

Jeimy Katherin Feo Mahecha<sup>1</sup>, Gerald Kapp<sup>2</sup>, Jeisson Rodriguez Valenzuela<sup>3</sup>

<sup>1</sup>Technische Universität Dresden, 44th UNEP/UNESCO/BMUB International Postgraduate Course on Environmental Management for Developing and Emerging Countries (CIPSEM), Germany; Universität Salzburg (MSc Student. Geographical Information Science & Systems), Austria.

<sup>2</sup>Technische Universität Dresden, Institute of International Forestry and Forest Products, Germany

<sup>3</sup>Corporación Colombiana de Investigación Agropecuaria Agrosavia, Obonuco Research Center, Colombia

## Introduction

Cocoa (*Theobroma cacao* L) is a plant from the Latin American rainforest and the main economic resource for the welfare of many farmers in such areas. In fact, the Juanjui municipality in the San Martin department is characterized as one of the most important centers for storing, drying, and marketing cocoa beans in the Peruvian Amazon. However, the high dependency on this crop makes the smallholders vulnerable, affecting their economy and food security, a situation which, under the Covid-19 pandemic became even worse.

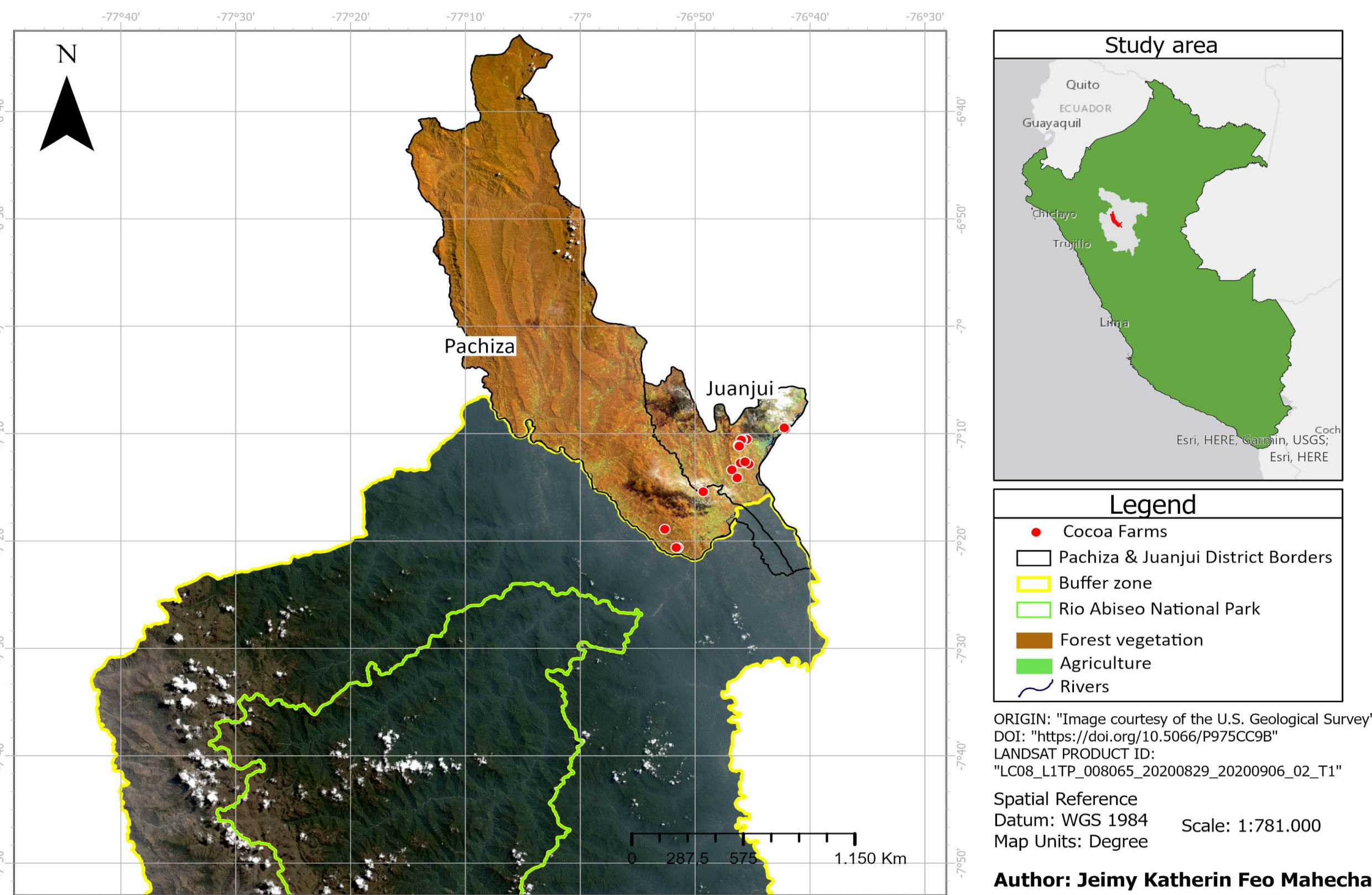


Figure 1. Location of the study area

## Objectives

This study aimed to analyze the agricultural practices for cocoa production and the species available to produce annual and perennial fruits, timber, meat and eggs, and non-timber forest products within the farms of small producers in the municipality of Juanjui.

