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Assessment of Brick Industry with special focus on soil: A Case Study of Jamkhed Town, Dist- Ahmednagar

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Abstract:

Demand of bricks has been growing very fast from the last two decades. It has result of rapid growth of human population, urbanization and industrialization has grown in developed country like India. Due to this, demand for bricks has been growing very fast. It has seen that the way of use of raw material has not environment friendly. Soil have main raw material. The quality of soil resources, which is usually using in the industry, is more useful to agriculture sectors. At present the collection, methods, quality and quantity of soil material for brick have not eco-friendly. Therefore it has necessary to do environmental impact of brick industry on soils. It may help to solve soil related environmental problems grown by the industry. Firstly, it needs the reduction in use of soil for its sustainability.

Key words: Environment Impact Assessment, Soil resource, Sustainable development.

Introduction

Today problem of protecting land, environment and maintaining balance of ecosystem have become the major task of all developing agrarian country like India. In fact, moving from bad to worse and more and more new problems are largely concentrated around the town and urban areas. The size of urban growth (Vaidyanathan, 1981, Bose, 1984). The present investigation mainly aims at ascertaining to impact of brick manufacturing industry on land and soil environment. The main resources getting affected by brick manufacturing activities such as land soils and vegetation.

Generally, establishment of kiln has on farm land. Naturally, it affects on the agricultural practices as well as its productivity. It may change the cropping pattern due to commercial activity. Due to change in topographical feature of land, it highly affects the vegetation cover probability with negative signs. It means that the soil lifting activity is dangerous to the topographical processes. Therefore, it is necessary to understand the problem created by the brick kilns. The industry is mainly based on natural resources. Geographically, the unbalance in such types of resources is dangerous to the natural cycle. Therefore, continuous geographical studies can help to minimize these problems. With this view in mind, the present investigation is selected and designed for detailed study of brick industry.

Objective:

i)To understand the nature and assess the quality of raw material of brick industry.
ii)To find out the sites and situation of brick industry.

Study area:

All the brick kilns are located on both side of Vicharana River of northwest, south, southwest and southeast around the suburban area of Jamkhed town. The study area lies between 18º 45¹ Nlatitude and 75 º 15¹ E longitudes. There are nearly 57 brick kilns, which are mostly working with traditional setup. Kajewadi small dam and surrounding area is use for source of raw material i.e. soil of the industry.

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Methodology:

Different types of parameters for Environmental Impact Assessment(EIA) of any project. For EIA of brick industry only soil related assessment is planned to work out in the present study. Applying EIA methods the researcher has been trying to prove the hypothesis with the help of selected objectives.

The data of the present study has been collected from primary sources. The basic information about the location of kilns and soil collection area has been obtained from the field visits, using continuous dialogue method; the first hand data has been collected.

Result and discussion:

The source region of soils is around the both side of VincharanaRiver and Kajewadi small dam area. These areas are fertile nature of soil. The present study mainly aims to analyze the problems related to soil collection at source region with EIA method. Therefore, from above mentioned location has been selected.

The profile has been prepared for the source area where digging of soil and lifting of soil for brick industry. Because of the yearly lifting soil they removed the vegetation cover also; this is another problem for soil degradation. Stony unusable soil material, which the brick owners do not collect, is another problem. It has observed that the lifting of is huge in size. The activities of brick kilns have significantly affected on topographical processes in such area. It has also seen the averagely digging 1 m to 1.5 m in depth at the site. The average annual production of last two years, about 5,00,000 brick of each kiln in these 57 kilns. About 150 tractor trailer of soil have required per kiln. It is mean that about 8550 tractor trailer of soils have been collected by these 57 kilns average per year. Of course in all these area, the production depends on the size of brick also. Here the average size of bricks is two types i.e. 3x4x6 inches and 3x6x9 inches also.

Number of kilns	Required soil collected per year	
	Tractor trailers	Soil in tones
57	8550	21375

Quality of soil: In the present study, it has decided to collect soil sample for analysis. Scientific method has been used for collection of soils samples. Here it has collected and analyzed samples for source region and around the brick kiln area respectively. General level soil testing method has been applied for the analysis. The results have been tabulated in the table.

Soil analysis

Parameter	Source area*	Around kiln*	Standard average level for agriculture**
pH	7.1	7.6	6.6 to 7.0
Organic Carbon	0.39	.43	More than 0.41
N	299	275	More than 281 Kg/Hect.
P	30	32	More than 30 Kg/Hect.
K	462	517	More than 181 Kg/Hect.

It has observed that the soil have potential for agriculture in the entire source region. According to standard average level of parameters for agriculture published by Government of Maharashtra, except pH value, all the parameter have strength to sustain agricultural practices. It means that loss of fertile agricultural soil has been growing day-by-day.

Soil, Brick Kiln and Environment: The process of manufacture of bricks degraded the land, loss of fertile soil, soil erosion occur, ditches and low-lying area are formed, water management problems occur, change in land nature and low agricultural productivity observed. Large scale fertile soils are lost due to brick kilns. The brick industry creates the following environmental problems.

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Soil related problems: Land can disturb at the source area as well as around the brick kilns. This was observed during the field visit. It disturbs topography of area. Many framers reported that after sell of soil for brick kilns, crop cannot grow well condition. At that time farmers use excessive chemical fertilizer to crop. Due to such use of fertilizer soil can also degraded in the such source region of raw material of soil and around the brick kilns area many time soil can disturbed due to emission of smoke and release of carbonic dust particles in atmosphere. Due to course of time such particles are settle on land, soil also degraded. It means that low productivity, no growing crops. It means that her the vicious cycle stared again for degradation of soil environment.

Environmental problems: Man environment symbiosis is now in disarray. The environment is being degraded and disrupted by the modern man. Air and water pollution, deterioration in natural surroundings, loss of forest wealth, soil erosion and land degradation, acid rain, side effects of excessive use of pesticides and chemicals, disturbances in food chain etc are some of the products of monstrous technology.

In addition to topographical problem is created at the time of collection of raw material. At source region, such problems have also been created new difficulties like topographical change. Taking this view in mind, the present investigation has mainly concentrated and analyzed study for understanding of such change.

The detrimental impact of brick kilns lead to air and visual pollution, beside health and safety issues of the community around the kilns is another problem. The exhaust of green gases, pose sever threat to the environmental quality and ecological value the Jamkhed town.

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