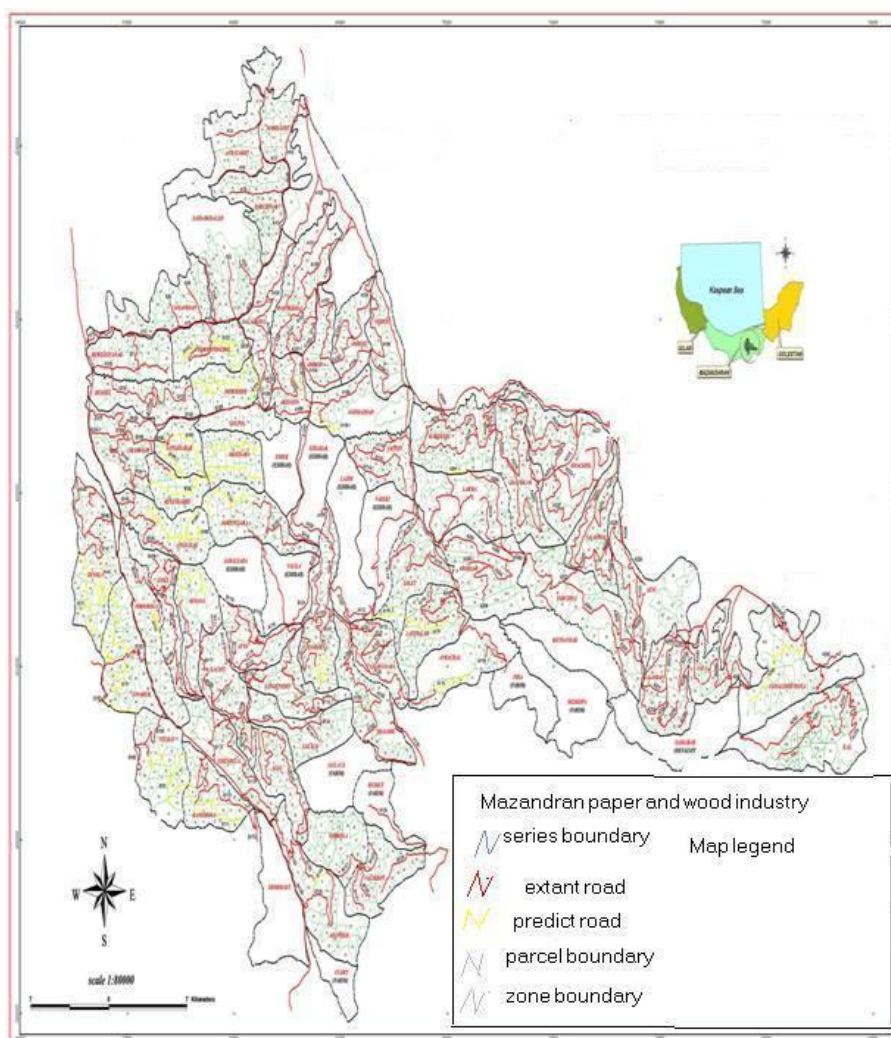


Figure 3. Total perspective of series, parcel, the existing roads and predicted roads in the paper and wood industry field of Mazandran watershed (Tajan Talar Siahrood).

the forest and others are in the action (Table 1) (Rezvanfar et al., 1993). There is no doubt that to achieve the goal we must pay attention to

environmental issues and rural development, also we should attempt for creating more potentials to support permanent resources, social welfare, population

Table 1. Distribution of studied villages and the number of livestock in north forests with a separation in height (Hedayati, 2003).

Height	Number or existing villages in forest	Portion in total villages	Total livestock	Portion
Low section	1000	48	33940	39
Medium section	1138	28	28751	33
High section	426	16	24018	28
total	3401	100	86679	100

Total 2. Status of village distribution in Tajan Talar Siahrood watershed with a separation in height.

Height	Number of village	Portion in total villages
Low section	16	22/80
Medium section	28	40
High section	26	37/15
total	70	100

Table 3. Status of existing forest roads in Tajan Talar Siahrood watershed.

Height	Distance of forest roads(km)	Portion of forest roads(km)
Low section	203/0505	16/74
Medium section	381/0108	31/42
High section	628/8390	51/84
Total	900/1212	100

attraction and finally reserving permanent environmental values in rural regions. Therefore, according to researches that are done in the studied region, maximum of forest roads have been in the high section (628, 8390 km) and minimum of them have been in the low section (203, 0505 km). Also, the number of villages in high section (26 villages) has been less than its number in low section (28 villages) (Table 2). In spite of this fact, the rate of forest roads in high section have been twice the rate of them in middle section, because the majority of villages have been temporary in high section, but they have been permanent in middle section, so forest roads is followed by villages development in this three height classes (Table 3). Therefore, construction of forest roads with declared conditions, if it be well protected and point out about its maintenance, also design and construct based on engineering criteria and followed from environmental principles; in this condition, not only that there are no destruction for natural resources and forest life, but also it will be a sure funding for forest life and permanent development (Mohammadi, 2003).

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