

# Sustainable value chains

## CASE STUDY SERIES



### 01: TEA SWAPS

Piloting tea swaps as a market mechanism to smooth price volatility in the Kenyan tea market

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#### SECTOR

Tea

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#### LOCATION

Kenya

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#### KEY ISSUES TARGETED

Price volatility, Smallholder financial risk

TeaSwap



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FUTURE

# INTRODUCTION

Value chains of key agricultural commodities, such as tea, need to meet human needs within planetary limits. In a time of accelerating climate crisis, increasing resilience is critical. Simultaneously, smallholders and other producers will need confidence that decent livelihoods can be achieved in farming if we are to secure supply into the future.

The issues underpinning many of the sustainability problems in today's value chains can only be truly addressed through a move toward more equitable, and ultimately “regenerative”, rather than just “less extractive” ways of doing business. Such a shift will also require a different model of trading which:



ensures a fairer distribution of monetary value and of risk along the value chain



repairs and protects the ecosystems that agriculture depends on



strengthens agricultural communities so that farming remains attractive to younger generations.

Given the scale of the transformation required, and the urgency of making progress, it is critical that we share lessons so that we are not repeating the same mistakes. This case study is part of the [Sustainable value chains – case study series](#) which aims to promote **cross-commodity learning** from testing alternative business models in tea, coffee, cotton and beyond.

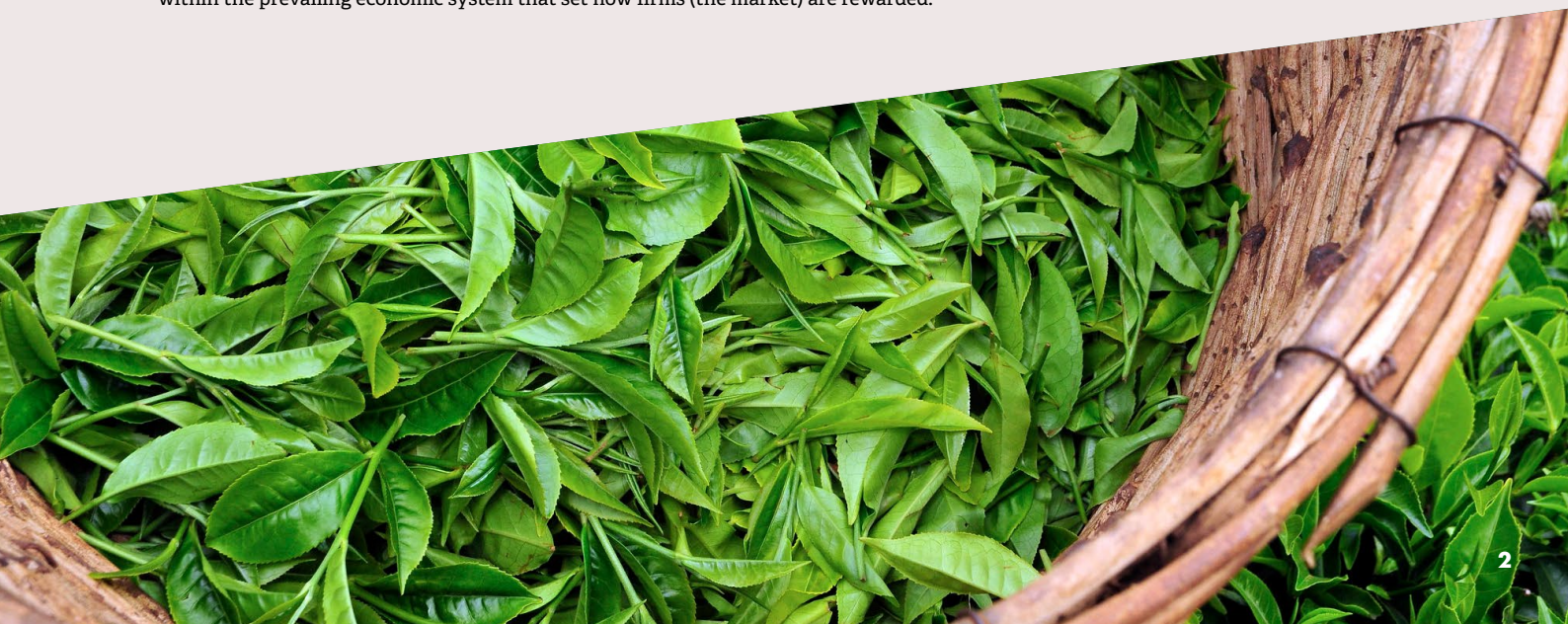
An introduction to this case study series can be found here: a [Case for Action](#) for piloting and scaling sustainable business models that increase resilience in an increasingly disrupted world.

Please use these case studies to inform work you are planning, or already undertaking, and to test alternative ways of rewarding actors across a supply chain. The lessons shared have the potential to inform projects addressing similar challenges, and help accelerate the change that is needed.

