Africa Harvest

STRATEGIC PLAN

2012–2022

Africa free of hunger, poverty and malnutrition
Africa Harvest

STRATEGIC PLAN

2012–2022

Africa Harvest Biotech Foundation International (AHBFI)

Nairobi • Johannesburg • Washington DC • Toronto

2012
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword: Contextualizing the Strategic Plan</td>
<td>2</td>
</tr>
<tr>
<td>Preface: The new Strategic Plan: designed to empower</td>
<td>3</td>
</tr>
<tr>
<td>Deloitte: The process of developing a Strategic Plan</td>
<td>5</td>
</tr>
<tr>
<td>Executive Summary</td>
<td>6</td>
</tr>
<tr>
<td>Chapter One</td>
<td>7</td>
</tr>
<tr>
<td>1.1. Introduction</td>
<td>7</td>
</tr>
<tr>
<td>Chapter Two</td>
<td>10</td>
</tr>
<tr>
<td>2.1. Global scenario</td>
<td>10</td>
</tr>
<tr>
<td>2.2. Sub-Saharan Africa</td>
<td>12</td>
</tr>
<tr>
<td>Chapter Three</td>
<td>16</td>
</tr>
<tr>
<td>3.1. Vision</td>
<td>16</td>
</tr>
<tr>
<td>3.2. Mission</td>
<td>16</td>
</tr>
<tr>
<td>3.3. Strategic goals</td>
<td>16</td>
</tr>
<tr>
<td>3.4. Approach</td>
<td>17</td>
</tr>
<tr>
<td>3.5. Core values</td>
<td>17</td>
</tr>
<tr>
<td>3.6. Guiding principles</td>
<td>17</td>
</tr>
<tr>
<td>3.7. Key drivers</td>
<td>17</td>
</tr>
<tr>
<td>3.8. Programs and themes</td>
<td>18</td>
</tr>
<tr>
<td>3.9. Strategic objectives and operationalization</td>
<td>20</td>
</tr>
<tr>
<td>Africa Harvest’s new organogram</td>
<td>21</td>
</tr>
<tr>
<td>3.10. Resource requirement and mobilization</td>
<td>23</td>
</tr>
<tr>
<td>3.11. Income and expenditure projections</td>
<td>27</td>
</tr>
<tr>
<td>Appendices</td>
<td></td>
</tr>
<tr>
<td>Appendix I: The Strategic planning process</td>
<td>28</td>
</tr>
<tr>
<td>Appendix II: Biographies of Board of Directors</td>
<td>29</td>
</tr>
<tr>
<td>Appendix III: About Africa Harvest</td>
<td>32</td>
</tr>
<tr>
<td>Overview</td>
<td>32</td>
</tr>
<tr>
<td>Governance and human resources</td>
<td>32</td>
</tr>
<tr>
<td>Programs and projects since 2002</td>
<td>33</td>
</tr>
<tr>
<td>Africa Harvest’s unique positioning</td>
<td>37</td>
</tr>
<tr>
<td>Acronyms and abbreviations</td>
<td>41</td>
</tr>
</tbody>
</table>
The Chief Executive Officer of Africa Harvest often says: “Poverty is not a concept; it is a person I know”. This statement of hers has been at the back of my mind as we developed our next 10-years’ strategic plan. It became real to me soon after joining the Board of Africa Harvest. During one of the field trips, I became aware of the organization’s work among the poor. I decided to buy some tissue culture banana plantlets for one of the farmers who could not afford them. As happens so often, I forgot about this farmer, until, during another field visit, in a different part of Kenya, one of the field officers narrated how the life of the farmer for whom I had bought the plantlets had been transformed. He was about to harvest his first crop. Having taken care of subsistence issues, his biggest headache was where to sell his surplus bananas.

I cite this example to point out that the work we do at Africa Harvest can often tug at our heartstrings, but this needs to be combined with a clear strategic direction. For this reason, I have been very enthusiastic to lead the year-long exercise of developing the strategy to guide our next decade. Two things make this resonate with me: First, the need for the strategic plan came before the end of my first year as Chairman, giving me elbowroom to add unique value to what has been achieved since 2002. Second, based on my World Bank experience, the concept of a strategy for a non-profit organization fascinates me. It is this second point that I intend to explore in this brief commentary.

Michael Porter, who popularized the importance of strategy, is better known for framing “competitive strategy” as a private sector, for-profit concept. For an organization like Africa Harvest, the idea of “overcoming the enemy”, is better applied when the enemy is the challenge of poverty, hunger and malnutrition. While we are not ignorant of “competitors” – international non-governmental organizations (NGOs), pan-African based development organizations and grass-root communities – we would rather view them as partners. One of the major changes in the current strategy is our acknowledging that we are only “a contributor” among many others who are doing excellent work in fighting poverty, hunger and malnutrition.

Why embark on developing such a comprehensive 10-year strategy? While the private sector would do the same to gain “market share”, our goal is to better define our contribution – based on our unique set of skills and experiences – by reaching one million farmers in 10 African countries. The strategy helps us to “gather intelligence” through community engagement and better understanding of the socio-economic, cultural and political drivers of the development challenges we face.

In developing this strategic plan, one of the greatest challenges was to set our 10-year goals while acknowledging the many moving pieces in the development space. One of the pieces is the need for investments, or donor funding; we faced a chicken-and-egg situation because donor support is conditional to articulating a compelling vision that demonstrates our ability to deliver on what we promise. Fortunately, Africa Harvest has a proven 10-year record of accomplishment. The new strategic plan acknowledges we are building on solid ground; but we are not blinded by the fact that our past is no indicator of what the future holds.

Fortunately, as Porter says, this strategic plan is a “broad formula”. It is a general explanation of the path we intend to take in the next 10 years. It helps us, and our partners, to get a picture of how we want to move from where we are to where we want to go. Most of all, it prepares us for a quick change of direction when circumstances demand it. In a world where change is the only constant, we expect to walk down paths not defined in this strategic plan. The beauty of a strategic plan is that when we do this, though our partners in this journey may be surprised, they will probably be the first to suggest different paths of getting to where we all want to go.

Dr Moctar Toure
Board Chairman
There are many challenges, but there are also numerous opportunities. We are now positioned to better anticipate and respond to change. Having re-clarified our mission and goals, we expect to see the most significant changes in six key areas:

1. **An integrated approach to development**: To build on the whole value chain approach, Africa Harvest will strengthen its integrated approach to development focusing on sustainable agriculture and balancing the need to increase farm productivity with environmental conservation. A good example of what we intend to do more of is the project on increasing sorghum productivity in the Kenya’s Arid and Semi-Arid Lands (ASAL). The project, funded by the International Fund for Agricultural Development (IFAD), focuses on improving dairy goat production through crossing local breeds with high-yielding exotic goat breeds; multi-purpose chicken farming for eggs, meat and manure; agro-forestry and water harvesting.

2. **Replication and scaling up of Africa Harvest success**: The next 10 years will see a more strategic approach to replicating and scaling up past success. The partnership approach will be much more deliberate in forming the institutional DNA. We will work closer with pan-African organizations and African governments in the target countries, using better-defined Africa Harvest programs to reach more people faster. Among the new strategic thrust areas are stakeholder relations and regional projects and approaches that will ensure greater reach on the continent.

3. **A continued focus and outreach to smallholder farmers and other grass-root communities**: One of Africa Harvest’s strengths is its focus on “the last mile”. Many organizations are doing excellent work to fight poverty – their focus ranges from addressing policy issues, to soil and fertilizer, seed and seed systems, to links to markets and micro-finance. Africa Harvest will strategically form bridges with upstream service providers engaging grassroot communities to focus on increased productivity and marketing adopting a whole value chain approach.

4. **Greater sensitivity to gender, HIV and AIDS (GHA)**: Africa Harvest’s experience is that the critical role of women as agricultural producers and agents of food and nutritional security is severely affected by GHA. In the next decade, our programs and projects will be designed with greater sensitivity to women’s and youth’s concerns. We will seek to ensure gender equity in benefits accruing from our projects; more importantly, we will try to ensure that our interventions do not perpetuate existing inequalities.

5. **Consolidating gains made in technology acceptance**: The past decade saw sharp differences related to the arsenal of technologies that Africa could use to fight poverty, hunger and malnutrition. In particular, some felt that the continent was getting better prepared to adopt biotechnology and genetic engineering. While acceptance increased gradually, the global food crisis underlined the need for multiple interventions and a hybrid of technologies to address Africa’s needs. In the next decade, Africa Harvest will leverage its vast experience – especially in biotechnology – to pave the way for more genetically modified (GM) crops in Sub-Saharan Africa (SSA). Our success with the Africa Biofortified Sorghum (ABS) Project (funded by the Bill & Melinda Gates Foundation or BMGF), as well as experience gained through our CropLife-funded outreach efforts will be critical to consolidate the gains made across Africa.
While acknowledging the challenge of fundraising to resource such an aggressive Strategic Plan, from experience I am a firm believer that a clear vision and strategy that is people centered will attract development partners who want to focus on grassroots transformation of smallholder farmers, from poverty to sustainable livelihood.

6. Africa Harvest institutional transformation: To achieve the ambitious goals outlined in the strategic plan will require major institutional changes, many of which have already begun; however, more targeted changes will be effected. For example, management will be more deliberate in unlocking maximum value from existing and new Board members. Immediate opportunities relate to leveraging strategic expertise and experiences from our Board of Directors who come from different countries and have broad and diverse experience, for example, identifying how India’s focus on the poor has helped millions; and through our Indian Board member, understanding strategies to design GHA-focused programs and projects. To successfully contribute to making Africa free of hunger, poverty and malnutrition, Africa Harvest will strategically partner with many institutions, including public, private, international and national organizations. We will leverage our understanding of whole value chain operations with farmers to create demand-pull for technologies from organizations like the Consultative Group on International Agricultural Research (CGIAR), national agricultural research institutes (NARIs), the private sector and networks such as the African Seed Traders Association (AFSTA) to work in partnership and deliver research products to farmers.

The Board has already approved refined programs under thematic groups. Africa Harvest will rest its strategy on these pillars in this decade. To go with the new strategy we have revised our staff policy manuals, organogram, salary scales and job structure manual. These will form the basis of a re-evaluation of the diverse staff talents that will be required to deliver identified goals. More specifically, it is from these pillars that a framework for attracting and retaining highly qualified goal-oriented personnel will be built to implement the Strategic Plan.

While acknowledging the challenge of fundraising to resource such an aggressive Strategic Plan, from experience I am a firm believer that a clear vision and strategy that is people centered will attract development partners who want to focus on grassroots transformation of smallholder farmers, from poverty to sustainable livelihood. Our partnership and consortium-based approach that is impact focused will also continue to attract funders.

Dr Florence Wambugu
Chief Executive Officer

Thank you for 10 years of support

Bill and Melinda Gates Foundation * The International Fund for Agricultural Development * The Government of Kenya * The Rockefeller Foundation * CropLife International * Pioneer (a DuPont Company) * The FORD Foundation * The US Agency for International Development * The Alliance for a Green Revolution in Africa * The McLaughlin-Rotman Center for Global Health * East African Malting Limited * Life’s Heart * The many individuals (some anonymous) who have supported us
Deloitte was asked by the Africa Harvest Board of Directors to provide leadership in developing this strategic plan. We applaud the Board for its visionary leadership. In today’s world, the temptation to focus on short-term gains is immense. The Board’s decision to invest time and resources in developing this 10-year strategic plan confirms not just long-term thinking, but a deep understanding of current and future challenges and opportunities. It also reaffirms Africa Harvest’s vision of being a lead contributor in making Africa free of hunger, poverty and malnutrition.

The Board’s decision reminded us that in the management field, strategic planning remains controversial because the world is in constant change, and skeptics say no planning efforts can keep pace. At Deloitte, we agree with Robert Knowling that “in business, as in life, good intentions are often lost”. Knowling, Chief Executive Officer of Vercuity Solutions, a US telecommunications company, has over 30 years of experience, especially in leading companies through periods of high growth and organizational turnaround.

Encouraged by Africa Harvest’s achievements since 2002, Deloitte’s role was to identify cheerleaders and critics from Africa Harvest’s vast web of partners and stakeholders. We evaluated internal and external perceptions regarding the organization’s vision and mission. Our intention was to understand how well the pieces fit: Was the vision realistic in the light of the institutional capacity to deliver? Would the human capital and values support the ambitious targets? Was there a buy-in within the organization and would funders, partners and other stakeholders also play the required role to achieve the vision?

Keeping our focus on developing a strategic plan that would guide the organization into the next decade was a fulfilling, but complex exercise. We were candid to identify that, while exemplary leadership had made the organization a respected player in the field of agricultural development, much more would be required in the next decade. The Board and Management were supportive, even as we opined that past performance would probably have little bearing on the future. Across the organization, teams and individuals agreed that there was a need to dig deeper to maintain and accelerate the pace to achieve the shared vision.

