Sociedade & Natureza
ISSN: 0103-1570
sociedadenatureza@ufu.br
Universidade Federal de Uberlândia
Brasil

Costa Lima, Neilianne de Fátima; Pereira Gonçalves, Márcia Fernanda; Silva Furtado, Marcia; Vieira Ribeiro, Francicléia; Cordeiro Feitosa, Antonio; Silva Mendonça, Jane Karina

EROSIVE PROCESSES AT BOMBOM HILL AREA, COROADINHO, SÃO LUÍS - MA- BRAZIL

Sociedade & Natureza, vol. 1, núm. 1, mayo, 2005, pp. 148-154
Universidade Federal de Uberlândia
Uberlândia, Minas Gerais, Brasil

Available in: http://www.redalyc.org/articulo.oa?id=321328500012

EROSIVE PROCESSES AT BOMBOM HILL AREA, COROADINHO, SÃO LUÍS — MA- BRAZIL

Neilianne de Fátima Costa Lima NEPA/UFMA neilianne@hotmail.com
Márcia Fernanda Pereira Gonçalves NEPA/UFMA marciafernandageo@hotmail.com
Marcia Silva Furtado NEPA/UFMA marcinhageo@hotmail.com
Francicléia Vieira Ribeiro NEPA/UFMA clléiavieira@yahoo.com.br
Prof Antonio Cordeiro Feitosa NEPA/UFMA feitos@terra.com.br
Prof Jane Karina Silva Mendonça NEPA/UFMA raiogeo@hotmail.com

INTRODUTION

The modeling process of the relief occurs in a natural way as the result of the internal and external activities of the agents. Weather agents control the external actions of the natural origin. Although, the inadequated use of the soil by the disordely occupation and other degradation practices has provoked the acceleration of the erosive processes, started the alteration of the forms with the appearance of the ravines and gullies.

According to Guerra *et al* (2004) the erosion of the soil occur because of natural causes: chemical and physical properties of the soils, kind of vegetable cover and human activities, whose the diversity and the magnitude change the equilibration of natural strength and accelerate the erosive processes.

In Maranhão State, as well in São Luís, the disordely occupation of the space and physical factors like weather and soil favor the erosion in vulnerable areas. In this context, it is the área of *Bombom* Hill, where the irregular occupation process intentifies the transformation of the ground morphology and worsens the social enviromental problems.

The *Bombom* Hill is located in *Coroadinho* neighborhood, in the suburb of *São Luís*. Its occupation occurred in a desorderly way by the poor people from Maranhão countryside, as the result of no public politic in favor of housing sector. It is necessary to highlight that the area in studying, before to be occupied, was the enviromental preservation area of Bacanga State Park.

Factors like deforestation, the type of the weather and the erosion of the soil contribute to the acceleration of enviromental problem of the area, causing serious risks to the

population, because the hill is occupied in different sectors and with density of the occupation varied, exhibiting evidences of landslide and soil covering the houses that are at the base of the barrier. The risk is much bigger during intense rainy weather that occurs in March, April and May.

METHODOLOGY

The qualitative approach was used in this work, based in phenomenonlogic method, achieving the empiric perception of erosives processes and geomorphological facts. So the following steps were performed:

- Survey and analysis of bibliografic and cartografic material through monographs, books and annals of congresses and other documents that have information about the State Park Bacanga, in Coroadinho and Bombom Hill for better comprehension about the area.
- Visiting the area to observe the enviromental features, which is based on enviromental perception, the identification of the principal enviromental problems;
- Interviewing some residents of the area for getting information related to the process of neighborhood occupation;
- Photografic register of the places more affected by the erosive processes on south side of the hill;
- The analysis and discussion of the data and obtained information.

RESULTS AND DISCUSSIONS

The Brazilian urbanization, like some countries, was intensified from the decade of 1945 due to factors like: industrialization of big cities, which implement the industrial and urban economy in Brazil, agricutural mechanization and realty concentration, responsible for the expulsion of rural workers to urban centers (GONÇALVES 2005).

The degradation of the enviroment happened as result of the urbanization and the first enviromental desequilibrium like deforestarion that causes bigger exhibition of the soil to sunstroke and intensifies the geomorphologic processes like: erosion, silting of the rivers and water, sound, visual and air pollution.

About *Maranhão* State, the occupation started by indigenous and, from the 17th

century, with the arriving of European people that founded the *São Luís* city and began the urbanization. The urban expansion occurred in a disorderly way, noticeable from 1970 thanks the big regional development projects that attracted many people.

According to Diniz (2005) the introduction of the *Vale do Rio Doce* Company Industrial Complex, *ALUMAR* and civil construction attracted great extra rural workers looking for job, who wanted to stay in *São Luís* that became an attractive town for country people who emigrated trying to be free from rural problems.

