

# Putting the New Vision for Agriculture into Action: A Transformation Is Happening

A report by the World Economic Forum's New Vision for Agriculture initiative  
Prepared in collaboration with McKinsey & Company





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# Preface



Sarita Nayyar  
Managing Director,  
Head of Consumer  
Industries



Lisa Dreier  
Director, Food  
Security and  
Development  
Initiatives

The World Economic Forum is proud to present this action agenda, “Putting the New Vision for Agriculture into Action: A Transformation is Happening.” It was developed in response to the growing global demand for a set of concrete actions global and regional stakeholders can take to achieve the goals of the New Vision: to simultaneously advance economic growth, global food security and environmental sustainability through market-based approaches.

At the World Economic Forum Annual Meeting 2011 in Davos-Klosters, we launched a Roadmap for Stakeholders, outlining a framework for action to achieve the New Vision for Agriculture, and the role of the private sector – working in partnership with other stakeholders – in helping to achieve that. Given the widespread adoption of this “New Vision” in 2011, we proceeded to look more deeply at how to achieve the Vision in both strategic and operational terms.

The New Vision for Agriculture initiative is led by 26 global Partner companies that span the full food value chain and beyond, including: AgCo, Archer Daniels Midland, BASF, Bayer CropScience, Bunge, The Coca-Cola Company, Diageo, DuPont, General Mills, Heineken, Kraft Foods, Metro, Monsanto Company, Maersk, Mosaic, Nestlé, PepsiCo, Rabobank International, SABMiller, Swiss Re, Syngenta, Teck Resources, Unilever, Vodafone, Wal-Mart Stores and Yara International. Each of these companies has contributed tremendous leadership and technical expertise through a project board and working group whose members are listed in the Acknowledgements.

McKinsey & Company serves as project adviser for the initiative, contributing substantial time and analysis through a dedicated team of experts. The initiative’s knowledge partners – the Food and Agriculture Organization of the United Nations (FAO), the Harvard Kennedy School’s Corporate Social Responsibility Initiative and the International Food Policy Research Institute – have provided continued thought partnership to this report and to the initiative’s broader global discussions. The World Economic Forum’s Global Agenda Council on Food Security, a high-level multi-stakeholder group, provided guidance in an advisory role. Many other experts and practitioners leading efforts to implement the New Vision also contributed to this report. They too are listed in the Acknowledgements.

A transformation of the global food system has begun, representing tremendous potential to improve livelihoods and ecosystems worldwide. To harness this momentum, we have mapped out what it will take to achieve the goals of the New Vision in terms of both global-scale shifts and concrete country-level action. We hope this report will provide concrete tools to enable leaders around the globe to accelerate and expand collaboration to achieve our shared goals for a sustainable future.

# Executive Summary

## The Food System: A Major Economic Development Opportunity at a Time of Crisis

In the coming decades, a growing and increasingly affluent global population will demand a greater quantity, variety and nutritional value of food than the world has ever produced before. Meeting this demand will require a 70% increase in food production, challenging a natural resource base that is already under significant strain. It will also require major increases in investment – by up to 50% for developing countries alone – in an era of economic crisis and austerity.<sup>1</sup>

Addressing these challenges effectively will require a New Vision for Agriculture – one which leverages available resources to deliver economic growth and opportunity, improved food security and nutrition, and environmental sustainability through a renewed agriculture sector. The need for such an approach is broadly recognized; implementing it is now the imperative.

Putting the New Vision for Agriculture into action is challenging, but feasible. It requires a substantially new approach in which actors in the food system collaborate to develop new solutions and leverage investments for maximum impact. This report outlines how that can be achieved in strategic and operational terms.

The New Vision has the potential to deliver increased employment, expanded access to nutritious and affordable food, and sustainable resource use. The result can reinvigorate rural economies, providing sustainable livelihoods for several hundred million smallholder farmers and a resilient source of economic growth for countries around the globe.

## Realizing the Goals of the New Vision for Agriculture: Measuring Progress and Seeking Balance

The New Vision for Agriculture sets goals of 20% improvement per decade on each of its three goals: economic growth and opportunity, food security and nutrition, and environmental sustainability. Realizing these goals on a global level will require the right combination of actions, balancing agriculture-sector growth with sustainability.

Progress towards the goals will be driven by:

- Significant advances in productivity on smallholder farms and sustained productivity improvement on large-scale farms
- Increased value added on smallholder farms
- A reduction in emissions from soil practices, livestock and deforestation for agriculture
- Improved efficiency of water application
- Considerable reduction of waste throughout the food value chain

Tracking global progress towards the goals, using measurable indicators, will be essential to ensure we are on the right path.

- To assess whether we are generating greater economic growth and opportunity, we will track rural income per capita
- To assess the state of food security, we will look to global food production and malnutrition prevalence
- To assess our progress towards environmental sustainability, we will track greenhouse gas emissions and water used per tonne of agricultural production, while also recognizing impacts at the watershed level

At the country level, more locally applicable indicators – such as obesity prevalence or gender equity – may be used depending on the regional context. For instance, the role of women and their productivity in contributing to broader community economic development and nutrition could merit specific attention and monitoring.



1 FAO, How to Feed the World in 2050

## Setting in Motion the Virtuous Cycle: The Six Elements of Agriculture Transformation

Achieving the kind of transformative change required to realize the New Vision will require sparking a “virtuous cycle” of increasing skill and investment in the food system to improve agricultural productivity, sustainability and prosperity.

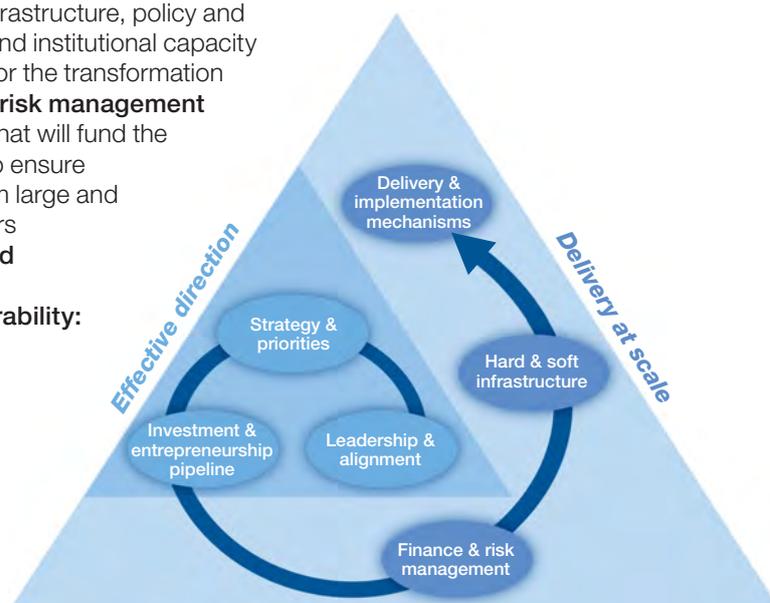
A number of pioneering cases are showing how such transformative change can be achieved through multi-stakeholder partnerships. These experiences highlight six elements that are essential stepping stones toward success in a large-scale transformation effort.

**Effective direction** from an early stage is critical to direct efforts at high-return opportunities, including:

- **Leadership and alignment of stakeholders around shared goals<sup>2</sup>:** Impetus and engagement of leaders, translated into joint commitments and practical working arrangements
- **A clear strategy and priorities for implementing the transformation:** Defining the priorities of the transformation based on the country’s comparative advantages and accessible market opportunities
- **An investment and entrepreneurship pipeline:** Investment opportunities across the chain that drive farmer competitiveness and market linkages; populations of entrepreneurs, innovators and investors who can participate in the opportunities; and a transactional approach to kick-start investment

**Delivery at scale** requires specific means and methods, in particular:

- **Enabling hard and soft infrastructure policies and investments:** Physical infrastructure, policy and regulations, and human and institutional capacity that are critical enablers for the transformation
- **Catalytic financing and risk management solutions:** Mechanisms that will fund the effort and mitigate risks to ensure sustained investment from large and small private sector players
- **Robust mechanisms and institutions for delivery, implementation and durability:** An empowered multi-stakeholder approach for designing, managing and monitoring delivery and implementation of activities to drive change at scale



## Building Transformational Partnerships through New Models of Collaboration

Partnerships that engage the full spectrum of stakeholders provide a powerful platform from which to orchestrate agricultural transformation, creating a step change in agriculture-sector investment, productivity and sustainability.

In a number of cases, leaders in government and private industry have joined with other partners to define shared goals, then coordinate and intensify efforts to achieve them. Together, these stakeholders define the initiatives and investments that will fuel growth in the agriculture sector and the broader food system, combine and leverage capacity in new ways, and hold one another accountable through monitoring and reporting progress.

