Successful agricultural transformations:
Six core elements of planning and delivery

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How can countries increase their odds of a successful rural transformation?

The most effective way to improve the lives of millions in poverty is to support agriculture in developing countries. Most of the world's poor are farmers, and those who are not spend much of their income on food. Transforming a country's agriculture sector can create jobs, raise incomes, reduce malnutrition, and kick-start the economy on a path to middle-income growth. In fact, almost every industrialized nation began its economic ascent with an agricultural transformation. Recent examples include Brazil, China, and Vietnam, each of which at least doubled the value of its agriculture sector within 20 years of starting its transformation. Many other countries in Africa, Asia, and Latin America are earlier on the path of transformation.

For some, agricultural transformation has not advanced as planned or has stalled. Navigating the complexity of a transformation is invariably tough for governments, even though they may prioritize agricultural investment and recognize how important it is to get right. This is especially true in an era in which governments are seeking agricultural transformations that meet multiple goals simultaneously. In addition to traditional economic development and poverty reduction goals, governments are also focusing their agricultural transformation plans on Sustainable Development Goals (SDGs) by considering, for example, climate-smart strategies, women's economic empowerment, and biodiversity.

The drivers of agricultural transformation are multidimensional, interrelated, and change over time, but they can be organized into categories to provide a better opportunity for pragmatic diagnostics and decision making on national priorities. After running more than 30 country diagnostics, we found that the drivers fall into three main categories. First, there are elements of "transformation readiness." Changes to a country's institutional framework, governing mechanisms, and political environment can significantly influence the likelihood of accelerating an agricultural transformation. Second, the quality of the national agricultural plan or strategy is critical. Last, there are drivers related to delivery mechanisms. This category focuses on what is needed to translate the national agricultural plan into on-the-ground impact. This includes the ways in which countries manage decision making and progress against targets as well as how they use change agents to support the large-scale behavior change among smallholder farmers that underpins a successful agricultural transformation.

In this article, we consider the second and third categories. We focus on six core elements of a national agricultural plan ("what to do") that increase the odds of a successful rural transformation, and then reflect on elements of the on-the-ground delivery of an agricultural transformation ("how to do it"). In a companion article, "Readiness for agricultural transformation," we identify a set of common institutional, organizational, and political components that increase the likelihood of success for a government's good agricultural transformation policies and investments.

What to do: Six core elements of an agricultural transformation plan

Although rural families often make their living from many different types of work, improvements in farming have proved to be the path toward widespread, poverty-reducing growth in the rural economy. Successful agricultural transformations have focused on the farming household, providing opportunities for farmers to earn a better income. For some, that will mean raising farm productivity or shifting the mix of production to include higher-value crops and livestock. For others, the right choice will be to do less farming and take advantage of employment options off the farm. As farmers have more money in their pockets, they spend more in the local economy, creating jobs, opportunity, and more demand for agricultural goods. The question is how to accelerate, sustain, and scale these growth cycles. For that, a well-crafted agricultural plan is required as part of a country's overall economic development approach. There are six elements that distinguish a superior agricultural plan.

Prioritized and differentiated strategies

Developing an agricultural transformation plan demands prioritization—a plan will not succeed if it tries to cover everything. Instead, it should focus on the changes that are most likely to kick-start rural economic growth. Successful plans identify goals in a limited number of crop and livestock value chains, cross-cutting agriculture sector enablers (such as lower transportation costs or access to irrigation), and specific geographies.

Ethiopia and Morocco are experiencing transformations that show clear focus in terms of crops, transformation enablers, and geographies. Morocco's Plan Vert started with seven value chains, expanded to nine, and focused on six geographic areas. Ethiopia's agricultural transformation plan initially prioritized three value chains and five geographic areas. Countries often prioritize a combination of both food security crops as well as export or higher-value commodities. Rwanda's Crop Intensification Program, launched in 2007, for instance, balanced land use between intercropping of diverse crops and monocropping of a set of six priority crops. The country's 2013 agricultural transformation plan included specified priority agricultural value chains in both food and export commodities (including apiculture, dairy, fisheries, and meat).[1] Our experience suggests that many countries' agricultural transformation plans are overly ambitious, cover too many value chains, and fail to focus critical resources. Eight of the 13 national agricultural plans that we analyzed in Africa didn't set clear priorities.

A second related success factor is differentiation. Successful agricultural transformation plans differentially target agri-food systems and geographic areas with tailored strategies. For example, more productive land that is already well connected to markets, such as irrigated land in Morocco, can support large- or small-scale farms; agribusiness is easier to scale there. In more remote areas, though, with bad roads, poor-quality land, and less well-connected markets, different strategies are needed. These might involve greater focus on staple crop productivity and social safety nets. Most plans don't make these distinctions.

