The origin of today’s seeds goes back to the dawn of plant domestication, when humans started farming and saving the seeds of desirable plants, steering them away from their wild relatives and toward their modern counterparts. Essentially, crops were adapted to suit human needs and tastes, including the needs of growing, sedentary communities. These seeds became the lifeblood of our food systems, travelling far and wide and being grown into food across the globe. While early plant domestication certainly recognised the particularities of climate and environment, growing communities led farmers to prioritise those seeds that led to the highest yields. This criterion reached its pinnacle with the Green Revolution of the 20th century, when researchers and the seed industry started producing optimised seeds that successfully expanded agricultural output to unprecedented levels, thus reducing hunger globally.

The climate crisis we are facing today poses a new set of needs and challenges, forcing us to prioritise crop resilience over productivity. Temperatures are rising, rainfall patterns have changed or are erratic. Climate change has crept in and exposed the vulnerability of our food systems. While the Food and Agriculture Organisation (FAO) estimates that we have roughly a quarter of a million plant varieties available for agriculture, we still only draw on less than three percent of them. And just four crops contribute to roughly 60 percent of our daily plant-based calorie intake. If we want to ensure the long-term resilience of our food systems, we must have options. These options lie in the astounding biodiversity existing both within and among our crop species.
Originating in Latin America, the sweet potato is prolific in Africa, Asia and Oceania. A whopping 95 percent of the global sweet potato crop is produced in developing countries, where it is an important asset for tackling malnutrition, such as widespread vitamin A deficiency, which affects hundreds of thousands of children. The sweet potato is a naturally diverse plant, with an impressive range of different colours and flavours. The plant itself is incredibly hardy, growing like a weed in many places – an adaptability which is a huge advantage for farmers working in marginal lands.

Chefs introducing new varieties of mainstream and under-utilised crops into their dishes can create a positive incentive for farmers and producers to increase the crop diversity they grow. This is important not only with new species, but also with lesser-known varieties of foods we already know and love, such as sweet potatoes. Our aim is to know these crops more intimately and understand their high potential. Which varieties grow well in your geography? Have farmers tried to grow other types, but perhaps not had a route to market? Being curious, discovering and diving into the world of biodiversity will help us achieve our goals and nurture our food systems in a resilient and sustainable way.

Sweet potato also offers a large range of nutrients – in addition to the high levels of vitamin A in the orange fleshed varieties, the darker, purple fleshed sweet potato is packed with antioxidants.

The Crop Trust is an international organisation based in Bonn, Germany with the unique global mission to ensure the conservation of crop diversity in genebanks, forever. The Crop Trust, the United Nations Food and Agriculture Organization (FAO) and other partners started the Food Forever Initiative in 2017 to raise awareness on the importance of safeguarding agrobiodiversity to build resilient food systems.
My story with sweet potatoes

I was born and raised in Kenya, and now run a group of restaurants that are among the most popular and decorated restaurant destinations in Nairobi. I am currently working on a business that looks to commercialise waste streams in food production, which is an exciting space to be in – basically where food and tech meet! Like many chefs, I entered the world of food sustainability quite naturally through running restaurants. Global topics of concern such as food waste and the fragility of our food systems became a big focus among chefs. Inevitably, I came to think about them in a local context. I believe that if you want to stimulate real, positive change, you need to look at the big picture and appreciate just how far you can reach if you set your mind to it.

Kenya as a country has an interesting relationship with the sweet potato. A white fleshed variety with a drier, more hygroscopic and powdery texture is well known and widely available. It is part of the general diet, but not as much as it could be – there are other crops such as arrowroot (tapioca, known as ndoma) and cassava that are more common. One of the reasons for this is the price – sweet potatoes in Kenya are more than double the price of other tubers like potatoes, which poses a real problem for people.

The perception of the sweet potato in Kenya is positive. They are seen as a nutritious food, and rightfully so. The texture of orange fleshed sweet potatoes being so different to that of the whiter fleshed variety initially posed challenges in integrating them culturally. Introducing new foods requires a mental shift, and such a shift takes time. Ideally, because of their high vitamin A and other nutrient content, orange fleshed sweet potatoes will become more important to local diets.

Biodiversity is important for small-scale farmers, but not all have access to the education and information needed to implement change. We are well versed in regenerative agriculture and the importance of soil health, but how practical is it for small-scale farmers across Africa to implement these changes? A lot of our smallholder farmers are living hand to mouth. It is difficult to expect people to think about the future when they have to focus on survival.

There are great solutions on offer, however. Increasingly, people are coming to the market with positive and modern ideas to push better food production. I believe technology has a key place in all of this and look forward to seeing more developments in this area. Fixing our food systems is complex, and I do not think it will happen quickly. But it needs to start somewhere.

CALL FOR ACTION!

I would challenge people to observe their food chains: look at every detail and strive to understand them better. Get a sense for where your food is coming from. See where you can get involved and help. Most importantly, think BIG! Think bigger than you imagined you could, and you will find that there is immeasurable support available. Many commercial opportunities exist to create and stimulate good change for the future of our food systems – it’s just a case of finding them and putting in the energy!
My story with sweet potatoes

I am a Plant-forward Whole Foods Chef Educator and an initiator of many global food education programmes. After years in fashion marketing, I transitioned to the world of whole foods education where I founded the Plant Forward L/LAB with a mission to educate, collaborate and initiate action and positive change using food as a social lubricant for sustainable human health and planetary well-being.

