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Replicable regenerative agroforestry models as an alternative for slash and burn in Brazilian Amazon

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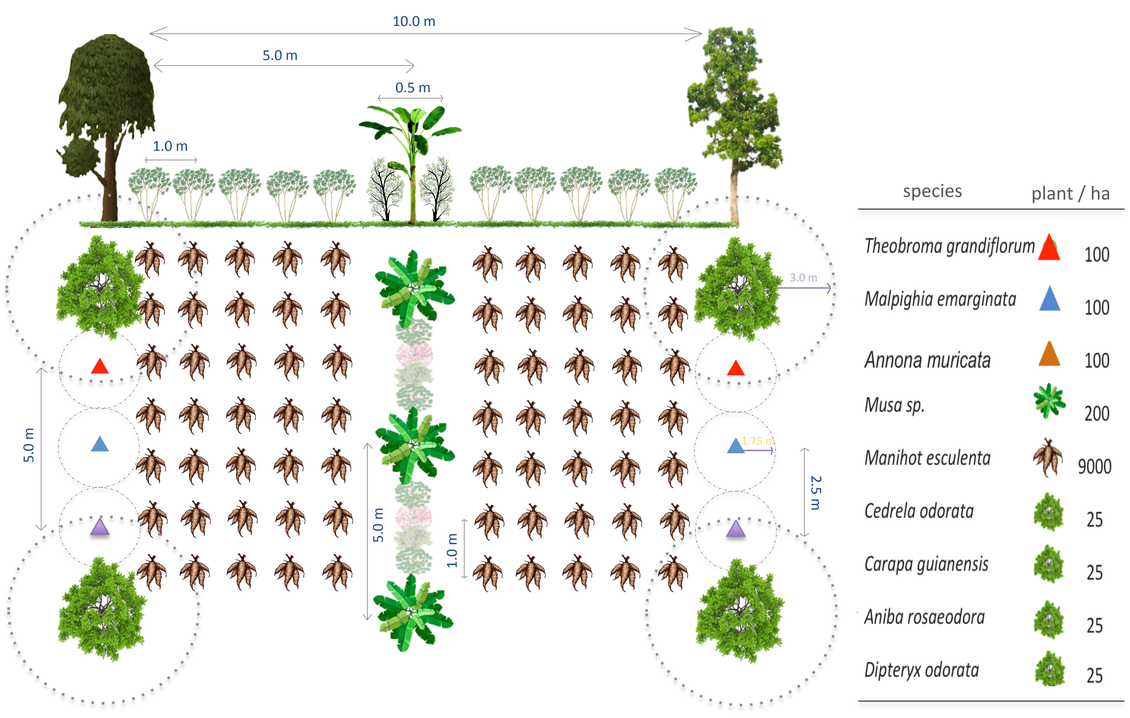
Juruti has a HDI (2018) of 0.592 and depends on agro-extractivism and cassava slash-and-burn cultivation. Fallow was reduced from 20 to 2 years. It's mandatory to create new agriculture regenerative models to thrive in climate change conditions. The study aimed to develop participative agroforestry designs as an alternative for slash and burn in the region; prototyping and implementing modular replicable agroforestry units in a successional decision-making logic. During 2 months (Jul-Sep, 2018), RRAs, freelisting, participatory mapping, semi-structured interviews and pairwise sessions were conducted in 25 communities (157 farmers). Collected data were analyzed using selected principles, criteria and indicators. Final adjustments were made merging local ecological knowledge, empirical information and scientific data. As a result it was co-created an elastic regenerative design, maximizing biomass production and inserting high-value fruit indigenous trees in the system. Final design with the explained species arrangement and density is presented in table 1. Estimative annual production per hectare for cassava is 12 ton; fruits is 24.4 tons and dry biomass is over 3.53 tons. According to farmers' preferences, after the 4th year the system can migrate to (1) agrosilvipasture, (2) perennial fruit orchard or (3) biodiverse NTFP forest. Project ground establishment is scheduled for early 2019. With the presented design it is expected to drastically improve the food resilience while imputing new cash crops and creating an elastic and highly acceptable model for amazon cassava-based agriculture, building a new productive paradigm that is sustainable, resilient and long-lasting.



species	plant / ha
Theobroma grandiflorum	100
Malpighia emarginata	100
Annona muricata	100
Musa sp.	200
Manihot esculenta	9000
Cedrela odorata	25
Carapa guianensis	25
Aniba rosaeodora	25
Dipteryx odorata	25

Furthermore creating a new ecological buffer of *A. roseodora*, a highly endangered specie. After 5 years the system is supposed to become self-suficiente in biomass production. After the forth year the system migrates from a cassava field to 3 possible possibilities (according to the farmers options), being (1) agrosilvipasture with fodder trees, a (2) fruit tree field with enrichment of shaded-cupuaçú / cacao plantation or a (3) biodiverse timber forest. With the presented design it is expected to drastically improve the food resilience while imputing new cash crops and creating an elastic and highly acceptable model for amazon cassava-based agriculture, building a new productive paradigm that is sustainable, resilient and long-lasting.

We develop replicable designs of regenerative agroforestry systems, combining scientific data, empirical information and traditional knowledge with technological innovations, building a new productive paradigm that is sustainable, resilient and long-lasting

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