



Vietnam – Dung K'No Smallholders Lam Dong Province

Mill:	Duc Trong Wet Mill
Varietal:	Catimor
Processing:	Semi washed and dried on patios
Altitude:	1500 meters above sea level
Owners:	Various smallholder farmers
Town:	Dung K'No Commune
Region:	Lam Dong Province, Central Highlands
Country:	Vietnam
Total size of farms:	> 2 hectares on average; 102 hectares total
Harvest months:	November - January



Additional Information:

These special coffees come from smallholder Arabica producers living within the Central Highlands of Vietnam, known as the K'No people. Characterised by their local language, the K'No people are one of many ethnic minorities in Vietnam.

Coffee was introduced to Vietnam in the 1800s and was grown on many French-owned colonial plantations. Nonetheless, due to a variety of political and economic factors (including the civil/cold war and subsequent Communist prohibitions on private land ownership), Vietnam was slow to achieve any real relevance as a coffee-producing nation. As of 1990, Vietnam was responsible for a tiny 1% of world coffee trade.

This had all changed by 1990, by which point Vietnam had reached its current place as the second-highest producing coffee country in the world (after Brazil) – a result of heavy investment in coffee production made possible by the liberalisation of land ownership under *Đoi moi* reforms in the mid-1980s and World Bank/IMF policy recommendations, incentivising farmers to produce coffee for export. The country's story of rapid growth, however, left little room for high-quality coffee. Some 95-97% of the country's production is Robusta, and although Arabica coffee production has been increasing in recent years due to the expansion in the growing area and yield improvement, it still accounts for very little of the overall coffee production in Vietnam.

Coffee production in Vietnam is concentrated in the Central Highlands (80%), and the small portion of Arabica grown in the country hails almost entirely from the Lam Dong province, where the K'No people are located. Dung K'No, home to the K'No people, is a commune of around 500 households, for whom the main source of income is agriculture. Some residents may also have a secondary job e.g. working for the public sector, but will likely still produce some crops to provide food and an extra income. For many families, coffee farming is the only source of cash earnings. Other crops may include rice, maize vegetables and fruit trees such as bananas and peaches; however, these are mainly reserved for personal consumption. Similarly, small scale farming of pigs, chicken and cattle are kept to provide sustenance.

Producers in this region started growing coffee around 20 years ago, farming on very small plots (less than 2 hectares) and learning 'on their feet' year after year. Few, if any, had received any formal training, until in 2017, our partner in the region, who represents and provides support for several hundred small-scale Arabica producers throughout the Lam Dong province, began working with the producers of Dung K'No.



Dung K'No was selected by our partner as the region had good potential for quality production. The engagement started with meetings, interviews & training to better understand producers concerns and needs. From these discussions, a successful purchasing model was developed. In contrast to how much purchasing in the region is conducted whereby collectors go from village to village, our partner based their model on building 'farmer collaborative groups'; buying coffee cherry directly from the villagers. This meant that staff members were on the ground daily during the harvest season to gather freshly collected cherries. Each lot submitted was checked individually with farmers (providing lots of feedback), and cash was paid directly upon delivery. This method has ensured a large impact on quality, in turn improving the income and livelihoods of farmers.

As well as purchasing, our partner has begun to help combat several challenges in reducing risk and increasing productivity for the Dung K'No people. New pests and diseases occur easily and determining the exact cause of these issues is often made difficult as there are likely several causing factors, e.g. under-fertilizing, the age of plantations etc.

Under-fed and old coffee trees have less resistance to opportunist diseases and insects, therefore farmers have often faced dramatic production losses. The lack of knowledge or money for inputs only exacerbates these issues, as very few farmers have access to herbicides or pesticides and have not been given access to organic methodologies. To combat these issues, regular training on topics such as safety and good agricultural practices are provided. This helps to raise awareness of coffee farming's impact and improvement.

As most trees are quite old and resources are historically very constrained, much of the training provided is on the correct application of fertilisers. Most farms are under fertilised, and in the few cases where applications are made, there is a frequent imbalance of nutrients. This has meant fertilisation is one of the main challenges in the region. Working with the same farmers has meant our partner can provide access to fertilisers and advice on distribution and application, ensuring optimisation of production costs and good agricultural practices. This has led to a fertilizer delivery service model to be established, aiming to incentivise the use of appropriate products and doses. This is complemented by the providing of equipment for spraying when necessary.

