

## THE BUFFALO POWER WORKING TO PEOPLE

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### ABSTRACT

The use of buffaloes as traction animals in the Amazon region is traditional, specially in the flooding areas. Besides, the animal traction with buffaloes has not reached the adoption level and its social importance that could be done by its big potential, in spite of some researches about it. The absence of tradition, little divulgation of its potential and as the animal traction is considered an old-fashioned system, may contribute for this idea. Draught animal power can be modernized within the concept of appropriated technology to the small farmers.

**Key words:** Amazon, animal traction, buffalo work, small farmers.

### INTRODUCTION

The use of buffaloes as traction animals in the Amazon region is traditional, specially in the flooding areas. The water buffalo is used for saddling and traction of canoes when the river has low water levels and the soil is muddy, for the transportation of loads by carts or by sleds on dry lands. Also they are used for the transportation of wood logs from the interior of the forest to the patio of the stock of goods, located by the river or the road. In some cases, the buffaloes are used for ploughing too, though not to its full potential.

For the animal traction with buffaloes spreading, lots of researches have been done to adjust the animal traction technologies to its potential and physical limitations.

Besides, the animal traction with buffaloes has not reached the adoption level and its social importance that could be done by its big potential. The absence of tradition, and probably, the little divulgation of its potential may contribute for this idea. Despite all its potentialities, the buffaloes in the West Region in Para State have been suffering pressure from groups of opposing interests. On one side, there are the cattle breeders who believe in the productive potentialities and sanitary and nourishing endurance of the animals. On the other side, there are the environmentalists who relate the damages on the floodplain ecosystem to the raising of buffaloes in the region.

This posture may meddle other economics activities producers, which together become against the buffalo raising in the region. However, Embrapa Eastern Amazon – Brazilian Agricultural Research Organization, Procuradoria da República (Republic Procuracy) in the Santarém municipality and IBAMA have been monitoring the use of the floodplain by the cattle breeding, especially buffaloes. They have been visiting communities, real detection of problems, discussion of promising alternatives, suggestions for animal management and helping with some decisions about how to better find solutions to this dilemma. The result of this work is the foundation of the “Termo de Ajuste de Conduta” (Behavior Adjustment Term) which regulates the conflict according to the peculiarities that each case demands.

### BUFFALO POWER WORKING IN THE AGRICULTURAL ACTIVITIES

The buffaloes may be utilized for different agricultural activities and transportation in the rural environment. In researches done in the Amazon region, some parameters were measured to sum/confirm its potential.

In this methods of traction animals selection were set too, taming and teaching, like starting actions to the agricultural and transportation activities.

The main technology developed to work with buffaloes is the harnesses, the strap and collar, adapted by Embrapa-Cpatu to be worn by the buffaloes are light and allow the distribution of the effort produced by the equipment when tractioned around the neck. Experiments have proved that the usage of leather harnesses in preparing the areas for planting makes the profit 25% superior in relation to the usage of the wood yoke (2). The increase was explained: the greater surface is against which the animal pushes and the increased comfort and related longer working capacity of the animal.

In farming operations some results were achieved, such: ploughing, harrowing, seeding/manuring and weeding. The comparative results of the soil preparation, seeding and weeding of rows of subsistence crops, showing that the animal traction with buffaloes is more efficient and economic than the manual system with the hoe.

Animal-drawn vehicles are used in most regions in Brazil, but with buffaloes in only a few regions. Their numbers seem to be significant only in Marajó Island. So, unlike horse carts, bullock and buffalo carts are not well or appropriate designed (1).

The buffaloes are used for saddling mainly in Marajo Island and West Region in Pará State when the river has low water levels and the soil is muddy. Sometimes, when the river has high water levels, the buffalo swims transporting people and load.

Small brickyard is other activity that can use buffalo power. In this, buffaloes can be an alternative way, which can be transferred to small producers, to change this process increasing production in about six times, with the costs only three times higher when compared to the manual system changing the present socioeconomic reality and fixing people in the rural properties (3).

These animals are used in timber extraction in floodable low land areas for wood transportation too. The volume of wood transported, by two pairs of buffaloes, working together or separately is almost 300 m<sup>3</sup>/month.

## **PRINCIPALS RESULTS AND RECOMENDATIONS**

Power availability is one of the main constraints to achieving the increase in land and labor productivity, essential for meeting world food production targets and for raising rural incomes. Energy is required for increasing the area and the intensity of cultivation.

Nations wanting to modernize and industrialize themselves think that draught animal power is an old-fashioned system, symbol of poverty and backwardness, which should be discouraged rather than sustained. Draught animal power can be modernized within the concept of appropriated technology to the small farmers.

The researches about traction buffaloes have developed faster than its adoption by the small farmers, which caused by several things like the absence of tradition in using the animal traction, this technology is considered old-fashioned by its little or non-divulagation of its utility, the unknowing of the buffalo's potential as a traction animal, to its physical limits related to the body thermic control in warm regions and, finally, in some cases, to the problems caused to the environment when wrong management of the buffaloes.

According to this last thought, a laborious work must be done in order to change an old regional culture in which "nature" creates the animals. It is indeed necessary to create a sequence of explanations about animal management and to abolish certain paradigms on raising great animals, especially buffaloes in floodplain areas. The result of it will bring serenity/peace to create a multi-purpose system where different activities will be able to share the same ecosystem.

Finally, it can be assured that the buffaloes are suitable for different agricultural activities and cargo transporting, respecting their physical limitations and denying the idea of the animal is brave and destructor, but sweet and smart.

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