

Credit: UN Women

Moringa has long been a staple for both people and livestock across Southeast Asia. However in recent years it has found its way to the breakfast smoothies of America's Millennials. In moringa's largest reincarnation, this popular food supplement can bring important economic benefits to smallholder farmers across the globe.

High in vitamins A and C, protein, zinc, iron, potassium, antioxidants, amino acids and phytochemicals, moringa has been called "the super green more nutritious than kale". According to Carrie Waterman, a chemist at University of California Davis, "if there were a top ten list of plants that are going to help feed the world over the next hundred years, I would say moringa should be on that list".

Moinga trees (*moringa oliefera*) – affectionately known as "tree of life" – yield many edible parts. Legume-like fruits are served as vegetables or used in curry.

The root, with a flavor similar to horseradish, is used as a condiment. And the leaves can be served fresh, but more commonly are dried, powered and added to everything from soups to smoothies, dressings to desserts. The trees grow extremely quickly – up to even three meters tall within the first year. It's a hardy tree that thrives on degraded land, but looks scraggly, skinny, sparse and scrawny– a "down-to-earth, unpretentious, and unsophisticated member of the tree world".



Moringa trees intercropped at Pomeroon farm.

Until recently, most moringa was grown in South East Asia and West Africa, predominately by smallholder farmers. The increasing demand from nutraceutical and consumer companies has expanded supply options, with Brazil, Colombia, Paraguay, Trinidad and St. Lucia all increasing production. Even North America, where competition from higher-value crops is strong, is growing moringa: farmers are planting out swathes of the Coachella Valley and even Hawaii.

Moringa can be used as an interim crop: growing quickly, it soon provides shade to other crops that will in due course replace moringa as the primary crop. This is useful for farmers looking to optimize their land and use natural shade solutions. Moringa also thrives as an intercrop, growing in harmony with other crops and using space that would be otherwise left empty.

On our coconut farm in Guyana, intercropping is a core agronomic principle: it helps replenish soil nutrients, controls unwanted weeds, minimizes soil erosion, and increases both soil fertility and oxygen content. Moreover, it has an important role to play in farm economics; by growing valuable exports like moringa we generate additional revenue sources and diversify risk away from any single commodity.



Coconut seedling nursery at Pomeroon farm.

This is a model that can be replicated across the world – particularly in places like the Caribbean and West Africa where food security concerns are still top of mind for people and policymakers alike.

But agriculture is only one part of the bigger picture. For countries and communities to fully benefit from this crop, they need to move from being pure "raw material producers" to "integrated finished product suppliers". This means investment in domestic processing facilities and the food supply-chain.

Guaranteed offtake agreements – at a fair market price – will provide the security and incentive for smallholder farmers to grow moringa alongside larger producers. And by capturing more of the value-chain, communities increase local revenues and improve skills training.



In a country like Guyana – the Caribbean's fastest growing economy – this couldn't come at a better time. Guyana is at a critical stage of development. Since ExxonMobil discovered oil in 2015, the nation has benefitted from billions of dollars of foreign direct investment – though almost all to offshore oil production units. Meanwhile, Guyana has plentiful land, fertile soils, and rich agricultural traditions – all the right ingredients to become the breadbasket for the Caribbean.

Agriculture and Food Processing can – and must – be part of Guyana's future. Moringa, or "saijan" as it is known in Guyana, has long been a popular food ingredient used mostly in curries. But now it's time to expand ambitions: Guyanese-grown and processed moringa can be competitive in the international market – and prove the model for thousands of other small-scale producers across the world.

## **Duncan Turnbull**

Duncan Turnbull was educated at the University of Oxford and Stanford Graduate School of Business, and works in the intersection of agriculture and renewable energy. He has invested in and operated over 15,000ha of agriculture projects in three continents.