## Materials and Methods

The methodology was based on a focus group discussion with a total of 28 farmers to analyze the effects of the production and sale of cocoa beans in the context of the pandemic.

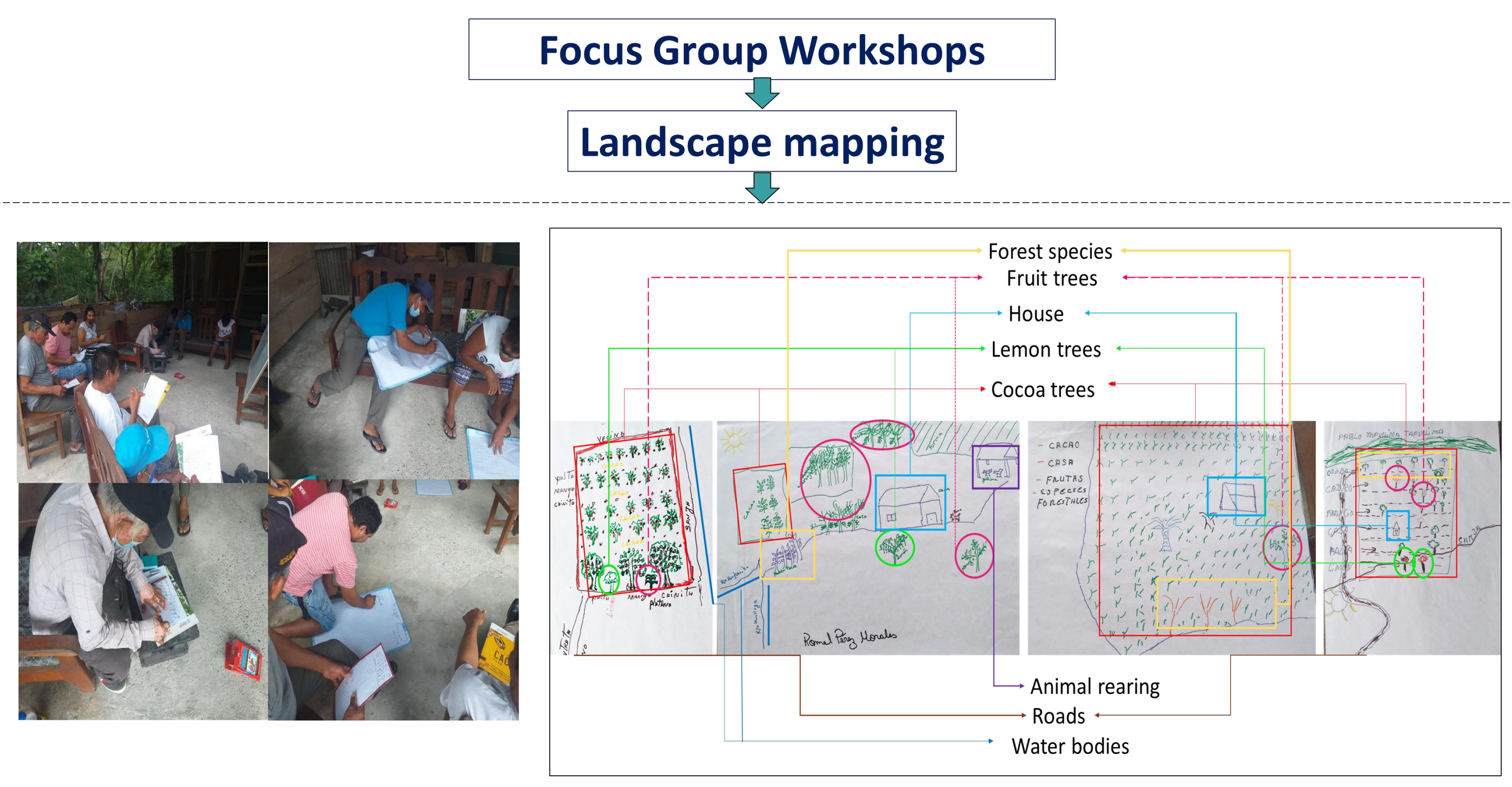


Figure 2. Identification of land use and landscape at the farm scale [1]

## Results

The results obtained show that although farmers have some other species associated with cocoa on their farms (citrus, mango, coconut, medicinal plants, fast- and medium-growing timber species), as well as a few farm animals (guinea pigs, chickens, pigs, and ducks), these alternatives are not being used towards a diversified production model at a commercial level.