There is need for a good balance between building on what has been achieved and bringing in completely new ideas. This is captured in the transformation of existing programs as well as the creation of new programs. The Board and management are under no illusion that serious thought must be given to the issue of human capital; when all is said and done, it is passionate, talented and motivated people who will translate the ideas in this strategic plan into reality.

We conclude with Robert Knowling’s view: “To align good intentions with effective practice, leaders need to define a vision, articulate values and infuse both in every aspect of business”. Now that Africa Harvest has a 10-year strategic plan, the challenge will be to take the vision and values and infuse both in everything the organization does.

We are glad to have been part of the visioning and planning. We look forward to hearing about your success during the next 10 years!

Angela Wainaina
Associate Director, Strategy & Operations Consulting
Deloitte Eastern Africa
Executive summary

VISION
To be a lead contributor in making Africa free of hunger, poverty, and malnutrition

MISSION
To apply innovative technologies and institutional approaches to improve livelihoods of rural communities, particularly of smallholders, through science and technology-based sustainable models of agricultural development

STRATEGIC GOALS
• Reduce rural poverty and food insecurity through improved agricultural systems by using science and technology
• Ensure that enhanced agricultural production is sustainable and dependable, has minimum negative environmental impact, and can cope with the climate change
• Improve the nutrition and health of smallholder farming families and poor consumers in Africa
• Provide equitable access to information and knowledge on improved agricultural technologies to smallholders in Africa and develop farmers’ organizations to facilitate this process
• Facilitate development of agricultural value chains by involving and empowering all relevant stakeholders from farmers to consumers

APPROACH
Africa Harvest pursues its mission and goals through:
• Use of science and technology
• Technology development and transfer
• Value chain development for key agricultural commodities
• Empowerment of farmers, both men and women
• Partnership with farming communities, research institutions, and other organizations that share Africa Harvest’s mission

VALUES
Africa Harvest’s actions are guided by a commitment to:
• Excellence
• Innovation and creativity
• Institutional and scientific integrity and accountability
• Gender consciousness
• Diversity of opinion and approach
• Service to farm families, especially smallholders
• Cultural diversity
• Indigenous knowledge
• Environmental protection
• Commitment to make an impact

GUIDING PRINCIPLES
• Adherence to Africa Harvest’s vision and mission
• Value addition to national goals of countries in which Africa Harvest operates
• Scientific and technical integrity and professional excellence
• Commitment to partnerships that strengthen African agriculture
• Programmatic approach based on developing the whole value chain approach
• Creating and responding to market opportunities
• Reaching out and empowering our stakeholders
• Ensuring gender equality and benefit sharing from our development interventions
• Focus on impact and tangible results to our beneficiaries
• Mainstreaming social, human and environmental concerns

TARGET
To reach one million rural households in 10 countries in East, West, and Southern Africa
CHAPTER ONE

1.1. INTRODUCTION

Globally, 1.4 billion people are extremely poor and around one billion are malnourished. Many more suffer from micronutrient deficiencies. The challenge is worse because those suffering from HIV and AIDS need better nutrition. Almost all of the poor and hungry live in developing countries. The first millennium development goal (MDG) of the United Nations of halving hunger by 2015 is unlikely to be achieved. In parts of SSA, where every third person suffers from calorie deficiency, the trend is even worsening. There is a need for improving both food availability and economic accessibility.

During the last 50 years, the Green Revolution – which bypassed Africa – helped in increasing food production to keep pace with population growth. In Africa and elsewhere, food demand will continue to grow. Further, bio-fuels are competing with food production for arable land and water. Hence, further increases in food production will have to come from yield growth. However, climate change may make further yield growth difficult and even depress yields. But the situation can be tackled by using new agricultural technologies and making higher investments in research and development (R&D).

Increasing food availability at the global or country level is a necessary but not a sufficient condition for household food and nutrition security. The rural poor need higher incomes or purchasing power to access food. Therefore, growth of food production will have to be inclusive growth, which implies enabling smallholder farmers to increase their farm output. Focusing on smallholder farmers is vital to food equity and can contribute to ending global hunger. Combined with other measures like investment in rural infrastructure and increasing access to social services, new technologies can be an important catalyst for broad-based pro-poor economic growth in rural areas.
In SSA, where 240 million are malnourished, 82% of whom live in countries depending on agricultural economies, accelerated growth of this sector becomes critical for reducing food insecurity, poverty and malnutrition. However, a worrisome aspect is that productivity or yield growth in SSA is lower than in other regions, and yields have almost been stagnant over the last few decades. Several reasons have led to this situation: low investment in R&D; improper technology policies and regulatory procedures; ineffective extension systems; inadequate rural infrastructure (input and output markets, credit provision and other services); weak land and property rights; and lack of attraction for private investment in agriculture.

However, there is now an increased recognition of the need for focusing on the agricultural sector. Member countries of New Partnership for Africa’s Development (NEPAD), in 2003, committed to raise investment in agriculture to 10% and accelerate agricultural growth to 6%. The Comprehensive Africa Agriculture Development Program (CAADP) has set ambitious policy targets, while the international donor community has launched new programs for Africa. The Consultative Group on International Agricultural Research (CGIAR) centers have increased their focus on SSA. Several other organizations, too, have launched programs, and new international partnerships have emerged across the globe to help African countries.

Africa Harvest is a not-for-profit organization incorporated in the USA and Canada, striving to reduce hunger, poverty and malnutrition in SSA by promoting the use of science and technology to increase the production of staple foods and incomes of smallholders. Its headquarters are in Nairobi, Kenya and it has regional offices in Washington DC and Johannesburg, South Africa. During the first 10 years of its existence, Africa Harvest has been able to reach around 500,000 farming household in SSA through the provision and deployment of technologically advanced solutions for resource-poor farmers, helping them to increase their farm output and reduce the cost of production, thereby increasing family incomes. Africa Harvest has implemented several high-impact projects by adopting a unique approach, which has attracted the attention of organizations and donors interested in accelerating the pace of reduction in hunger, food insecurity, poverty and malnutrition in SSA through focusing on sustainable livelihoods. Africa Harvest has also impacted many scientists and scientific institutions in Africa, developing and strengthening scientific and research capacities through North/South partnerships and consortium-based biotechnology projects such as the Africa Biofortified Sorghum (ABS) project.

Africa Harvest being an Africa-based and African-led organization can play a critical role in ensuring the participation of local communities in operationalizing the plans of global, regional, and national development institutions or organizations. Since 2002, Africa Harvest has had the experience of working with rural communities in the areas of: (a) technology development and transfer; (b) technology delivery to end users; (c) policy advocacy; (d) bio-safety regulatory frameworks and their harmonization; (e) developing whole value chains for agricultural commodities; and (f) organizing farmers into self-help groups and training them in farm business management. Africa Harvest also has considerable experience in gender mainstreaming, which is very important for faster uptake of new technology by small landholders. Its holistic whole value chain approach has proved to be a successful model for making technology-based interventions work for smallholder farmers.

Combined with other measures like investment in rural infrastructure and increasing access to social services, new technologies can be an important catalyst for broad-based pro-poor economic growth in rural areas.

Considering the emerging global scenario, new international and regional initiatives and the need for sustainable accelerated growth of agriculture in SSA, Africa Harvest, with its comparative advantage and experience, is a lead contributor in making Africa free of hunger, poverty and malnutrition. With this vision, it will pursue the mission of applying innovative technologies and institutional approaches for improving the livelihoods of rural communities, particularly smallholder farmers through science and technology-based sustainable models of agricultural development. The strategic plan for pursuing this mission delineates goals, approaches, core values, guiding principles, key drivers, programs and themes, strategic objectives, activities or operational objectives, modalities of implementation and resource requirements. Africa Harvest plans to reach at least one million rural households in 10 countries of East, West, and Southern Africa and help these families become free of hunger, food insecurity, poverty and malnutrition, by following a partnership approach. The milestones in terms of output, outcome, and impact are presented in chapter 4.
Africa Harvest’s main objective has been to deliver advanced and proven technologies to African farmers through:

- Implementing projects related to tissue culture (TC) banana, agro-forestry and integrated farming systems approach involving small grains like sorghum, short cycle livestock, water and soil management, horticulture and agro-forestry, facilitating development of nutritionally rich staple food grains like the Africa Biofortified Sorghum (ABS) project with great potential for impact across Africa
- Empowering farmers through group formation and training in organizational behavior; and development of farmer associations
- Demonstration of new and improved agronomic practices to increase productivity of target crops
- Developing whole value chains (that include input supply mechanisms and product-marketing solutions) through training, motivation and support to potential entrepreneurs
- Supporting bio-safety and regulatory policies through policy advocacy to promote biotechnology in Africa
- Developing partnerships with like-minded organizations to implement complex projects such as ABS
- Working with governmental organizations, NGOs, donors, farmers’ organizations and others in strategic partnerships that share and support Africa Harvest’s mission
CHAPTER TWO

SITUATIONAL ANALYSIS

2.1. GLOBAL SCENARIO

Hunger and Poverty

Globally, 1.4 billion people are extremely poor, with most being undernourished and unable to meet their daily energy requirements. Many more suffer from specific micronutrient deficiencies: around 3 billion people are at risk of zinc deficiency, 2 billion are anaemic, 2 billion are iodine deficient, and 200 million are deficient in vitamin A. Both calorie and micronutrient deficiencies are responsible for severe health problems, including higher mortality and susceptibility to infectious diseases, as well as impaired physical and cognitive development. The associated human suffering is tremendous, and the economic cost is huge.

Most of the poor live in developing countries, especially in South Asia and SSA, where the first MDG is unlikely to be achieved. In fact, in SSA, the proportion of undernourished people has risen. The challenges that these countries face include ensuring food security and improving people’s purchasing power.

Global Food Demand and Supply

Successes in crop breeding, coupled with more irrigation and use of agrochemicals, have tripled cereal yields over the last 50 years in many parts of the world, especially Asia and Latin America, resulting in a Green Revolution. These productivity gains have outpaced population growth and helped to prevent widespread famines that had been predicted earlier. However, food demand will rise further in the future, mainly due to population and income growth and an increasing demand for meat and other animal products. The Food and Agriculture Organization (FAO) has projected that global food demand will increase at least by 70–100% by 2050.
Moreover, as the use of biofuels soars, food production will compete for scarce natural resources, such as arable land and water. While arable land is still being expanded in some areas of the world – especially in Africa – soil degradation and urbanization contribute to agricultural area losses elsewhere. Beyond these regional shifts, total arable land can hardly be expanded further without causing serious environmental problems, such as loss of biodiversity and excessive greenhouse gas emissions. Hence, food production increases in most countries will have to come from higher yields on existing land. Higher yields are hard to achieve when water is becoming increasingly scarce in many parts of the world, energy prices rise and sources of easy-to-extract phosphorus will soon be depleted. Climate change presents a serious additional dilemma, as rising temperatures and more frequent weather extremes are projected to depress agricultural yields in the future, especially in Africa and Asia.

The Food and Agriculture Organization (FAO) has projected that global food demand will increase at least by 70–100% by 2050.

The problem is not a future prediction; it is already at our doorstep. Yield growth in major cereals has declined over the last 20 years at the global level. For instance, while annual yield growth in rice and wheat was around 3% in the 1970s and 1980s, it has dropped to below 1% since the 1990s. This is definitely too little to keep pace with the growth in food demand. The imbalance in demand and supply is also the main reason for the increasing price trend recently observed in international food markets, which limits food access for the poor and contributes to increasing hunger.

The decreasing trend in yield growth can be reversed; agricultural productivity gains can be increased to higher levels, but this will require new technologies and much higher investments in agricultural R&D. Appropriate new technologies could boost crop yields and livestock output while preserving scarce natural resources. Tapping genetic knowledge, including biotechnology, will have a major role to play. Modern breeding contributes to higher yield potentials and can make crops and animals more tolerant to various biotic and abiotic stresses. Biotechnology can also help reduce the strong correlation between crop yields and agrochemical use observed in the past, which has often led to negative environmental externalities. Furthermore, breeding staple crops for higher amounts of micronutrients (or bio fortification) can contribute to reducing specific nutritional deficiencies among the poor.

Beyond genetic technologies, improved agronomic practices are required, including better crop rotations and related measures to enhance and maintain soil fertility, conservation agriculture, integrated pest management and other innovative systems approaches. In addition, advances in information and communication technology can help introduce precision agriculture to smallholder conditions, thus making input use more efficient. Raising agricultural productivity in a sustainable way will depend on a mix of different technologies and practices, adjusted to the specific conditions in a particular context.

