

The business case for sustainable espresso; what is the future for coffee production in Viet Nam?

George Scott, Private Sector Specialist, Asia Pacific, discusses the issues faced by the coffee sector in Viet Nam and how the transition to sustainable practices can provide some of the solutions required

By [George Scott](#) April 27, 2020

Viet Nam is the world's second largest exporter of coffee after Brazil and the largest exporter of Robusta coffee in Asia. Coffee is the second most important agricultural commodity in the Southeast Asian country, after rice, contributing around USD 3 billion to the Vietnamese economy, or roughly two to four percent of GDP, the vast majority of which is grown in Central Highlands - the main agricultural hub of the country. It also accounts for around 40 percent of global Robusta production and [nearly 60 percent of global Robusta exports](#).

In recent years, coffee has demonstrated its potential to generate high revenues, rendering the crop very attractive for smallholder cultivation. As a result, since the 1980s, coffee production in Vietnam has increased significantly from 19,400 tonnes/year to [1.76 million tonnes in 2016](#). This can be attributed to both increasing the land area under cultivation and the use of intensive farming practices. For reference, Vietnamese farmers typically reach yields of more than 3.5 tonnes per hectare, compared to 0.8 tonnes per hectare in Thailand, 0.5 tonnes per hectare in Indonesia, and only 0.4 tonnes per hectare in [Lao PDR](#).

While this growth has made a significant contribution to the Vietnamese economy, it has not come without cost; maintaining high levels of productivity has generated a series of environmental challenges, including deforestation and ecosystem degradation, which may cast doubt over the future of Robusta production in Viet Nam. In addition, climate change is expected to exacerbate these issues by significantly reducing the land area suitable for coffee cultivation, as well as reducing the water available for irrigation needs.

Further compounding these issues is the fluctuation in the global market price of coffee that are generated by the cyclic behaviour typical of agricultural commodity markets. When prices are high, smallholders are attracted to cultivation, increasing market production. Since there is a lag in the response, the market tends to overcorrect, leading to over-supply, which subsequently drives down prices.

The impact of the resulting volatility is acutely felt by growers in the Central Highlands due to the prevalence of mono-cropping cultivation in the region. Volatility is further exacerbated by relatively small domestic consumption and exposure to an international market that is clustered around the production from a small group of countries. Vietnam, Brazil, and Indonesia together account for nearly three-quarters of global Robusta production.

In the last few years, the combined impact of a coffee rejuvenation programme across the Central Highlands and favourable growing conditions from the other coffee producing countries have led to fears that continued growth in supply could suppress the coffee price to a point that farmers would [no longer be able to ensure a sufficient standard of living](#), driving coffee producers away from coffee production.

This is important to note because, firstly, it directly impacts the gross margin of producers, affecting their livelihoods. This, in turn, can incentivise smallholders to encroach into forests, either to take advantage of the higher prices, or for poorer farmers with a higher time preference, to reinforce their livelihoods. Secondly, when the price is low, there is limited economic rationale for actors in the supply chain to implement sustainability projects. It is therefore beneficial that any approach minimize the correlation between the coffee prices and the sustainability intervention, thereby enabling the intervention to be implemented at any point in the cycle, regardless of the coffee price.

Scaling up solutions

Solutions however do exist that can help improve both environmental resilience and economic stability for smallholder farmers, and in doing so help to stabilise production in the region. Intercropping, production models that use coffee interspersed with shade or fruit trees, have the potential to generate multiple benefits to both the environment and smallholder livelihoods:

Enhance functional biodiversity and improve soil fertility

shade tree species can contribute to improving, preserving or restoring soil fertility and buffering seasonal variability of soil biological activity in intensively managed coffee farms¹. Additionally, shade trees in agroforestry have been found to enhance functional biodiversity, carbon sequestration, drought resistance as well as weed and biological pest control

Improved soil health leading to better soil water storage capacity

Decades of excessive application of agrichemicals has led to a reduction in soil quality in coffee plantations in the Central Highlands, leading to issues with disease and nematoid infestation². Increasing soil biodiversity will improve soil structure and moisture retention thus reducing the requirement for irrigation

Turn farms from carbon source to carbon sink

A recent study by IDH (the Sustainable Trade Initiative) showed that while highly diversified farmers growing non-coffee trees on their farm had higher carbon dioxide

¹ Rigal, Clement. (2018). Impact of Shade Trees on Soil Fertility and Coffee Production in Coffee-Agroforestry Systems in Southern Yunnan Province.

² In person meeting with Dr. Philippe Vaast and Dr. Phillippe Girard, 10th May 2018.

equivalent (CO₂e) emissions, as a result of short-term increases in agricultural chemical application, transport, etc., the higher rate of carbon dioxide (CO₂) sequestration from accumulated biomass, combined with improved fertilizer use could reduce the climate impact of farm, turning them from net sources to net sinks

Improved livelihood, de-coupled from fluctuations in the price of coffee

Finally, productive fruit and shade trees have the potential to provide an additional income for smallholders from the sale of timber, firewood or fruits, this would diversify revenue for the smallholder and potentially reduce the impact of a reduction in coffee yield or a reduction the coffee price on smallholder livelihoods.

The Climate Finance Unit with the support of the government of Luxembourg, carried out an analysis of the business case of shifting from intensive, smallholder coffee production to intercropping models.

Financing sustainability improvements

The analysis found that for smallholders, converting to intercropping and other climate-resilient models can provide significant economic benefits when compared to monocropping models. The diversified revenue also provides a buffer to volatility in the global Robusta market. Volatility which only stands to increase as the impacts of climate change intensify.

However, shifting to alternative production models requires a substantial capital investment at the onset, which is followed by a period of limited revenue between replantation and first production. This makes the conversion financially challenging for poorer households, which lack access to additional financing.

Banks in Vietnam commonly face the shortage of mid and long-term capital sources for mid and long-term credit. One critical challenge is therefore finding sufficient sources of low-cost capital that can be used to provide loans to smallholders of sufficient tenor to finance their conversion to sustainable cultivation.

In order to fill these gaps in financial capacity, the Vietnamese government calls on the international community and the private sector to provide support. This requires investigating new financing models that can incentivize investment in novel modes of coffee production. To this end, UN Environment, as part of a consortium of partner organisations including UNDP, CIAT, IDH and EFI, is working to establish a zero-deforestation jurisdiction for commodity cultivation in four districts of the Central Highlands. This includes fostering partnerships with agricultural solution providers, agribusinesses, as well as public and private financial actors to develop financial systems that can incentivize and channel the investment capital required for the conversion to more sustainable and resilient agricultural production models in Vietnam.