## Timber and non-timber species frequency

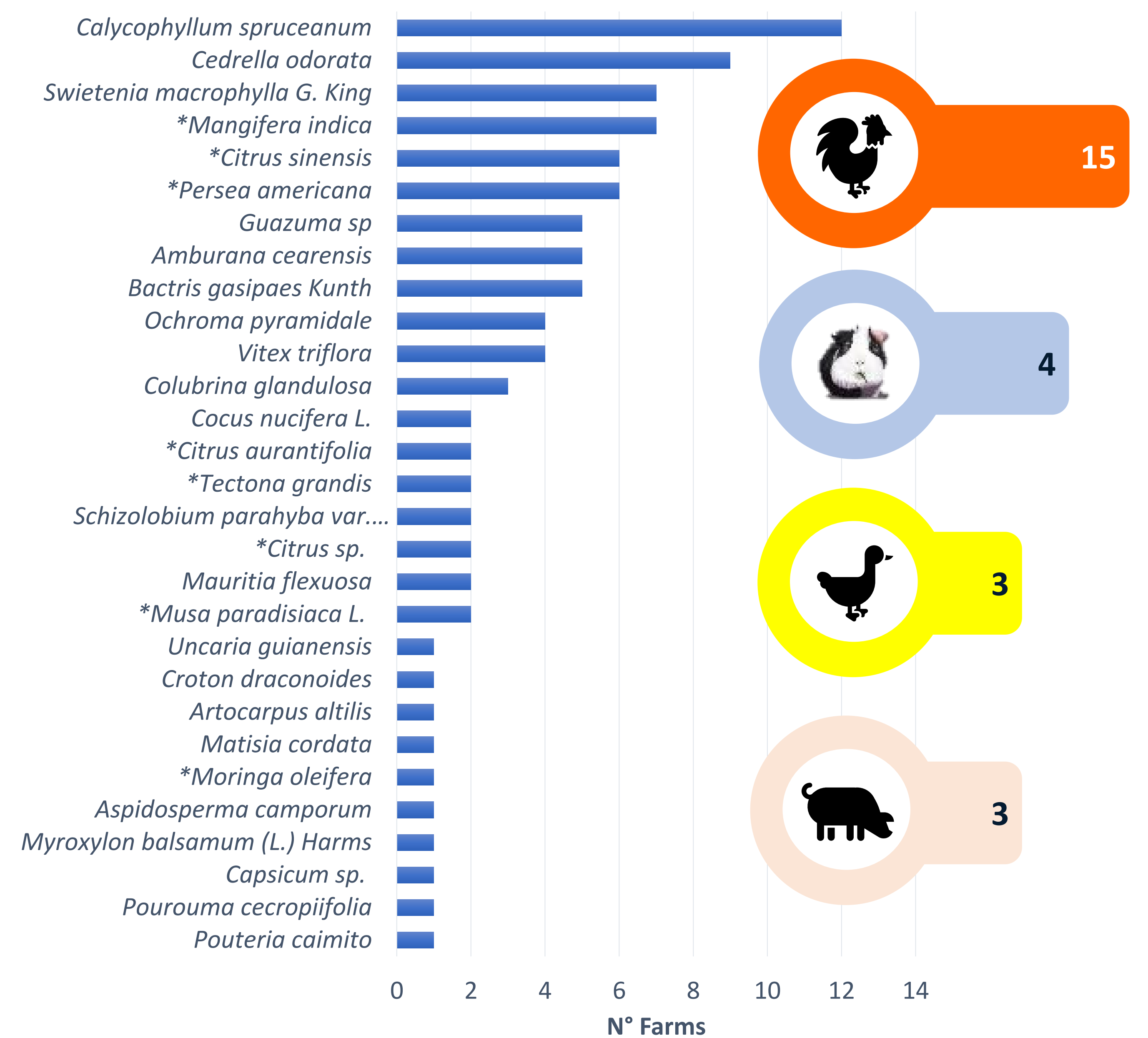


Figure 3. Characterization of available species (timber, non-timber forest products and animals) on farms

Another outstanding result was that the Covid-19 pandemic has delayed cultivation tasks, and the price of cocoa has been quite affected. In consequence, the group of farmers decided to create a cocoa association with the target to apply for credits, incentives, and access to better markets.