**Agricultural Technology and Rural Livelihoods**

Increasing food availability at global and local levels through new technologies is a necessary but not sufficient condition for food and nutrition security. Many people are too poor to have adequate economic access to food, so raising their income needs to be a central component of any food security strategy. In developing countries, around 75% of the poor and hungry live in rural areas, where they directly or indirectly depend on agriculture as smallholders or wage labourers. In these countries, agricultural growth is a vital development tool for achieving the millennium development goal of halving the share of people suffering from extreme poverty and hunger by 2015. However, this growth has to be inclusive, with wider participation of smallholders. Many experts point out that emphasis on smallholders is vital to end global hunger. A focus on smallholders yields maximum gains in terms of both sustainable productivity increases and rural poverty reduction.

There are different ways of increasing agricultural incomes and reducing rural poverty. These include investments in rural infrastructure and increasing access to education, health care, and other social services. In this respect, agricultural technology also has a crucial role to play. Analyses show that promoting the development and spread of appropriate new technologies is not only an effective but also a highly efficient way of reducing poverty, especially in Africa and Asia.

Analyses show that promoting the development and spread of appropriate new technologies is not only an effective but also a highly efficient way of reducing poverty, especially in Africa and Asia.
highly efficient way of reducing poverty, especially in Africa and Asia. Via the income pathway, technological progress improves economic access to food among rural households. Thus, combined with other measures, new technologies that are gender, HIV and AIDS responsive can be an important catalyst for broad-based, pro-poor economic growth and social development at the community level in rural areas.

2.2. SUB-SAHARAN AFRICA

Critical Role of Agriculture

Around 240 million people in SSA are undernourished or lack access to enough food to lead an active and healthy life. Nearly 82% of the rural population lives in agriculture-based countries. Several countries of SSA are dependent on food imports, and this dependence is projected to increase during the next two decades under the ‘business as usual’ scenario according to the International Food Policy Research Institute (IFPRI). The reasons for the ever-increasing gap between food demand and supply are not only historic but also, and more importantly, precipitated by the policy environment (of the post-colonial period) that undermined the agricultural sector and the institutions that serve it. As a consequence, the growth of the agricultural sector in general and food production in particular has not kept pace with the increase in demand.

It is in this scenario that accelerated growth of agriculture in SSA becomes critical for reducing both food insecurity and mass poverty and malnutrition. The need for a sustainable agricultural productivity revolution is particularly big here, since there is high prevalence of hunger and poverty, while productivity is lower than in the other regions of the world. In fact, in SSA, yields have almost been stagnant over the last few decades, and climate change is expected to depress crop and livestock production further.

The limited agricultural growth in SSA is attributable to six factors primarily: (i) agricultural R&D investments are very low, and related capacities are underdeveloped, so suitable technologies are not developed and adapted; (ii) technology policies and regulatory procedures are often not gender, HIV and AIDS-sensitive and implementing poorly developed policies has often compounded existing problems; (iii) public extension and advisory systems are rarely effective and available technologies sometimes do not reach the end-user; (iv) farmers have limited access to input and output markets, as well as to credit and other social services, due to weak institutions and a lack of infrastructure, which increases risk and decreases incentives to innovate and commercialize; (v) land and property rights in many countries are weak, which thwarts the incentives to make private investments in agriculture; and (vi) private sector activity is limited since low market orientation, and ineffective farmer aggregation into producers associations, in the small farm sector does not contribute to attractive business prospects.

New Initiatives — Ray of Hope

There is now increased recognition in African as well as international communities that attention to the agricultural sector is critical for reducing hunger, poverty and malnutrition in SSA. In 2003, NEPAD came out with the Maputo Declaration committing to: (a) accelerate the agricultural growth rate to 6% per year, and (b) raise government investment in agriculture spending. Other initiatives like the CAADP have identified the problems inhibiting growth and set ambitious policy targets to overcome them. The international donor community has launched new programs, like the Alliance for a Green Revolution in Africa (AGRA), to spur agricultural technology and innovation in Africa. In addition, many of the CGIAR centers have increased their focus on Africa to augment growth. Several other organizations, forums or programs have come up or evolved in Africa during the recent past to contribute in this endeavor. These include Africa Forum for Agricultural Advisory Services (AFAAS), Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), East African Agricultural Productivity Program (EAAPP), and Sub-Saharan African Network on Agricultural Advisory Services (SSANAAS). Some international forums that are helping African agricultural development are Global Forum for Agricultural Research (GFAR), the Africa Green Revolution Forum (AGRIF), the Forum for Agricultural Research in Africa (FARA) and Global Forum for Rural Advisory Services (GFRAS), apart from FAO and IFAD.

These apart, several new partnerships are emerging across the globe to contribute to Africa’s agricultural development. The CGIAR reform program which led to the launching of Challenge Programs (CPs) is the organization’s first attempt to adopt a programmatic approach to address its research agenda. The portfolio of CGIAR research programs (CRPs) are now the primary mechanisms for implementing an agreed CGIAR
Strategy and Results Framework (SRF). An example of envisaged new partnerships has emerged among three important organizations, viz., International Crops Research Institute for Semi-Arid Tropics (ICRISAT), Indian Council of Agricultural Research (ICAR), and International Agriculture Consulting Group (IACG). This partnership aims to help Africa identify solutions and exploit its potential in food and agriculture through country and region-specific interventions and strategies involving public and public-private partnerships, while providing backward and forward linkages, besides R&D support. Another example is the Bio-resources Innovations Network for Eastern Africa Development (Bio-Innovate) program launched by the Harvard University to provide bioscience-based opportunities to farmers to produce food, and linking these to processors for providing a ready market for selling the surpluses. The program is managed by International Livestock Research Institute (ILRI) and implemented in Burundi, Ethiopia, Kenya, Rwanda, Tanzania, and Uganda. These are all important steps in the right direction, which require strong and novel partnerships and innovative models of technology development and delivery, to be successful and sustainable.

Developing new technologies that target staple foods that are hardy and grow easily in various climactic conditions in SSA, will also be an important approach to increasing food output.

Emerging Socio-economic Environment – Challenges and Opportunities

An analysis of the agricultural sector reveals that improved productivity holds the key to increased food output. Developing new technologies that target staple foods that are hardy and grow easily in various climactic conditions in SSA, will also be an important approach to increasing food output. The most important determinant of success in increasing the production levels is the capacity of the farmers to adapt and apply technology, access appropriate inputs in a timely fashion and participate effectively in agricultural markets by adding value to their produce and presenting it to the market in the desired state and form.

Africa Harvest wants to be a lead contributor in the alleviation of hunger, poverty and malnutrition by implementing its dynamic mission in this ever-changing environment.

In developing the strategy and planning the activities, a number of challenges will need to be faced, some of which are as follows:

**Political Environment**

Africa Harvest, which has two fully operational offices in Kenya and South Africa, plans to expand into at least 10 African countries. Success is dependent on the continental and country-specific political developments over the next decade. In the last decade, generally, the political uncertainty witnessed in Africa was related to the clamour for democratic reforms. The continent is shifting to more open and tolerant governments. In the next decade, further improvements in the political environment are likely, creating a more conducive workspace for Africa Harvest. This will significantly facilitate the organization’s expansion in the target regions, both from a cost and risk perspective. The following indicators augur well for a better political future:

- There is a marked softening of the political stance in most African countries with regard to internal conflicts. Nigeria and Senegal, two of the key drivers of the West Africa region, despite challenges, have held successful elections. Uganda and Rwanda combined forces to quell an insurgency in Democratic Republic of Congo (DRC) and helped stabilize the neighboring country, which continues to enjoy a prolonged period of relative peace. Southern Sudan became independent and, despite border skirmishes with the northern neighbour, negotiations are on-going to halt the long-running conflict.

- As regards peace and security, there is a marked strengthening of the regional economic communities (RECs). These organizations have intervened in conflicts by imposing sanctions and sending peacekeeping troops. The RECs are also strengthening economic activity through the provision of wider markets, which will increase the supply and demand for food.

- The strengthening of the democratic political processes is evident throughout Africa, with an increase in the number of successful electoral processes and referendums. Countries destabilized by coup d’états have held peaceful elections, installing democratically elected governments. The deepening of the democratic processes is evident throughout Africa, and this presents Africa Harvest with an opportunity of widening the reach of its services without the risk of exposure to adverse political systems and insecurity to their staff or offices.
• Corruption remains a concern in Africa with 31 out of 47 countries with a Corruption Perception Index (CPI) of less than three in 2009. A further 13 out of the 47 scored between three and five on the CPI. A score of between three and five indicates that the countries still face major challenges in the implementation of anti-corruption measures, even though these measures are already codified. Corruption may pose a challenge to the growth and penetration of Africa Harvest in different countries and mitigation measures will need to be developed.

• Africa continued to register marked improvement in its business regulatory environment. Several countries have introduced new laws or have reformed existing laws, which make it easier to do business. According to The World Bank Report 2010, 67 regulatory reforms were registered in 29 of the 49 SSA countries. The report further noted that for the first time an African country – Rwanda – has been ranked as the world’s top reformer. Mauritius also continued to perform well, with a ranking of 17 among 183 countries for the overall ease of doing business. Other well-performing countries in Africa included Burkina Faso, Senegal, Sierra Leone, Liberia and Botswana.

Economic Outlook

At the end of the last decade, the world witnessed a global financial crisis, which led to a severe recession. This gave way to an economic depression in Europe and the USA, characterized as the worst since the 1930s Keynesian depression. Unlike the 1930s depression, the 2008 collapse was led by a tightening of the lending belts of wholesale financial markets and falling inflation, and therefore resulted in less production worldwide. The effects of this global recession are still being felt in Africa. Although limited structural connectivity to the global system cushioned SSA from the full force of the economic upheavals from Europe and the USA, African countries were nonetheless affected. In particular, organizations like Africa Harvest were severely affected by the significant reduction of official development assistance (ODA). The success of Africa Harvest’s strategy in the next decade will depend on several economic factors such as follows:

(i) Food prices reached a record high by the end the last decade, due to supply and demand factors fuelled by speculative market buyouts. There were actual food shortages in the South Americas and SSA caused by floods and droughts. A new competitor for human food consumption also emerged in the form of bio-energy, leading to shortages as food stocks were used to produce bio energy. This trend is set to continue as energy needs grow and there is a move away from petroleum due to the geopolitical complications and a dwindling supply of petroleum. There is also a move to reduce the use of petroleum due to carbon dioxide build-up in the atmosphere and the realization that the resource is finite. An increasing global population is also going to fuel demand for food, thereby increasing food prices. The last twelve years (1997–2009) saw the world population grow by one billion people, the fastest population growth rate yet. Despite the anticipated increase in global agricultural output, food prices will keep increasing as the demand rises.

(ii) Innovation and value addition are Africa Harvest’s core strategy drivers and will remain important in the next 10 years. Pressure on land and other resources will increase as the population increases, becomes more urbanized and more exposed to international eating habits. Value addition will also be another growth area as demand for food increases and the need to utilize existing stocks fully becomes more apparent. More capital and capital goods will also be invested in agriculture globally due to the demand for food. Fallow land will be brought under cultivation through irrigation and other land-reclaiming efforts.

Africa Harvest, which has two fully operational offices in Kenya and South Africa, plans to expand into at least 10 African countries

(iii) Poor rural farmers will benefit more from commercialization of agriculture, especially if they can produce more competitively. Africa Harvest has helped to transition agricultural production at the grass-roots level from subsistence farming to income-generating ventures. It plans to replicate and upscale its successful technology deployment models in Africa, based on demand and supply, to ensure that the poor farmers benefit from increased agricultural production.

(iv) As the global economy recovers, many countries are finding loopholes to enforce protectionist policies for agricultural produce, despite World Trade Organization (WTO) rules. This trend is set to continue as a strategy of mitigating the effect of the economic recession. Africa Harvest’s strategy is to play a role in the removal of bottlenecks in the regional markets as part of the implementation of the whole value chain approach and broadening of technology uptake. The strengthening of RECs may
lead to the development of regional markets, which will encourage increased agricultural production.

(v) Oil prices are also expected to continue rising as global demand increases, especially in South East Asian economies. This will lead to increased costs of agricultural inputs as well as competition for food stock as countries turn to bio-energy to supplement their petroleum imports.

It is with this perspective that Africa Harvest’s strategy for SSA is to move toward an integrated solution to agricultural production, which will look at all the factors that affect production; in particular water availability and agro-forestry will be a major focus, given the changing nature of agriculture and the challenges that the poor, rural smallholders face due to increasing population and climate change.

Agricultural Development Issues

Africa Harvest’s strategic plan will be implemented during a decade when there will be pressure on productive resources due to population growth. This will increase the need for innovation as the driver of higher productivity. The following factors are likely to play an important role:

• Though the percentage of those living below the poverty line has reduced globally, the absolute numbers have increased. This means that there are more people living below the poverty line even though they form a reducing percentage of the total population. Agriculture will continue to be an important driver to the reduction of the absolute poverty levels.