Such collaborative efforts represent a new way of doing business for all stakeholders. They pose new challenges in requiring coordinating diverse actors and navigating complex issues along the way. However, they present an opportunity for combined and sustained impact that is essential to achieving the New Vision for Agriculture.

<sup>2</sup> Stakeholders include those involved directly in the food value chain and in its broader environment, including: government, industry, public and private-sector financiers, civil society, farmers and farmers’ organizations



# Realizing the Goals of the New Vision for Agriculture: Measuring Progress and Seeking Balance

## Agriculture is Pivotal to Sustainable Development

The New Vision for Agriculture is one that reframes our view of the agriculture sector. Agriculture is a crucial driver of economic development. In establishing food security it raises productivity, incomes and employment, with broad effects across economic sectors.



The New Vision asserts that agriculture is a primary driver of economic growth, the planet's largest source of potential for greenhouse gas (GHG) emissions abatement and water conservation, and the most critical actor in increasing global food security, addressing specific nutritional needs that lead to high rates of malnutrition.

This New Vision emphasizes the need to go beyond isolated interventions to take a comprehensive, long-term approach to improving whole food systems. Transformations have begun with new models for improving productivity, supported by favourable policy, infrastructure and market structure.

It represents a shift from approaching agricultural development with philanthropy to approaching it as a market investment, creating a system where stakeholders have the incentive to innovate, resilience to endure risk and capital to invest in growth.

## Measuring Progress towards the New Vision for Agriculture

The New Vision for Agriculture has committed to ambitious goals: to fuel economic growth and improve food security – improving both the quantity and nutritional quality and balance of food – while lessening agricultural impact on the environment. The intent of these “20/20/20” goals is to highlight the stakes, stimulate initiative and assess progress in the global food system, while acknowledging local issues and objectives.

## Measuring progress on the three goals

	Global Indicators		Local Indicators (examples)	
	Indicator	Unit	Indicator	Unit
<b>Economic Opportunity</b>	Farmer incomes	Proportion of rural inhabitants living on less than \$1.25/day	Wealth distribution	GINI coefficient
<b>Food Security</b>	Food produced Undernutrition prevalence: – Wasting – Stunting	Tonnes % of children <5 years who are: – Under-weight – Under-height	Undernutrition and overnutrition prevalence: – Wasting – Stunting – Obesity	% of children <5 years who are: – Under-weight – Under-height BMI
<b>Environmental Sustainability</b>	GHG emissions productivity Water use efficiency or “crop per drop”	Tonnes of GHG emissions per tonnes of food produced Tonnes of food produced per cubic metre of water	Water quality – Sediment – Nutrients – Bacteria	Totals of water-born pathogens – Suspended solids – Concentrations of N and P – Fecal coliforms

### Global indicators for achieving the New Vision goals

To assess progress toward the Vision, a series of simple, globally applicable and measurable indicators can be used in a majority of countries. They serve as proxies for each goal of the New Vision for Agriculture.

This New Vision signifies a food system that realizes 20% improvements each decade in economic growth and opportunity, agriculture productivity and nutrition, while in parallel reducing the environmental footprint by 20%.

### Local indicators for achieving regional impact

Stakeholders can use additional indicators depending on their local goals, which may vary by region. For instance, one environmental indicator of the New Vision is water quality – including ground water, aquatic and marine habitats, and agricultural basins – which can serve as a proxy for non-terrestrial biodiversity. Such indicators may vary widely based on local societies and ecosystems.

### A call for global data and measurement tools

Many organizations have worked to define meaningful indicators for agricultural sustainability.<sup>3</sup> However, available indicators often fall short in representing the real complexity of the global food system. There is still a shortage of timely, high-quality data and measurement tools to effectively measure progress. A global effort is needed to improve the availability of data and measurement tools, particularly those related to nutritional status, such as relevant nutritional value per tonne of productivity, and environmental sustainability, such as water quality, GHG emissions and biodiversity. Over the years, as more data become available, stakeholders pursuing the New Vision approach can adopt them to track their success.

### The New Vision Goals: Achievable with a Balance of Drivers

Specific improvements will drive progress towards the goals of the New Vision for Agriculture. The most crucial driver is improving the productivity of all farms, small and large, while balancing their environmental footprint. Smallholder productivity is critical to improve economic opportunity and food security. Large-scale farm productivity also drives food security by increasing overall food supply, and it can provide some of the largest gains in environmental sustainability when impacts are closely monitored.

Increasing agricultural water productivity (“crop per drop”) involves a mix of improved efficiency of water application and net water gains through crop yield enhancement (both in irrigated and rain-fed lands). This implies both the need to capture greater water efficiencies from rain-fed and irrigated land (i.e., “green” and “blue water”), and a need to improve crop yields to minimize cultivated land area requiring irrigation.

For some irrigation-intensive countries such as India, up to 80% of impending water scarcity could be addressed through measures that improve water productivity, both by reducing irrigation water through improved application efficiency, but also through the

3 Such as the SAI Platform, the Keystone Center’s Field to Market initiative and AgBalance

4 Charting our Water Future: Economic Frameworks to Inform Decision-making, 2030 Water Resources Group

water-saving effects of increased land productivity—that is, measures that increase the yields of individual fields, offsetting the need for additional land and additional irrigation.

Some examples of ways farms can increase water productivity are through improved fertilizer balance, integrated pest management, better drainage, plant breeding and intercropping practices<sup>4</sup>.

Achieving productivity gains alongside a reduction of the environmental footprint of agriculture is a global challenge that demands local adaptation. Highly productive systems can focus on reducing their environmental footprint. Less productive systems must focus simultaneously on improving productivity and environmental sustainability to facilitate social and economic development in the short- and long-term.

Further expansion of land for farming may be required in some regions. In the past, land expansion for agriculture has relied heavily on deforestation, making it an undeniably large source of GHG emissions, and degradation in water quality and quantity, air quality and biodiversity. There are, however, large tracts of arable land that are not forested and can be brought into cultivation with minimal environmental impact, for example in South Sudan and northern Ghana. In addition, large tracts of degraded land can be rehabilitated for agricultural use, in places such as Eastern Europe.

### Agricultural drivers and their respective impacts on the indicators of progress towards the New Vision

Increasing these drivers . . .	. . . will have different impacts our main goals		
	Food Security	Environmental Sustainability	Economic Opportunity
Smallholder productivity	+++	+ - *	+++
Large-scale farm productivity	+++	++ **	+ -
Land expansion	+	- -	+
Sustainable farm practices	-	+	-
Waste reduction	+	+	+
Water use efficiency	+	+	+
Value add per tonne of output	-	-	++

\* While first adoption of new practices could increase the environmental footprint of smallholder farms initially, with proper focus and extension work, it can taper off over time

\*\* Reduces the need for additional land and irrigation, captures greater water efficiencies, and enables more efficient input application

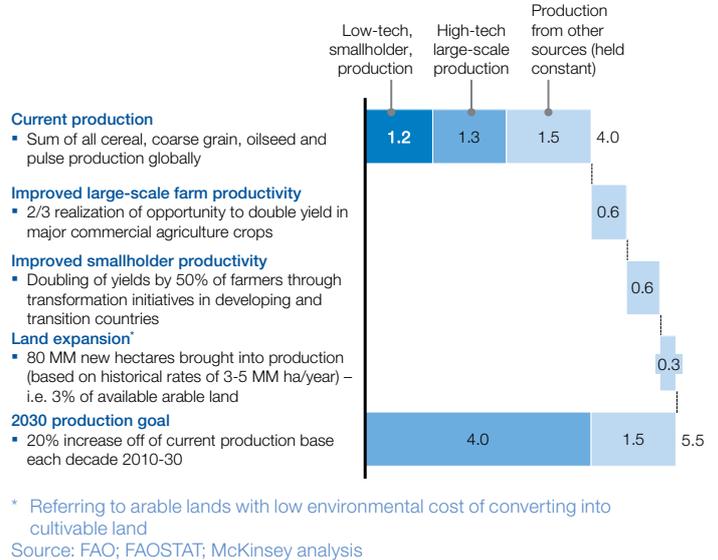
For more information on the drivers affecting the New Vision goals, see the Appendix.

*The New Vision goals are ambitious, but within reach*

Reaching 20% improvements per decade across each dimension is feasible given current projections and the remarkable successes of national agriculture initiatives in Brazil and Morocco, for example, where many farmers more than doubled their yields within a few years' time.

Achieving the New Vision requires sustained commitment over many decades, and to realize it on a global scale will require many countries to undertake ambitious efforts to transform the productivity and sustainability of their agriculture sectors. Experience shows that such transformations are most effective when they leverage investment and partnership from all stakeholders. The following section outlines the six common elements of successful, collaborative, transformative efforts.

