Agritech startups aim to lift Nigerian small-holder farmers out of poverty

KADUNA, Nigeria — As the sun appeared on the horizon in the village of Jere in northwestern Nigeria’s Kaduna state, Moses Magaji hunched over his hoe, weeding out grass from the rice plant. “I love farming more than any other thing, but farming has also become a lot harder than it was in the late ‘60s and early ’70s,” Magaji said, without looking up. Behind him, an electrically-powered, self-propelled Reinke center pivot irrigation system moved noisily back and forth across a 20-hectare paddy field.

“In those days farmers had a lot of money; we sold our crops after harvest and it was enough for us,” said the 54-year-old smallholder farmer. In the decade after independence from Britain in 1960, agriculture was the mainstay of the local economy. Until the discovery of crude oil in 1956, farmers grew sufficient food to meet local demand but also could export a surplus of cash crops including groundnuts, palm oil, and cotton and the agriculture sector accounted for more than 60 percent of gross domestic product.

Barriers to progress

As crude oil began to dominate Nigeria’s foreign exchange earnings, agricultural productivity shrank due to neglect and underinvestment. Soon, local production struggled to meet demand amid a population boom. The corollary is that Africa’s largest country’s annual food import bill grew to about $20 billion every year, according to Nigeria’s agriculture minister Audu Ogbeh.

Today, more than 80 percent of Nigeria’s farmers are smallholder farmers and they are the main producers of over 90 percent of domestic output. A World Bank 2016 report found that “half of working Nigerians are in smallholder farming” but this group accounts for the “poorest 40 percent of the population compared to only 17 percent of wage workers.” Poverty amongst small-scale farmers is due to myriad of problems including low use of mechanization, poor agricultural extension systems, poor road networks, inadequate market information, and lack of access to credit and quality inputs such as fertilizer and seed. In recent times, climate change — which is marked by irregular rainfall patterns and rising temperatures — has made things worse.