• Technology will continue to make the world smaller, exposing African communities to different eating habits from different parts of the world. Africa Harvest expects traditional food offerings – also referred to as ‘orphan crops’ – to become increasingly more important.

• Communities worldwide are recognizing the importance of using environmentally sustainable farming systems. Africa Harvest plans to be at the forefront of helping communities implement environmentally sustainable and integrated agriculture to mitigate serious negative consequences in the future.

• As economic output and population grow, demand for energy will increase, leading to increased energy costs. In Africa, this could result in deforestation and increase the cost of agricultural production, with a knock-on effect on the prices of food. Africa Harvest is conscious of this and has a specific strategic solution by way of agro-forestry initiatives.

Africa Harvest recognizes that making Africa free of hunger, poverty and malnutrition requires the organization to effectively address – and reduce – gender disparities and mitigate the negative effects of HIV and AIDS.

• To improve international acceptability of African produce, farmers in the continent will need to continue adhering to international standards. Though more stringent standards will increase the cost of production, it will also increase demand for African agricultural produce, thereby creating jobs in the agricultural sector.

• Africa Harvest believes that an integrated approach to technology transfer through the whole value chain will be critical in ensuring that environmentally sustainable approaches are employed in agricultural production. A combination of water resource management, agro-forestry, and land-tenure management among others will lead to the development of increasingly sustainable farming practices that support commercialization.

• Both Internet and mobile phone use will increase access to information, especially for the rural poor. This will provide numerous opportunities for Africa Harvest to disseminate information quickly and efficiently to farmers. Innovative technologies could see rural markets shift online and to mobile phones.

Gender, HIV and AIDS Responsiveness

In most African communities, more so in those likely to be targets of Africa Harvest’s intervention, governance systems are increasingly registering the importance of gender, HIV and AIDS in agricultural development. Gender disparities, aggravated by the negative impact of HIV and AIDS, result in less food being grown, less income being earned, and higher levels of poverty, food and nutrition insecurity. Africa Harvest recognizes that making Africa free of hunger, poverty and malnutrition requires the organization to effectively address – and reduce – gender disparities and mitigate the negative effects of HIV and AIDS.
CHAPTER THREE

VISION, MISSION AND STRATEGIC GOALS

Strategic goals and objectives and the pathways to achieve these are the core of Africa Harvest’s strategy to attain its vision and mission. This chapter delineates its vision, mission, strategic goals, approach, core values, key drivers, strategic objectives, institutional programs and themes, and implementation strategy of its plan 2012–2022.

3.1. VISION

Given the emerging global scenario, as discussed in Chapter 2, and the inherent strengths and experiences of Africa Harvest, the Foundation endeavors, during the next 10 years, to realize its vision of establishing itself as a lead contributor in freeing Africa from hunger, poverty and malnutrition.

3.2. MISSION

To realize this vision, Africa Harvest will apply innovative technologies and institutional approaches to improve the livelihoods of rural communities, particularly those of smallholder farmers, through science and technology-based sustainable models of gender-focused agricultural development.

3.3. STRATEGIC GOALS

To pursue its mission, Africa Harvest has the following five goals for the next decade:

1. Reduce rural poverty and food and nutrition insecurity through improved agricultural systems by using science and technology.
2. Ensure that enhanced agricultural production and commercialization is sustainable and stable, with minimum negative environmental impact, and that the target countries can cope with climate change.
3. Improve the nutrition and health of smallholder farmers and poor consumers.
4. Provide equitable access to information and knowledge to all smallholders and other supportive stakeholders on improved agricultural technologies in progressive and dynamic organizations along selected value chains.
5. Facilitate development of agricultural value chains by involving and empowering all relevant stakeholders in the value chain.

3.4. APPROACH

Africa Harvest shall pursue its mission and goals through:
• Use of science and technology
• Technology development and transfer
• Value chain development for key agricultural commodities
• Mainstreaming cross-cutting issues of climate change, gender, HIV and AIDS
• Empowerment of female farmers in rural farming communities, where there are gender disparities
• Partnership with farming communities, research institutions, and other organizations that share Africa Harvest’s mission

3.5. CORE VALUES

While pursuing its mission and goals, Africa Harvest and its staff shall continue to uphold the following core values:
• Excellence
• Innovation and creativity
• Institutional and scientific integrity and accountability
• Gender HIV and AIDS awareness
• Diversity of opinion and approach
• Service to farm families, especially small landholders
• Cultural diversity
• Indigenous knowledge
• Environmental protection
• Commitment to make an impact

3.6. GUIDING PRINCIPLES

As in the past, Africa Harvest’s guiding principles during the next 10 years will continue to be as follows:
• Adherence to its vision and mission
• Value addition to national goals of the countries in which the organization operates
• Scientific and technical integrity and professional excellence
• Commitment to partnerships that strengthen African agriculture
• Programmatic approach based on developing the whole value chain
• Creating and responding to market opportunities
• Reaching out and empowering our stakeholders
• Ensuring gender equality and benefit sharing from the development interventions
• Focus on impact and tangible results to the beneficiaries
• Mainstreaming social, human, and environmental concerns and issues, specifically climate change, Gender, HIV and AIDS

3.7. KEY DRIVERS

The key drivers of Africa Harvest’s strategy are drawn from its core values and past experience of working with resource-poor rural communities of Africa. Some of these include:
• Innovative approaches: To realize its mission and goals, Africa Harvest believes that innovation must move beyond science and technology to creative partnerships. Emphasis will be on intra-country and inter-sectoral partnerships involving men and women farmers, rural entrepreneurs, development and marketing institutions, research and extension organizations, and policy makers. Private/public partnerships must move beyond private sector-led, profit-driven relationships to ensure people-focused and Africa-led partnerships.
• Focus on impact: Africa Harvest believes in result-driven interventions. Even small improvements in productivity can make huge differences. Since the family unit is the first beneficiary of increased food production, it will focus on enabling farmers to move from subsistence to income-generation farming.
• Focus on rural communities: Africa Harvest focuses on smallholder, resource-poor farmers, both men and women, who require a different set of interventions as compared to large-scale commercial farmers. While commercial farming is important, we believe the empowerment of the smallholder resource-poor farmers can contribute to tackling poverty, hunger and malnutrition.
• Partnerships: Africa Harvest must partner with many organizations in order to achieve its vision. For this reason, in the next decade, it will intensify its engagement with a wide range of institutions and individuals through a variety of partnership
arrangements. Partnering is a key driver of the overall institutional planning and operation – from development and implementation of program to capacity strengthening. Africa Harvest will leverage its closeness to farmers in dealing with partners to bring a holistic approach to its interventions. It will focus on partnering and adding value to organizations such as the CGIAR, NARIs, the private sector and networks such as the AFSTA to deliver research products to farmers.

- **Farming as a business:** Most countries in Africa are projected to have more working-age adults per child in 2030 than they did in 2006. Africa Harvest recognizes that Africa’s young people will be the driving force behind economic prosperity in future decades. AGRA’s former President, Dr Namanga Ngongi, points out that “young people also often have fewer opportunities to participate in structured or formal markets” (http://www.agra-alliance.org/content/news/detail/1374). Africa Harvest’s strategic response is to tailor its programs to draw the participation of and benefit the youth in the 10 target countries.

- **Sustainable agricultural development:** Challenges related to climate change have made sustainable agriculture a critical aspect of all Africa Harvest’s interventions. Although greenhouse gas emissions from Africa are of little importance on a global scale, these are likely to considerably increase in the future. Numerous studies confirm that climatic change has had a greater adverse socio-economic impact in Africa than in other parts of the world. The vulnerability of the society and sensitivity of the environment compounds the problem and requires flexibility in future strategies.

### 3.8. Programs and Themes

While Africa Harvest will continue to focus on improved technologies for making an impact, it recognizes that the speed of uptake of technology by farmers of all gender categories depends on the availability of critical new inputs like seeds, planting material and fertilizers. For example, when farmers are convinced of higher production from TC banana, there needs to be a nursery or agro-dealer entrepreneurs to make available TC plantlets and required fertilizers to the farmers to meet the demand. In addition, there is a need for a buyer or a system of aggregation of the extra produce which the farmers would like to sell. It is in this context that Africa Harvest adopted the whole value chain approach in its banana and sorghum projects.

Science and research-based policy advocacy will be another endeavor of Africa Harvest during this decade. As in the past, it will work for the empowerment of farm families, including women, and strive to make the development process participatory.

Africa Harvest intends to continue with demonstration and diffusion of new technologies, develop systems for supply of new and improved inputs, and establish market-linkages for participating farmers. It also intends to play a significant role in influencing government policies related to agricultural development, infrastructure (irrigation, electricity, roads, transportation and communication), imports and exports of agricultural commodities, and incentive-disincentive frameworks that have far-reaching implications and impact on the pace of agricultural development and livelihoods or incomes of farm families, especially smallholders.

Science and research-based policy advocacy will be another endeavor of Africa Harvest during this decade. As in the past, it will work for the empowerment of farm families, including women, and strive to make the development process participatory. Africa Harvest recognizes that governments should strive to assure the right to livelihood for every citizen. This right can be achieved by ensuring several forms of rights like right to food, right to clean and safe water, right to employment or work, right to education, right to protection of life, right to personal liberty and right to information.

Within the ‘rights’ framework, Africa Harvest will repackage its programs and themes to come out with a policy prescription from its efforts and experiences in implementing its projects and interventions. For example, there is considerable scope for rainwater harvesting and adoption of soil and water conservation practices. Returns on investment in rural roads (in terms of reducing poverty, food insecurity and malnutrition and, at the same time, accelerating agricultural growth) are very high but this requires public-sector investment, which needs appropriate fund-allocation policy decisions. Supplementary and land-saving enterprises such as backyard poultry, small ruminants and kitchen gardens can help in improving nutrition as well as incomes of smallholders. These also help in empowering women farmers. Keeping these in view, Africa Harvest will adopt a holistic approach by redefining its programs and themes in six program areas. During the next 10 years, the programs and themes for Africa Harvest will be as outlined on page 19.

---

<table>
<thead>
<tr>
<th>Program</th>
<th>Themes</th>
</tr>
</thead>
</table>
| **Food and Nutritional Security and Sustainable Livelihoods of Smallholders** | • Delivery of appropriate technology and critical farm inputs  
• Rural community mobilization and group formation in gender categories with functional dynamics  
• Capacity building for good agricultural practices, post-harvest handling, value addition, and marketing  
• Strong gender, HIV and AIDS (GHA) mainstreaming component for rural communities, with emphasis on women and youth empowerment through capacity building  
• Agricultural value chains development  
• Mobilization and capacity building of agro-entrepreneurs |
| **Technology Development and Deployment**                               | • Technology identification and acquisition with Gender HIV and AIDS responsiveness  
• Facilitating research and technology generation  
• Operational research for technology deployment  
• Bio-safety and regulatory framework  
• Capacity building for transfer of technologies |
| **Natural Resource Management**                                         | • Integrated (soil) nutrient management, including bio-fertilizers,  
• Water and soil conservation and management  
• Promotion of agro-forestry  
• Biodiversity conservation  
• Climate change mitigation strategies and their promotion |
| **Agricultural Markets and Policy**                                     | • Participatory market research and opportunity identification (input, output, credit markets, seed systems, etc.)  
• Market development and marketing system innovations  
• Capacity building of farmers, in their gender categories, for increasing market access and improving bargaining power  
• Establishment of credit, input and output market linkages  
• Establishment of produce marketing centers  
• Policy reviews, analysis and advocacy (extension systems, marketing systems, trade policy, land policy, seed policy and public investment in agricultural R&D)  
• Establishment and strengthening of public-private partnerships |
| **Communication for Development and Knowledge Management**              | • A GHA-sensitive public engagement strategy  
• A GHA-based public technology acceptance  
• Innovative use of ICT  
• Community engagement with behavior change monitoring  
• Publications and use of other multimedia modes  
• Documentation and knowledge management  
• Promotion of technology |
| **Finance, Administration and New Business Development**                | • Provide support for project initiation  
• Resource mobilization  
• Accounting and finance administration  
• Human resources administration  
• Compliance and donor liaison  
• Monitoring and evaluation  
• Institutional development  
• Institutional policies  
• Coordination of Board of Directors’ activities |
3.9. STRATEGIC OBJECTIVES AND OPERATIONALIZATION

Strategic Objectives

To fulfill its vision and mission, Africa Harvest has drawn up a 10-year strategic plan comprising the following five objectives:

• To reach one million rural households in 10 countries, spread across East, West, and Southern Africa.

• To assess and identify country-specific needs (areas of intervention) and mobilize partners and stakeholders with GHA-responsive tools.