The focus group discussions revealed the eagerness of the farmers to know more about the productive, commercial, and environmental potential of the species other than cocoa present in their farms.

## Recommendations

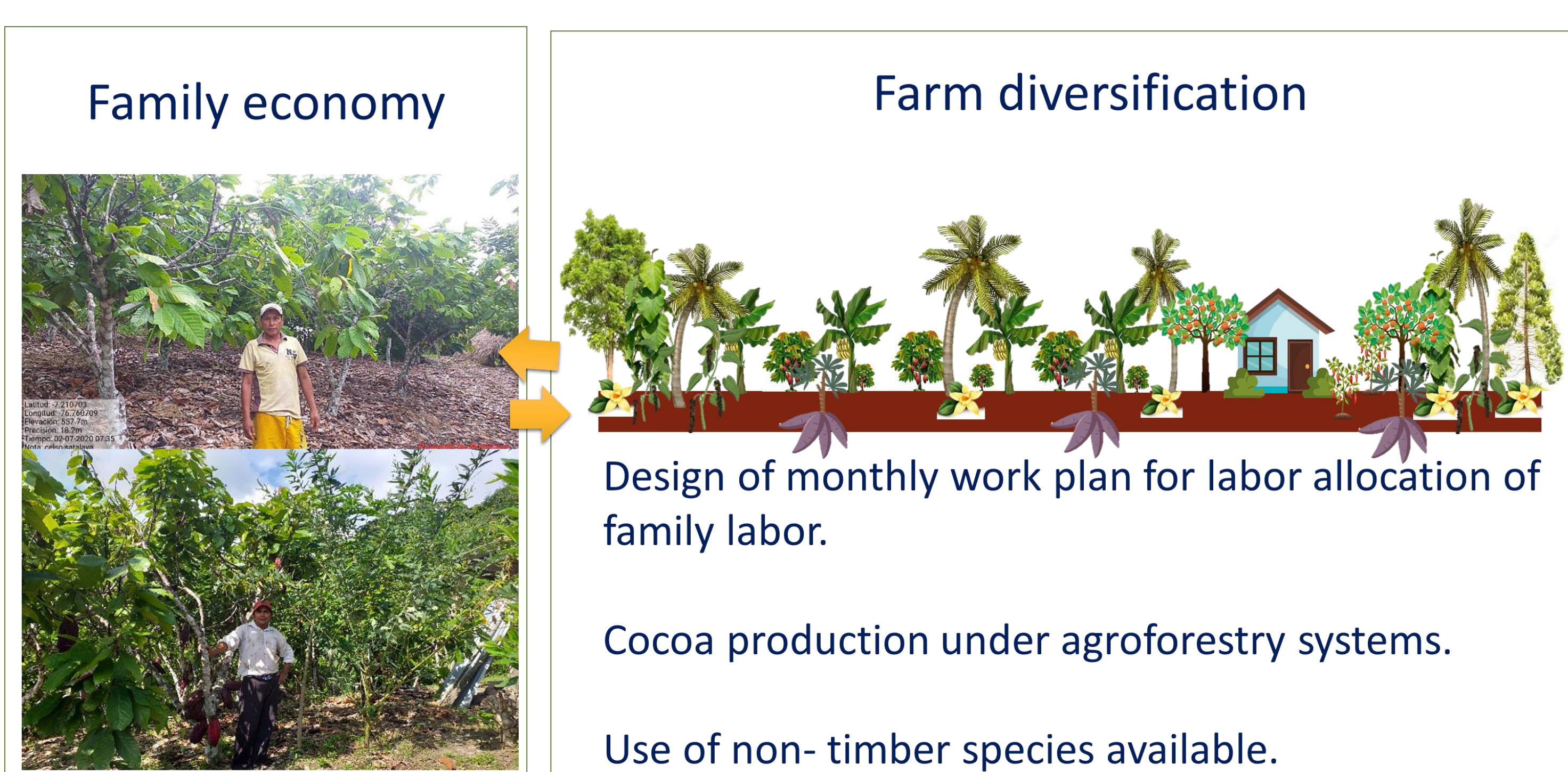


Figure 4. Potential farm diversification plan under a sustainable scheme. Adapted from: [2], [3]

## Conclusions

High dependence on cocoa cultivation and scarce farm diversification.

Low knowledge of the productive and economic potential of species other than cocoa available on their farms.

High impact on the production and commercialization of cocoa beans during the Covid-19 pandemic.

High motivation and commitment of small farmers to diversify their production from available non-timber forest species.

## Acknowledgements



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