**Given current projections, it is feasible to achieve 20% production improvement each decade until 2030**  
*Billions of mt of production*



**Vietnam Growth: Primed for Private Sector Investment**

Over the past two decades, the Government of Vietnam has pursued a development strategy that prioritizes agricultural growth as a vital component to the nation's economic development. This journey has produced remarkable results for the country in terms of increased food security and economic growth. From 1989 to 2009, the country more than halved its rate of stunting and wasting<sup>5</sup>.

It has since become globally competitive in a number of cash crops. For instance, in that time, Vietnam's coffee industry has increased its production over 20 times – from 50,000 to 1.2 million tonnes – to become the world's second largest producer of robusta coffee.

Since 1980, the agriculture sector's contribution to the economy in terms of real value add per capita has grown nearly 5% annually, one of the highest in the world, compared to a global average of 1.2%<sup>6</sup>.

With the agriculture industry primed for private sector investment, in 2010 the Public-Private Task Force on Sustainable Agricultural Growth in Vietnam was formed to further the goals of the Government of Vietnam's agriculture plan. Co-led by government and industry, the task force works to develop and test agricultural models in priority crops with the potential for rapid scaling.

<sup>5</sup> World Bank World Development Indicators. Stunting, or height for age (percent of children under 5), decreased from 61.3% in 1989 to 30.5% in 2008. Wasting, or weight for age (percent of children under 5) decreased from 40.7% in 1989 to 20.2% in 2009  
<sup>6</sup> IHS Global Insight, World Industry Service database

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Given the leadership, commitment and efforts of the Government coupled with the energy, experience, expertise as well as the financial and technological strengths of the private sector, plus the support of our development partners, we should be able to deliver on our aspirations

”

– Jakaya Mrisho Kikwete, President  
The United Republic of Tanzania

“

The missing piece in Vietnam is public-private cooperation. If we can set that up to work, the problems of technology or investment will be solved. People have the incentive. With better cooperation, the potential is huge

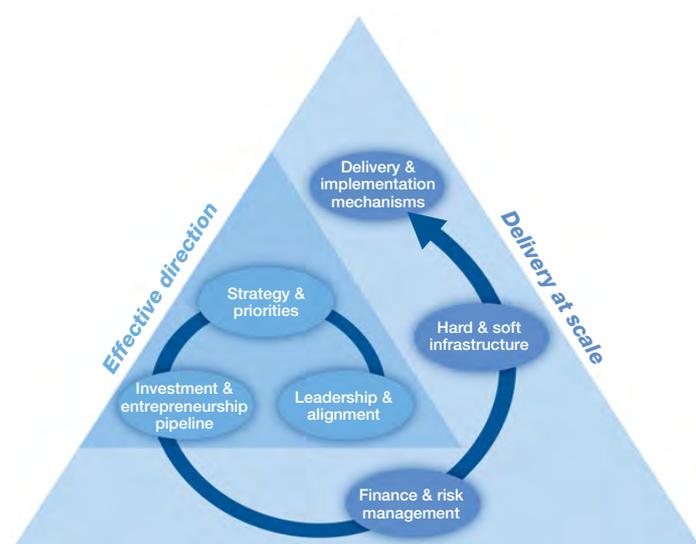
”

– Dang Kim Son, Director-General  
Institute of Policy and Strategy for Agriculture and Rural  
Development (IPSARD), Vietnam

# Setting in Motion the Virtuous Cycle: the Six Elements of Agriculture Transformation

In examining large-scale agriculture transformations around the world, we found **the most successful ones are founded on multi-stakeholder<sup>7</sup> partnerships** and have six elements in common.

The following is a synthesis of the experiences and best practices observed in both mature transformations, such as in Morocco and Brazil, and in more recent transformations underway in Vietnam, Indonesia, Mexico, and Tanzania. These are drawn from interviews with a wide array of stakeholders who have led and participated in these initiatives, highlighting lessons based on their experience.



There are many opportunities for smaller scale initiatives, as well new point interventions (such as improved seeds, etc.) that strengthen specific aspects of the value chain. However, the six elements described below represent critical success factors in large-scale, systemic transformations.

<sup>7</sup> Stakeholders include all actors involved both directly in the food value chain and those impacting the broader food system, including: government, food and beverage companies; storage and processing firms; shipping and transport providers; retailers; IT; inputs companies; banks; and donor organizations

Transformations are massive projects – they require significant amounts of dialogue, strategic alignment, stakeholder coordination, financing and implementation. To undertake them, stakeholders need effective mechanisms to develop and deliver such initiatives. Each of the six elements described below is essential. If any one element is missing, the initiative risks failure. Together, they can transform agriculture.

## Element 1: Leadership and Stakeholder Alignment

**The transformation must be led by senior policy shapers, with active participation by the private sector and civil society at a senior executive level.**

Senior government leaders (such as the president or agriculture minister) play a central role in defining the vision and goals, engaging partners and leading the transformation process. Private sector investment, farmer and civil society support, and donor assistance will also be critical to success. Therefore, it is critical to build joint ownership and commitment of the transformation plan.

### Effective transformation leadership sometimes means a major step change from the way things were done before

From . . .	. . . to
<ul style="list-style-type: none"> <li>Broadly implement individual initiatives across entire country (e.g., fertilizer subsidies, extension, seed systems)</li> </ul>	<ul style="list-style-type: none"> <li>Holistic mini-transformations with enough change energy in a geographic region or value chain – then scale from there</li> </ul>
<ul style="list-style-type: none"> <li>Individual agendas for country, donors and private sector</li> </ul>	<ul style="list-style-type: none"> <li>Coordinated, multistakeholder planning process and execution management</li> </ul>
<ul style="list-style-type: none"> <li>Government-driven</li> </ul>	<ul style="list-style-type: none"> <li>Market-driven, with government as enabler</li> </ul>
<ul style="list-style-type: none"> <li>Design programmes around technical and political considerations</li> </ul>	<ul style="list-style-type: none"> <li>Design for scalability                             <ul style="list-style-type: none"> <li>Scalable private sector change agents (e.g., nucleus farmers, warehouse aggregators)</li> <li>Focus on replicable contracts</li> <li>Transaction-focused approach</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Everything is a priority</li> </ul>	<ul style="list-style-type: none"> <li>Explicitly sequence one's activity choices, and explicitly choose <i>not</i> to do certain things</li> </ul>

### While each partner has clear self-interest, they must have explicit shared aspirations to deliver win-win outcomes.

To align with one another, this group of leaders should work together to:

- Define shared aspirations in a way that resonates with and incentivizes all stakeholders to participate
- Define in broad terms how each stakeholder group will contribute to their collective success (e.g., investors will build farms and outgrower schemes; government will facilitate access to land while protecting the rights of both local community members and investors; civil society will monitor social inclusion and act as facilitator for progress)
- Agree on concrete working arrangements, action plans and indicators of progress; and oversee implementation

Aligning the leadership of diverse stakeholder sectors is often a new and unfamiliar task. A series of dialogues, ideally facilitated by a neutral party, can be a useful starting point, followed by building a shared knowledge base. This could be done through study trips to observe transformations in other countries or seminars to gain new perspectives on the transformation's potential.

### Leadership must stay in continuous dialogue and coordination throughout the course of the journey.

While many initiatives aspire to effective leadership, actual results vary. Stakeholders can use objective tools or questions to help evaluate the efficacy of their existing leadership:

- Is the transformation attracting great leaders? An effective initiative will attract good leadership through its high aspirations and ongoing momentum. In Tanzania, the president has committed significant personal effort and dedicated senior government leadership; several senior private sector leaders are playing meaningful roles; and donors are putting strong leaders in place. A corollary test: Is there shared influence across public sector, private sector and civil society in key decisions, or is it dominated by one group?
- Are there real resources and time being spent on aligning stakeholders? In Morocco, the King launched "Plan Vert" with intensive involvement of many stakeholders over an 18-month period to develop an aligned strategy and approach to their transformation. During this time, this was one of the top three priorities of the government, and there was intense activity and engagement that helped gel the leadership team and vision. Whenever stakeholders spoke, they spoke from a common vision, and whenever resources were needed, they were found
- Is there a plan for a transition from leadership by smaller group of champions to a broader set of institutional stakeholders? It is critical to cascade the vision and plan to every level of government. In Morocco, the first phase of a national strategy and plan was followed by a one-year phase of regional planning allowing the plans to be customized and owned by regional stakeholder groups. This phase was critical to later implementation momentum

### Leadership Alignment at the Highest Level: Southern Agricultural Growth Corridor of Tanzania (SAGCOT)

Government, industry and civil society achieved an unprecedented level of alignment by coordinating a public-private partnership of investors, international development agencies, farmer groups and government. Key individuals – many of them on SAGCOT's Executive Committee – were critical not only in bringing their own organizations on board, but also bringing partners together, helping them build relationships of trust and fostering a common vision. These individuals share a collaborative, entrepreneurial spirit; personal commitment in addition to organizational mandate; and impressive levels of energy. Beyond President Kikwete's active and visible leadership, he has exhibited deep personal commitment to the project's success. He personally reached out to a number of bilateral and multilateral donors and took the first step himself by committing US\$ 1 million to the SAGCOT Catalytic Fund, with the intention of it being an annual commitment.