**This case study shares lessons from the Kenya Tea Swaps project; a partnership between Tea 2030, which was convened by [Forum for the Future](#), and TeaSwap Ltd. and funded with UKAid from the UK government through the Business Innovation Facility (BIF). The project aimed to pilot tea swaps as a market mechanism<sup>1</sup> to smooth price volatility in the Kenya tea market and, ultimately, to reduce financial risk for smallholder farmers.**

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<sup>1</sup> We use the term “market mechanisms” to refer to the incentives and structures within the prevailing economic system that set how firms (the market) are rewarded.



## THE CHALLENGE

Tea is grown in around 60 countries around the world, with China, India, Sri Lanka and Kenya together accounting for 75% of global production. The tea industry faces a number of challenges: insecure and dangerous conditions for workers, young people leaving farming in search of better wages and lifestyles in cities, climate change, competition for decreasing resources such as land and water, and pressure to maintain low prices are a few. Without fundamental change, these challenges are likely to deepen, rather than lessen, over time.

In 2013, Forum for the Future convened the [Tea 2030 initiative](#): a global collaborative which brought leading organisations together to help create a sustainable future for tea. Tea 2030 tested the hypothesis that tea has the potential to be a [hero crop](#); a commodity with a truly sustainable value chain that delivers social, environmental and economic benefits for all participants. As part of its early work, Tea 2030 researched and developed a set of different possible future scenarios as a way to explore what the future might look like for the tea industry. These scenarios highlighted that a major barrier to a sustainable and equitable value chain for tea is the incumbent business model, and that price volatility is likely to be an increasing feature of the tea market and a key issue to tackle.

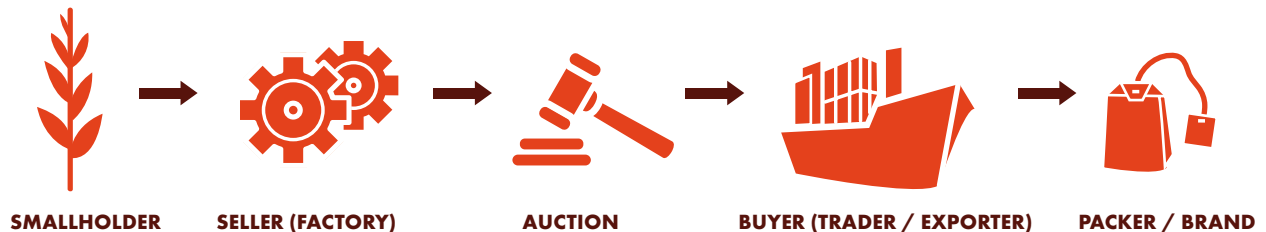
Members of the Tea 2030 initiative established a 'market mechanisms working group' to explore ways to address the management of risk resulting from price volatility within tea value chains. The decision was made to focus on the Kenya tea market due to the high number of smallholder farmers and openness of different actors in the value chain to working with new models.