• To design specific interventions, for each identified country and location, revolving around successful models and experiences of Africa Harvest and local stakeholders.

• To implement country-specific projects with an integrated GHA-responsive approach of technology development, technology transfer to farmers’ fields along the whole value chain, based on creative partnerships of all the identified stakeholders.

• To assess and evaluate the output, outcomes, and impact of the interventions and derive lessons for scaling up in other areas and countries.

Apart from the objectives, the strategic plan comprises a logical framework with the following details:

• Each strategic objective includes actions or operational objectives that will need to be undertaken in order to realize the outcome.

• The output and outcomes are the results of the envisaged activities.

• The aggregation of the results will bring about the required impact.

• Each strategic objective has a number of expected outcomes that will occur if the strategic objective is achieved.

• For each project, there will be some GHA-based in-built indicators that will serve as monitoring and evaluation tools of the strategic plan for deriving lessons either for scaling up or for modifications in future interventions.

Framework for Identification of Ten Countries

The strategic plan reflects Africa Harvest’s belief that only Africa-led responses to current and emerging challenges can be successful and sustainable. Africa Harvest is encouraged by the fact that the political milieu, through AU and NEPAD, has already moved forward to provide this kind of leadership. Africa Harvest supports this leadership by helping to operationalize, at the regional and country levels, what has been agreed on by the member countries.

The selection of countries of focus will be guided by Africa’s RECs, which bring together individual countries in the sub-regions for the purposes of achieving greater economic integration. The RECs are the ‘building blocks’ of AU, and are central to the strategy for implementing NEPAD. Africa Harvest plans to select 10 countries in the following three RECs: COMESA, ECOWAS and SADC. It is already operational in two countries, viz., Kenya (COMESA) and South Africa (SADC). During the next 10 years, two or three more countries will be identified in each of the three RECs.

In the selected countries, in-depth work will start, in need-based project mode, within the six program areas. The organization’s strategy of African-led, need-driven and creative partnerships on project selection and implementation will ensure both impact and long-term sustainability, and further lead to evolution of farmer champions as a pool of leaders for agricultural development.

Partnership Approach

Africa Harvest strongly believes that the success of any intervention depends critically on the partnerships with a large number of stakeholders. The stakeholders of the strategic plan will vary depending on the issues, the actions or activities described in individual projects. Some of the actions will involve governments of the target countries, national agricultural research organizations (NAROs), universities, or NGOs. Depending on the desired outcomes, the partnership could be between Africa Harvest and one or two organizations, individuals or a combination of all. Farmers’ organizations in the project area will necessarily be important partners in every project. Through policy analysis, Africa Harvest will try to show that wider consultations by the national governments in deciding priorities will help mobilize resources and support for accelerating agricultural growth as well as ensure that the growth is focused on small landholders.

Implementation

The strategic plan will be implemented over a 10-year timeframe supported by annual work plans adjusted regularly on the basis of: (i) experience gained during the previous year; (ii) the result of the periodic assessment and reviews; and (iii) direction from the Africa Harvest Board of Directors. A mid-term evaluation will be undertaken after five years from the adoption of the plan. This evaluation exercise will help in assessing the extent to which the strategic objectives are being achieved, and, where necessary, in making adjustments
The review, design and development of the Africa Harvest Organizational Structure was done in close consultation with the Strategy & Operations Consulting Division of Deloitte, Eastern Africa and EPOD Global, a People & Organization Development management consulting company based in South Africa. The consultation was meant to align the vision and strategic intent. A functional approach was used in designing the proposed structure since the Africa Harvest is a project-driven organization. There was a deliberate attempt to flatten the organizational structure with less reporting levels and more direct responsibility. Decision-making and accountability were decentralized and delegated to different functions. As a result, the number of positions was reduced and the span of control broadened. Titles are intended to describe new programs and to indicate the management responsibility level.

When the new structure is fully functional, it will help it become a US$10–15 million organization and achieve the vision of expanding into 10 African countries. The structure will ensure efficiency and effectiveness, encourage decision making and team work, promote succession planning and growth at all levels, speed up project delivery and ensure compliance in all countries where Africa Harvest will operate.
**Operational Objectives or Activities**

The operational objectives or activities in respect of each strategic objective are envisaged as follows:

<table>
<thead>
<tr>
<th>Strategic Objectives</th>
<th>Operational Objectives or Activities</th>
</tr>
</thead>
</table>
| 1. Reach one million rural households in 10 countries spread in three regions of East, West and Southern Africa | • Identify and create an operational presence in eight new countries (apart from Kenya and South Africa)  
• Interaction with GOs, NGOs, and potential partners |
| 2. Assess and identify country-specific needs and mobilize partners and stakeholders | • Development of country-specific projects based on identified GHA-responsive country needs and possible interventions  
• Formation of consortia, based on identified challenges and possible interventions  
• Engaging development partners to obtain necessary financial and human resources to implement the planned activities |
| 3: Design specific interventions around replication of successful models | • Macro assessment of GHA-based demand and supply gaps  
• Baseline survey to identify demand/supply of suitable crops, livestock, and horticultural commodities, and environmental issues, including soil and water management interventions  
• Identify GHA-responsive and suitable cereal crops for the area for food and income generation and also for climate-change adaptability  
• Identify GHA-responsive and suitable livestock-based models for income generation, soil fertility improvement and food security purposes  
• Identify GHA-based barriers and bottlenecks in agricultural marketing systems |
| 4: Implementation | • Organize targeted farmers with GHA focus in suitable groups and conduct trainings on various aspects  
• Put in place GHA-based mechanisms and systems to supply needed inputs to farmers  
• Evolve a system of post-harvest handling and marketing of surplus produce  
• Mobilize and train all the stakeholders in their GHA categories in value chain for long-term sustainability  
• Promote road shows and mass contacts |
| 5: Assessments and Evaluation | • Develop and conduct GHA-sensitive evaluation study at the end of each project  
• Derive GHA-sensitive lessons for the future (up-scaling or correction) |
to the plan; it will also allow for realignment with emerging trends and opportunities. Information will be drawn mainly from the countries where Africa Harvest operates, the projects being implemented, and through interactions with stakeholders in these countries. Africa Harvest is targeting at least two projects in each selected country during the 10-year period.

**Expected GHA-based Output, Outcomes, and Impact**

The output, outcomes and impact of each activity are shown in Table 3.1. Africa Harvest recognizes that while the output is determined by Africa Harvest’s efforts, the outcome and impact depend on the external environment in which farming and marketing activities take place. It is precisely why the strategic plan involves all the stakeholders, including government organizations, development functionaries, non-governmental organizations, traders, market functionaries, and other development institutions operating in the selected locations. The objective is to make a decisive impact on the livelihoods of one million farm households, who in themselves will become champions for change in their gender categories, in 10 countries to reduce hunger, food insecurity, poverty and malnutrition.

### 3.10. RESOURCE REQUIREMENT AND MOBILIZATION

**FINANCIAL RESOURCES**

Africa Harvest sources funds from both public and private-sector organizations that are interested in Africa’s development and helping Africans overcome their livelihood challenges through agricultural technology-based interventions. The Foundation aims to raise its annual financial outlay to achieve the growth and impact that is targeted from the current US $ 4 million to US $ 15 million by 2020.

**HUMAN RESOURCES**

For this strategy to be implemented effectively, Africa Harvest will need to develop and grow its human resources capacity, whose overall goal will be enhancing efficiency in financial management and program implementation as well as increasing its physical infrastructure. The specific objectives of HR development would be:

- to establish robust human resources and physical infrastructure capabilities, coupled with policies and processes that will help to attract and retain highly qualified professionals
- to develop and implement internal mechanisms for program planning, monitoring, evaluation and impact assessment
- to develop and implement prudent financial management systems and practices that meet or comply with international standards
- to develop staff capacity to mainstream all cross-cutting issues of climate change, gender, HIV and AIDS into the core business
- to strategically develop creative partnership with like-minded organizations in target countries to jointly implement projects

Africa Harvest will need to grow its team of professionals to possess expertise in designing and implementing projects that link the entire agricultural value chain and quickly deliver major socio-economic gains. Dr Florence Wambugu, a scientist with outstanding international credentials, will lead the team. She has achieved substantial professional recognition at a global level in agricultural R&D and has demonstrated exceptional managerial competence, capacity for intellectual leadership and a high level of skills in working with colleagues, collaborators and donors. The team’s focus will be on visible impact, which is indeed the most important reward for an organization that implements a project to make a difference. The goal will be to dramatically improve the households’ wellbeing by ensuring better food security, nutritional intake and income.

Expertise is required to drive the new strategy; some already exists in Africa Harvest, but some will be developed or resourced from strategic partners as follows:

- **Project Management:** Expertise will be required in all aspects of project management, with GHA mainstreaming-based development interventions, including idea generation, proposal development, project design, planning, implementation, monitoring, and evaluation. Building of alliances by forming consortia and coordination of activities of large projects will also be strengthened.

- **Product Development:** Strong R&D will be the core of the organization’s strategy. Africa Harvest will require individuals capable of systematically focusing on needs-driven initiatives in resolving the key problems that resource-poor smallholder farmers face in Africa’s rural areas. They will have to facilitate formation of a scientific consortium of public and private sector institutions to develop products that would impact the poor.

- **Transfer and Diffusion of Technologies:** Africa Harvest has a proven track record of delivering modern agricultural technology, including improved plant germplasm, rootstocks, and improved seeds, to GHA-based resource-poor farmers. This requires a unique skill-mix to deliver improved products...
### TABLE 3.1: Expected output, outcomes and impact of the Strategic Plan

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Activities</th>
<th>Output</th>
<th>Outcome</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach one million rural households in 10 countries spread in three regions of East, West and Southern Africa</td>
<td>Identify and create operational presence in eight new countries (apart from Kenya and South Africa)</td>
<td>Presence in 10 countries</td>
<td>Facilitates present and future activities</td>
<td>Quicker results in reducing hunger, poverty and malnutrition in Africa</td>
</tr>
<tr>
<td></td>
<td>Interaction with GOs, NGOs, and potential partners</td>
<td>Visible space for Africa Harvest in SSA</td>
<td>Facilitates future partnerships</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Quicker results in reducing hunger, food insecurity, and malnutrition</td>
</tr>
<tr>
<td>Assess and identify country-specific needs and mobilize partners and stakeholders</td>
<td>Development of country-specific projects, based on identified country needs and possible interventions</td>
<td>Country-specific macro intervention plans are ready</td>
<td>Helps in quicker implementation</td>
<td>Improved understanding for tackling hunger, poverty, and malnutrition</td>
</tr>
<tr>
<td></td>
<td>Formation of consortia, based on identified challenges and possible interventions</td>
<td>Consortia for action are ready</td>
<td>Helps in quicker implementation</td>
<td>Shared vision for fighting hunger, poverty, and malnutrition</td>
</tr>
<tr>
<td></td>
<td>Engaging development partners to obtain necessary financial and human resources to implement the projects</td>
<td>Financial and human resources available for implementation</td>
<td>Helps in quicker implementation</td>
<td>Facilitates faster implementation and builds confidence among targeted farm families</td>
</tr>
<tr>
<td>Design specific interventions around replication of successful models</td>
<td>Macro assessment of demand and supply gaps</td>
<td>Macro food security situation assessed</td>
<td>Helps in fine tuning the interventions</td>
<td>Facilitates faster implementation</td>
</tr>
<tr>
<td></td>
<td>Baseline survey to identify demand/supply of suitable crops, livestock, horticultural crops and environmental issues, including soil and water management issues</td>
<td>Specific areas of intervention sharpened</td>
<td>Helps in mobilizing farmers and farm women</td>
<td>Facilitates faster implementation</td>
</tr>
<tr>
<td></td>
<td>Identify suitable cereal crops for food and income generation and also for climate-change adaptability</td>
<td>Food crop interventions sharpened</td>
<td>Helps in mobilizing farmers and farm women</td>
<td>Facilitates faster implementation</td>
</tr>
<tr>
<td></td>
<td>Identify suitable livestock-based models for income generation, soil fertility improvement and food security purposes</td>
<td>Livestock-based intervention sharpened</td>
<td>Helps in mobilizing farmers and farm women</td>
<td>Facilitates faster implementation</td>
</tr>
<tr>
<td></td>
<td>Identify barriers and bottlenecks in the agricultural marketing system</td>
<td>Barriers and bottlenecks in marketing identified</td>
<td>Specification of plan for removal of barriers</td>
<td>Quicker adoption of new technology by farmers</td>
</tr>
</tbody>
</table>
Table 3.1 (continued): Expected output, outcomes and impact of the strategic plan.