## Element 2: A Clear Strategy and Priorities

**Leaders should set realistic, quantified and measurable objectives across the three goals: economic growth and opportunity, food security and nutrition, and environmental sustainability.**

Using a robust fact base, knowledge of the country's starting point and the group's collective aspiration, the transformation leadership must set goals on what the transformation will achieve across each of the three goals of the New Vision. This rigour in goal-setting creates a sense of accountability among the leadership and serves as the benchmark against which the success or failure of the transformation will ultimately be measured. Progress towards the goals must be tracked and regularly reported using agreed indicators.

**Prioritization should be based on comparative advantage of key value chains and geographic basins and demand from destination markets.**

Leadership will need to make clear choices that will determine the activities of the transformation and clearly communicate them with a rationale. It may involve making trade-offs in order to focus available resources effectively. Priority should be placed on value chains that have **significant demand markets – rural, urban and export – that can be competitively served**. That is, the region should have the capability to deliver the expected quality at competitive costs across the chain given local agronomy, geographic position and other factors.

“

**One has to assess specific value chains and ask: ‘What key constraints exist along each part of the value chain? Which of these are of public nature, and which ones are of private nature?’ Then you can be very clear about what interventions and which actors are responsible for implementing for a meaningful impact to happen**

”

– Boaz Blackie Keizire, CAADP Technical Adviser  
African Union, Addis Ababa

The transformation can rarely involve the entire country from the outset, so regions must be prioritized and a rationale provided to explain the expected benefits of the approach.

Having chosen a focal region, the next task is to analyse the economic, agronomic and competitive potential of the range of possible value chains to show which could offer the highest sustainable impact across the three goals of the New Vision. Crops should be chosen not only for their value, but for their future agronomic and nutritional potential. A sound understanding of the soil profile and water availability of the region is paramount to selecting value chains that will be successful for many years to come.

Trade-offs will be necessary – one value chain may have a high impact on economic opportunity for smallholders, while another may provide greater benefits to national food security. Morocco made an explicit choice that the best way for smallholders to escape poverty would be to transition to high value crops – given the existence of good irrigated lands and access to the European markets. This was a big choice that was underpinned by a great deal of competitive analysis and leadership discussion.

The best approach for making these choices is to conduct a transparent and objective analytical exercise that examines the costs and benefits of various options across regions and value chains, and enables stakeholders to debate them in an open way. By undertaking this type of exercise, Ghana chose to focus on four breadbaskets and selected soy, maize and rice for its value chain focus. Engaging stakeholders in “co-creating” the approach and communicating the rationale creates a shared foundation upon which all stakeholders can build their plans.

### Clearly Articulating Choices: Rwanda

Rwanda’s Comprehensive Africa Agriculture Development Programme (CAADP) investment plan stands out as an exemplar for establishing clear priorities and choices and provides the rationale behind them. It specifies everything from precise infrastructure needs and value chain export targets in metric tonnes, to how much private sector investment it would like to attract in particular sectors and regions. As a result, donors and investors can clearly understand Rwanda’s priorities and where to focus their activities. Rwanda has gone so far as to grade its donor partners on the return the donor’s spending has generated and to rally its donors around explicitly investing in particular parts of the plan.



## Element 3: A Concrete Investment and Entrepreneurship Pipeline

A lasting agriculture transformation is one that is ultimately supported by real market forces. Bringing new and existing innovations into the system requires **market stimulus to induce potential entrepreneurs and investors to take on a defined set of initiatives.**

Transformation leaders need to **define “bankable” investment opportunities across the chain**, including their location, value and size — farms and nucleus farms, distribution, processing, inputs and supporting services, outgrower schemes, and aggregation mechanisms – to drive farmer competitiveness and link them to the market.

Best practice transformations **engage the right groups and organizations to participate in these opportunities**, and the incentives to motivate them. Who would be the likely people or organizations to drive breakthrough solutions? Who will be our entrepreneurs, and how will they aggregate, leverage and empower the target region’s smallholders in a fair and efficient

way? Is it through individual entrepreneurs, co-ops or large commercial farm investors?

**This requires triggering a wave of transactions** by identifying incentives (such as access to land) as well as conditions for success (such as aggregating smallholders). For example, bidding rounds of lots or contracts are transactional approaches to kick-starting and accelerating investment.

Articulating the action plan for addressing this pipeline can align expectations and provide space to set targets for monitoring progress. This could include setting operational goals to measure success, for instance, the number of entrepreneurs and investments required, the number of smallholders aggregated by the entrepreneurs, and the lift in smallholder income of those who have been aggregated.

#### Innovation through Aggregation: Morocco's Nucleus Farm/Outgrower Model

As part of its national Maroc Plan Vert agricultural transformation, Morocco decided to move from wheat towards high-value crops on its irrigated land, yielding much higher incomes to small farmers. The challenge to implementing this strategy was that high-value crops require significant investment (e.g., in storage and conditioning equipment, inputs) and greater capabilities (e.g., growing techniques, quality control, access to European markets) than what is usually available to traditional smallholder wheat farmers.

The use of a limited number of private sector nucleus farmers as the change agent in the transformation was a critical decision, and one that has proven to be very successful. The government orchestrated a process of soliciting several hundred more sophisticated farmers (larger Moroccan and Spanish farmers and international companies) through long-term land leases of 50 hectare plots and other start-up assistance. In return, the nucleus farms have a contractual obligation to work with small farmers in their vicinity to help transition them to higher value crops (e.g., providing inputs on credit, provide extension, offering marketing services).

The role of government has moved from direct extension to oversight, ensuring that contracts are adhered to and that market prices are available to small farmers to prevent power imbalance.

8 Connected Agriculture: The role of mobile in driving efficiency and sustainability in the food and agriculture value chain; Vodafone Group in collaboration with Accenture, 2011

9 Maersk Line

## Element 4: Enabling Hard and Soft Infrastructure Policies and Investments

Weak infrastructure creates a barrier between farmers and consumers, reducing market opportunities and incentives for investing in farm productivity. **Agriculture transformations have an imperative to leverage and shape infrastructure developments as a game changer for agricultural development.**

“Hard” infrastructure includes physical structures that often reflect the highest impact points for agriculture and rural development, such as roads, ports and terminals, power grids, irrigation systems, and IT and telephony. Hard infrastructure needs can be tackled in a way that has an immediate impact on food security through income. Vodafone estimates that a series of telecom investments could increase farmer incomes by 11%, a total value of U.S. \$138 billion by 2020<sup>8</sup>.



**We are learning from this public-private Task Force. We can convert our experiences into government policy**



– Cao Duc Phat, Minister of Agriculture and Rural Development of Vietnam

Further, efficient value chains are a fundamental part of the solution in terms of reducing food waste, improving quality and creating market access for smallholders. Improved infrastructure along the entire supply chain – such as more efficient shipping, temperature-controlled distribution, improved storage and packaging – can mean recapturing much of the post-harvest loss that plagues the food system today. A case study of India's banana exports reveals astounding potential for productivity gains: critical upgrades in India's cold chain distribution infrastructure could free up 25 million tonnes of banana produce for export from the world's largest producer of bananas<sup>9</sup>.

#### Vietnam Growth: Getting Property Rights “Right”

One of the catalysts of Vietnam's 20 years of agriculture growth was modernizing the country's land rights system. The decollectivization of agriculture and the introduction of legal rights to land for virtually all smallholder farmers in the country at the beginning of this time period was an important investment in the country's soft infrastructure that allowed the agricultural growth to happen.

**Decisive action on critical soft infrastructure requirements through a concrete legislative and administrative reform agenda is crucial to the long-term stability of the agricultural sector.** Many partnerships cite it as a particular challenge to translate government commitments into legislative action.

### Aligning Infrastructure Investments: South Sudan's Feeder Roads

With some of the lowest levels of physical infrastructure in Africa, feeder roads are a major priority of the South Sudanese government to help unlock its economic potential, especially in agriculture. But where should it begin? By convening its core donors, national government leaders and state leaders, the group conducted a fact-based exercise whereby each state identified potential feeder road investments, and then prioritized them using a set of filters and methodologies the group had previously agreed upon – from population reached, to the likely economic value and impact. This then allowed both government and donors to see in a highly transparent way which feeder roads would receive investments first, and why. It ensured coordination across all stakeholders and maximum return on these big-ticket infrastructure investments.

“Soft” infrastructure includes elements that affect the overall enabling environment, such as regulation, land tenure, information services and extension systems. Improving regulatory frameworks, addressing land access and tenure issues, or strengthening farmer capacity through extension systems are included in this category. Soft infrastructure investment can catalyse significant progress in economic opportunity.

