

Agroforestry systems in Brazilian Amazon: socioeconomic and geo-environment aspects in the Ariquemes region, state of Rondônia

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Abstract

This research was located in the Amazon, in the northern region of Brazil. Field research was carried out on 2595 hectares in 7 municipalities of the Ariquemes micro-region, in the state of Rondônia. Thirty five properties were surveyed, which are located in rural settlements established from 1970 to 1990. Almost all of the producers are migrants from other Brazilian states, mainly from the south and northeast, motivated by the search for land, income and employment. In the properties visited, 60% of the families have 1 to 5 members, and 26% have 6 to 10 members. Technical assistance was inadequate in the AFS implementation phase but families still maintained AFS. The properties' natural landscape is much degraded by agriculture and livestock and half did not reach 50% of their legal reserve. These activities, which are more profitable, threaten the continuity of AFS. In general, the properties have 30 to 100 hectares and there are 3 AFS classes: agrisilvicultural, silvipastoral and agrisilvipastoral. The main products generated are consumed by households and marketed regionally. The monopoly on purchasing products in each municipality, however, results in low profits to rural producers. The soils were characterized as poor, most soils are dystrophic, alic and mesotrophic, reflecting, from the producers' point of view, the declining productivity of the AFS in the last 3 years. Most of the AFS were planted in plain relief to soft-wavy, and rarely strong wavy, such as that of Monte Negro city. There was no surface erosion in any of the AFS. It was proved consequently that AFS with soil protection, productive, sociocultural, habitat maintenance functions, causing products and income generation, family's subsistence. Based on these results it is suggested that soil correction be used to increase AFS productivity, also suggested is the expansion of legal reserves, production diversification, political support and economic subsidies for permanent maintenance of the AFS.

Agroforestry, climate change and forest regeneration

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Abstract

Agroforestry is a practice that is helping solve the problem of global climate change and has been adopted and implemented in Africa by the World Agroforestry Centre (ICRAF) and other NGOs and community-based organisations involved in this practice. The activity of humans has created a negative impact on the environment as far as carbon dioxide production from deforestation and poor agricultural techniques such as slash and burn is concerned, and the release of massive quantities of Carbon dioxide in the atmosphere from both agricultural practices and industrial zones. The planting of trees which is an exercise carried out by Governments and councils, both local and urban, in Africa especially in Cameroon, will help remedy this situation of global climate change; and the implementation of the agroforestry techniques in land use will go a long way to restore the vegetation loss by indiscriminate logging. The conservation of biodiversity such as species of high economic and nutritive value and non timber forest products, can only be successful through the domestication of these species using techniques such as vegetative propagation so that high quality germplasm can be multiplied to replace the lost vegetation and this will assist the problem of carbon sequestration. The absorption of this atmospheric carbon dioxide will help solve the alarming changes in our climatic conditions which have also negatively affected agricultural production, hence the world food crisis. When trees are planted they create a microclimate which aids the the interaction of the organisms and their environment which will be a positive interaction making the habitat more productive in terms of soil fertility, and restoring favourable climatic conditions. Forest regeneration will create a diversity of our highly valued species such as Prunus and Gnetum Africana.