A third related success factor lies in weighing the trade-offs among multiple objectives. Governments work toward a number of different goals, including growth in agro-processing, reduced unemployment, lower poverty incidence, food self-sufficiency, economic growth, increased exports, or lower rates of malnutrition. If these trade-offs are explicitly considered and communicated when developing the agricultural transformation plan, it is possible to tailor the

choice of value chains, cross-cutting enablers, and geographies to differentially achieve the government's chosen goals. For example, one strategy might focus on raising the productivity of smallholder farmers' food crops in a particular region where rural poverty and stunting (from malnutrition) rates are high, while a concurrent strategy focuses on what is needed to accelerate growth in the coffee sector to boost export revenue and job creation. When the trade-offs among multiple objectives are not explicitly integrated into the agricultural transformation plan, progress is characterized by underdelivery across too many, sometimes competing, objectives.

Market-driven opportunities for farmers

Agricultural transformations often focus too much on volume rather than value and on productivity of row crops rather than opportunities for high-value crops, downstream processing, and livestock. Farmers everywhere are businesspeople. Farming households in developing countries balance a portfolio of crops, livestock, and nonfarm work. Because they feed their families with some of the farm output as well as sell into markets, they make decisions based on their potential profit, risk, and cash flow across family food consumption as well as sales. Too often, agricultural plans recommend particular commodities without paying attention to this basic calculus of farmer household economics. Successful agricultural transformation plans give farmers the opportunity to raise their household incomes.

In Morocco, for example, important public- and private-sector stakeholders concluded that the most effective way to address rural poverty was to grow high-value crops (for example, tomatoes and olives) on irrigated lands (while accelerating investment in irrigation) to supply regional urban, European, and other export markets. This choice dramatically increased the income opportunities for small farmers and has led to an average land productivity increase of 30 percent.

In some cases, high-value crops or livestock will not be a viable opportunity for farmers, and promoting the intensification of row crops makes more sense. Even then, the focus should be profitability for the farmer, including attention to sustainability, quality, storage, and processing.

Change agents identified and mobilized

The success of any agricultural transformation relies on how well millions of smallholders and small- and medium-size enterprises can be helped to change farming practices as quickly and effectively as possible. The critical enabler, without which an agricultural transformation is likely to fail, is a frontline "change agent" that helps farmers modify their practices. Change agents are people who farmers trust and interact with regularly. The high-level objectives of a transformation are realized in practice only when they are effectively translated to smaller, on-farm shifts. For example, increased productivity in the dairy sector might be achieved through farmers accessing better animal health technologies and better cattle breeds or joining dairy cooperatives to sell their milk. Change agents provide the critical interface with farmers. To catalyze this, a change agent might be the person providing extension knowledge, offering financing for farming inputs such as fertilizer, aggregating crops, or facilitating marketing services. For example, a change agent can help farmers make the transition from growing wheat to more complicated but lucrative opportunities such as raising tomatoes, vegetables, and orchard crops.

Effective change agents exist in both the public and private sectors. Many scholars cite countries' investments in national agricultural extension services as critical to agricultural transformation. Ethiopia's investments in expanding the

agricultural extension system are believed to have accelerated its agricultural transformation. Other mechanisms for organizing farmer-facing change agents, though, have also played critical historical roles in transformation. Agricultural cooperatives, for example, can provide technical assistance to farmers but can also fundamentally change the farmers' risk and potential revenue by providing access to storage, equipment, finance, and marketing services. Small-scale stockists, or input dealers, also have an important influence on the changes required among smallholder farmers if agricultural transformation is to succeed (for example, promoting the adoption of improved, higher-yielding varieties of seed).

Morocco designated farm managers who interacted with a large number of smaller farmers through contracts as the main category of change agent. In each case, the countries made a big effort to recruit, support, and manage the performance of these change agents. Other kinds of organizations with change agents include warehouse aggregators, food processors, inputs distribution centers, and farmer collectives.

The appropriate choice of change agent might vary depending on what part of the transformation plan is involved and the characteristics of the country's agri-food systems. The key is to ensure the use of appropriate metrics and incentives, sufficient training, and performance management of the change agents. Selecting change agents is critical in every agricultural transformation, yet we rarely see this step addressed systematically.

Finding the right starting points for scale

Change in agricultural systems requires multiple parallel advancements. For example, improvements in agricultural extension and seed systems might enable farmers to switch to a more productive hybrid seed, but lack of access to fertilizer (upon which the hybrid depends) could prevent productivity increases and leave the farmer unwilling to buy hybrid seed next time. As in any complex economic system, when so many elements are interrelated, any one of them can become a constraint and stall progress.

