



Innovating for Resilient and Sustainable Agriculture and Food Systems in Ghana: A Reflection on the Journey of the Pears Challenge Venture Builder in 2022

Hagit Freud

In a course of five months, the 2022 Pears Challenge Venture Builder spearheaded new innovations in Ghana's agricultural sector. Sharing her first-hand experience in the initiative as the Managing Director of the Pears Program for Global Innovation, Hagit Freud reflects on the motivation, journey and achievements of this tech venture.

Inspired by insights gained at the Global Food System Summit of 2021, the Pears Program for Global Innovation set out its 2022 venture builder program – the Pears Challenge – with an aim to build new tech ventures that would contribute to resilient and sustainable agriculture and food systems in Ghana. This was grounded in our observation that there had been a huge shift from an agriculture and food security discourse toward a food systems discourse which called for a more holistic and systematic perspective of the sector that analyzes the entire chain from farm to table while acknowledging the complexities and externalities such as the environmental costs and dependencies on global events.

While high-income countries are suffering from food deserts, massive food losses and often have unhealthy agriculture practices that deplete natural resources, low and middle-income countries suffer from other challenges such as hunger and food insecurity, low productivity, lack of market linkages and post-harvest losses among others. Accordingly, the necessity of a slight shift from the “Green Revolution” discourse is vital as it is becoming clear that the solutions to challenges faced in low and middle-income countries cannot be “copy-pasted” from the commercial agriculture models of high-income countries.

Importantly, we recognized that all these challenges have been radically exacerbated by climate change. For those who are engaged with agriculture (even remotely), climate change is a blatant and concerning reality, and dire action is needed. Far from the theoretical academic or political discussion, if you are growing something, you become immediately cognizant of climate change with the rapid temperature changes, inconsistent rainfall and extreme weather events affecting every area

“Providing accessible and easily accessible clean is essential to increasing the level of nutrition security which has far-reaching consequences for education and economic empowerment.”

and every crop. In the Ghanaian context, local challenges also include water contamination caused by illegal gold mining (galamsay), deforestation and the consequent decrease in biodiversity, further impacting farmers’ ability to rely on existing natural resources to grow food.

Accordingly, for the Pears Challenge to be designed in line with needs on the ground, we needed to engage with local and international partners by asking them about their vision for the sector and where they saw a need for new and innovative technologies. The underlying question was: what is the future of smallholder farmers in our changing world?

In Ghana, the agricultural sector accounts for 20% of the GDP and employs 45% of the population. Ghana has a favorable climate for agriculture with fertile lands suitable for growing a variety of crops including cocoa, cashew, shea, maize, yam and cassava. Cocoa is the country’s main agricultural export, accounting for around 60% of the country’s foreign exchange earnings. However, the agricultural sector is faced with challenges hindering its growth such as low productivity, inadequate infrastructure and limited access to credit and markets.

For example, despite the fact that cocoa is such an important pillar in the Ghanaian economy (its price and market are in fact fully controlled by the government) and source of income to hundreds of thousands of farmers in the country, there has hardly been any change or advancement in the way it is grown and processed in the last century.

The Ghanaian government is making efforts to address these challenges and promote the growth of the agriculture sector through policies and initiatives such as the Planting for Food and Jobs program and the One District-One Factory initiative. A mindset shift has certainly emerged, and it was amusing during our time in Accra to discover that almost everyone – whether taxi driver, UN agency worker or tech-savvy young entrepreneur – had invested savings in leasing land and planting crops.

When we raised the topic of smallholder farmers, we often heard very different and even contradictory perspectives. Some argued that smallholder farmers would always be a part of the sector. Others argued that the sector is already going through a transformation by turning farming into a business through professionalizing and commercializing, thus making smallholder farmers redundant. Optimists argued that smallholder farmers' productivity and financial gain could and will improve; others argued that they will remain in the poverty trap and that the only potential for transformation is through commercialization and large-scale farming.

After recruiting a promising group of Israeli entrepreneurs – talented, experienced, skilled and interested in engaging with and learning about Ghana and West Africa – we set off on a five-month journey to expose them to the sector, its challenges and opportunities as well as guide them in developing new solutions to these challenges. Our main focus was creating exchanges and engagements between this group of entrepreneurs and many

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partners and local experts. In our view, real knowledge, engagement and collaboration are what is fundamentally missing in order to grow innovative and cutting-edge solutions from Israel.

Throughout our time in Ghana, we constantly asked ourselves: what does the Ghanaian agriculture sector need today, but more importantly, what will it need tomorrow and the day after tomorrow? Together with our visionary entrepreneurs and dedicated partners, we took a futuristic and optimistic look at what can the sector turn into and where technology can play a role. Indeed, our collaboration with these partners, local experts, our entrepreneurs and the farmers themselves was vital to the successes we achieved.

At this point, we are quite pleased with the results. The Pears Venture Challenge Builder led to the creation of a number of new ventures: a novel bio-pesticide made from an indigenous plant; an off-grid cooling solution for post-harvest handling and shelf-life extension; a circular approach that recycles cocoa waste into valuable products; and a platform that invites smallholder cashew and cocoa farmers into the carbon market to generate additional monetary value based on their sustainable farming practices. Time will tell which of these technologies will actually reach fruition and influence the sector at large, but the thought process and the journey in and of itself was truly worth the effort.

References:

Pears Venture Challenge Builder 2022: <https://www.pearsprogram.com/pears-challenge-2022>