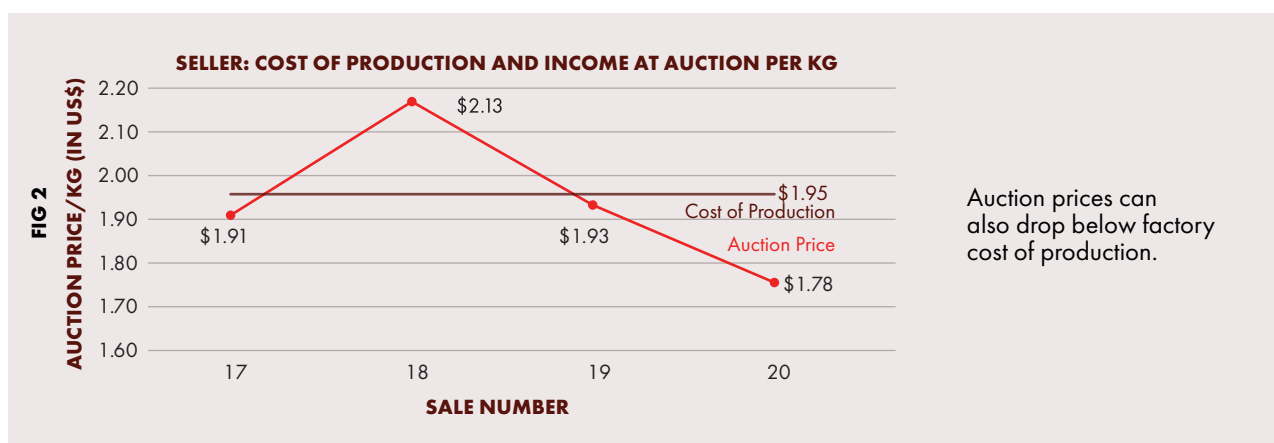
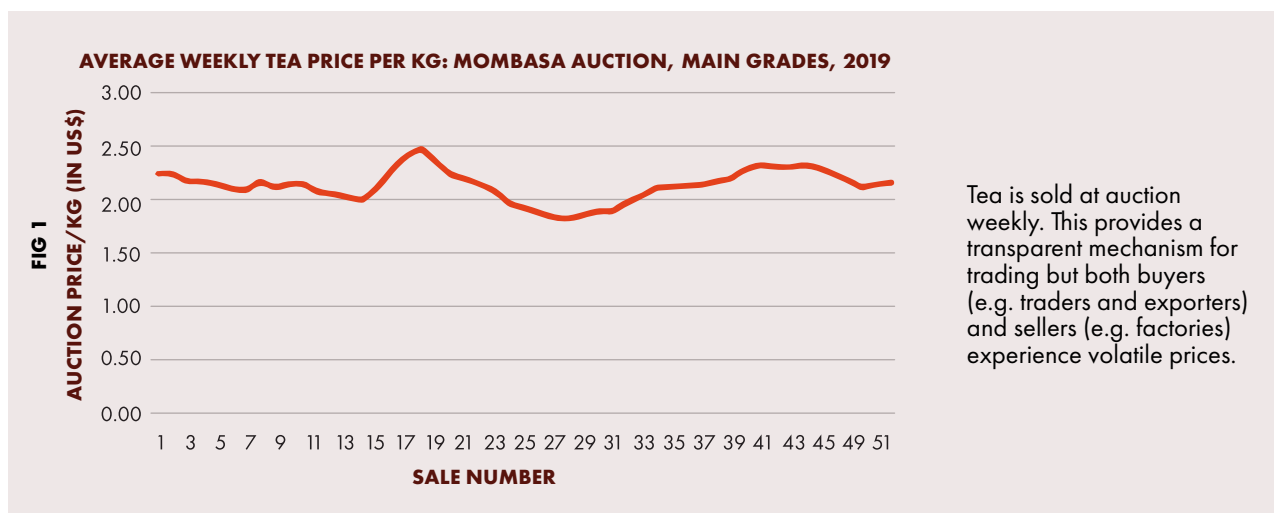
# THE KENYA TEA SWAPS PROJECT

## PROJECT CONTEXT

Kenya is the second largest exporter of tea, close behind China. One million smallholders produce 75% of the tea in East Africa and most of the tea grown in East Africa is traded through Kenya's Mombasa Auction House.



Smallholder farmers supply their unprocessed green leaf to factories who manufacture it into processed tea to sell in the auction. In many regions it is the factory which determines the price that the farmer earns for their leaf, based on the price received at auction.



Most factory costs are fixed. The main area where many factories look for savings when prices fall is the money they pay to farmers for green leaf.

As a result, smallholder farmers bear most of the impact of falling prices. This not only causes farmer incomes to fall, but the associated income uncertainty makes it difficult and costly for them to access credit. This reduces farmers' ability to invest in their farms and increases the risk of rural families falling into poverty.

## PROJECT BACKGROUND AND AIMS

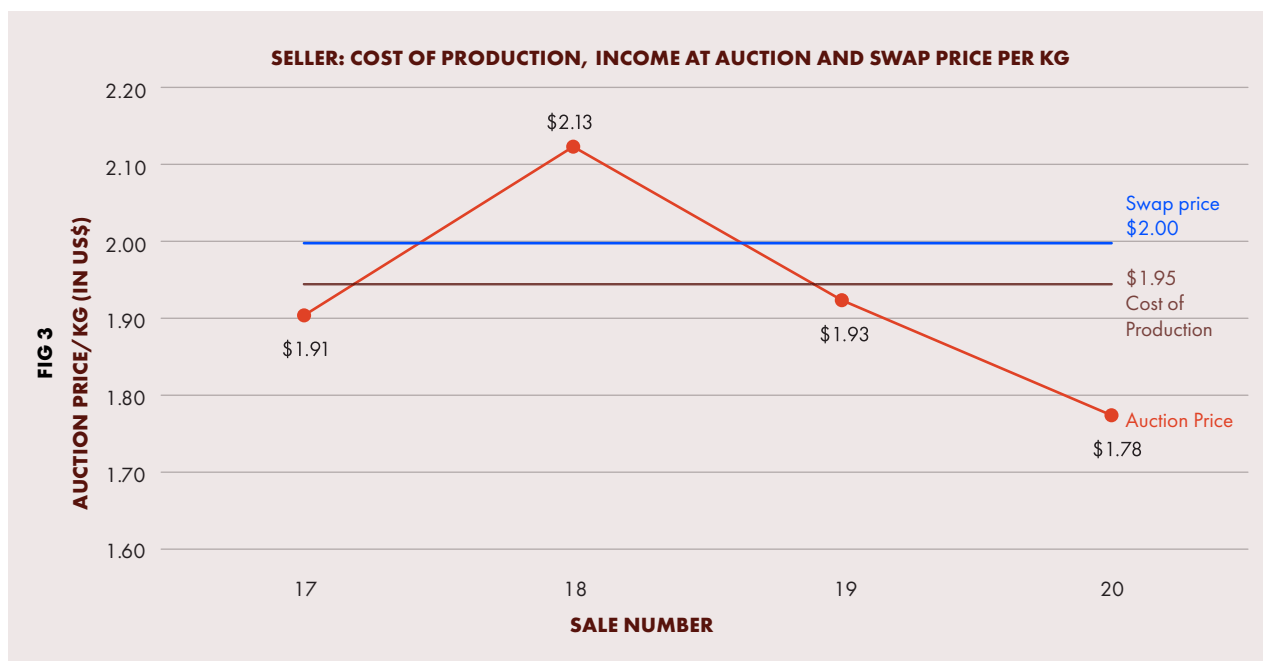
The Kenya Tea Swaps project ran from November 2018 to November 2019 and was led by Forum for the Future's Tea 2030 initiative, in partnership with TeaSwap Ltd. and funded with UKAid from the UK government through the Business Innovation Facility (BIF).