**Leaders should seek to find an effective model to catalyse development of hard and soft infrastructure.**

Sub-strategies must be created around infrastructure investments that explicitly tie them to the transformation. Leadership will need to work closely with their stakeholders to align their activities to the transformation itself. This is often not easy, as it can mean cutting back on some infrastructure activities while building up others.

Such alignment can often be achieved through catalytic processes such as the creation of special economic zones or public-private partnerships.

To measure the progress of infrastructure for the transformation, countries will set targets on concrete outcomes, including: kilometres of roads in the transformation zone; number of extension workers trained; and pragmatic policies created and implemented in direct relation to the transformation. These targets work best when established up front.



### India: Improving Incomes through Hard and Soft Infrastructure

India's National Rural Employment Guarantee Act (NREGA) tackles financial exclusion through income-generating activities for agricultural workers. The programme pays agricultural labourers and others for up to 100 days per adult to construct roads, drain lands and build other hard infrastructure. While a programme of this scale does not come without its trials – in NREGA's case, allegations of funds leakages and misdirected capacity – it has enhanced the financial inclusion of many Indian farmers and holds the potential to make further strides in economic and agricultural development.

Focus on soft infrastructure has led to successes in land rights issues. The eastern state of Odisha (formerly Orissa) has had recent success in employing rural village youth to inventory land and assist land administrators in regularizing the land rights of small farmers, including those in tribal districts nor normally served by land administrators.

## Innovative Financing: The Case of AgDevCo

Recognizing that agriculture finance in Africa is difficult, risky and requires a long-term view, AgDevCo has developed a model whereby long-term financing is provided at concessionary rates (often by the international community) to partially fund the capital costs of agriculture infrastructure (e.g., irrigation, land preparation), with a corresponding transformation requirement.

In Ghana, AgDevCo is using this model to create a pool of “patient capital” to build irrigation schemes for smallholders, who then lease part of their unused land to a commercial farm investor, who in turn pays back the “patient” capital for the irrigation scheme on behalf of the smallholders. The model is based on a successful pilot in Zambia, which is now into its third growing season.

## Element 5: Catalytic Financing and Risk Management Solutions

Financing and risk management are major drivers of the strategy, business model and infrastructure investments in any agricultural transformation, yet they are often in short supply. The idea is to **build a package of instruments** – grants, guarantees, patient capital and commercial money combined – to finance the capital costs of the transformation. The various instruments should be mutually enabling, for example, using crop insurance or financial guarantees as collateral to get banks to lend money, or using donor funding and patient capital to co-invest with private investors to improve a project's access to capital through public private partnerships.

### Financing

In much of Africa, investment in agriculture accounts for over 30% of GDP but receives less than 5% of all lending<sup>10</sup>. This is unsurprising given the high risk of early-stage agribusiness. *Patient equity* is a more attractive long-term solution than debt financing.

Effective financing and risk management requires a **broad set of innovative catalytic and patient capital financing mechanisms** as required by the long-term horizon of agricultural development – from patient capital, donor grants and commercial equity to working capital and concessionary loans.

### Risk management

Risks that could be shared among many farmers, such as weather, are often discouraging them – especially smallholders

#### Beira Agricultural Growth Corridor Catalytic Fund

In Mozambique, the Beira Agricultural Corridor Catalytic Fund was built by AgDevCo to finance early-stage agricultural ventures. Capital is provided by both the government and private sector donors. The fund operates on a co-investment basis, pairing up with national sponsors to create investment opportunities to attract private investment.

Investment costs are recovered and reinvested into creating additional investment-ready opportunities. The fund has developed monitoring and reporting metrics to track performance against explicit commercial and development targets.

– from making productivity investments that are high return, but unbearable due to economic fragility. Risk management instruments (such as loan guarantees), and various forms of insurance (such as crop insurance) **catalyse further investment**. A market for their products *and* private sector contracts also reduce risk from both the grower's and financier's point of view. Cooperatives can also help to share financial risks for and among farmers, as well as reduce risk for lenders.

Agriculture transformations necessitate long-term loans and funding commitments. To sustain further agriculture investment, it requires **interventions to develop and support a strong agricultural finance sector, addressing industry structure, incentives, capabilities and regulation**. Countries need to assess what financing and risk instruments their transformation will require and how to put the arrangements in place. This exercise will allow the leadership to identify the financial regulatory framework and institutional capability building the country will need.

#### Risk Management and Climate Change Resilience: The Horn of Africa Risk Transfer for Adaptation (HARITA)

Weather-related risk is one of the greatest and often insurmountable concerns for smallholder farmers. The changing climate only increases these risks, both directly (fluctuating yields due to changes in temperature and rainfall) and indirectly (due to changes in irrigation water availability)<sup>11</sup>. To mitigate these risks in volatile, drought-stricken Ethiopia, Oxfam America developed HARITA, an innovative crop insurance programme. It uses the same method as the World Food Programme's (WFP) Food for Work programmes, which offer food as payment when people work on community infrastructure projects. Similarly, HARITA buys microinsurance with their labour on agriculture-related projects once the harvest is over. If the rainfall fails, Oxfam insures the farmers.

"HARITA's growth to serve over 13,000 households in Ethiopia in 2011 has made scaling up an imperative."<sup>12</sup> Oxfam America has joined forces with the WFP, global and local insurers, and re-insurers to create R4, a rural resilience initiative that aims to reduce climate-related risks by offering a robust set of risk solutions. It manages risk in four major ways – community risk reduction, productive risk taking, risk transfer and risk reserves<sup>13</sup>.

<sup>10</sup> AGRA; World Bank

<sup>11</sup> IFPRI Food Policy Report, Climate Change: Impact on Agriculture and Costs of Adaptation, 2009

<sup>12</sup> Oxfam America. HARITA quarterly report: January 2011 – March 2011

<sup>13</sup> Swiss Re

## Element 6: Robust Mechanisms and Institutions for Delivery, Implementation and Durability

Successful agriculture transformations have a deliberate and adequately resourced approach to designing, managing and monitoring implementation of activities to drive change at scale. It is the **institutionalization of the partnership through a formal organization and governance setup to orchestrate change and monitor progress**, either through explicit empowerment of existing actors or establishment of a delivery unit. This delivery mechanism is arguably one of the most important elements of the transformation.

It requires **sufficient and dedicated resources to drive operational development and deployment of initiatives** until they achieve a self-sustaining momentum. Without the right people, skills and funding, and a structure that gives and clarifies the authority to manage, the transformation can quickly fall off track.

To ensure mutual accountability, **all stakeholders should agree on transparently monitoring and regular reporting of progress to the head of government** through a high-level dashboard.



**The Task Force's success to date has been based on the commitment and entrepreneurship of individuals. To be sustained for the long term, we need to institutionalize the approach**



– Rashid Qureshi, Managing Director  
Nestlé Vietnam

The level of institutionalization and resourcing can vary, tailored to the specific facets of the transformation and country in question. Some countries, such as Ethiopia, have created stand-alone “delivery” or “transformation” units reporting directly to the change leader (e.g., a president or prime minister) that have strong amounts of authority and staff to quickly troubleshoot and execute on all aspects of the transformation, while others have created more “lean-and-mean” coordinating steering committees that provide a regular forum for all stakeholders to meet and track roll out.

Others have embedded a transformation unit within their agriculture ministries, while still other countries have set up an overarching programme management office to monitor progress and adjust plans without taking a direct role in implementation.

The design ultimately needs to **incorporate targeted capacity building and public sector pay to ensure the critical mass to implement projects**. Considerations may include: evaluating the country's past and present performance and its capacity for delivering large transformations; establishing an appropriate

organizational set-up to drive and monitor performance; and building an irreversible results-oriented culture, continually building system capacity and communicating the delivery message so that all stakeholders know and what the expectations are and why they are doing it.

Anchoring a transformation solely in the Ministry of Agriculture can pose limitations, since many essential actions and solutions lie within the domain of other ministries (e.g., infrastructure and finance). Cross-ministry coordination is therefore an important element of success.

The delivery unit mechanism has a very strong track record, as seen in nearly 20 country-sector transformations, and there is a real movement in many agricultural transformations towards using these same multi-stakeholder delivery units.<sup>14</sup>

## Managing Complexities and Controversies

Agriculture transformations can be complex and challenging. The examples described here all required significant time commitments, even at the beginning phases. Most took up to 12 months to arrive at national-level alignment, and an additional 6-9 months to align local governments an effective plan. The involvement of many diverse stakeholders strengthens the ultimate outcome, but can slow initial progress of the initiative as consensus and partnerships develop.