The area in studying is located in *Coroadinho* neighborhood, near *Bacanga* State Park, in West Center of *São Luís*, in *Maranhão* . Your geology is part of the *São Luís* Coast Sedimentary Basin, whose caracteristics are specific to this kind of structure like: unconsolidated sandstone and clay that are dated from Tertiary (IBGE 1984).

Geomorphologically, the relief that is part of the morphology of Maranhão Island is in tabular and sub-tabular form with varied slopes on the edges of the central board of the island, whose primordial features is consequence of the paleographic evolution of the Sedimentary Basin. (SEMATUR, 1991, p. 19) The *Bombom* Hill stands out as individual unit in a downward area, constituting a tabular surface that falls in edges forming hills of varied declivity with subordinated dissected surface and intense erosive processes.

Considering the hydric resources, the area in studying is in Bicas River Basin. But the vegetal cover around the *Bombom* Hill is formed by *igapó* vegetation that is developed in more humid areas, the arboreal vegetation in areas less humid and in areas of bigger human interference like is in *Bombom* Hill, the trailing or non-existent vegetation.

The weather of the area in studying, because is situated near the equator, receives the sun's rays in intense way during the whole year and as the result with hot and humid weather, tropical climate with rainy periods of six months (MARANHÃO, 1991).

According to old residents information, the occupation of Coroadinho, where is located in *Bombom* Hill, date from 1976 when the first houses were made in a very primitive way. The residents performed themselves the deforestation of the area and made their houses. This situation is directly related to the rural emigration and implantation of the *Carajás* project in São Luís. (FERREIRA, 1996)

Coroadinho is the area with dissected, registering several locals with high declivity that are inadequated for human occupation. However, at this time is a densely populated area, occupied by families with low income who inhabit in kind of hovels without structure to support the rigors of the showers. In the risk areas, besides the treat of landslides, the

population
continues to build houses in erosion areas near the *Bombom*, about 3 meter from the Barrier (Picture 01).

Picture 01 Erosive processes

The area of *Bombom Hill* that is suffering process of the erosion like ravines and gullies, acoording to Mendonça (2003; p. 25). In the total area of the Hill, there is trailing or non-existent vegetation in some parts (Picture 02) and several places with deposit of wastes (Picture 3)

Picture 02 Non-existent vegetation

Picture 03 Deposite of waster

CONCLUSION

The human interference is the principal cause of erosive processes on the soil, associated to climatic agents. With the removal of the vegetation, the soil becomes more susceptible to the action of external agents, combinated with the rainy period that last around six months (December to June).

The erosion of the edges of the *Bombom* Hill results in great desequilibrium to the Bicas River Basin, where is deposited the all material carried along causing silting in part of its bed.

The current landscape shows as the aggravating social enviromental circumstances the risk of people's death, who live near the hill, due to no planning and control from responsible authorities. The growing urbanization is another aggravating circunstance to the population that decides to inhabit near risky landslide areas with great possibility of losing property and life because of the soil coverting their houses.

REFERENCES

ARAÚJO, Francimar Andrade. **Readaptação de Áreas degradadas do Parque Estadual do Bacanga por Processo Natural.** São Luis-MA 1999. UFMA. Monografia de Graduação

DINIZ, Adriana Bastos. **A Problemática do Êxodo Rural e o reflexo no Crescimento Urbano na cidade de São Luis: O caso de bairro do anjo da guarda.** São Luís 2004. UFMA. Monografia de Graduação.

FEITOSA, Antônio Cordeiro. **Dinâmica dos Processos Geomorfológicos da área Costeira a Nordeste da Ilha do Maranhão**:Rio Claro –UNESP, 1996.Tese de Doutorado

FERREIRA, Gody de Carvalho. **Caracterização ecológica urbana do bairro do Coroadinho em São Luis-MA.** São Luis 1996. UFMA. Monografia de Graduação.

GONÇALVES, Fabio André Correa . **Impactos Ambientais no Rio Sucupira.** São Luis 2005. UFMA. Monografia de Graduação.

IBGE. **Atlas do Maranhão.** Rio de Janeiro: IBGE, 1984.

MENDONÇA, Jane Karina da Silva. **A Interferência Antrópica nos Processos Erosivos em Áreas da Bacia do Rio das Bicas, São Luis-MA.** São Luis: UFMA, 2003. Monografia de Graduação.

SEMATUR, Secretária de Estado do Meio Ambiente e Turismo. **Diagnósticos dos principais**

problemas ambientais do Estado do Maranhão. São Luís, 1991.