A common reaction to this interdependency problem is to try to move all elements ahead in a highly prescribed way, specifying interventions up and down value chains and creating complex plans with a high potential for failure. Instead, the best agricultural transformation plans have two critical characteristics: they anticipate the need for agility, and they selectively focus on the points of the system where small changes are likely to cause larger shifts. These focus areas could be within specific geographies or within particularly influential value chains.

Overly prescriptive and inflexible strategies in agricultural transformation fail because of the complexity of agriculture-based economies. For example, designing a national promotion of new varieties of high-yielding maize among smallholders, along with investment plans for storage and marketing, may not work if the storage facilities are not placed in the right locations. Suppose the production of maize in some areas outstrips storage capacity. Roads are bad, and transport to other markets is prohibitively expensive. In these areas, the glut of maize depresses the local market price, and farmers may return the next season to growing their old, cheaper varieties of maize because they lost money on the new one. A different, less top-down approach might be to enable change agents to set local targets and work with farmers who know the economics of maize production all too well. As changes begin to occur, the most critical success factor is that the plan allows for learning and that it is flexible enough to be adjusted as understanding progresses.

As localized systems, parts of value chains, or changes in geographic regions are better understood, the learning from those successes can be applied at greater scale. Starting with less comprehensive and prescribed plans and demonstrating success with more flexible learning models can also attract champions, additional talent, and more investment that can be used in scaling up.

This is normal change management in the private sector. For example, a transformation of 50 manufacturing plants may start with three plants and scales up from there. But in public-sector transformations, the need for equity across the population often leads to single-solution national programs, such as untargeted fertilizer subsidies. These broad interventions often do not succeed, because stakeholders have not taken the time to learn the nuances of where and how best to implement them.

Pragmatic approach with an investor mind-set

Approaching transformations with an investor mind-set is critical to the success of the process. In kick-starting agricultural transformations, coordination among government, donors, and civil society is critical, but it is equally important from the start to plan for private-sector engagement. Without this, the transformation may proceed more slowly, stall, or not reach scale.

Agricultural transformation plans with an investor mind-set include three strategic planning components. First, the plan identifies public investments that complement likely private-sector investment. These are investments in areas where returns are low and/or risks are high. They can include typical public goods (such as rural advisory services or training) as well as investments in commodities or geographies that are important to transformation but unlikely to garner private investment. Second, a good agricultural transformation plan identifies public investments designed to catalyze additional private-sector engagement. This may be, for example, through risk guarantees, cost sharing, innovative public–private partnerships, targeted subsidies, or provision of infrastructure conditional on private investment. Last, agricultural transformation plans with an investor mind-set anticipate changes in the enabling environment that will be necessary as the transformation progresses to support increasing private-sector engagement. These policies, laws, and regulations are usually across multiple sectors in addition to agriculture, including banking, trade, and land policies.

Progress on enabling policies

Agricultural transformation is more than changes in farming practices. It is about catalyzing transformation of a country's rural economy. As such, more than agricultural trade and subsidy policies are in play. For example, laws and regulations that influence banking, labor, infrastructure, land ownership and access, access to water, telecommunications, taxes, and insurance are also critical considerations.

Land policy is often cited as a pivotal factor in determining whether a country's agricultural transformation can simultaneously achieve sustained progress and inclusivity (contributing to widespread poverty reduction). Land policy is a good illustration of how critical it is for policies to be dynamic—changing over time to prevent transformations from stalling. For example, land ownership or tenure may be key at the start of an agricultural transformation as a way of influencing farmers' investment in their production. However, rental markets may soon become important as some farmers move out of agriculture into other jobs and need income from their land.

Finally, effective policy making for agricultural transformation needs to become more evidence-based over time. Policy makers should invest in making use of existing data and analytics to comparatively assess the costs and likely outcomes of different potential transformation programs. Policy makers also need to use data and analytics to set reasonable targets and redirect programs where outcomes are not meeting targets. Evidence-based policy making builds better plans and integrates accountability into the systems responsible for implementing the policies.

How to do it

The first part of this article focused on best practices for what to do in a successful agricultural transformation and what should be included in a high-quality national agricultural plan. The delivery elements of transformation, however, are often even more neglected and represent a big opportunity to increase success rates. Even in the private sector, McKinsey research shows that 65 percent of transformations that aim to improve the performance of large companies fail to accomplish their goals. The most important factor that distinguishes successful transformations is attention to the soft side—the "how to do it" part.

Willingness to change

The most important factor in the soft side is the willingness of governments, donors, farmers, companies, and civil society organizations to take risks and change behaviors to pursue a better outcome. Sometimes a new prime minister or agricultural minister arrives with a vision to transform the sector, and the momentum of good leadership spurs progress. Other times, change readiness can be encouraged through incentives (for example, compacts through the Millennium Challenge Corporation or contingent private-sector investment commitments), through exposure (for example, World Economic Forum regional meetings or rankings in internationally accepted development indices), or by showing a way forward that convinces key stakeholders.