While the six elements described here are fundamental to systemic agricultural transformation, they do not present solutions to specific policy issues that are actively debated in the food system today. As leaders address agriculture in their own countries, they will need to navigate and find solutions to complex and sometimes controversial issues such as:

- **Nutrition:** Prioritizing nutrition interventions, and integrating nutrition and health goals into agricultural programmes
- **Soil management:** Use of chemical fertilizer or other techniques (e.g., conservation tillage, inoculants, crop and soil rotations) to restore and maintain soil fertility
- **New land and large farms:** Environmental impacts of land expansion, ownership and transparency issues with large-scale land purchases, land rights for farmers
- **Biotechnology:** Utilization and regulation of genetically modified seed varieties to increase productivity
- **Crop diversity:** Overlapping increased productivity and increased crop diversity reflecting local cultural tastes and nutritional needs
- **Local politics:** Aligning national and local government agendas and priorities

Focus and good faith are required by all parties to ensure that controversies over these or other issues do not derail the broader multistakeholder collaboration.

Partnerships can ensure progress by firmly anchoring their mission around shared goals, and focusing on collaboration and continuous dialogue to achieve practical progress towards those goals.

<sup>14</sup> E.g., Taiwan's Joint Commission for Rural Reconstruction (JCRR), Ethiopia's Agriculture Transformation Agency (ATA), the United Kingdom's Prime Ministers Delivery Unit (PMDU), Libya's Program Central Bank Coordination Unit



## Business Unusual: Tanzania's Growth Corridor

SAGCOT is now launching a delivery mechanism intended to help partners do “business unusual.” An independent coordination body, the SAGCOT Centre, will identify investment opportunities and help coordinate the range of players that need to be involved in realizing each one, including the different branches of government. The Centre will not do the players’ jobs for them, but rather help them do their jobs better, in more targeted ways. The Centre will also commission research, monitor the business enabling environment and measure the impact of the initiative over time – activities that benefit all players.

## The Range of Delivery Mechanisms: Ethiopia and Tanzania

Delivery and implementation mechanisms can come in many different forms, depending on what is most appropriate and impactful for a country.

In Ethiopia, given the holistic and national scale of its transformation, it set up an Agriculture Transformation Agency (ATA), reporting directly to the prime minister, and given the authority to coordinate across all stakeholders to execute on its transformation strategy.

In Tanzania, the transformation focus has been specifically on developing the southern corridor (SAGCOT), using a range of public-private partnerships. The President formed an Executive Committee involving the main stakeholders to drive the development of an Investment Blueprint and develop the structures of the SAGCOT Centre and Catalytic Fund.



# Building National Partnerships: It Begins with a Dialogue of Leaders

“

We got our inspiration from other countries. But now this initiative has become our own. Everyone is committed and we are learning by doing. The New Vision is becoming our business model

”

– Bayu Krishnamurthi, Vice-Minister of Trade of Indonesia

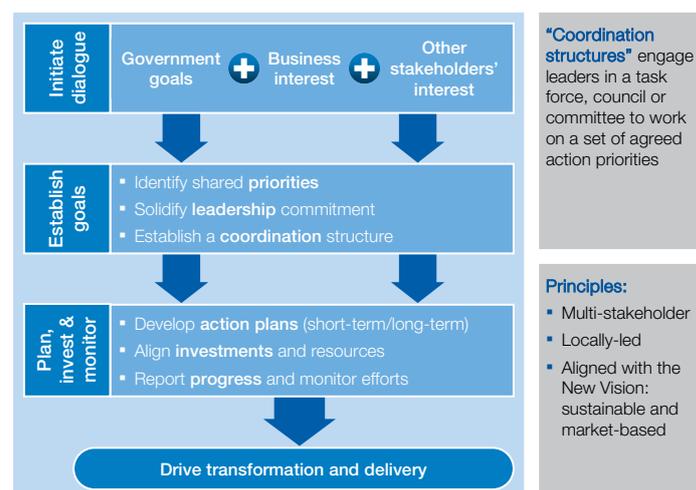
Transforming the food system is a multi-year journey. The six elements that comprise it take shape in stages, driven and implemented by leaders and stakeholders in the agriculture system.

Orchestrating a broad-based, systemic transformation can be extremely challenging. By definition, an ambitious transformation requires stakeholders to go beyond business as usual, acting outside of traditional roles and structures and collaborating in new ways.

Multi-stakeholder initiatives often operate from a jointly-created platform, such as a task force or coordinating unit, which creates a neutral space in which to develop and enact the shared agenda. Such a structure engages leaders representing broader stakeholder networks whose support is essential to the initiative’s success. The SAGCOT Executive Committee in Tanzania – engaging government, the private sector, donors, civil society and farmer leaders – is one example.

Creating such a platform often requires the involvement of a neutral facilitator to help stakeholders establish the goals and framework for collaboration. The World Economic Forum has been invited to play such a role in a number of countries, providing support through the stages outlined below.

## The New Vision for Agriculture Partnership Platforms: How it Works



### Initiating dialogue and collaboration

A multi-stakeholder effort begins when one or more stakeholders step forward to initiate action and open a dialogue with the others.

Government leaders, as shapers of the national agricultural agenda, are often best placed to initiate the process. An ambitious vision for transformation should ideally be anchored in and supported by a national plan or strategy. This or a global framework, such as the New Vision for Agriculture can provide a basis for dialogue.

Championship by a top government leader such as the president or senior ministers can establish a clear base of support and provide the mandate for other stakeholders’ engagement in the initiative, including the local and global private sector.

Anchoring discussions in the government’s plan can help assure stakeholders that private investment is being engaged in the national interest, and in a manner that leverages public-sector investments. Countries without a formalized plan can

use the dialogue process as a non-political, pre-competitive space for exchanging ideas and developing strategy.

Through a process of facilitated dialogue, stakeholders can discover their common interests, build trust and agree in principle to work together towards shared goals.

### Making partnerships work: what stakeholders can do

<b>Public sector should . . .</b>	<ul style="list-style-type: none"> <li>▪ Create an enabling environment for market-driven economic growth and investment</li> <li>▪ Present attractive investment options to the private sector and donors</li> <li>▪ Demonstrate leadership in driving and coordinating initiatives across ministries</li> </ul>
<b>Private sector should . . .</b>	<ul style="list-style-type: none"> <li>▪ Adapt commercial models to fit the unique needs of developing country contexts</li> <li>▪ Demonstrate genuine commitment to a combined commercial and social value to earn trust and credibility</li> </ul>
<b>Civil society should . . .</b>	<ul style="list-style-type: none"> <li>▪ Harness the value of entrepreneurship as a growth driver and provider of livelihoods, whether undertaken by small or large scale enterprises</li> <li>▪ Develop new approaches to scale effective community-based interventions</li> </ul>
<b>Donors should . . .</b>	<ul style="list-style-type: none"> <li>▪ Catalyse and enable private sector-driven growth by leveraging their funds for greater impact</li> <li>▪ Adapt lessons from companies about efficiency, scalability and impact</li> </ul>
<b>Farmers should . . .</b>	<ul style="list-style-type: none"> <li>▪ Organize and demonstrate leadership in seeking better opportunities from both the public and private sectors</li> </ul>

### Establishing shared goals and practical working arrangements

A principal goal of the dialogue process is to discover specific areas where government priorities and business interests overlap. The group can then establish a structure for collaboration – such as a task force or council – to coordinate efforts around these priorities.

For example, the Government of Vietnam’s 10-year plan prioritized certain crops that were of strong interest to the business community. A public-private task force was formed to engage business, government and local stakeholders in improving productivity, quality and sustainability of five key commodities.

The collaboration accelerates progress towards shared goals by aligning and focusing stakeholder investments, programming and collaboration. Groups will function best if they engage leadership-level support as well as working-level resources, and agree on clear roles and responsibilities. For example, most New Vision partnerships are co-chaired by a minister of agriculture and chief executive officer, with designated leaders coordinating public-private working groups on main focus areas.

### Acting on initiatives and investments

As groups begin to implement their action plans, they will need to engage and align efforts of multiple stakeholders. The partnership platform can act as a forum for engaging new partners, developing and exchanging innovations, reporting progress and problem-solving specific obstacles that are encountered.

To be effective, partners should set quantitative targets and use key performance indicators to monitor progress. Groups can maintain momentum by using key milestones to drive progress forward. The New Vision for Agriculture partnerships, for example, have used the World Economic Forum’s high-level convening meetings as deadlines for achieving specific outcomes.

### Driving transformation and delivery

As the transformation effort develops, multi-stakeholder leadership groups can play a key role in structuring and creating buy-in to effective delivery mechanisms, steering the transformation from one phase to the next. In Tanzania, the multi-stakeholder Executive Committee delivered the SAGCOT investment blueprint, defined the need and helped establish the SAGCOT Centre, and helped mobilize resources for and structure the Catalytic Fund. Once the new institutional structures are completed, the Committee will be converted into an Advisory Board for the SAGCOT Centre.

The leadership group, with the support of facilitating organizations, can play a key role in raising awareness and engaging additional partners for the transformation.

Through regular reporting to an engaged network of partners, further momentum develops and new institutional capacity is put in place. With a “virtuous cycle” of increasing engagement and impact underway, the transformation will be in full force.