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Organize targeted farmers, both men and women, in suitable groups and conduct training on various aspects through demonstrations</th>
<th>Farmers’ organizations created and demonstrations held</th>
<th>More awareness and knowledge among farm families</th>
<th>Quicker adoption of new technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Put in place mechanisms and systems to supply needed inputs to farmers</td>
<td>Input supply system in place</td>
<td>Quicker adoption by farmers</td>
<td>Enhanced production and income for farmers</td>
</tr>
<tr>
<td></td>
<td>Evolve a system of post-harvest handling and marketing of surplus produce</td>
<td>Marketing system in place</td>
<td>Farmers assured of a market</td>
<td>Enhanced production and income for farmers</td>
</tr>
<tr>
<td></td>
<td>Mobilize and train all the stakeholder in value chain for long-term sustainability</td>
<td>Stakeholder in value chain trained</td>
<td>Improved marketing efficiency</td>
<td>Gain to farmers as well as consumers</td>
</tr>
<tr>
<td></td>
<td>Road shows and mass contacts</td>
<td>More farmers reached and made aware</td>
<td>Subsequent adoption rate goes up</td>
<td>More farmers benefit</td>
</tr>
<tr>
<td>Assessment and Evaluation</td>
<td>Conduct an evaluation at the end of each project</td>
<td>Evaluation results available</td>
<td>Helps in future interventions</td>
<td>Future actions refined</td>
</tr>
<tr>
<td></td>
<td>Derive lessons for future (up-scaling or correction)</td>
<td>Lessons available for up-scaling or correction</td>
<td>Helps in future interventions</td>
<td>Future actions refined</td>
</tr>
</tbody>
</table>

together with information and management packages for sustainable agriculture development.

- **Communication for Development**: Africa Harvest augments its technical initiatives with a GHA-focused communications program designed to empower people, from national officials to grassroots stakeholders, and enable them to make informed decisions. It is now well recognized that Africa needs to channel the power of information technology (IT) to solve the problems of millions of rural poor by generating solutions that are sustainable and affordable. For communication to bring about development, specialized skills are required to ensure that knowledge sharing and awareness creation empowers rural communities. Skills are required to engage stakeholders in open and informed discussion on technological options and dispelling the myths and misconceptions that can surround such processes. The public awareness strategy forms an integral part of the business of enabling new commodity production technologies to make an optimal contribution to food security, poverty alleviation and sustainable rural livelihoods. Africa Harvest has acquired useful skills, which it intends to strengthen to deepen and spread its interventions and approaches.

- **Regulatory and Bio-safety Framework**: Africa Harvest already has capacity in the management of regulatory and bio-safety issues. Cognizant of the fact that the significant barriers to the introduction of improved biotechnology derived crops and products in Africa are lack of expertise in implementing effective bio-safety management and regulatory policies, the organization will work toward expanding the core competencies in this area. The team will focus on raising levels of technical skills, and strengthening the ability of policymakers to grasp the issues that surround effective transfers and applications of new technologies. The team will also build the capacity of African scientists and regulators.

- **Intellectual Property Brokerage**: A lot of technologies that are available today are owned by the private sector and, therefore, are proprietary in nature. For these to become available to developing countries, negotiations and brokerage are required. This fact has been confirmed in the last six years during the implementation of the ABS project, when Africa Harvest worked with Patton and Boggs LLP (USA) to negotiate and broker some technologies from DuPont and Japan Tobacco. It further partnered with AATF for IP audit and
management in Africa. The organization’s capacity in this area will be strengthened further.

- **Agriculture Economics, Policy Analysis and Advocacy:** This skill-base needs to be developed within Africa Harvest to provide GHA-focused expertise in a wide array of agriculture-related areas, including market analysis, economic feasibility, economic impact analysis, policy analysis, demand-supply projections, resource-use efficiency estimation, cost-benefit analysis, and analysis of impact of export-import policies on hunger, poverty, and malnutrition. This will help in advocacy of pro-poor policies by helping prepare and present policy improvements based on facts and figures.

- **GHA-based NRM:** Environmental degradation threatens to erode the natural resource base in Africa upon which agricultural productivity depends. The threat is more pronounced in fragile ecosystems, where concerted efforts are needed to ensure that the resource base is not degraded further. Africa Harvest will develop expertise in this field, which is complementary to all the other areas of focus.

- **Fundraising:** Expertise will be required for proposal development that will target specific funding agencies for resource mobilization and meet legal compliance as required by donors.

- **Financial Management:** Africa Harvest will work toward strengthening financial administration, documentation, reporting, and legal compliance. Enormous progress has been made as a result of involving senior management staff in providing leadership to different components of the project, but further strengthening will be undertaken.

*Africa Harvest leads the Africa Biofortified Sorghum (ABS) consortium. Working closely with Pioneer (a company of DuPont), the project has developed the world’s first golden sorghum with increased levels of vitamin A. It has been field-tested in Kenya, Nigeria and USA.*


Resources Required to Support Implementation of the Strategic Plan

3.11. INCOME AND EXPENDITURE PROJECTIONS

Africa Harvest targets to grow its gross budget from average US$ 3.5 Million to US$ 15 Million in the next 10 years (see Table 3.2). During the first half of this period, because of the momentum of the last decade, the organization’s gross revenue is projected to increase sharply; the goal is to achieve a steadily and manageable growth thereafter.

Fundraising

Africa Harvest expects to raise funds for its strategic plan from both private and public sources. Funds raised from public sources are projected to increase steadily from the current 30% and reach a peak of 50% by 2015, resulting in a 1:1 ratio of private sources of funds to public sources of funds. To achieve its targets, Africa Harvest will strengthen its fundraising capability by building expertise in proposal development. Internal capacity and systems will be strengthened to ensure effective reporting to donors, and financial and legal compliance. An internal project monitoring and evaluation system will also be set up, supported by extensive redesign of the organization to ensure cultural and national diversity as the organization moves into new African countries.

Financial Management

Africa Harvest will also strengthen its financial administration, documentation, reporting and legal compliance processes.

Table 3.2: Projected Income and Expenditure Statement (US$) for the period 2012–2022

<table>
<thead>
<tr>
<th>Year</th>
<th>Grant and Investment Income</th>
<th>Expenditure</th>
<th>Program Services</th>
<th>General and Administration</th>
<th>Fundraising</th>
<th>Total Expenditure</th>
<th>Net Surplus/(Deficits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3,520.00</td>
<td>2,816.00</td>
<td>510.40</td>
<td>140.80</td>
<td>3,467.20</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>3,872.00</td>
<td>3,097.60</td>
<td>542.08</td>
<td>135.52</td>
<td>3,775.20</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>4,452.80</td>
<td>3,562.24</td>
<td>601.13</td>
<td>133.58</td>
<td>4,296.95</td>
<td>156</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>5,343.36</td>
<td>4,274.69</td>
<td>694.64</td>
<td>133.58</td>
<td>5,102.91</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>6,412.03</td>
<td>5,129.63</td>
<td>801.50</td>
<td>128.24</td>
<td>6,059.37</td>
<td>353</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>7,694.44</td>
<td>6,155.55</td>
<td>923.33</td>
<td>153.89</td>
<td>7,232.77</td>
<td>462</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>9,233.33</td>
<td>7,386.66</td>
<td>1,061.83</td>
<td>184.67</td>
<td>8,633.16</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>11,079.99</td>
<td>8,863.99</td>
<td>1,218.80</td>
<td>221.60</td>
<td>10,304.39</td>
<td>776</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>13,295.99</td>
<td>10,636.79</td>
<td>1,396.08</td>
<td>265.92</td>
<td>12,298.79</td>
<td>997</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>15,955.19</td>
<td>12,764.15</td>
<td>1,595.52</td>
<td>319.10</td>
<td>14,678.77</td>
<td>1,276</td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>16,752.95</td>
<td>13,402.36</td>
<td>1,675.30</td>
<td>335.06</td>
<td>15,412.71</td>
<td>1,339.80</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>97,612.07</td>
<td>78,089.66</td>
<td>11,020.61</td>
<td>2,151.97</td>
<td>91,262.23</td>
<td>6,349.41</td>
<td></td>
</tr>
</tbody>
</table>
In developing this strategic plan, a collaborative approach based on global best practice was applied.

- Interviews and focus groups were conducted with Africa Harvest’s senior and mid-level managers together with other supervisors, which formed the basis of an internal analysis of the company. This involved field trips to all areas where the organization has implemented its value chain approach. The process enabled the Deloitte team to understand the organization better, and develop a clearer appreciation of its successes, challenges, and vision for the future. The Board members were also interviewed and their input incorporated in the development of the situational analysis and visioning of the organization. Their view was invaluable in developing a comprehensive vision for Africa Harvest.

- A thorough situational analysis to ensure that the resulting strategies are relevant, responsive and appropriate was undertaken. The study of the environmental factors was used to identify the opportunities and threats. Unlike in a traditional strategic planning process for private companies, the competition analyses focused on understanding the nature of poverty, hunger, malnutrition, and trends that these phenomena will take in the next 10 years to form a basis for appropriate responses and solutions. Interviews and discussions held with stakeholders helped to develop a better understanding of the possible beneficial partnerships that Africa Harvest can develop to address the challenges facing their ‘clients’ – the resource poor and rural-based smallholders.

- A strategic planning session was held at Deloitte Place in Waiyaki Way, Nairobi, which brought together the Board of Directors, senior management and staff members of Africa Harvest. Operational concepts and strategies were discussed and presented at this meeting. Ideas collected through the situational analysis, interviews and discussions with various stakeholders were presented and validated for inclusion in the strategic document.

- The key strategic themes defined at the strategy workshop and translated into strategic objectives were then broken down into specific activities to be executed in a subsequent planning session held at the Africa Harvest offices in Westlands. These were further assigned to the appropriate owners on whom the responsibility would fall.

- Based on the current and previous years’ financial statements, projections for the period of the strategic plan showing the anticipated movement of the three key financial statements, i.e. the statement of financial position, the statement of comprehensive income and the statement of cash flows, were made. This historic data was used to develop a budget for the next 10 years. Africa Harvest aims to reach at least one million households in ten countries in three regions of Africa. This is a bold vision that requires resources and meticulous planning.

The planning process was exhaustive in providing Africa Harvest with a plan that it could implement to achieve its noble vision.
DR MOCTAR T OURE is a Senegalese national and serves as the Chair of the Board. He is a soil scientist by training, who became an institutional development expert by experience. He obtained his Diplome d’Ingenieur Agronome from the Ecole Nationale Superieure d’Agronomie de Rennes (France) in 1970 and his Doctorate from the University of Rennes (France) in 1973. He spent the first fifteen years working for the Senegalese NARS, where he rose to the position of Director General of ISRA. He served for four years as the National Director for all Agricultural and Agro-Industrial Research in the Ministry of Sciences and Technology. He then moved to the World Bank and, for about eighteen years, served in various capacities, including Executive Secretary for the Special Program for African Agricultural Research (SPAAR). Two years prior to retirement, he moved to the Global Environment Facility (GEF) to lead the Land Degradation Team. Currently, he is a member of many advisory committees and involved in consulting tasks.

DR FLORENCE MURINGI WAMB UGU is the Founder, Director and the Chief Executive Officer of Africa Harvest Biotech from 2002. She is a plant pathologist, with specialization in virology and genetic engineering. She has a PhD from the University of Bath, in England and Post-Doctoral Research experience at Monsanto, USA. For over 30 years, she has dedicated her life to agricultural research, where she has made significant contributions in improvement of sorghum, maize, pyrethrum, banana, and sweet potato. Previously, she worked as the Africa Regional Director of the International Service for the Acquisition of Agri-biotech Applications (ISAAA) AfriCenter in Nairobi, and as a Research Scientist in KARI Kenya. She has published over 100 articles and co-authored various papers. She is also the author and publisher of *Modifying Africa*. In 2005, she led an international consortium that was awarded $21 Million under the global competitive grant by the BMG Foundation. She is a recipient of several awards and honors, including the Norwegian YARA Prize in 2008. She is currently a Board Member in several international agencies.

MR JOSEPH GILBERT KIBE is Chairman of the Kenya Horticulture Development Authority. From 1962 to 1979 he served in the civil service in Kenya, and rose to position of Permanent Secretary in 1968. He served as Permanent Secretary of the Ministries of Agriculture and Animal Husbandry, Commerce and Industry, Economic Planning, Water Development, Lands and Settlement, and Tourism and Wildlife. Previously, he served as the Chairman of the
Agricultural Finance Corporation and Egerton College of Agriculture in Kenya. He holds a Bachelor of Arts Degree from Makerere University College of the University of London. He has rich experience in policy formulation and implementation, HR management, and budgeting and accounting for financial and physical resources. He is currently involved in agricultural developments as an investor, with particular interest in international horticultural trade. His special interest in financial investment and Corporate Governance has led to his current involvement as Director in over 10 private sector companies and not-for-profit foundations and trusts.