However it occurs, commitment from the highest levels of government is needed before and during the development of agricultural transformation plans. Both political and financial capital are at stake for public-sector investors, and securing high-level commitment will ensure the development process produces more clearly defined practical plans that have a higher likelihood of being implemented.

Sometimes, though, a country is just not ready for change, either because it is undergoing conflict or because the wider political system itself is not ready to work on agricultural transformation.

Key stakeholders should make a big effort to ensure and maintain a country's change readiness. But there should be a clear-eyed evaluation—if change readiness really is not present and there is no good prospect for movement, then it is best to stop wasting resources. In the meantime, many steps can be taken to improve the national welfare, but this does not have to be approached with a transformation mentality.

Leadership alignment

For a transformation to succeed, there must be a common understanding of the plan, stakeholder roles, and approach to management of the process. At the highest level, key government ministries, the local and international private sectors, and donors must be aligned. Ethiopia and Morocco both invested more than a year of intense study and stakeholder engagement to craft their agricultural transformation plans. Nigeria undertook a process of deeply engaging 24 bank CEOs and key government leaders in developing its agricultural bank lending program, NIRSAL. Many tools and

processes exist to achieve common understanding, but getting there requires commitment from leaders across different sectors.

The alignment must also extend from the national to local level, into provinces and districts, and across multiple ministries. Transformation planning, leadership alignment, and budget coherency that is developed at the national level, and only in the ministry of agriculture, will fail when the interventions interact with more local governments or with other enabling issues (for example, transportation, trade, or finance). In addition to alignment between national and local decision makers, successful planning often includes an appropriate decision-making mandate for lower governmental levels (for example, states in Nigeria, provinces in Morocco, and districts in Ethiopia) and cross-ministerial collaboration processes.

Leadership skill building

Most successful transformations can be traced to specific single individuals who had an extra-ordinary impact on the project. Often this is left to chance, but there is great upside to a more systematic approach to supporting key leaders, from high-level government officials to frontline employees. In private-sector transformations, leadership training and peer networks are made available, even when the goal is just a few million dollars of profit improvement. In large-scale public-sector transformations, where the goal is to improve the lives of millions of people, the return on investment for leadership skill building is tremendous.

A well-known principle in adult learning is that skill building works best when it is connected to real work and practical problem solving. With this in mind, we believe there is great value in the creation of an academy focused on building the next generation of leaders in an agricultural transformation. Here, groups of 20 or so leaders responsible for agricultural transformations in their countries jointly go through an 18-month leadership journey using a "field and forum" approach. They would assemble every few months for intense technical and leadership training, and then return to their roles at home, with remote access to both expert support and a peer network. This approach costs relatively little but produces better individual leaders and facilitates alignment in a country's top team.

Managing the transformation

An agricultural transformation is not just a planning exercise. It takes management over time. Our experience suggests that creating a project management office (PMO) can greatly increase the chances of carrying out a successful large-scale change program. A PMO can concentrate talent, monitor implementation, act as a source of truth, and, in general, help get things done. The office can apply accepted project management technologies to break the transformation into discrete initiatives, each with specific goals, timing, and responsibility. A PMO is also charged with engaging relevant stakeholders when problems arise.

There is a case for using existing structures such as ministries rather than creating a temporary new organization. However, our experience shows that, depending on the country, the positives of a PMO (improved coordination, management of progress toward targets, increased ability to learn and adjust implementation over time) can greatly outweigh the negatives (high transaction costs, the potential for added complexity in political channels). Most large-scale transformations in the private sector use versions of PMOs. Some countries with recent success in agricultural transformations are using PMOs (including Ethiopia and Morocco).

There has been strong progress on country and state-level agricultural development plans throughout the world, but we believe there are still large opportunities for improvement, as described in the first part of this article. The how-to elements of a transformation described in the second part offer an even greater opportunity to accelerate agricultural transformations. Our experience suggests that they are the biggest controllable factors leading to successful conclusions. They are high-return-on-investment actions that can make the "what to dos"—the larger investments in areas such as processing facilities, roads, and fertilizer—have a much likelier chance of success.

Agricultural transformation is essential to the future well-being of developing nations and therefore also to a world with more equitable economic development. We hope that this article contributes to the thinking about agricultural transformation and encourages governments and other stakeholders to reflect on the steps they should take next. ■

[1] *Strategic plan for the transformation of agriculture in Rwanda: Phase III*, Republic of Rwanda Ministry of Agriculture and Animal Resources, July 2013, minecofin.gov.rw.

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