USING NOISE ESTIMATION FOR THE LAND MANAGEMENT
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Abstract. *Ecological evaluation's is important role in development country's urban planning. It is studied air pollution, water pollution and soil pollution but also physical pollution's issues. Also we need to consider a noise pollution in the urban planning to provide convenience for citizens. Thus we need to study noise pollution for urban planning.*

Keywords: *physical pollution, ecology, assessment, environmental, evaluation*

Based on complex evaluation method of urban organization 12 plot areas were selected for ground data measurement in the railway and highway of Ulaanbaatar. This result shows that settlement zones need to be less than 300 m from railway and less than 100 m from highway.

Introduction. When basic guilt is being searched as imagining environmental pollution includes air, water and soil pollution in general, it is becoming clear that the pollution highly depends on human activities.

Last years, the environmental pollution is not only determined by water, soil and air pollution and scientists agree and raise a problem that physical pollution is greatly caused which means it is very important issue to research and evaluate the physical pollution at the urban land assessment and planning activities further.

Goal. To identify and evaluate factors of noise pollution at the territory of Ulaanbaatar city and below mentioned aims have been set in order to reach above goal.

Research material and methodology

To identify influence of noise pollution for the ecological assessment of the urban territory.

Research work has dominantly used the comparison method and noise has been measured at the 2 objects of Ulaanbaatar city at the railway until the train passed and for 30 minutes on the highway according to the Standard of Mongolia MNS 5003-2000 using SLM 8925 tool at 12 points with 100 m intervals.

Noise estimation has been set pursuant to the complex assessment of urban development and the Standard of Mongolia MNS 5002-2000.

Result. Noise is caused by the natural or human activities and noise which is caused by the human activities causes damage to the people [5]. Generators of noise caused by the human activities include all modern technical components, equipment and all types of vehicle that make noise in the environment.

All of railway, water, air and auto vehicles, factory and household machineries, conditioning fan, sanitation technical furnishing and tools, thermal power system, electric mechanic facility, pneumatic pump, electric and technical tools & machineries are basic generators for causing noise made by the human activities[5].

For our country, it is not long period since the first research on noise pollution, other word influence to effect on office or factory has been researched and noise norm has been set. The research on noise pollution is very rare. Allowable level of vibration caused by noise according to the "Standard of Mongolia MNS5002-2000" which was renewed in 2000 was normalized and set at the factory and it describes that all other places which isn't stated in the standard shall be set as being incompliance with the standard of technological safety procedure of the sector. Noise pollution estimation of Ulaanbaatar city has been done according to the complex assessment of urban development in 2000 (Figure 1).

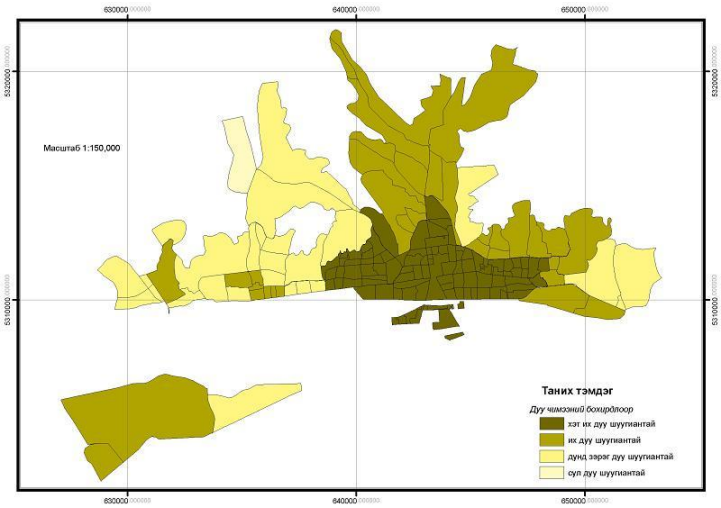

Fig. 1. Noise pollution estimation of Ulaanbaatar city

According to the estimation, construction area of the center of Ulaanbaatar city has extreme noise, 41.8 percent of all settled area has too much, 36.9 percent has an average, 21.3 percent has low noise, however the estimation couldn't become the significant indicator for the urban planning. 3 magnitude estimation that is being described in the estimation of the Urban Development is approximate to the norm, pursued at the ecological estimation of the urban and rural area of the Russian Federation and this estimation is similar and valid for the purpose of utilization of all types of urban land [4].