PROFESSOR SHABD S. ACHARYA is the Chair of the Program Committee of the Board. He is Honorary Professor at the Institute of Development Studies, Jaipur (India). He is Chief Editor of Indian Journal of Agricultural Marketing; Chairman of Editorial Board of Agricultural Economics Research Review; Chairman of Consortium Advisory Committee of NAIP Project on Risk Assessment & Insurance Products for Agriculture; and Chancelor’s Nominee on the Board of Selection of Rajasthan Agricultural University. He serves as consultant to numerous international organizations.

Prof Acharya has numerous distinctions, including from Ohio State University, Indian Society of Agricultural Economics, Indian Society of Agricultural Marketing, National Expert Group on Agricultural Marketing, Government of India, FAO, UNDP-FAO, UNDP-ILO-FAO, Agricultural Economics Research Association (India), Standing Panel of Science Council of CGIAR, Center Commissioned External Review of WARDA and ICSSR-WIDER (UNU)-FAO and Planning Commission’s Working Group on Agricultural Marketing and Trade for XI Five Year Plan of India. He has written extensively on Agricultural Economics, Agricultural Marketing, Prices, Agricultural Development and Policy Analysis. His publications include 17 books, 44 chapters in other books, 409 research papers/articles, and 73 research monographs/reports.

MS PRUDENCE NDLOVU is the Chair of the Nominations and Governance Committee of the Board. As Managing Director of EPOD Global (Pty) Ltd., she has spent the last six years at the helm of this entrepreneurial venture offering human capital solutions. She has over 15 years’ experience as a HR specialist in large corporations, advising on full function human resource strategy and management. She holds a postgraduate degree in Business Studies, specializing in HR management and a training management qualification. Her corporate experience spans blue chip companies, including J. Sainsbury’s Plc, Pick ’n Pay and PricewaterhouseCoopers. She is the Vice Chairperson of Gauteng of the Business Women’s Association of South Africa, providing enterprise development support and capacity building programs for women entrepreneurs. She founded the Woman of Vision Networking forum eight years ago to be a platform for the inspiration and encouragement of women in business and spirituality. She has attended four Bible schools both in the UK and South Africa. She is a mother and wife.

PROF DR MATIN QAIM is Professor of International Food Economics and Rural Development at the University of Goettingen, Germany. He has a PhD in agricultural and development economics from the University of Bonn and has held academic positions at the Universities of Hohenheim (Stuttgart), Kiel, and Berkeley (California). He has extensive research experience related to poverty, food security, and productivity growth in the small farm sector. He has implemented and coordinated research projects in various countries of Africa, Asia, and Latin America, including socioeconomic impact of agricultural biotechnology and GM crops. Dr Qaim has published widely in scientific journals and books and has been awarded academic prizes. He is a member of several scientific and policy advisory committees, including the German Federal Ministry of Food and Agriculture. Furthermore, he is member of the Golden Rice Humanitarian Board and the Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT) Board of Trustees.

DR BLESSED OKOLE is the Chair of Audit Committee of the Board. He is the Senior General Manager for Infrastructure and Planning in the Technology Innovation Agency-South Africa. He holds a PhD from the Technical University of Berlin, Germany. He was the CEO of LIFElab, the Biotechnology Innovation Center in Durban, and has 18 years’ international experience in the R&D environment in the biotechnology industry. Prior to joining LIFElab, he held the position of Business Development Manager and Strategic Partnership Manager for the CSIR Biosciences unit. He was also the interim Director for the NEPAD Southern African Network for Biosciences (SANBio) and the Technology Manager, Plant Biotechnology at AECI. At CSIR, Dr Okole, together with colleagues, obtained major grants like the US$21 Million Gates Foundation grant on nutritionally enhanced sorghum. He has vast experience in starting biotechnology businesses; and is conversant with national systems of innovation in Africa. Dr Okole is an entrepreneur who has a company that produces TC plants. He has several peer-reviewed publications and holds three patents.

DR ARTHUR J. CARTY: Dr Carty is executive director of the Waterloo Institute for Nanotechnology at the University of Waterloo. From 2004 to 2008, he served as Canada’s first national science advisor to the prime minister and the Government of Canada. He was president of the National Research Council of Canada for 10 years (1994–2004). Dr Carty has a PhD in inorganic chemistry from the University of Nottingham. Before joining NRC in 1994, he spent two
years at the Memorial University and 27 years at the University of Waterloo as Professor of Chemistry, Chair of the Chemistry Department, and Dean of Research. Dr Carty’s research interests are in organometallic chemistry and new materials. He has 311 publications in peer reviewed journals and five patents to his credit. He is a former president of the Canadian Society for Chemistry, a fellow of the Fields Institute for Research in the Mathematical Sciences and a fellow of the Royal Society of Canada. He has 14 honorary degrees and has received Canada’s highest civilian award as an Officer of the Order of Canada (OC) and been honoured by France as Officier de l’Ordre National du Mérite. He has served on many Boards of Directors and Advisory Boards.

**DR GRACE MALINDI**, recently retired as the Director of Agricultural Extension Services at the Ministry of Agriculture and Food Security in Malawi after 38 years in public service. She held various positions, including that of Training Officer, Gender-based Participatory Development Specialist, Deputy Director for Extension Services and Director of Extension Services. Dr Grace holds a PhD in Human Resources and Community Development from the University of Illinois at Urbana-Champaign, U.S.A. and has extensive experience in agricultural extension, gender mainstreaming, farmer training and participatory rural community development. She played a pivotal role in revolutionizing Malawian agriculture from a food deficit nation to a vibrant food surplus nation. Grace is a member of Association for International Agricultural Extension Education, AFAAS, Association of Women in International Development (AWID) and the American and Canadian Home Economics Association. Dr Grace has received numerous awards and served on various advisory boards in Malawi.
Appendix III: ABOUT AFRICA HARVEST

The Tissue Culture Banana Project has proved a successful model for fighting poverty, hunger and malnutrition. Apart from increased incomes, the clean banana plantlets provide the only source of food during drought period and (the bananas) are a source of high nutrients.

OVERVIEW

Africa Harvest is incorporated in the USA and Canada as a non-profit foundation with headquarters in Nairobi (Kenya). It has regional offices in Washington DC (USA) and Johannesburg (South Africa). The Foundation has been in existence since 2001, during which time it has implemented high-impact projects. The foundation has a network of public and private partners as well as stakeholders at the national and grassroots levels, comprising various organizations representing NGOs, extension workers, rural communities and farmers. These organizations work toward developing new ways of generating incomes and jobs that support sustainable rural livelihoods.

The Foundation strives to reduce poverty and bring sustainable livelihoods within the reach of every rural household by making science work for Africa’s poorest communities, especially smallholders in SSA. It uses value-adding technologies for agriculture and forestry, including distribution of a range of products like tissue culture (TC) banana plantlets and improved hybrid multipurpose trees for afforestation. Africa Harvest’s demonstration of good agronomic practices has helped to increase adoption of new agricultural technologies by rural communities. Its strong agro-biotech expertise enables it to support the capacity-building efforts of organizations and communities at the grassroots. The Foundation specializes in project design, development, implementation and monitoring for development impact.

The Foundation’s activities helped alleviate poverty, hunger and malnutrition through the provision of scientifically advanced solutions to resource-poor rural farmers. Beneficiary farmers have seen productivity increase significantly and, through capacity building, rural smallholders have moved to commercialized farming.

Africa Harvest built an international consortium of 13 institutions that participated in the development of the Africa Biofortified Sorghum (ABS) project. The project involved institutions in the national agricultural research system (NARS) in five African countries representing East, West, North and South Africa. These countries include Kenya, Egypt, Burkina Faso, Nigeria and South Africa.

GOVERNANCE AND HUMAN RESOURCES

Africa Harvest has a global vision with an African focus. It is governed by a Board of Directors comprising a rich mix of expertise in the various facets of organizational governance and management, with balanced gender and geographical representation. All Board members, except the CEO, serve for no more than two consecutive three-year terms.
The Board meets three times a year, two by teleconference and one face-to-face to provide policy and technical guidance, oversight for the management of the organization and ensure that the organization is on track with its mission. Specifically, the Board: (a) provides counsel and oversight in the selection, evaluation, development and compensation of members of the senior management team; (b) reviews, monitors, and where appropriate, approves financial and business strategies, and major corporate actions; (c) assesses major risks facing the organization and recommends mitigation measures; (d) ensures that systems are in place for maintaining organizational integrity – integrity in financial management and reporting, integrity in complying with laws and ethics, and integrity of relationships with partners and stakeholders; and (e) supports vision implementation through the strategic plan.

The Board dispenses its responsibilities through the following four committees:

- The **Executive Committee** comprises the Board Chair, Vice Chair and CEO. This committee supports the CEO to help make strategic decisions, develops the BOD agenda and has oversight for Strategic Plan implementation and financial management.

- The **Audit Committee**, which is responsible for ensuring financial accountability and compliance with financial policies. Its members are disallowed from providing consulting, advisory or other services to the organization, and cannot accept any payment from the organization, other than the honorarium paid to serving Board Directors. Members of this committee can also not be partners, principals or members of law, accounting and investment firms from which they derive fees, or other incomes where such firms offer services to Africa Harvest.

- The **Nominating and Corporate Governance Committee** is responsible for Board member re-appointments and recommending new Board members. It also monitors individual member and overall Board performance. It is responsible for overall institution governance and performance of the CEO.

- The **Program Committee** monitors how the organization’s vision and mission is being realized through various programs. It provides the opportunity for detailed interaction between the Board and the Management. Its core function is to evaluate the programs and projects on behalf of the Board, and provide professional policy and technical advice and guidance.

The Board has the right to retain independent advisors on financial, audit, legal and other matters as it may deem fit in order to effectively undertake its responsibilities. The CEO is the executive head of the organization, who is supported by a Deputy CEO overseeing the financial and human resource management division of Africa Harvest. There is a team of senior scientists, who lead various programs and projects of the organizations. They are supported by scientists, field officers and technical assistants.

**PROGRAMS AND PROJECTS SINCE 2002**

Africa Harvest, since its inception in 2001, has implemented a large number of projects through four main programs. These have included Technology Deployment, which include value chain-based projects such as tissue culture banana, Trees for Energy Project and Gadam Sorghum for semi-arid regions. It also includes the Technology Development Program, which houses the Africa Biofortified Sorghum (ABS) project and Biosafety. The other two are the Communication For Development and the Finance and New Business Development programs. These programs are implemented through various strategic thrusts within the projects as follows:

- Implementing technical projects with rural communities
- Scaling up the impact of successful model projects
- Sharing lessons learned through modern communications for development approaches
- Facilitating development of new crops and products using genetic modification techniques in partnership with others
- Building human and institutional resources with a focus on strengthening science and technology in Africa
- Supporting bio-safety and development of regulatory policies and codes in SSA
- Nurturing the development of entrepreneurial ventures
- Developing partnerships with like-minded organizations to generate income and create jobs through marketing

**TECHNOLOGY DEPLOYMENT PROGRAMS**

Africa Harvest has implemented a four-module approach to the deployment of technology through the whole value chain. The first module involves community outreach, or smallholder farmer mobilization group organization where
no farmer associations exists, information and awareness creation about the technology, and training and capacity building. The second module involves link to the input providers who supply improved seeds and plantlets, fertilizers, credit etc. The third module involves increased crops productivity through good agronomic practices and ensuring that the costs of production are lowered and the yield is increased significantly. The fourth module involves training and capacity building for post-harvest handling and marketing linkages. These are achieved through strengthening of the value chain stakeholders, crop collection centers, value adding, grading, quality control, price negotiations and actual marketing of the produce through traders who deliver the product to the target markets.

The technology deployment program has worked well for TC banana, and the farmers can now sell their bananas by weight rather than the conventional approach, where bananas did not have a standard measurement for fair pricing. The collection centers are attracting bulk buyers who offer better prices to the farmers. Farmer organizations are also able to settle on better prices, preventing exploitation by buyers, who traditionally played off one farmer against the other. The same approach is being applied to the Gadam and other varieties of sorghum project, where Africa Harvest has strengthened the value chain by collaborating with Equity Bank to provide input-financing and thereby increase the production levels of sorghum as a staple food. Africa Harvest is also working with breweries in Eastern Africa to provide a sustainable market for sorghum. This ensures that the farmers can access a robust market for their produce. Other markets for sorghum include animal feed and flour milling food industries. The success of technology deployment is best measured by the rising production of both banana and sorghum by smallholders. More details of these projects are given below.

(i) TC Banana Project

The deployment of disease-free, high-yielding Tissue Culture (TC) banana began in 2002 with a pilot project targeting 400 farmers in Maragua, Murang’a and Kirinyaga areas of Kenya and later saw a significant uptake with the support of Rockefeller Foundation, AGRA and DuPont Pioneer. Africa Harvest is currently working in over 30 districts of Kenya. These projects have so far seen over 250,000 households plant over one million TC banana plantlets. Africa Harvest has enabled farmers to access the banana plantlets, which are virus-indexed to eliminate the infection that reduce banana productivity.

