The Persistence of Small Farms and the Legacy of the Monoculture Mindset in Kenya

By Paul Goldsmith

I once drove up the eastern side of Mt Kenya with a manager working in the California horticulture industry. We passed through the Mwea irrigation scheme's mosaic of rice plots and the smallholder coffee zone in Embu. After crossing the Thuchi River, we transited through the mix of tea farms, coffee plots, and patches of small fields of maize, pulses, and bananas framed by the heavy tree cover blanketing the hills and valleys. The Meru lowlands stretched out to the east, the miraa-dotted slopes of the Nyambene Hills loomed close as we approached Meru town. In the space of three hours we had transected one of the region's most agriculturally variegated and productive landscapes.

Two days later we drove across the northern saddle of the mountain, leaving the smallholdings created by late colonial-era settlement schemes before cruising past the wheat fields of Kisima and Marania farms and their neighbours. The road carried us past the uniform blocks of horticulture farms and greenhouses stretching across the high plains of the mountain's northwestern quadrant en route to Nanyuki. Over a plank of some insanely delicious beef at one of the town's famous local *nyama choma* joints, my guest tells me she was impressed by the kick-ass agriculture she saw during our trip.

I remarked that we had crossed an area that produces the world's best tea, some of the planet's premier Arabica coffee, and the country's most sought-after potatoes, French beans and other vegetables that grace European tables. I also informed her that we had skirted the range hosting Africa's most sophisticated agroforestry system, home to the Horn region's most prized Catha edulis.

"That's interesting," she said, clarifying that she was referring to "the area of proper farms we passed through this morning".

Kenya's agriculture generates approximately 24 per cent of the country's GDP, 75 per cent of its industrial raw materials and 60 per cent of the country's export earnings. Approximately 26 per cent of the earnings are indirectly linked to the sector through linkages to agro-based manufacturing, transport, and trade.

The sector is a major employer, with an estimated 3.8 million Kenyans directly employed in farming, livestock production and fishing, while another 4.5 million engaged in off-farm informal sector activities. Agriculture remains a key economic sector with significant unexploited potential for adding value through post-harvest processing.

The relationship between large-scale and small-scale producers in Kenya continues to evolve. Smallholder farmers generate the larger portion of overall agricultural value; large farms are still critical contributors to domestic food security and export production while pioneering new technologies and marketing arrangements.

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The economists and policy-setting bureaucrats at the World Bank and other important financial institutions, however, now question the small farm sector's capacity to satisfy Africa's future needs. The experts have tacitly supported the controversial trend of external investors' acquisition of the continent's underexploited land to develop capital-intensive plantations and ranches. Agricultural progress means big fields, straight lines, greenhouses, and large grids of sprinklers, as the comments of the manager reaffirmed.

The rise of monoculture

Assumptions about the superiority of large-scale agriculture have remained unchallenged since the migration of Europeans to the Americas, Asia, and Africa. They came, saw, conquered, and converted the wide open spaces they found into plantations producing sugar, cotton, rubber, tobacco, soybeans, and a long list of other crops for export to the industrial world.

When European diseases decimated the indigenous inhabitants in the New World, the planters plundered Africa to replace them. Steam powered the Industrial Revolution; colonial plantations and mines provided the raw materials. The textile mills of Lancashire generated the profits financing Great Britain's global empire, and America's South supplied the cotton.

Large-scale agriculture's global hegemony grew out of military firepower, capital, technology and ruthless exploitation of labour, not superior crop and animal husbandry. The reign of King Cotton, for example, relied on increasing quantities of land and imports of African labour to compensate for rapid soil fertility decline. Southern land owners were poor farmers who added little value to the development of their agriculture beyond the use of the whip and the noose.

Class dynamics also contributed to the rise of the large commercial farm. The working conditions of the working-class adults and children working the looms was only marginally better than that of the slaves producing the fibre. Growing numbers of the freehold farmers in Europe who were driven off their land avoided this fate by crossing the Atlantic Ocean, attracted by the US government's recruitment campaigns offering access to land. The industry of the displaced farmers powered the nation's westward expansion. The American Civil War decided the contest over which system – freehold or plantation – would dominate in the virgin lands beyond the Mississippi River.