Table 1. Noise estimation

№	Estimation	Indicator		
		Ecological estimation of urban land that is being pursued in Russian Federation		Complex estimation of urban development of Mongolia
		Equivalent value	Maximum value	
1	Suitable	LA<=35dBA	LA<=50 dBA	<60 db
2	Limited suitable	LA<=35-50 dBA	LA<=50-65 dBA	60-80 db
3	Unsuitable	LA<=50-70 dBA	LA<=65-85 dBA	>80 db
4	Extremely unsuitable	LA>70 dBA	LA>85 dBA	

Noise volume has been identified at 12 points near to railway and highway where loudest noise is caused in Ulaanbaatar city using above estimation. (table 2).

Table 2. Result of noise estimation

№	Point were measure has been made	Noise value /db/			Evaluation
		Minimum	Maximum	Average	
Length which became distant from the railway					
1	At the railway	70.8	101	85.9	Unsuitable
2	100 m from the railway	68.4	98.3	83.35	Unsuitable
3	300 m from the railway	66.8	96.2	81.5	Unsuitable
4	400 m from the railway	60	85.2	72.6	Limited suitable
5	500 m from the railway	58	79.1	68.55	Limited suitable
6	600 m from the railway	50.4	62.2	56.3	Suitable
Highway					
7	On the highway	74	96.7	85.4	Unsuitable
8	100 m	46.5	81.5	64	Limited suitable
9	200 m	40	76.6	58.3	Suitable
10	300 m	40	59.9	49.95	Suitable
11	400m	40	55.3	47.65	Suitable
12	500m	40	51.4	45.7	Suitable

There is an estimation that it was 81.5-85.9 db or unsuitable in the distance up to 200 m from the railway, 68.55-72.6 db or limited suitable in the distance of 300-500 m, 56.3 db or suitable in 500-600 m distance.

But, it has been estimated that 64 db or limited suitable was in the distance up to 100 m from the central highway of the city and 45.7-58.3 db or suitable was in 100-500 m distance.

As described in the urban planning and construction norm, it has been determined that settled zone will be planned in the distance not less than 100 m from railway and further, it is required to plan to be in distance not less than 300 m from railway and 100 m from highway.

In 2000, 4 estimation zones of noise has been categorized for the urban planning of the urban territory according to the "Complex assessment or urban development" and noise estimation research has been conducted rarely since this research.

In the research, we have used the basic methodology of the ecological assessment of urban territory in the the Russian Federation and result of this research is different from the result of research conducted by Ph.D Tugjsuren.Ch which measured the noise pollution along the central highway of the city.

Conclusion. According to the research, construction area of the center of Ulaanbaatar city has extreme noise, 41.8 percent of all settled area has too much or great noise, 36.9 percent has an average noise and 21.3 percent has low estimation. Moreover, there is an estimation that it was 81.5-85.9 db or unsuitable in the distance up to 300 m from the railway, 68.55-72.6 db or limited suitable in the distance of 300-500 m, 56.3 db or suitable in 500-600 m distance.

But, it has been estimated that 64 db or limited suitable was in the distance up to 100 m from the central highway of the city and 45.7-58.3 db or suitable was in 100-500 m distance.

As described in the urban planning and construction norm, it has been determined that settled zone will be planned in the distance not less than 100 m from railway and further, it is required to plan to be in distance not less than 300 m from railway and 100 m from highway.

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