## New Vision for Agriculture Partnership Platforms

The World Economic Forum's New Vision for Agriculture initiative has facilitated the formation of partnership platforms to kick-start transformation initiatives in four countries. These platforms engage global partners to support achievement of local goals for sustainable agricultural growth. The vehicle has created significant momentum and helped to energize leadership and focus investments around a common cause.

While each partnership sets and pursues its own diverse goals, they have followed a broadly similar process to engage partners and implement action. Each has benefited directly from the momentum and interest generated through global fora. Through intensive engagement among and between partnerships, the following five initiatives form a learning community that is testing and refining a potentially replicable model:

### Tanzania

Through a series of dialogues, global and regional investors agreed to join local stakeholders in a collaborative effort to accelerate agriculture-sector growth. President Kikwete of Tanzania recommended a focus on the Southern Agricultural Growth Corridor (SAGCOT) and mandated an Executive Committee to deliver an investment blueprint for the corridor in eight months. The Committee – co-led by the Minister of Agriculture and a vice-president of Unilever, and engaging global and local companies, donor agencies, civil society and farmer leaders – worked intensively to deliver a blueprint for generating US\$ 1.2 billion in farming revenue and 420,000 new jobs in the corridor, largely for smallholders. The Committee has since helped establish the SAGCOT Centre to coordinate and mobilize investment and partnerships in the corridor, and a Catalytic Fund to spur investments.

### Vietnam

A dialogue series with global investors identified a number of specific crops, prioritized by the government's 10-year agriculture plan, which were the focus of strong commercial interest. The group has formed a task force, co-chaired by the Minister of Agriculture and Rural Development and the national chief executive officer of a global company, engaging 14 global companies, three local companies, two provincial governments, ministry officials and the Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD). Five working groups were formed – each co-led by one private and one public sector leader – to improve the productivity, sustainability and smallholder farmer benefits of five crops<sup>15</sup>. Stakeholder engagement has broadened and diversified as groups moved into action, partnering with provincial governments, farmers' groups, international organizations, financial institutions and NGOs. The five commodity groups have already demonstrated impact through increased production, improved quality, farmer capacity-building and incomes. Partners are now being engaged to develop smallholder farmer financing mechanisms and help scale projects. The Ministry of Agriculture and Rural Development has adopted the New Vision into its strategy.

## Indonesia

The Government of Indonesia decided to seek private-sector partnership to achieve the New Vision for Agriculture in Indonesia, particularly to improve food security, environmental sustainability and strengthen livelihoods of smallholder farmers. 13 global companies, a number of local companies, and other stakeholders have joined with the vice-ministers of agriculture, trade and finance and one provincial government to form a national-level partnership dedicated to improving seven key crops<sup>16</sup>. Working groups of companies, government leaders and other stakeholders, each led by a chief executive officer, are now refining action plans for each of the target crops.

## Mexico

The Mexican Secretary of Agriculture brought the New Vision approach to Mexico, with a goal of improving the competitiveness and sustainability of the sector while strengthening rural livelihoods. 17 global and 15 local companies joined the ministry, producers' associations and other stakeholders in a national-level alliance. The group is focused on improving sustainable production of five crop groups<sup>17</sup> while also addressing cross-cutting issues in Mexico's agriculture sector. The group has worked intensively to develop and initiate action plans over a six-month period, engaging large networks of stakeholders in a dialogue about Mexico's agricultural future in the process.

## Grow Africa Task Force

At an Africa regional meeting in June 2011, leaders of the Tanzanian SAGCOT initiative shared their experience with government and business leaders from six other countries who expressed interest in taking a similar public-private approach to accelerating agricultural growth. The Grow Africa Task Force was formed to support them, linking the African Union Commission, NEPAD Agency and New Vision for Agriculture with donor agencies, private sector partners and farmer leaders. Task force partners are combining their institutional capacities to support this "first wave" of seven countries in deepening private-sector investment and partnership to advance progress towards national goals defined with the support of CAADP (the Comprehensive African Agricultural Development Programme).

15 Coffee, tea, fruit and vegetables, commodities and fisheries

16 Dairy, soya, corn, cocoa, coffee, palm oil and rice

17 Grains, oilseeds, fruits, coffee and cacao and fish



# Appendix

## Drivers and levers of the New Vision for Agriculture

### What would drive a 20% increase in food production?

Drivers	Examples of levers that make an impact
Large-scale and smallholder productivity yield/ha	<b>Levers to increase productivity**:</b> <ul style="list-style-type: none"> <li>Waste reduction through improved post-harvest practices, such as refrigeration and packaging</li> <li>Increase/optimize usage of agricultural inputs (e.g. nutrition, pest management)</li> <li>Plant higher yielding seeds</li> <li>Improve farming approaches (e.g. precision farming/seed spacing)</li> <li>Modernize farming technology (e.g. irrigation pumps)</li> <li>Integrated pest management</li> </ul> <b>Levers to improve enablers:</b> <ul style="list-style-type: none"> <li>Extension services</li> <li>Improved infrastructure to improve efficiencies such as irrigation pumps and reduce post-harvest losses (i.e. waste) such as silos</li> </ul>
Land expansion* Changes in land use	<ul style="list-style-type: none"> <li>Set aside lands in the U.S. and Europe (implies policy changes)</li> <li>Improve access to non-forest lands in Ukraine, Africa, Brazil                             <ul style="list-style-type: none"> <li>Infrastructure</li> <li>Controlled access to land (i.e. no land grabs; government protection for social equity and environment)</li> </ul> </li> </ul>

\* Referring to arable lands with low environmental cost of converting into cultivable land

\*\* Dependent on scale and level of development of the country

Source: McKinsey & Company

### What would drive a 20% decrease in GHG emissions per tonne of production?

Drivers	Examples of levers that make an impact
Large-scale and smallholder productivity (yield/ha)	<ul style="list-style-type: none"> <li>Increase yields (discussed under production drivers)</li> </ul>
Land expansion* Changes in land use	<ul style="list-style-type: none"> <li>Decrease in deforestation and draining of wetlands</li> <li>Increase yields per hectare</li> <li>Effective REDD** deal and effective national laws and enforcement</li> </ul>
GHG emissions/ha	<ul style="list-style-type: none"> <li>Practice alternative/no-tillage farming</li> <li>Reduce over-fertilization</li> <li>Increase nitrogen fixing via crop rotation</li> <li>Interplant nitrogen fixing trees</li> <li>Genetically modify seeds to self-fix nitrogen</li> </ul>
Livestock	<ul style="list-style-type: none"> <li>Genetic varieties/animal feed formulations that reduce methane</li> <li>Improved management techniques, such as herd composition, grazing practices, feed, methane capture and conversion</li> </ul>
Transportation and processing	<ul style="list-style-type: none"> <li>Improve efficiency of transportation vehicles</li> </ul>

\* Referring to arable lands with low environmental cost of converting into cultivable land

\*\* United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries

Source: McKinsey & Company

### What would drive a 20% increase in water productivity?

Drivers	Examples of levers that make an impact
Large-scale and smallholder farm productivity (yield/ha)	<ul style="list-style-type: none"> <li>Increase yields (discussed under production drivers)</li> </ul>
Irrigated water cubic metres	<ul style="list-style-type: none"> <li>Reduce evaporation through reduced tillage</li> <li>Optimal timing of water application</li> <li>Improved readily available germplasm and plant breeding</li> <li>Convert to more efficient technologies</li> <li>Water pricing/policy (e.g. reduce river withdrawal, conservation incentives)</li> </ul>
Amount of land irrigated hectares	<ul style="list-style-type: none"> <li>Intensifying land area reduces land under irrigation</li> </ul>
Large-scale and smallholder farm productivity (yield/ha)	<ul style="list-style-type: none"> <li>Increase yields (discussed under production drivers)</li> </ul>
Rain-fed land Rain water cubic metres	<ul style="list-style-type: none"> <li>Rain water harvest technology</li> <li>Reduced tillage</li> <li>Agroforestry and intercropping systems</li> <li>In situ soil and water management techniques to conserve green water</li> </ul>

Source: 2030 Water Resources Group, Charting our Water Future: Economic Frameworks to Inform Decision-Making

### What would drive a 20% increase in farmer incomes?

Drivers	Examples of levers that make an impact
Smallholder productivity yield/ha	<ul style="list-style-type: none"> <li>Increase yields (discussed under production drivers)</li> <li>Nutrient and integrated pest management to increase yields and lower input costs</li> </ul>
Value add per tonne of produce	<ul style="list-style-type: none"> <li>Selection of products that meet consumer needs</li> <li>Quality of crops</li> <li>Competitive market structure (vs. local middlemen extracting rents)</li> <li>Development of urban demand for higher value products</li> </ul>
Waste reduction percent	<ul style="list-style-type: none"> <li>Infrastructure improvements</li> <li>Organization and efficiency of supply chain</li> <li>Improved storage, processing and packaging</li> </ul>

