Science and politics – shaking hands (or not) for agricultural transformation (or not)

by Steven Were Omamo
CEO and President, New Growth International

"Not all poor soils are unproductive."

"Not all unproductive soils are poor."

"Poor people living on unproductive soils tend to have poor governments."

My late farmer-politician father quoted these three sentences quite often and with great conviction. He never claimed to be the originator, but it was very clear that the words spoke deeply to him.

I have always felt that I never quite grasped everything my father heard and saw in the three sentences. Why they seemed to be almost like laws of nature to him. I never asked him directly. I should have. The eleventh anniversary of his death falls later this month. With that on my mind, I set about attempting to explain the "laws" to myself.

Midway through the attempt, I suddenly realized that what I was thinking and writing about was agricultural transformation – the science of it, the politics of it. I understood that this was what the three sentences were really about. And I saw that, when framed this way, agricultural transformation was what my farmer-politician father had spent most of his career pursuing.

I returned to the attempt and arrived at this point.

It seems to me that there are two stories embedded within the three sentences – a "small" one and a "large" one.

The first two sentences tell the "small" story about what farmers – and people in general – do with what they have in hand.

The third sentence captures the "large" story about opportunities and challenges facing farming communities, and how these determine and reflect political realities and outcomes.

Evidently my father viewed the two stories as intertwined. I have come to agree.

The message in the first two sentences is clear. With care and investment, poor soils can be productive. With neglect and mismanagement, rich soils can be rendered unproductive. Even the poorest soil has potential. The potential of even the richest soil can be squandered.

A brief journey into soil science completes the "small" story and sets up the "large" one.

Soil is constantly at the mercy of multiple hazards. Because of this, soil stability really matters – where stability relates to a soil's ability to retain its structure under such external forces as heavy rain or wind. The key recognition is that stable soils are inherently more productive than are unstable ones, but not necessarily so.

Soils with different levels of innate stability require different forms of management to reach their full potential. There are "hard" and "soft" aspects to that management.

The "hard" part relates to the raw physical challenge of managing land at multiple levels – plot, field, farm. Be it with hand hoe, ox plough, tractor, or grader, there is no escaping this kinetic need.

The "soft" part of soil management includes not only the analytical challenge of understanding the details and implications of weather and topography, but also the organizational challenge of bringing the various parts of the production system together in ways that draw out the best in a given soil. Again, there is no escaping this interpretative requirement.

The point is clear. Sustained high productivity does not just happen; it must be **made to happen**. Protracted low productivity does not just happen; it must be **allowed to happen**.

And so we come to the third sentence, to the "large" story, and to politics.

The harrowing image in the first half of the sentence – "Poor people living on unproductive soils…" – is no abstract notion, no figment of someone's imagination. This is the most common current manifestation of human suffering, found largely on the 500 million small-scale farms that support over 2 billion people around the world.

Even as cities balloon, and with them urban poverty and squalor, the most widespread expression of human hardship remains that of these billions of rural dwellers.

When Pope Francis visited the World Food Programme's Rome headquarters in 2016, he lamented how easy it was to become immune to other people's tragedies, and he cautioned us to be constantly on guard against coming to perceive these tragedies as "something natural."

Small-scale farmers are so numerous, their poverty and hardship so longstanding, that their tragedies have become as natural to rural landscapes as grass, trees, and, yes, soil.

The meaning in the second part of the third sentence – "… tend to have poor governments" – begins to emerge. This is the heart of the "large" story, and that story revolves around the choices rural people make from day to day and across their lifetimes.

Some years ago, I employed a middle-aged security guard (call him Ometi) who, in his mid-twenties, had migrated to Nairobi from his rural birthplace in western Kenya. His small farm

could not support his growing family. He needed a job. So he left. His wife and children never moved to Nairobi. He could not afford that on the wages he earned. He sent most of those wages to his family, seeing them when they came to visit or when he went "home" on vacation.

Ometi was generous with his life story and shared much about the sometimes heart-breaking but invariably pioneering and inspiring life he had led as an unskilled migrant worker in Nairobi. That first long journey in a packed bus traveling very fast eastward to Nairobi – down into the Rift Valley, across, up, out, and onward to the city. His initial struggles with city Kiswahili. His first job as a gardener. Sending money home for the first time. The sudden loss of that first job when his employer's dog died, and he was wrongly blamed. Months of joblessness and worry. Finding work as a guard for the first time. More jobs as a guard. Church service and leadership.

One day he revealed how every four years he would take an extended vacation to his rural home. He would time this vacation to coincide with the final weeks of the general election campaigning period, when he knew that competing politicians would be visiting his rural home area in search of votes.

Ometi admitted that he did not really care what the politicians said, but he went to listen to them because some of them were entertaining, and all of them would hand out wads of cash to potential voters like him. He wanted some of that cash. And he always got some. One election year he spent the money on paint for his house, making his wife happy. Another year, the money helped fund a driving course for one of his sons.

"How about your farm?" I had asked, expecting him to describe an improvement of some kind.