The project was designed to sensitise the market and pilot the market mechanism tea swaps alongside the Mombasa auction. The direct objective of the project was to reduce price volatility and the cost of doing business for auction buyers and sellers. It was hoped that, if there was significant uptake of swaps in the market, sellers (e.g. factories) would be able to protect themselves from falling prices and to maintain earnings above the cost of production; enabling them to pay higher up-front prices to their smallholder suppliers.

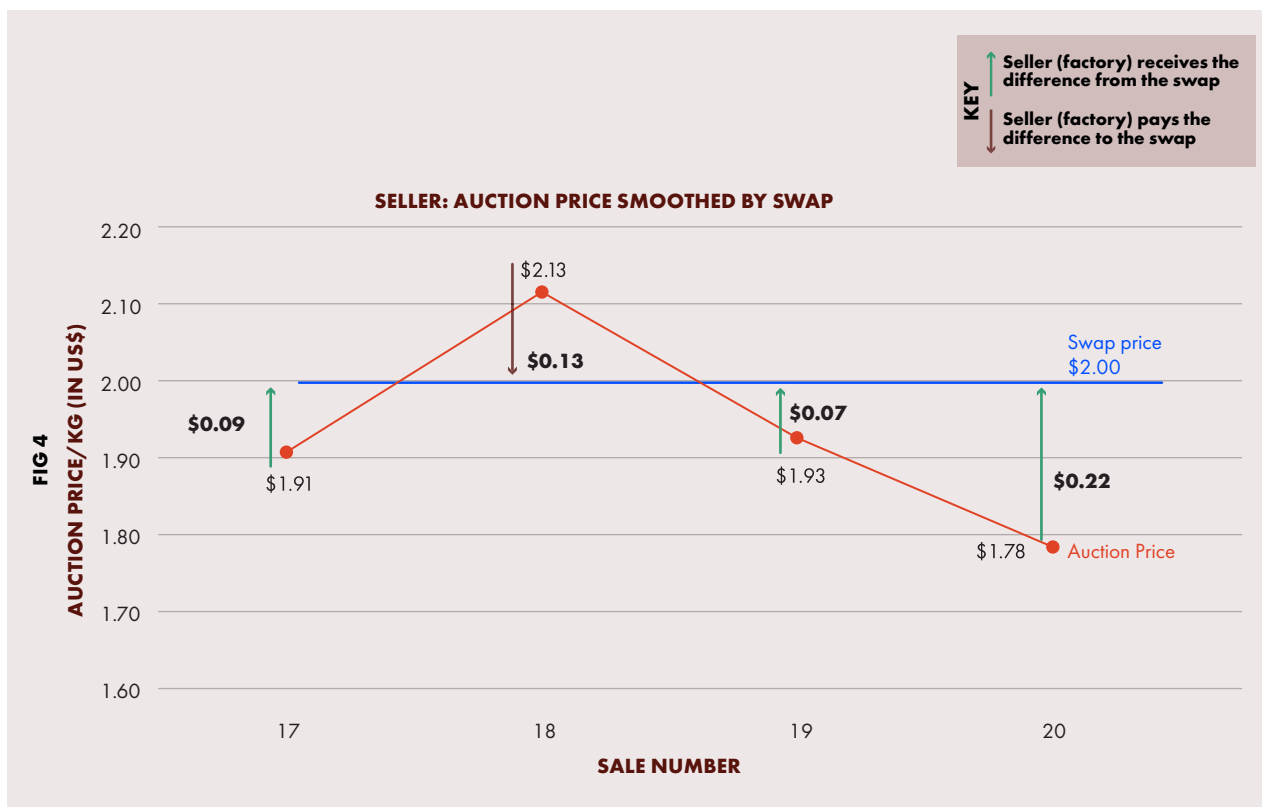
The project was scoped to focus on a single issue within the tea industry; price volatility. It was recognised that there are a number of other challenges, such as climate change impacts, being faced outside the scope of the project. Timelines also meant that the project was able to set the market on a path to achieving impact for smallholders but that this was unlikely to be measurable within the project period.