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The outcome was the same. Within several decades, the massive herds of bison were decimated and the indigenous inhabitants reduced to paupers on reservations. Science and technology came into play. The impressive advances generated by agronomic research and mechanisation extended the ascendency of commercial farms and plantations into the modern era. Economies of scale enabled by railways and the steamship extended the dominance of single commodity farming systems across the world.

Relegation of pre-industrial agricultural populations to the status of pre-scientific peasants preceded the imperial occupation of Africa. The Europeans established their plantations and large farms across the continent's savanna and highlands. Like the colonialists before them, both capitalist and socialist governments' rural policies were predicated on the need to introduce modern scientific agriculture. The choice was as basic as the difference between a tractor and a short handle hoe.

The Kenya conundrum

A matrix of physical, climatic, spatial, and social factors complicated the installation of large-scale agriculture production in Africa. Agriculture played a singular role in the development of the modern Kenyan economy, but commercial agriculture and ranching developed by European settlers are only partially responsible for the sector's progress.

Free land and inexpensive labour facilitated the establishment of commercial farms during the early decades of colonial rule. Drought, locust invasions and crop losses to pests and wild animals, and to vector-borne diseases posed a serious challenge. The effects of the latter were minimised by quarantining the locals in native reserves and demarcating the band of ranches that ring-fenced the so-called White Highlands. Not all the white settlers survived; some left to start over in colonies to the south, but those who stayed on prospered with the assistance of the colonial state.

After World War I the government offered land concessions to war veterans boosting the population of approximately 6,000 white settlers in 1917 to 20,000 in 1936. This abetted the diversification of the new estate sector, which came to encompass coffee, tea, cattle, sisal, cotton, wattle, and other export commodities that sustained the colony's finances. Expansion raised the demand for African labour while fueling frictions over land between settlers and their African neighbours. It also made managing settlement considerably more difficult for the government and civil servants in the countryside.

Indigenous producers evolved intricate mechanisms of adaptation and risk management to shifting environmental conditions and chronic climatic instability. The over 100,000 African squatters on European farms by 1947 demonstrated their resilience in new circumstances. Despite the restrictions they faced, they out-performed the owners in many ways. The surplus reinvested in livestock led to competition for pasture on the estates, and this prompted restrictions limiting the size of cultivated plots and the number of livestock the Africans were allowed to keep. The number of days of labour owed to the estates also increased over time, doubling from 90 to 180 days a year.

Dependence on native labour in effect led to the parallel development of two distinct large-scale and small-scale systems on the same landholdings at the same time. The contradictions inherent in this situation, combined with the political threat of the Mau Mau, forced a rethink that led to the Swinnerton Act in 1954, which opened the way for the production of export crops in the African reserves.

The sectoral duality generated by these developments has vexed Kenya's agriculture policy ever since. Kenya gained independence committed to preserving the economic stability provided by the estate sector while satisfying the political expectations of its citizens. The latter translated into the transfer of settler lands under the Million Acre Scheme, support for the cooperative movement, and the deployment of small farmer extension services.

The structural inequalities symbolised by the contrast between the landed elite and the masses nevertheless fueled strident opposition to the Jomo Kenyatta government. Kenya's status as an island of stability in a turbulent region encouraged international support for the development of schemes and projects mirroring a succession of theories and economic models debated by academics and institutional experts.

One critic of international development accurately described these interventions as policy experiments. Some worked and many did not. The funding flowed despite the repeated failures epitomised by the large agricultural projects dating back to the doomed Tanzania Groundnut Scheme. Attempts to rectify flaws in the Bura Irrigation Scheme, the world's most expensive at the time, proved futile when the Tana River changed course.

How do we explain the failure to acknowledge the results of such "experiments"?

