

ICRAF teams up with the private sector to develop tree products & markets

Public private partnerships to revitalize cocoa production in West Africa and to domesticate a potential tree cash crop, *Allanblackia*

Humans have selected the best varieties of indigenous tree species like apple, orange, citrus and mango for centuries. Yet tropical forests around the globe harbour many more wild species that potentially could become profitable cash crops when domesticated to be grown on farm, says Ramni Jamnadass, head of ICRAF's research unit on Tree Diversity, Domestication and Delivery.



ICRAF scientist Ramni Jamnadass presenting at a conference in India (Photo: World Agroforestry Centre)

“Many promising tree species in Africa are still only growing in the wild and there are semi-domesticated varieties like cocoa, coffee and tea with room for improvement.” The potential for domestication is huge, she proclaims, providing opportunities for new fruits, new flavours, timber and medicinals that smallholders can grow on their farm.

Public private partnerships could play a key role in unlocking the commercial potential of these wild trees Jamnadass argues. “There are hundreds of species that farmers are interested in. Unless we get the private sector involved, it is going to be difficult for governments of developing countries to bear the cost of turning these species into cash crops. We cannot just focus on four or five annual crops like maize and other grains, and fruits such as oranges and apples, while there are nutrient - and flavour-rich fruits and nuts from trees that are adapted to local circumstances out there.” These are tree resources waiting to be tapped.

Revitalizing cocoa production in Côte d'Ivoire

Côte d'Ivoire produces one-third of the world's cocoa and around 6 million people in the country depend on the cash crop for their livelihoods. A recent analysis of the cocoa sector by American multinational Mars Inc., one of the world's largest producers of chocolate, revealed that cocoa production in Côte d'Ivoire, its main supplier, was at risk of declining. Reports show that more than 60 per cent of cocoa farms in the country are older than 15 years and are suffering



A grafted cocoa tree flowering after five months (Photo: ICRAF/Côte d'Ivoire)



A cocoa pod growing from a grafted tree after nine months (Photo: ICRAF/Côte d'Ivoire)

from decreasing yields. Moreover, there is no more forest to cut for new cocoa farms. Mars Inc. started the Vision for Change project to revitalize the cocoa sector in collaboration with the World Agroforestry Centre and national partners. The producers faced a stark choice, says ICRAF scientist Christophe Kouamé, coordinator of the Vision for Change project. “We had to either regenerate old farms or cocoa production in Côte d’Ivoire would cease.”

The Vision for Change project launched a range of activities to boost production in Soubré district, where 40 per cent of cocoa in the country is being grown. Key interventions included grafting improved high yielding clones on mature cocoa trees, improved soil and pest management and training local communities on more sustainable cocoa production techniques with agroforestry trees. Cocoa innovation platforms and rural entrepreneurship incubators will disseminate these improved cocoa production systems with the aim of reaching 150,000 farmers by 2020, thus breathing new life into the Ivorian cocoa sector.

Domesticating Allanblackia, from a wild tree to a cash crop in Africa

Wild Allanblackia trees growing in African forests were little known until Unilever, an Anglo-Dutch consumer goods multinational, discovered that its seeds contain a potentially valuable oil that can be used as an ingredient for food products and cosmetics. They launched the Novella project to look at ways of sustainably harvesting and supplying Allanblackia seeds, but soon found out that wild trees yielding about 200 tons a year could not meet the annual demand estimated at 30,000 tons. The World Agroforestry Centre was asked to assist with the domestication of the indigenous African tree so that smallholders could grow it on their farms to supply Unilever.

Domesticating Allanblackia was however more complicated than other tree species, says Daniel Ofori, a tree domestication specialist and coordinator of the Allanblackia project at ICRAF. “Allanblackia does not germinate and fruit easily. Initially it took more than seven months for it to start sprouting and in the wild the tree needs 10 to 12 years before it produces fruits.”

Using various seed multiplication and vegetative propagation techniques ICRAF scientists managed to reduce germination time by more than half to three months and the first generation of domesticated Allanblackia trees fruited after six years. Success rates in propagation continue to improve with close to 80 per cent rooting achieved with cuttings and 70 per cent with marcotting. Seedlings from 121 mother trees are now stored in gene banks and the scientists have developed protocols for vegetative propagation (cuttings, grafting and marcotting).

Several Allanblackia varieties are now being tested at field sites in Ghana, Nigeria and Tanzania, where 10,000 farmers have so far planted 200,000 Allanblackia trees. Scientists are jointly working with smallholders in selecting the wild trees with most desirable traits and reproducing them in seedlings. Domestication efforts will continue to develop ‘superior trees’ that will bear large fruits regularly within four to five years.

The final step is to integrate the cash crop into agroforestry farming systems, completing the domestication process of the wild Allanblackia tree by growing it profitably on farm.



Laboratory technicians working on Allanblackia seed germination at ICRAF's headquarters in Nairobi, Kenya (Photo: ICRAF/Lucy Mwaura)



A Tanzanian Allanblackia farmer holding a seedling (Photo: ICRAF/Charlie Pye-Smith)



Farmers sorting Allanblackia seeds in a collection centre (Photo: ICRAF/Charlie Pye-Smith)