## WHAT ARE TEA SWAPS, AND HOW DO THEY ADDRESS THE VALUE CHAIN PROBLEM?

Swaps are a financial product that allows buyers and sellers to agree a fixed price for a fixed period of time. A swap does not guarantee a 'better' price for a buyer or a seller but does protect against the auction's significant fluctuations in price and can give sellers the certainty of knowing their sale price will exceed their cost of production.



**Figure 3** shows an example 4-week period for the price of tea sold at auction. A swap price is agreed by both a buyer and a seller, as well as the total volume of tea that the swap applies to. As the price of the tea fluctuates each week at auction, the buyer and the seller of the tea swap receive or pay the difference between the auction price and the agreed fixed price of the swap, multiplied by the volume. The swap broker redistributes this money between the buyer and seller to offset these fluctuations and maintain the fixed swap price (and is paid via a small commission). This creates greater price certainty for buyers, sellers, and ultimately the smallholders that supply them.



In the example in **Figure 4**, for 10,000kg of tea:

- A buyer and seller have entered into a 4-week swap agreement for \$2.00/kg for 10,000kg of tea.
- The price the seller received at auction in the first week was \$1.91/kg, so s/he will have sold their tea for  $\$1.91 \times 10,000 = \$19,100$ .
- Through the agreed swap, the buyer would pay the seller the difference between the \$1.91/kg received and the agreed \$2.00/kg for the 10,000kg; which means  $\$0.09 \times 10,000 = \$900$ .
- The swap payment added to the physical transaction at the auction means that the seller receives \$2.00/kg (the agreed price of the swap) so \$20,000 for 10,000kg.
- The difference between the swap price and the price received at auction is redistributed in this way for each trade, for the duration of the swap agreement.

By trading a tea swap, buyers and sellers can hedge a chosen percentage of the tea they buy or sell at a fixed price over an agreed time period. So long as the swap broker is able to match a seller's type and grade of tea, volume, price and time period with one or more buyers (or vice-versa) a trade can go ahead. Tea swaps are anonymous and a seller need not be a large or multinational company to participate. In theory (although not within the scope of this project) speculators could also trade tea swaps. This maximises the number and variety of available trades; increasing the likelihood that a business can find agreeable terms for trading a swap. If the desired terms cannot be met for both sides of the trade (both seller and buyer), the swap will not take place.

By guaranteeing their income through the swap, factories reduce or remove the price risk that they might have passed on to their smallholder suppliers. Where there is competition to source green leaf, tea swaps can help factories to offer higher upfront prices to smallholder farmers in order to secure supply; putting pressure on neighbouring factories to raise their upfront payments to smallholders too.

If successful and taken mainstream, tea swaps could result in better prices for smallholders in a falling market as well as a more stable income which would improve their access to credit. It has been shown in other markets that increased income certainty can lead to increased investment, improving resilience, efficiency and yield.<sup>2</sup>

<sup>2</sup> <http://www.fao.org/3/ap308e/ap308e.pdf>

## FROM INCEPTION TO PILOT

The Kenya tea swaps project began with dedicated one-to-one engagement between the project team and Mombasa Auction buyers and sellers. Two workshops were held in March 2019, in Nairobi and Mombasa, to explain tea swaps to buyers and sellers and to address early questions and concerns. A simulated tea swaps trial (without money changing hands) began in April 2019 and, after setting up the business TeaSwap Africa, buyers and sellers were invited to participate in a real trial (with trades involving money) from August 2019.

In October 2019 a sample of buyers and sellers were interviewed to hear their experiences of the trials and their expectations for the tea swap mechanism. Impacts and lessons were then shared at a cross-commodity event in November 2019 in London.



## INITIAL PROJECT OUTCOMES

The premise of this project was that participating in swaps enables price certainty. We therefore measured the 'success' of the swap trials as the *number of businesses that participated in them* (rather than participants 'winning' or 'losing' against the auction).



**77 SWAP  
TRADES**



**12 BUYERS**  
(OUT OF 32  
REGULAR BUYERS)



**27 SELLERS**  
(OUT OF 80  
REGULAR SELLERS)



**AVERAGE TRADE SIZE  
20,000 KGS PER WEEK**



**AVERAGE TRADE  
DURATION  
4 WEEKS**

There was considerable participation in the simulated swaps trials from buyers and smaller sellers, although The Kenya Tea Development Agency (KTDA), a cooperative which represents a huge majority of around 650,000 tea smallholders in Kenya, was not able to participate in these early trials.