In a 1988 article, Goren Hyden attributed the syndrome to Africa's monoculture legacy, which he defined as "mono-cropping in agriculture, single fixes in technology, monopoly in the institutional arena, and uniformity in values and behavior." The rise of hegemonic economic monocultures, he went on to observe, are usually preceded by a period of competition and experimentation.

No such selectionary forces informed the large-scale solutions designed to alleviate Africa's agriculture malaise. The continent's initial conditions were different. The unique regional political economies of the precolonial era did not count. The formal protocols governing exchange among diverse communities were obsolete. The need to differentiate between *size* and *scale* did not apply.

Small as the new big

Africa's lost decade highlighted the neglect of small-scale farmers. In an article in the same edited volume featuring Hyden's monoculture legacy thesis, Christopher Delgado noted, "It is unlikely that more than 5 five cent of current African food production comes from large farms. A 3 per cent growth of productivity of smallholders would be equivalent to a 60 per cent growth of productivity on large farms."

This point segued into the large body of empirical evidence marshalled in support of a new policy focus on the smallholder sector. But there was a problem, as he and other pro-smallholder analysts recognised: The high variability in conditions and circumstances within and across African countries complicated cost-effective delivery of the services, inputs, incentives, and infrastructure need for the interventions to pay for themselves.

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Asia's breakthrough was an outgrowth of substantial international research supported by national research centres into two basic commodities. The same approach has not worked in Africa because technical enhancements need to contend with multiple crops systems, variations in soils, spatial differentials complicating access to water, markets, and service, local pests and diseases, transport and communications infrastructure, and political variables linked to ethnic constituencies, to name a few of the factors determining the productivity of small farmers.

Research attesting to the more efficient per capita and land unit output of small farms also indicated that there was still considerable scope for raising household incomes by enhancing the productivity of labour. The Kenyan government's support for small-scale dairies, tea production, and the efficacy of extension services furnished proof. Like the case of colonial squatters before them, smallholder producers began outperforming the large farms and plantations.

Kenya and its bimodal policy frame was often cited as a success story at the time, but was this because government policy focused on concentrating the limited resources available in relatively fertile areas? The failure to replicate these successes further down the ecological gradient invoked a more complicated set of variables.

Other state-supported initiatives, such as smallholder cotton, floundered, and even a tested policy like fertilizer subsidies proved difficult to implement because the cost of delivering the input to small farm households often ended up cancelling out the benefits, especially during years when low rainfall or other external factors reduced output.

During the early 1980s Kenya's agricultural sector reached the zenith of its development under state control. A matrix of factors, including lower prices and higher market uncertainty, declining civil service terms of pay, gradual closure of the agricultural land frontier, and the highest demographic growth rate in recorded history explain subsequent developments.

Institutional entropy set in. The food security problem became a full-blown national crisis around the same time as government mismanagement of strategic maize reserves exacerbated the impact of the 1984 famine. The food catastrophe marked a turning point, concretising the case for the structural adjustment policies that came into effect during the following years.

The donor-mandated policies included foreign trade liberalisation, civil service reforms, privatisation of parastatals, and liberalisation of pricing and marketing systems, which later involved relaxing control of government agricultural produce marketing and reforming cooperatives.

Increases in quality and efficiency tend to translate into lower commodity prices over time, and the same appeared to hold for institutional reforms. In any event, the policies designed to increase efficiency and decrease state involvement in the economy did not reverse the decline in agricultural production. Declining prices for traditional agricultural commodities and Africa's terms of trade in general was seen as emblematic of a larger malaise stemming from poor governance and economic mismanagement in Kenya and other African countries.

Although most Kenyans blamed the Daniel arap Moi government, the less than creative destruction wrought by the penetration of capital and primitive accumulation by state-based actors was the real culprit responsible for the economic carnage that followed in its wake. The outcome was "a quasi-stagnant society" qualifying the observation Thomas Picketty offered in his 2014 book, *Capital in the Twenty First Century*: "wealth accumulated in the past will inevitably acquire disproportionate influence".