"My wife is there," he had answered flatly. "She grows maize and beans for the home. It is not much but the land is ours. I will go back when I finish in Nairobi. I will be buried there."

I never saw Ometi's farm. Judging from the way he talked about it, the farm was not a productive one. But that did not seem to trouble him. He was not investing in it. His farm was not a place to put either hard-earned money or free handouts from politicians.

In this respect – by not investing in his farm – Ometi was no different from other more traditional small-scale farmers who, unlike him, depend wholly on their farms yet invest next to nothing in them. Research has linked this paradox to rational risk aversion. Physically, socially, and economically isolated small farms are risky places to live, let alone invest.

These non-investment choices may be rational, but they are also devastating and life-defining. Think of Ometi. What an extraordinary risk-taker. But rather than commit alongside his family to develop the land in their hands, he chose to toil alone, in a distant city, for half a lifetime. Clearly, it was not all for naught. He was able to support his family. But what a price they paid.

Most small-scale farmers have fewer options than Ometi. They may not invest to improve their farms, but they do pour everything they own into those farms, most notably their labor. They

have to. But their individual and collective capabilities are brutally constrained by the conditions that surround them.

The rural vote is furiously courted because, even with rapid urbanization, rural voters still far outnumber urban voters in many countries. Small-scale farmers are a huge voting bloc. But Ometi's story illustrates how the demands and expectations they place on the leaders they help elect can sometimes be quite limited. And it shows.

If today you were to walk around most areas dominated by small-scale farming, you could not fail to notice the deep deficiencies in the physical, analytical, and organizational attributes that underpin successful farming of any kind, anywhere in the world.

Lacking altogether or grossly insufficient are all-weather roads and bridges; culverts and drainage canals; storage facilities; clearing, stumping, and leveling equipment; soil and hydrological surveyors; banks and bankers; input traders; extension workers. The list goes on.

It is very difficult to accept that this is still the case in so many places in 2021. Much of the transformative science has been available for decades. That is not the problem. Ometi's story leaves no doubt that the gap is political, with direct implications for the choices farmers make or fail to make.

To see what can happen when science and politics **do** come together in a big way for small-scale farmers, take a drive across Kenya's Bomet County, from Mulot in the southeast to Sotik in the west. Bomet is deep within the rural homeland and power base of the late former President Daniel Arap Moi.

With Moi's personal backing for radical change built on modern tea, maize and dairy farming, the region received a large and sustained injection of public investment in the fundamental underpinnings of trade-driven agricultural transformation. As always, private capital swiftly followed such potent public spending, reaching widely and deeply into the agricultural system, and spurring further productivity growth.

The profound shift in livelihoods, incomes, and futures in the participating communities could not be clearer. Well-tended fields. Well-fed livestock. Neat homesteads with permanent houses. Schools. Clinics. And much more. It took less than 15 years to bring about, and it's there to stay.

To see what happens when science and politics are **not** brought together with small-scale farmers in focus, keep driving northwest from Sotik and soon you will descend into the Lake Victoria basin. There, towering agricultural potential remains unrealized and rural destitution is commonplace and natural, with millions of small-scale farmers suffering at the center of the unforgiving drama.

Such unseized potential is widespread and distressing. But there are enough cases like Mulot-to-Sotik to keep us optimistic.

Elsewhere in Kenya you could point to horticulture in the central highlands. For a time there was cotton in the western lowlands. There is vanilla in Uganda. Maize in Tanzania. Malt barley and poultry in Ethiopia. Mangoes in Zambia. Rice and cassava in Nigeria. Coffee in Vietnam. Milk and potatoes in India. And just about everything in Thailand.

This is the kind of thing that excited my naturally optimistic father. Big ideas brought to life at speed. Indeed, he could rightly claim quite some success in this respect as a farmer in Kenya's sugar belt. Routinely taking big risks, seemingly without fear but always with careful planning and preparation. Mobilizing the local community. Bringing local authorities and politicians on board – to help or stay out of the way of a big gamble. Some gambles paid off, some didn't. He never gave up. There was always next season.

I doubt he would have put it quite like this, but given everything he did or tried to do, I think my father would have agreed that the story of agricultural transformation is a story about deliberate and sustained handshakes between big science and big politics.

Science and politics shaking hands to make sustained high productivity happen, and make sure that protracted low productivity is not allowed to happen.

Shaking hands to blunt the risks that push capable people off their farms or that keep them there but standing still or falling behind.

Shaking hands to expand the range of available pathways toward growth, stability and cohesion in rural society.

The charge to policy makers, investors, scholars is clear and direct. Make these handshakes happen. My father likely would have advised that this requires drive and urgency (imagine a field monitor in a complex humanitarian operation), patience and commitment (think of a lab technician tracking a delicate experiment), and optimism and customer-orientation (picture a traveling salesman setting out on a rainy day).

The customers are 2 billion strong. They are hungry not only for the higher productivity that science can help uncover in their soils and farms, but also for the special brand of political leadership that can help transform big potential into huge performance.