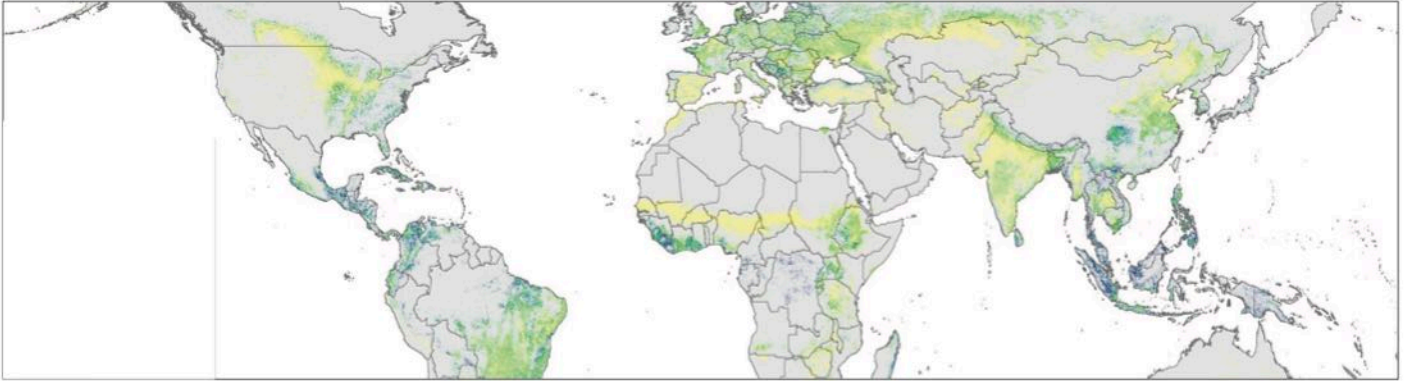




East & Central Asia project briefs

Trees on agricultural land: adaptation, mitigation, food security

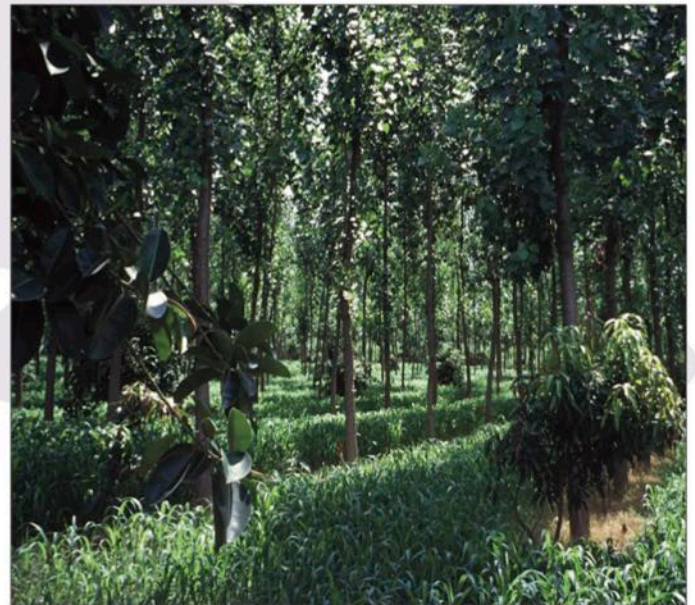


An improved understanding of the role and potential for tree cover on agricultural land provides the basis to identify and specifically target tree-based adaptation, mitigation, and resilience strategies, and identify effective adoption pathways.

Currently accounting for about 20% of global greenhouse gas emissions, agriculture, forestry and livestock are major contributors to climate change. And yet, to sustain a projected population growth to about 9 billion in 2050, food production will have to increase by at least 50%, especially in developing countries. Climate change will lead to higher temperatures, more frequent and more severe weather extremes, and altered precipitation patterns that will change runoff and water availability, and add additional pressure on agricultural systems.

Trees on farms help to adapt to climate change, by reducing vulnerability to climate impacts, and by making farming systems more resilient in general. Reducing vulnerability also means increasing smallholder farmers' capacity to adapt. At the same time, carbon sequestered by trees and stored in above-ground biomass and soil helps to reduce greenhouse gas concentrations in the atmosphere. Increasing tree cover within agricultural landscapes and take pressure off forests, reduce land clearing and increase biodiversity.

Working together with global and regional programmes, and national partners, we combine state-of-the-art remote sensing analysis, global geospatial datasets, advanced spatial analysis, hydrologic modelling, and local on-the-ground knowledge. This way, we improve understanding of tree cover dynamics and land-use change processes to develop a regionally-specific adaption and mitigation knowledge base. Combined with projected climate change impacts, this knowledge base provides the basis for a decision support system to better target climate-smart agroforestry interventions.



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东亚中亚区域办公室项目简介

发展农用林业： 应对气候变化，加强粮食安全



提高对农用林业的作用和潜力的认识，可以帮助我们制定以此为基础的应对、减缓气候变化和恢复策略，及识别有效的途径。



目前，20%的温室气体排放是由农业、林业和畜牧业造成的，它们是引起气候变化的主要原因。2050年世界人口预计将达到90亿，与此相对应的粮食产量，特别是发展中国家的粮食产量必须至少增长50%。气候变化将导致气温更高，极端天气更频繁、更严重，降水模式的变化将改变地表径流和水资源可用量，这将给农业系统增加更多的压力。

农用林业将通过降低对气候变化影响的脆弱性及提高农业系统的恢复能力来适应气候变化。降低脆弱性亦包括提高小农户对气候变化的适应能力。同时，树木、土壤和地上生物量储存的碳将降低大气中温室气体的浓度。耕地上林木的增加，将减小森林的压力，减缓土地退化并提高生物多样性。

与全球和地区项目以及国家伙伴一起合作，我们采用先进的遥感分析技术、全球地理空间数据集、先进的空间分析技术、水文模型和本地知识来提高对林木覆盖动态变化和土地利用变化过程的理解，建立针对具体区域适应和减缓气候变化的知识库。结合预测未来气候变化影响，为实现气候智能型农用林业干预的决策系统提供依据。



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