To combat ageing plantations, education regarding rejuvenating trees progressively by using shoots from old healthy trees for grafting is being taught. This method means that coffee trees are stumped at 20 to 25 cm using an angled cut (to avoid damage to the root). Several months after pruning, farmers in the program select the healthiest of the emerging shoots, pruning the remainder away from the plant. After this step, a strong Arabica shoot is selected to graft onto the established root (see 'Top graft' & 'Insertion of graft' below): farmers select only shoots/scion from their strongest, healthiest trees. The graft is then secured. This form of renovation by grafting onto strong, established rootstock helps the plants to achieve resistance to soil borne diseases and increases tolerances to stresses. It also can increase yields per plant.



Shoots from cutting point



Receiving seedling w/ top cleft



Top graft



Insertion of graft



Securing graft

Figure 1: Renovation through pruning and grafting



The main variety of Arabica grown in the region is Catimor, although wild single yellow bourbon and mocha trees are also likely found in producer's lots. Catimor was originally chosen for its adaptation to local climate & altitude, as well as its resistance to coffee leaf rust and coffee berry diseases. More recently, however, the Vietnamese government has started to recommend locally selected alternatives to Catimor, unknown to the global market. This could mean exciting new coffee varieties for the specialty coffee market in the future.

Farmers in the region are accustomed to pulping and sun-drying their own parchment. Drawbacks to this system, in addition to the labour required, are that the infrastructure is highly variable and often quite rustic. Furthermore, the weather in the region is highly unpredictable due to the mountains' influence, and showers can rapidly deteriorate the drying product, resulting in mouldy and fermented coffee. In order to preserve the improved quality resulting from careful cultivation and harvesting, this coffee is centrally processed at our partner's wet mill, where processing is managed with a scrupulous eye to detail and quality control.

Once the cherry has been hand-picked, it is taken to the nearest individual collection point. Rather than relying on assigned collectors, our partner has established collection points for cherry, which helps ensure a higher quality end product. Here, each bag undergoes stringent quality control, separating out; % ripe cherries, % damaged cherries, exclusion of old lots and any of unfit quality. After individual sacks have been checked for quality, Lots are defined by day of collection. Within those lots, the quantity & quality of cherry is recorded for each producer. This means that at the end of the harvest, our partner knows the exact volume and average quality sold by each farmer and is able to pay them accordingly. Farmers that deliver the higher quality cherry will be paid a premium for their hard work.

At the end of each day, the harvest is transported by truck from Dung K'No to Duc Trong wet mill (~90 km away). Cherries are unloaded into a water tank and are then delivered to a flotation tank to eliminate 'floaters' (empty cherries or insect-eaten cherries). There is no fermentation of coffee cherry at Duc Trong wet mill, as beans are immediately taken to the mill's Penagos processing line; an eco-friendly de-pulper known for its reduced water consumption. After the coffee is eco pulped, it is run through a demucilage, before being delivered to raised beds next to the mill for sun-drying. Depending on the weather, drying can last from 4 to 10 days. In some instances of unfavourable drying conditions, partially dried coffee will be moved to their mechanical dryer to finish the process. After processing, all coffee is cupped according to strict protocols, and lots are separated according to cup profiles with only the best profiles making it into the program's speciality lots.

In addition to quality improvements, our partners provide social benefits. A nursery school for local children has been built, so that parents have time to adequately manage their coffee farms. The program has also developed an educational course designed to keep young people in coffee, as well as gender awareness initiatives which improve women's capacity to contribute to farming and business decisions within their families.

Environmental stewardship is an increasing concern in the region. Dung K'No commune is close to Lang Biang biosphere, where conservation strategy is being defined by a governmental board to plan for monitoring, controlling and valuing the region. Forest boundaries are measured by sky-monitoring, and bordering zones are defined for close surveillance or action. Forest rangers are assigned to different zones and more global policies are discussed at the provincial level. To complement these activities, our partner's sustainable management team (SMS) leads sustainable certification training and verifications (CAFÉ Practice, 4C, RFA), as well as more general training on Good Agricultural Practices for farmers to improve cost-effectiveness (inputs, shade trees), coffee quality and limit environmental impact. For a future sustainable coffee production, SMS is working on model farms to promote agroforestry and



optimized/safe use of NPK compounds. Training in agrochemical use is also a priority in a region where those products are not well-known. Awareness regarding deforestation will be in line with the local conservation strategy, as well.