There was positive feedback on project communications and understanding of swaps. For those who did not participate in a real trial, a variety of reasons were given including: waiting for internal buy-in, waiting for agreeable trade terms and waiting to see how more simulated trades played out first.

*"If the [sellers] are getting better money, then the money should trickle down to the farmers themselves"*

**- Buyer**

*"I think it is a step in the right direction, but as it's a new idea in the market it will take time to get traction"*

**- Seller**

*"Success will be measured by how many buyers and sellers use it in reality... KTDA will have to be involved ultimately to make it successful - but won't stop it from happening"*

**- Buyer**

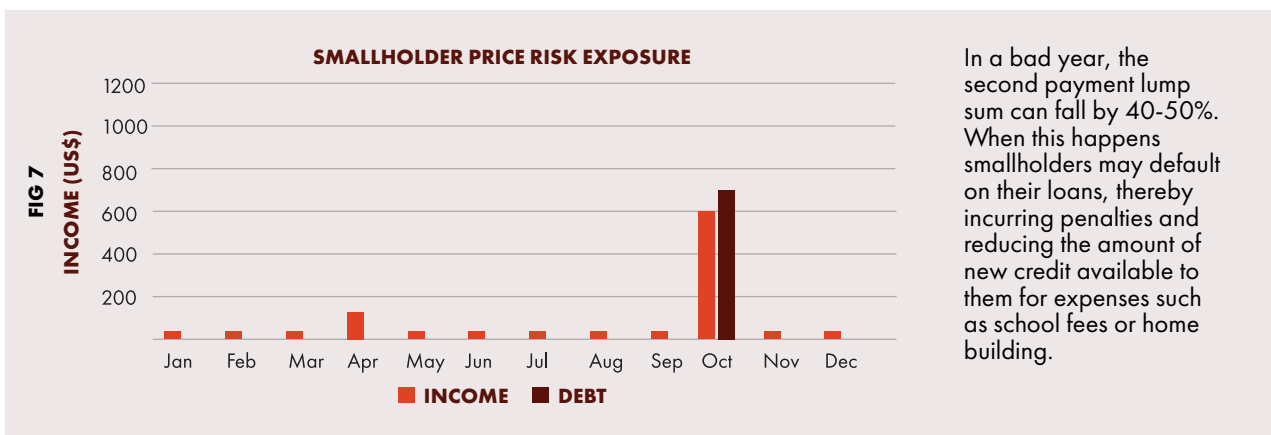
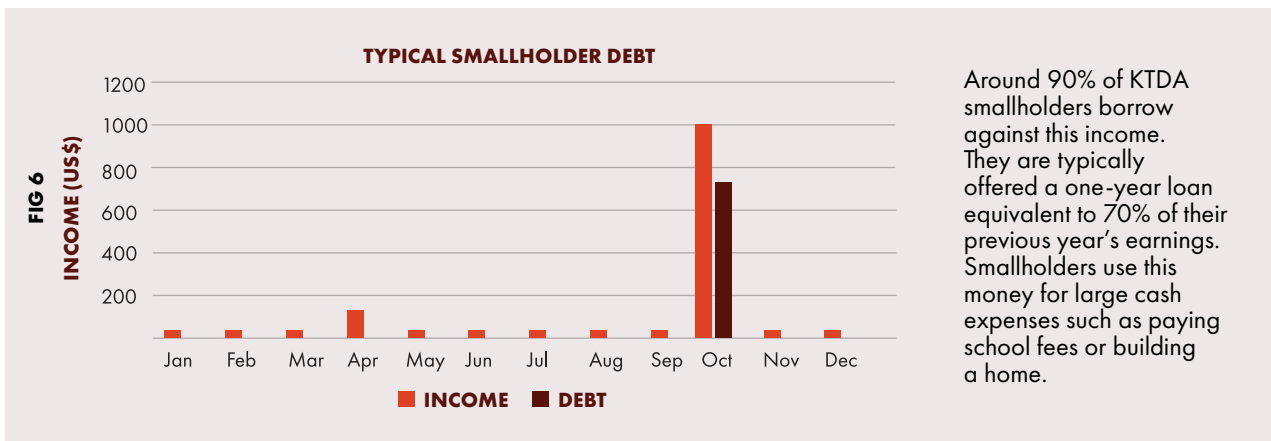
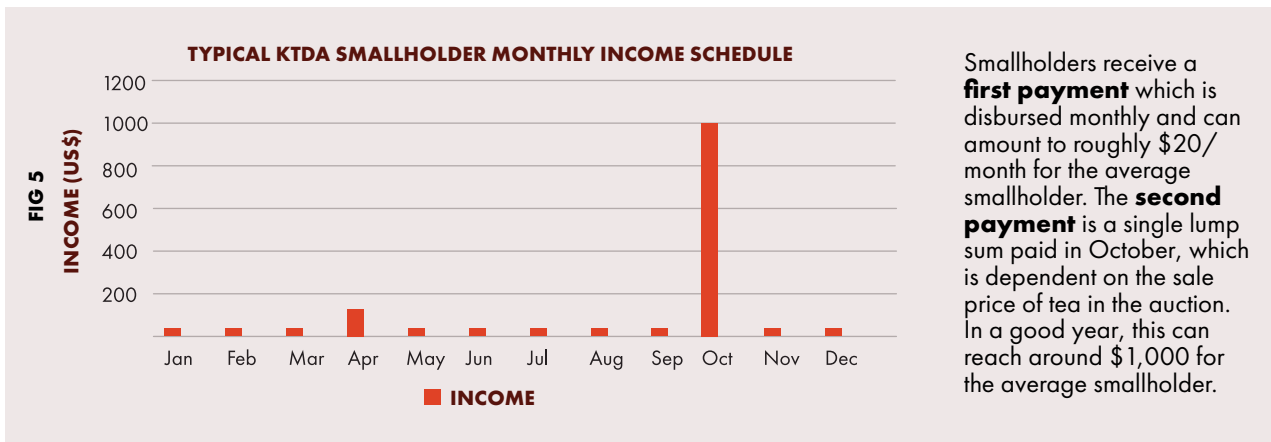
Half of the buyers and sellers that were interviewed stated that greater price certainty through swaps would be advantageous and a quarter thought swaps could lead to benefits for smallholders. Without KTDA's involvement as a major player, some respondents felt that tea swaps could not be impactful in the Kenya tea market. It is too early to tell whether other sellers might trade sufficient volumes via swaps to make a significant difference to their finances and then go on to use this to increase green leaf prices for smallholders. Some respondents thought it was likely that many buyers and sellers would only hedge a small percentage of their tea with swaps – with little trickle-down benefit for smallholders.



