


Adapting an indigenous agroforestry model for export processing



 MDF and Ellawala team sharing methods of pest control within crops

Sri Lanka's dry zone plays a critical role in food security and export agriculture, as it contains some of the country's most fertile land and is home to the bulk of the nation's farming communities. However, the emerging challenge of shifting climate patterns – in the form of less water, changing rainfall and rising temperatures – pose an existential threat to farming and livelihoods.

Only **34%** of Sri Lanka's cultivated land area is irrigated. Most farmers depend on seasonal monsoon rains for their water requirement, and cultivation largely happens in open fields. Therefore, the consequences of climate extremes are more pronounced.

Smallholders collectively own the most land and contribute to a significant share of production in key value chains in Sri Lanka. In the dry zone, limited availability of arable land requires agribusinesses to look beyond large commercial farms and work with smallholders if they are to expand. Working with smallholders in the dry zone comes with the additional challenge of harsh climatic conditions. In this context, agribusinesses must look beyond traditional transactional models of farmer engagement.

Understanding incentives: Ellawala Horticulture and MDF

MDF partner Ellawala Horticulture (EH) is an enterprising agribusiness that recognised the opportunity in collaborating with dry zone farmers to build climate resilience. With 25 years of experience cultivating and exporting fruits from Sri Lanka's dry zone, in 2016 the company expanded beyond its plantation to

source produce from smallholders by promoting sustainable farming practices. The launch of its organic product line, 'Ella's Organic,' signalled its commitment to environmental stewardship. Significant demand for the organic line incentivised EH to invest further in developing a sustainably sourced organic product line.

At this critical juncture, MDF stepped in to partner with EH to understand the viability of a sustainable sourcing model for organically grown fruits, vegetables and spices. The model incorporates elements of an indigenous agroforestry system that exists in the Central Highlands of Sri Lanka.

Collaborating to build climate resilience

Galkiriyagama is a small village close to the Ellawala processing facility and home to over 400 farming families. These are smallholders: each family owns an average 2 acres of land on which they must grow staples like rice and an additional half an acre that includes the family home. The women of the households would often use the home garden plots to grow fruits and vegetables on an ad hoc basis for household consumption and sale. Leftover fertiliser and pesticides purchased for paddy and inter-seasonal crops would often be used in the home gardens.

Identifying the potential of the nascent home gardening practice, MDF worked

with EH to design a commercial variation of an indigenous agroforestry model (the Kandyan Home Gardening System) prevalent in Sri Lanka's central wet zone. Building on experience from previous interventions around organic backyard farming models, the MDF team provided comprehensive advice on adapting the model to a dry zone smallholder farming context.

With MDF support, EH launched a trial of this model in Galkiriyagama, introducing climate-smart agriculture practices to promote a sustainable farming system. In phases, EH provided a mix of short-, medium- and long-term crops to the farmers. The crops were spices, vegetables and fruits EH chose

as they could be grown in the region under challenging climatic conditions.

The mix of crops were selected and issued in phases so that farmers could continue to earn a regular income, while gradually adopting new, sustainable organic practices. EH would purchase select crops for value addition and sale in premium organic markets, both domestic and international. EH designed a comprehensive training program for farmers, covering organic practices ranging from soil preparation and pest management to upcycling waste. With MDF support, the partner also provided a sprinkler system to reduce the workload of women and improve water use efficiency.



The Kandyan Home Garden is a centuries-old agricultural system practised by communities living in Kandy, Kegalle and Matale – Sri Lanka's Central Highlands. It is a sustainable agricultural system that weaves together food crops, medicinal plants, fruit trees and timber species in a small-scale, agroforestry-based landscape. As with many traditional agricultural systems, the Kandyan Home Garden is evidence of the value and relevance of indigenous knowledge.



Introducing sprinklers to enhance irrigation systems in the dry zone

Intervention activities



EH promoted the model among the community, highlighting the opportunity to grow toxin-free food for their families. This resonated strongly with the women farmers and facilitated greater adoption.

Today, the farming model introduced by EH has expanded to 135 households. Farming families have reduced chemical fertiliser use by switching to organic farming, contributing to emission reductions. Farmers practise efficient water management, and organic waste is added back into soil, promoting improved soil nutrients.

Our aim has been to work with farmer clusters who practised organic, pesticide-free backyard farming. The core purpose of such farming is to ensure sufficient produce for household needs whilst also earning a steady income by selling part of the produce. With the support of MDF, we've furnished farmers with equipment and technical guidance to enhance their yield and cultivate diverse vegetation to high standards. Additionally, we've advocated them to use adaptive techniques to mitigate the effects of unpredictable climate patterns.

Weerasooriya Bandara,
Manager of Ellawala Horticulture

Ellawala's vision: Beyond Galkiriyagama

Galkiriyagama stands as a testament to the success of Ellawala's climate-adapted model. Positive signals from buyers on the progress of EH on their organic cluster has resulted in EH adding 35 new households under the model without financial assistance from MDF. Farmers have realised the benefits of commercial farming and

technical assistance facilitated through the private sector. While farmers report a reduction in household expenditure and an increase in revenue, the path to financial independence lies in scale. This is the lesson learnt by EH as well. To get a return on investment, select short-term crops will need to be grown systematically, at scale, while the

medium- to long-term crops mature. Changing the behaviour of subsistence farmers is effort-intensive and requires regular supervision. Empowering high-performing farmers to take on more responsibilities and creating incentives can build sustainability into the model.