Source: McKinsey & Company

### Levers that address undernutrition

	<b>Examples of levers that make an impact</b>	<ul style="list-style-type: none"> <li>Improved storage and preservation to avoid "hungry seasons"</li> <li>Stabilization of food prices</li> <li>Gender equalization in society and food allocation</li> </ul>
	Access to foods	
	Secure land tenure	<ul style="list-style-type: none"> <li>Secure rights to land to encourage households to meet their nutritional needs, planting of diverse crops (e.g. fruit trees), constructing poultry sheds and raising small livestock</li> <li>Training and access to appropriate seed stocks</li> </ul>
	Child-feeding practices	<ul style="list-style-type: none"> <li>Raising awareness of benefits and timing of breastfeeding, complementary feeding and the components of a diversified diet</li> </ul>
	Fortification	<ul style="list-style-type: none"> <li>Fortifying crops, dairy, and other foods to improve micronutrient intake</li> </ul>
	Health services	<ul style="list-style-type: none"> <li>Improving access to health services to                             <ul style="list-style-type: none"> <li>Treat children for malaria and diarrhoea</li> <li>Educate new mothers on child feeding</li> </ul> </li> </ul>
Water/sanitation	<ul style="list-style-type: none"> <li>Improving access to water and water sanitation to reduce infections, especially diarrhoea and malaria, which lead to loss of appetite and malnourishment</li> </ul>	

# New Vision for Agriculture Initiative

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**Zita Schellekens**, Public Affairs Consultant, Heineken International, Netherlands

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**Andrew Wales**, Head, Sustainable Development, SABMiller, UK

**Derek Yach**, Senior Vice-President, Global Health and Agriculture Policy, PepsiCo, USA

## Working Group Members

**Thais Crepaldi Affonso**, Head of Business Intelligence, Syngenta Crop Protection, Switzerland

**Natalie DiNicola**, Vice-President, Global Sustainable Agriculture Partnerships and Corporate Affairs Lead Africa, Monsanto Company, USA

**Parry Dixon**, Director of Economic Research, Archer Daniels Midland Co. (ADM), USA

**Joachim Lammel**, Head, Product and Application for Research and Development, Yara International, Germany

**Mathias Mondy**, Global Market Acceptance Manager, Bayer CropScience, Germany

**Rainer von Mielecki**, Head of Global Public Affairs, BASF, Germany

**Ken Roberts**, Director, International Business Relations, Kraft Foods, USA

**Francesco Tramontin**, Associate Director, Global Issues Management, Kraft Foods, USA

## Project Adviser: McKinsey & Company

### Lead Adviser

**Sunil Sanghvi**, Director, Global Economic Development Practice, McKinsey & Company, USA

**Pierre Mauger**, Principal, Co-Leader of Agriculture and Food Special Initiative, McKinsey & Company, Switzerland

**Roberto Uchoa de Paula**, Principal, Co-Leader of Agriculture and Food Special Initiative, McKinsey & Company, USA

## Knowledge Partners

**Piero Conforti**, Economist, Agricultural Development Economics Division, Food and Agriculture Organization of the United Nations (FAO), Rome

**Beth Jenkins**, Research Fellow, Corporate Social Responsibility Initiative, Harvard Kennedy School, Harvard University, USA

**Dominique van der Mensbrugge**, Senior Economist, Agricultural Development Economics Division, Food and Agriculture Organization of the United Nations (FAO), Rome

**Jane Nelson**, Director, Corporate Social Responsibility Initiative, Harvard Kennedy School, Harvard University, USA

**Rajul Pandya-Lorch**, Chief of Staff in the Director-General's Office, and Head of 2020 Vision Initiative, International Food Policy Research Institute (IFPRI), USA

**Kostas Stamoulis**, Director, Agricultural Development Economics Division, Food and Agriculture Organization of the United Nations (FAO)

## Global Agenda Council on Food Security (2011-2012)

### *Council Chair*

**David Nabarro**, Special Representative of the UN Secretary-General for Food Security and Nutrition, United Nations, Geneva

### *Council Vice-Chair*

**Kanayo Nwanze**, President, International Fund for Agricultural Development (IFAD), Rome

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**Shenggen Fan**, Director-General, International Food Policy Research Institute (IFPRI), USA

**Jikun Huang**, Director, Center for Chinese Agricultural Policy (CCAP), People's Republic of China

**Willem Jan Laan**, Director, Global External Affairs, Unilever, Netherlands

**Namanga Ngongi**, President, Alliance for a Green Revolution in Africa (AGRA), Nairobi

**Estrella Penunia**, Secretary-General, Asian Farmers' Association for Sustainable Rural Development (AFA), Philippines

**Kavita Prakash-Mani**, Head, Food Security, Syngenta International, Switzerland

**Roberto Rodrigues**, Coordinator, Getulio Vargas Agribusiness Center, Brazil

**Nancy Roman**, Director of Communications, Private Partnerships and Public Policy, United Nations World Food Programme (WFP), Rome

**Ann Tutwiler**, Deputy Director-General for Knowledge, Food and Agriculture Organization of the United Nations (FAO), Rome

**Marc Van Ameringen**, Executive Director, GAIN (Global Alliance for Improved Nutrition), Switzerland

**Derek Yach**, Senior Vice-President, Global Health and Agriculture Policy, PepsiCo, USA

### Expert Reviewers

**William Farrell**, Vice-President, Global Partnerships and Alliances, Mercy Corps, USA

**Lawrence Haddad**, Director, Institute of Development Studies, United Kingdom

**Tim Hanstad**, President and Chief Executive Officer, Landesa, USA

**Alain de Janvry**, Professor of Agricultural & Resource Economics, University of California, Berkeley, USA

**Marty Matlock**, Professor, Biological and Agricultural Engineering, University of Arkansas, USA

**Bruce McNamer**, President and Chief Executive Officer, TechnoServe, USA

**Per Pinstrup-Andersen**, H. E. Babcock Professor of Food, Nutrition and Public Policy and J. Thomas Clark Professor of Entrepreneurship and Professor of Applied Economics, Cornell University, USA

**Jolyne Sanjak**, Chief Program Officer, Landesa, USA

## Partnerships Exchange Group

### *Southern Agricultural Growth Corridor of Tanzania (SAGCOT)*

**Jennifer Baarn**, Deputy Chief Executive Officer, Southern Agricultural Growth Corridor of Tanzania (SAGCOT), Tanzania

**Salum Shamte**, Vice-President, Southern African Confederation of Agricultural Unions (SACAU), South Africa

Public-Private Partnership on Sustainable Agricultural Growth in Vietnam

**Dang Kim Son**, Director-General, Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD)

**Randy Guttery**, Managing Director, Metro Cash & Carry, Vietnam

**Rashid Qureshi**, Managing Director, Nestlé Vietnam, Vietnam

**Tran Vu Hoai**, Vice-President Corporate Affairs, Unilever Vietnam, Vietnam

### *Mexican Agribusiness Partnership for Sustainable Growth*

**Adriana Ivette Herrera Moreno**, General Coordinator, Economic Studies and International Trade Negotiations, Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food of Mexico

**Enrique Mérito**, Director of Public Affairs, Grupo Altex, Mexico

### *African Agricultural Growth and Investment Task Force (AAGIT)*

**Martin Bwalya**, Head, Comprehensive Africa Agriculture Development Programme, NEPAD Secretariat

**Boaz Blackie Keizire**, CAADP Technical Adviser, African Union, Addis Ababa

**Tjada McKenna**, Deputy Coordinator for Development, Feed the Future, US Agency for International Development (USAID), USA

### *Partnership on Indonesia's Sustainable Agriculture (PISAgro)*

**Keith Belanger**, General Manager, Cargill Indonesia, Indonesia

**Arshad Chaudhry**, Chief Executive Officer, President-Director, Nestlé Indonesia, Indonesia

**George Santoso**, Country Manager and President Director, PT DuPont Indonesia, Indonesia

## World Economic Forum

### *Project Director*

**Lisa Dreier**, Director, Food Security and Development Initiatives

**Laura Buhler**, Project Manager, New Vision for Agriculture, McKinsey & Company Secondee

**Arne Cartridge**, Special Advisor, Global Partnerships for Food Security

**Eva Fowler**, Team Coordinator, New Vision for Agriculture

**Caroline de la Maisonneuve**, Project Manager, New Vision for Agriculture, Global Leadership Fellow

**Tania Tanvir**, Project Manager, New Vision for Agriculture



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World Economic Forum  
91-93 route de la Capite  
CH-1223 Cologny/Geneva  
Switzerland

Tel +41 (0) 22 869 1212  
Fax +41 (0) 22 786 2744

[contact@weforum.org](mailto:contact@weforum.org)  
[www.weforum.org](http://www.weforum.org)