## INCREASING IMPACT BY REDEPLOYING TEA SWAPS

Tea price volatility has many long-term impacts on supply chain sustainability. However, it also has short-term, tangible impacts such as the higher price smallholders have to pay to access credit and the smaller quantum of credit available to them. The Kenya Tea Swaps project originally focused on the longer-term impacts of volatility and targeted factories (sellers) as the route to improving smallholder returns by enabling them to receive and pay a dependable price. However, through the project, it was realised that this indirect approach may have a less certain impact on smallholders and that a quicker and more easily measurable way to benefit smallholders would be to focus on the short-term effects of price volatility. **To this end it was found that tea swaps could be redeployed with the aim of improving farmers' access to credit, thereby delivering an immediate, positive impact on their finances.**

To understand the impact of price certainty on smallholder credit it is important to understand how smallholder farmers currently get paid. The KTDA, which represents 650,000 smallholders in Kenya, pays its smallholder members through a first and second payment system:



## FURTHER PROJECT OUTCOMES

By using a tea swap to stabilise smallholder income, the risk of defaulting on a loan could be significantly reduced. As a result, smallholder ability to access credit should improve, increasing the amount they can borrow and reducing their interest rate. Solving this double pain point of volatile incomes and limited access to credit was identified as a viable way to improve outcomes for smallholders.

The project identified that tea swaps could be redeployed as a **combined credit and hedging product through local banks**; giving smallholders the benefit of both income certainty and cheaper and more plentiful access to credit. This type of product puts more power into the hands of farmers to stabilise their own incomes and access affordable credit to pay school fees and other important cash expenses.

As of February 2020 (2 months after the project's official end) TeaSwap Africa and local partners are planning to launch **a platform that will allow smallholder farmers (including KTDA farmers) to access secured credit based on swaps**. The intention is that this will result in cheaper, more available loans for smallholders, with less risk of default. Plans are also underway to launch **long-term investment loans for tea factories that have secured their cash flow with swaps**. With factories better able to predict their finances, the hope continues to be that they will pass this price certainty on to their smallholder suppliers.

The legacy of this project has been to highlight the opportunities that swaps present and to motivate a range of stakeholders to trial such a product in tea.



# LESSONS FOR DRIVING CHANGE IN OTHER COMMODITIES

In order to transform the way commodities are traded at the pace and scale that is required, interventions need to achieve impact and efficiency through sharing of insights across commodities.

We are sharing the practical lessons we learned through executing the Kenya Tea Swaps project, with the aim of providing useful insights for those planning, or already undertaking, work to test different business models:



## **Can tea swaps achieve their intended impact: reductions in price volatility and smallholder financial risk?**

Tea swaps don't fundamentally change the prevailing model of the tea industry but, if smallholders choose to participate, swaps can reduce income volatility and change the relationship between farmers and their access to funding; with the potential to significantly improve their living standards and increase resilience.