My focus in food is health. Whole foods are foods in their most natural form produced with minimal processing. These quality, biodiverse whole foods are needed for the future of our health and the health of our soils. This knowledge drives my passion as an educator, teaching through the lens of nutrition how to make better choices in our day to day lives. Once you start learning about healthy eating and the origin of your ingredients, sourcing good food from good farmers starts taking center stage.

China has a high concentration of vegetarians. Often, their vegetarian way of thinking and eating is associated with religion, for example Buddhism, which can be exclusive. I am trying to educate people that being vegetarian is not only about eating beans and tofu, but about our choices which affect our planet and can stimulate positive change!

The main driver of my work on biodiversity are our farmers and producers. They are teachers and friends. They will tell you what they are growing, would like to grow and need to sell. Using what farmers are growing is one way to create a healthy culinary palette. Sweet potatoes are definitely part of this food systems transformation. They are thought to have been smuggled into Asia from South America about 400 years ago. Right now, we have easy access to about ten different varieties, which might not be much globally, but is a huge step forward in terms of what used to be available.

In traditional dishes, sweet potatoes are used with great diversity! Steamed or baked, with congee and rice, sweet and savoury. A lot of people are now using the leaves, too. While perhaps this is more prevalent in Taiwan, I am seeing it more and more here in China, which is encouraging. The leaves make great animal food but are also incredibly nutritious for humans. I’ve recently seen a sweet potato make a comeback in snacks, which makes them more approachable, and preserves the farmer’s crop when they have an abundance. I love using sweet potatoes in brownies. Adding spicy, hot Sichuan pepper gives it a kick and a local twist. I come from a Cantonese family and we have a lot of traditional recipes that feature sweet potato in sweet dessert soups – a common treat in our food culture and one made from whole foods. One soup features sweet potatoes with ginger and lotus seeds, delicious!

CALL FOR ACTION!

In China, people are accustomed to flavour enhancers and additives. A lot of people expect these strong, punchy flavours. We can deliver flavour and delicious food using more natural ingredients! Talking about the nourishment for both people and the planet is important and helps people tune in. For chefs who are just starting out, my advice would be to use more plant-centric ingredients on your menu. Design your dishes around plants and what you can work with from your local farmers – and request diversity.
Sweet Potato is one of the fastest expanding food crops in SSA and has become a major pillar of food security and nutrition in many countries in the region, particularly with the release of the drought tolerant varieties that have been widely used in drought affected areas in Mozambique and other areas in Africa with similar agro-ecologies. Research and development investment over the past ten years has generated improved sweet potato technologies that are able to increase the nutrition, income and food security value of sweet potato production in Africa. Orange fleshe d sweet potato (OFSP) varieties stand out as a proven, cost-effective tool to reduce vitamin A deficiency and to provide additional vital nutrients to vulnerable populations. OFSP’s efficacy is based on the high concentration of vitamin A in orange fleshe d storage roots with high levels of bio-accessibility through local diets. So yes: the crop has been improving small-scale farmers’ livelihoods, particularly through increasing productivity and food availability.

Turning to sweet potato farming: sweet potatoes are grown by many small-scale farmers who are concerned with their nutritional value and increasing yields, both of which are essential to their livelihoods. 60 days after planting, the farmers can harvest the leaves – an excellent source of proteins, vitamins and minerals. After 90 days, they can harvest the storage roots to eat. All plant parts of the sweet potato can be used. Nothing goes to waste.

In Africa, the white fleshe d sweet potato is traditionally more prevalent in diets but lower in vitamin A. So, bringing in a new variety involves changing a food culture, which is an enormous challenge. Changing a culture is not an overnight task, especially in areas where traditional food consumption habits and norms are connected to religion. With this in mind, we place considerable effort in understanding local perceptions, attitudes, and knowledge surrounding the production and consumption of sweet potatoes. We use this information to support the development of the new varieties. The beauty of this is that we are delivering a crop that has been used locally. Farmers are aware of the white and yellow fleshe d sweet potatoes, which both have a high dry matter content – one of the most important traits – but are low in productivity and nutrient contents. So our effort has been to deliver high-yielding varieties of high nutritional content. As flavour is not always the primary concern for local farmers, we instead promote the improved varieties and drive behaviour change by highlighting comparative advantages relating to drought resilience, high productivity, and nutrition (vitamin A, iron, and zinc-biofortified crops).

This is where chefs can play an important role, showing alternative uses of sweet potato and encouraging new ideas for cooking, which will help change local perception. Chefs could also help create a product that can be prepared fast for the urban market, whilst preserving the nutritional quality, for example incorporating sweet potato into a widely accepted bread dish. The sweet potato has a lot to offer to people and the planet, and chefs can help make this offering become a reality!
Known locally as *al fendaal*, sweet potatoes have a rich history in the United Arab Emirates (UAE). Largely cultivated in the northern areas of the country, the local Emirati sweet potato comes in red and white varieties and can be found in fruit and vegetable markets all over the country. This local sweet potato, adapted over time to the UAE’s unique environment, is just one example of the natural diversity in sweet potatoes.

Source: Food Forever

The Svalbard Global Seed Vault currently holds 2,141 sweet potato samples, while the main collections are stored at CIP and CePaCT.

Source: Crop Trust

Sweet potato is the seventh most important food crop in the world in terms of production, following wheat, rice, maize, potato, barley and cassava.

Source: Sweet Potato Knowledge

Genesys currently holds data on more than 8,000 sweet potato samples held in genebanks worldwide.

Source: Genesys