

Abstract

# Advancing Coffee Genetic Resource Conservation and Exchange: Global Perspectives and Strategies from the ICC 2024 Satellite Workshop <sup>†</sup>

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**Abstract:** Climate change poses significant threats to coffee supply chains, highlighting the crucial role of coffee genetic resources in enhancing resilience and improving the livelihoods of coffee farmers. Increasing climate change effects are intensifying pressure to develop new high-performance resilient varieties. Current cultivated coffee species include *Coffea arabica* and *C. canephora*, while uncultivated genetic resources include *C. stenophylla*, *C. racemosa*, and many others among the 130 known coffee species. To protect and recognize the property rights of countries and people hosting and conserving genetic resources, the international community has developed regulations embodied in the Plant Treaty and the Nagoya Protocol, among others. The majority of coffee genetic resources originate in Africa and are maintained in large field collections, particularly in Côte d'Ivoire, Ethiopia, and Madagascar. The 2023 International Coffee Convention (ICC) highlighted the need for community awareness in applying these international regulations. To foster a common understanding and establish precise rules for exchanging coffee genetic resources, the Crop Trust and the International Coffee Organization organized an invitation-only satellite workshop in Mannheim, Germany, on 16 October 2024, in connection with ICC 2024. International experts on the Nagoya Protocol and Plant Treaty and genebank experts were invited to participate. This presentation summarizes key outcomes from the workshop, covering topics such as (i) key requirements of the Convention on Biological Diversity (CBD), its Nagoya Protocol, and the Plant Treaty specifically applicable to the coffee sector; (ii) assessment of the coffee sector's readiness to implement these international regulations for the transparent use and exchange of coffee genetic resources; (iii) suggestions for mechanisms enabling transparent use and exchange of coffee genetic resources in compliance with international regulations; (iv) evaluation of strategies for generating benefits for communities hosting coffee genetic resources; (v) a practical, user-friendly checklist to ensure the correct handling of coffee genetic resources in line with international regulations; and (vi) a practical decision-making tree with examples to differentiate genetic resources falling under Nagoya/CBD and the Plant Treaty from others. The workshop's discussions and outcomes expanded on these topics, yielding several concrete initiatives and recommendations. Most importantly, the workshop identified critical gaps in existing coffee genetic resource collections and proposed a global safety duplication strategy. Participants conceptualized a global platform to facilitate the exchange and use of coffee genetic resources, including a centralized database and a system for tracking benefit-sharing obligations. A comprehensive list categorizing coffee varieties based on their status under the Nagoya Protocol may be initiated to clarify access and benefit-sharing requirements. The workshop concluded with a clear roadmap for advancing coffee genetic resource conservation and exchange.

**Keywords:** coffee genetic resources; climate resilience; Nagoya Protocol; Plant Treaty; benefit-sharing; genetic diversity; international regulations



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