## **Were any other benefits of tea swaps discovered?**

It was discovered that swaps could be used to secure credit where it wouldn't otherwise be available.



## **Were any unintended consequences of tea swaps discovered?**

Not within the project lifetime.



## **Could swaps be applied to other commodities?**

An affordable credit product for farmers with a price hedging component, such as a swap, has applications beyond tea. Swaps can be an appropriate price hedging product (improving access to credit) for any commodity where:

1. Players are exposed to price risk
2. There is a liquid, transparent market for the commodity
3. Ideally, there is a geographic concentration of either buyers or sellers or both



## EXECUTING TEA SWAPS

### What went well?

- Timing of the initiative / readiness of the market: Significant volatility and plummeting tea prices made trying new ways of doing business more attractive.
- Make-up of the project team: A small and agile team (eight persons plus strong institutional support) with different motivations, complementary specialisms, clear and distinct roles and dedicated project management.
- Trusted and knowledgeable person within the system: Having a trusted representative on the ground who knew and could engage directly with key stakeholders was pivotal in securing participation of buyers and sellers.
- Dedicated and ongoing stakeholder engagement: Being prepared to listen and to design the solution to meet the most pressing needs of users at the time was key.
- Continuous innovation: Different methods of engaging with stakeholders and explaining tea swaps were tested and used. Different strategies for redeploying tea swaps were important when the initial approach appeared less certain of delivering impact.

### What would we do differently next time?

- Set clearer expectations and involve key stakeholders from the start: Key institutions and company boards could be lynchpins for participation in real trades. Building in more time and engagement with them would have been beneficial to facilitate their decision-making.
- Seek advance commitment from significant first-movers: Early/advance commitment from key organisations/businesses could have made participation faster and more attractive for others in the market.
- Secure enough on-the-ground resource: A strong understanding of the local context is important when facilitating change. More resources for gathering information from and sharing information with local participants could have accelerated progress.

### What do we wish we had known when we started?

- Change takes time, patience and ongoing incentive: Realising impact may take a lot longer than piloting an intervention. Ongoing commercial interest (e.g. TeaSwap Ltd. / TeaSwap Africa) can ensure continuing presence and support beyond the end of a pilot.
- You may need to refresh your diagnosis of the system or problem: The payment terms for KTDA smallholders were not known at the start of the project but were key to delivering impact. Identifying the most effective intervention points required understanding the local context and being open to 're-diagnosing' the issue – and which stakeholders to engage with.



## WE' D LOVE TO HEAR FROM YOU

Forum for the Future is actively looking for positive examples of alternative business models which can showcase and share insights. If you have an interesting example to share, please get in touch.

Please contact Forum for the Future's *Sustainable Value Chains and Livelihoods Challenge Lab* via Louise Rezler at [l.rezler@forumforthefuture.org](mailto:l.rezler@forumforthefuture.org) if:



You or your organisation are interested in designing or collaborating on an initiative to test or scale up alternative models.



You need support in reviewing the business model that underpins how your organisation currently operates.



You would like to discuss the points raised in this Case Study in more detail.

**To find out more, visit**

<https://www.forumforthefuture.org/>



# ACKNOWLEDGEMENTS

The Kenya Tea Swaps project 2019 was led by Tea 2030; convened by Forum for the Future, and delivered in partnership with TeaSwap Ltd. and funded with UKAid from the UK government through the Business Innovation Facility (BIF).



**Tea 2030** was a global collaborative initiative which brought leading organisations together to help create a sustainable future for the tea industry. From 2013-2019 Tea 2030's mission was to:

1. Develop a common understanding of the long-term, systemic challenges and opportunities facing the global tea industry and
2. Facilitate co-operation and action across the tea industry value chain to deliver transformative change



**Forum for the Future** is a leading international sustainability non-profit, with offices in London, New York, Singapore and Mumbai, which specialises in addressing critical global challenges by catalysing change in key systems.

For over 20 years, Forum for the Future has been working in partnership with business, governments and civil society to accelerate the shift toward a sustainable future.



**Business Innovation Facility (BIF)** was funded by the UK Department for International Development (DFID), and managed by PwC in consortium with a number of delivery partners.

BIF helped the development and uptake of inclusive business models by companies in developing countries. BIF was a DFID-funded market systems development programme that aimed to improve the lives of the poor in three focus countries as well as through two global funding windows. The programme closed at the end of 2019.



**TeaSwap Ltd.** provides swap broking services in Sri Lanka and East Africa.

The project also received funding and support from multinational partners Tata Global Beverages (TGB), Unilever and Camellia.

## ACCESS THE CASE STUDIES AT

[www.forumforthefuture.org/creating-sustainable-value-chains](http://www.forumforthefuture.org/creating-sustainable-value-chains)

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