In Kenya, the consequences included the revolt of smallholder coffee farmers in Nyeri, the burning of sugarcane fields in western Kenya, the collapse of cooperatives, an increase of subsistence production on small farms, the commercialisation of livestock raiding in the rangelands, and the rise of cartels that seized control of export commodities and local produce markets.

The situation in Kenya was symptomatic of the forces that eroded the impact of the pro-small-scale agriculture policy framework that had gained traction during the same period.

The release phase and agrarian transition

Subsequent developments in rural Kenya invite us to revisit Picketty's choice of words in the observation cited above: the reference to "quasi-stagnant" is indicative of a larger dynamic. From an ecosystems perspective, the turbulence arising across Kenya's agricultural sector and the hollowing-out of state institutions corresponds to the release phase in ecological cycles.

The role of forest fires that remove old growth, allowing regrowth and revival of species suppressed by the canopy of large trees, is the standard example used to illustrate the release function. In the context of human societies and other complex systems, it refers to transitional episodes in "an adaptive cycle that alternates between long periods of aggregation and transformation of resources and shorter periods that create opportunities for innovation."

For present purposes we can equate Picketty's quasi-stagnation with the onset of a transitional phase of reorganisation leading to renewal. Support for importation of large-scale capital-intensive agriculture to meet Africa's future needs, in contrast, correlates with the old school ecological succession model. The degradation of rangelands resulting in the replacement of overgrazed grass and shrubs by less nutritious invasive species is a common example.

The African land grab by foreign investors now taking place in many sub-Saharan countries is in effect a case of replacement substituting for the adaptive processes underpinning indigenous African production systems. The government's willingness to allocate large tracts of Tana Delta land as an incentive for foreign government investment in the LAPSSET mega-project is an example of this replacement strategy in Kenya.

I was part of a team that undertook a three-year study of commercial agricultural models in Ghana, Kenya, and Zambia. Initially motivated by the problem of large-scale agribusiness investments, the research design focused on three models: large commercial farms, plantations, and contract farming. The team's general conclusion underscored the emergence of large- and medium-size commercial farms in the three countries.

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My personal take was slightly different, and although they may be particular to our Kenya research, two issues warrant mention. The first is the resilience of smallholder households in our surveys and life histories.

Without getting into the intricacies of the data, several factors support this. The time series data showed improved food security for most of the households sampled, and a corresponding decline in conflict over land: only one respondent complained about the ownership of the large farms and plantations in the area.

While the poorer families were hard-pressed to make ends meet, the diversification of income generation strategies indicate that even a small half-acre plot defrays the cost of food purchases while providing a base for participating in the rural economy.

High levels of mobility within the region and a general trend of reversed urban migration add further support to this point. For example, urban unemployment rates of 19.9 per cent for 2009 and 11.0 for 2014 per cent were about double of rural rates.

The process of consolidation underpinning the large farm formation across agro-ecological zones is underway, but it is slowed by the reluctance to sell land and a correspondingly high incidence of leasing land. This is also true for large holdings outside our Mt. Kenya research area, such as the Rift Valley, where owners are holding on by leasing out parcels to smallholders. The successful estates and horticultural firms have developed mutually beneficial links with their smallholder neighbours. This is based on outsourcing production, the sharing of technological innovations from the production of certified seed potatoes to electronic wallets facilitating rapid and verifiable payments to contract farmers, and multi-stakeholder participation in the management and conservation of water sources.

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Our sample divided the household into two categories: those involved with the large commercial farms and those who remained independent. The scores for involved households were significantly higher for crop yields, fertilizer use, income, and most other variables. All of these observations attest to the synergies generated by the large-scale small-scale symbiosis that began to emerge during the final years of the colonial era.

This brings us to the second point – the enduring influence of the monoculture mindset. It resurfaces in the World Bank's categorisation of both large and small organisational units' contribution to the continent's socio-economic transformation. Dualities deceive; learning by trial era works.

The elephantine LAPPSET project, the hallucinatory Galana-Kulala scheme, the government's Big Four agenda, all suggest that the Chinese version is more of the same.

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