Africa Harvest has built the capacity of farmers to use good agronomic practices that increase the productivity and uniformity of bananas and ensure that they can be harvested more or less at the same time. Training was also offered to farmers on post-harvest handling of bananas to reduce losses and increase the quality of bananas that reach the market. The final product is therefore produced faster at a lower cost and of a higher quality. The skills learnt included record-keeping, group dynamics, orchard establishment and the management of major pests and diseases, all to support the concept of farming as a business enterprise.

The success of TC banana and the agronomical support provided by Africa Harvest have seen the income of farmers increase significantly with farmers reporting an income of KES. 60,000 (USD 725) from 0.75 acres of land, where previously the income was less than KES. 5,000. These successes have seen the demand for the TC banana plantlets outstrip the supply. Africa Harvest is working to build the capacity of African scientists and infrastructure to support the production of TC bananas and other biotechnological solutions. The whole value chain approach has increased the avenues for value addition, with bananas being used to produce banana wine, banana chips and canned baby food. The success of the technology deployment is best measured by the growth in production of both banana and sorghum by smallholders, which has raised their family incomes, food security, and levels of nutrition.

(ii) Trees for Energy Project

The trees for energy project (TEP), sponsored by the Kenyan Ministry of Energy and implemented by Africa Harvest, aims at reducing deforestation while providing a viable source of energy for resource-poor rural farmers. These two objectives can be conflicting as the primary source of energy in the rural setting is firewood. Increasing population pressure on productive land has led to rapid deforestation of forests, and depletion of water bodies (rivers) that feed the agriculturally productive lands.

Africa Harvest set out to increase the capacity of the rural, resource-poor farmers to use these forests sustainably. The program rehabilitated riverine areas to safeguard the cleanliness and sustainability of river water sources. The project also trained charcoal merchants on efficient methods that increased the conversion of wood to charcoal from 12% to 35%.
Africa Harvest also trained the Ministry of Energy Center Managers, entrepreneurs selling tree seedlings and other officers on how to match different trees varieties for the appropriate ecologies, disease and pest control, as well as tree value-addition. Intensive interactions were held with commercial tree growers to address the challenges and find possible solutions and opportunities in the development of commercial tree growing through tree growers associations.

(iii) Gadam Sorghum Project  
Sorghum is an important crop in Africa due to its hardness and ability to resist drought conditions and high temperatures. In Kenya, for example, 80% of the land mass is considered to be ASALs. Sorghum is well adapted to these conditions and therefore is an important crop to meet the increasing demand for nutritious food. Globally, sorghum is the fifth most important crop and has many uses, including as food, fodder, beer-brewing ingredient and a source of biofuels.

Africa Harvest applied the whole value chain to the Gadam sorghum project, and strengthened the value chain by collaborating with various input providers including microcredit provider banks to provide input financing and increase the production levels. The Foundation also worked with East African Breweries Ltd through its subsidiary East African Malting Limited (EAML) to provide a sustainable market for sorghum. The project targets ASALs, where sorghum does better than other cereals. The focus in these areas includes linking farmers in sustainable small-scale production with an assured market. Farmers are also able to bulk their produce, which is collected by designated service providers and delivered to the malting company.

(iv) Sustainable Livelihood Project in ASALs with Intergrated Farming Systems
Under the on-going 3-year project titled ‘Food Security and Ecosystem Management for Sustainable Livelihoods in ASALs of Kenya’, Africa Harvest is undertaking an integrated farming system approach in ASALs of Eastern Province of Kenya by supporting farmers to adopt fast-maturing traditional food and horticultural crops; enhance soil fertility through the use of organic manure; improve water conservation and management on their fields and promote adoption of short-cycle livestock such as small ruminants and poultry. The project is funded by IFAD and the collaborating organizations include the Ministry of Agriculture, Ministry of Water, Ministry of Livestock, South Eastern University College, World Agro-forestry Center (ICRAF), other IFAD project teams, and local communities.

TECHNOLOGY DEVELOPMENT PROGRAM
The goal of the Technology Development program is to facilitate the transfer of genetically modified biotechnologies for crop improvement from advanced economies of the North to benefit smallholders. Currently, the program has a key project for development of Africa Biofortified Sorghum (ABS). Through fellowships placements and consortium the project has also been involved in scientific and infrastructure capacity development within Africa to support big technological development. The ABS project is a flagship project under this program.

Africa Bio-Fortified Sorghum Project
ABS was Africa Harvest’s answer to an announcement by the Gates Foundation in 2003 for projects that could ‘help apply innovation in science and technology to the greatest health problems of the developing world’; the ABS project was selected as one of the 45 projects in the Grand Challenges for Global Health (GCGH) initiative. ABS specifically focused on developing nutritionally enhanced sorghum for the ASALs of Africa and has completed Phase I (July 2005–June 2010). The following milestones were achieved during Phase I:

(i) Optimization and improvement of sorghum transformation systems, leading to a significant increase in the sorghum transformation efficiencies. The optimization of sorghum transformation capabilities provides a global opportunity for additional improvement of the sorghum crop through genetic engineering.

(ii) The world’s first ‘golden sorghum’ transgenics were developed as a result of Phase I support. The ‘golden sorghum’ showed enhanced levels of pro-vitamin A, reduced phytate and an improved protein profile (pro-vitamin A amounts ranging from 23.3–31.1 µg/g β-carotenes, within the range of those obtained from golden rice).

(iii) Bioavailability studies have shown increased rates of zinc and iron absorption in sorghum.

(iv) ABS has undergone over six field trials in the USA, and greenhouse trials in Kenya and South Africa, while Confined Field Trials (CFTs) have successfully been conducted in Nigeria and Kenya.
Preliminary food product trials have shown that ABS can be used to successfully make a wide range of traditional African and modern food products.

The Intellectual Property audit for freedom to operate status has been achieved for all the genes used in the ABS project in all the target countries and regions in Africa.

Capacity building and infrastructural development has been undertaken in the USA for African scientists (in partnering institutions from countries of deployment) in genetic transformation, throughput breeding, and bio-safety and regulatory aspects in readiness for Phase II.

ABS traits have been backcrossed with popular African sorghum varieties and the traits have shown stability in agronomic and ABS traits in African varieties, laying the foundation for Phase II, that is, the product development phase.

Building on ABS Phase I achievements, ABS Phase II proposes to develop and deploy biofortified sorghum varieties to those farmers/end-users in Africa who rely on sorghum as their staple food source. The other target beneficiary includes the World Food Program, which buys large volumes of food for the vulnerable groups and does artificial fortification.

Kenya was chosen as the primary country for deregulation and deployment of ABS products for Eastern Africa, while in Western Africa the project is focusing on Burkina Faso (which produces 1.4 million tonnes of sorghum annually) and Nigeria (8.0 million tonnes/year). Secondary countries for product deployment will be South Africa (0.29 million tonnes/year) and Egypt (0.94 million tonnes/year). There is considerable enthusiasm toward the project activities in the primary countries of product deployment, Kenya, Nigeria and Burkina Faso. This will enable Africa Harvest to reach its goal of impacting at least 30 million people with its product offering, with the potential to reach 300 million who eat sorghum in Africa.

Central to the success of Africa Harvest’s ABS project is building of strong networks and partnerships that bring with them a depth of knowledge and expertise in the execution of the project. Africa Harvest focuses on developing networks whose synergies can achieve more than a situation of different partners tackling hunger, poverty and malnutrition individually.

The ABS partners is funded by the Gates Foundation and other partners include, DuPont USA, Africa Agricultural Technology Foundation (AATF), ICRISAT and Agricultural Research Institute (INERA) among others. Africa Harvest is the grantee organization and co-investigator while Pioneer (DuPont Company) is the principal investigator. It incorporates the members of NARS of five countries: Kenya, Egypt, South Africa, Burkina Faso and Nigeria, among other organizations with specific expertise relevant to the project. This consortium been central to the success of the ABS project Phase I. The testing carried out for the ABS shows that the desired traits are transferrable between ABS and popular African varieties of sorghum. The bioavailability studies of the traits also shows significant increase of the target nutrients. Ex-ante social economic studies carried out by HarvestPlus has shown ABS to be an affordable and renewable source of the nutrients iron, zinc and vitamin A. ABS is now set to enter its production development phase with potential for improved products with vital vitamins and minerals during a future phase when it will be made available to African countries. The successes achieved in the development of ABS will make a significant impact in Africa by ensuring that a hardy crop, which grows widely and easily throughout SSA, delivers a real solution to combat malnutrition, especially if funds for phase two can be made available.

**COMMUNICATION PROGRAM**

The communication program within Africa Harvest creates an interface between the organization and its various stakeholders. Africa Harvest’s communication program has the following four objectives:

a) International outreach in support of introduction of new technologies, including Genetically Modified (GM) crops. The advantages of new technologies for food crops cannot be overstated, especially in Africa where a large percentage of the population is malnourished or undernourished.

b) Support for deployment of technology to farmers within the whole value-chain approach. The program delivers information and training to the farmers to build their capacity to adapt the new technology through workshops, documentation and community engagement models.
c) Strategic positioning of Africa Harvest to remain competitive and attractive to development partners. Strong partnerships not only leverage on the expertise in different organizations, but also increase the number of farmers reached by the consortium of partners.

d) Science communication to empower media personnel for information dissemination, and policy-makers, scientists and other key decision-makers to make decisions or develop policies from informed positions.

This program fills a communication gap that helps to empower the rural resource-poor farmers with information, knowledge and skills that are necessary for development. Lack of access to information reduces the ability of these farmers to take advantage of existing agricultural technology, participate effectively in the markets, and obtain fair payment for their produce. An important on-going project under the communication program is the Africa Biotech Outreach Project, which is supported by CropLife International.

FINANCE, ADMINISTRATION AND NEW BUSINESS DEVELOPMENT PROGRAM

The Finance, Administration and New Business Development Program of Africa Harvest supports all the other programs and includes governance, through the Board of Directors, financial management, administration, human resources, partnerships and fundraising. The program provides a structure for the growth of the organization, identifying needs and matching these to opportunities for partnerships and effective projects.

The program has recorded significant successes with its financial and managerial obligations. Good governance has been a key to success. The Board of Directors comprises an international team with varied qualifications and experiences, which has been instrumental in oversight and ensuring that the organization operates within the approved policy framework and within the available resources.

Africa Harvest also runs an internship program for young university graduates. Given Africa Harvest’s farmer-focused, friendly and open culture interns develops their skills through participation and learning under the mentorship and supervision of the senior staff. The interns are trained to take on full-time responsibility within Africa Harvest’s various projects or to move on to other development-focused organizations to find jobs elsewhere.

AFRICA HARVEST’S UNIQUE POSITIONING

AFRICA-BASED AND AFRICA-LED ORGANIZATION

Africa Harvest acknowledges and appreciates assistance from the international partnerships. Nonetheless, it recognizes the urgent need to develop Africa leadership for truly Africa-led responses, to tackle the current and emerging challenges that require indigenous knowledge. Africa’s political leadership, through the African Union and NEPAD, has already stepped forward in this direction. Instruments such as CAADP are now being adopted and streamlined within country-strategies. Grassroots organizations like Africa Harvest can play a critical role in ensuring the participation of communities in operationalizing these plans. It is against this backdrop that Africa Harvest is focusing on the new strategic initiatives that will be needed to realize its vision in a very inclusive manner.

This strategic plan acknowledges the complexity of the agricultural development landscape. Though clear on the need for an African-led approach to tackle the challenges that face the continent, the plan acknowledges the critical role of development partners. The complexity of the landscape stems from the myriad role players, including representatives from African governments, pan-African and regional organizations, research organizations, non-governmental organizations and grassroots or community organizations. All these players claim a legitimate interest in the continent’s agricultural and overall economic development.

A rough estimate shows that there are over 200 multilateral development agencies and over 50 bilateral donor countries that have or are establishing Africa-focused agricultural development programs. On both sides – the African and the international players’ – uncoordinated action has led to inefficiency and limited success. Apart from decreased funding to agriculture over the years, an analysis of current donor perspectives shows increasing consensus that inefficient funding practices have contributed to the limited progress.

This current state of affairs provides a good framework for Africa Harvest’s contribution in the next 10 years. This strategic plan is rooted in the need to develop strong African institutions and innovative partners in order to synergize action and ensure that funders receive maximum value for their investments. Africa Harvest holds the view that the
main constraints and potential solutions to agricultural development in Africa are well known. The challenge is getting the right teams – individuals and institutions – to effect the turn-around required.

The global food crisis has forced African countries to commit themselves to agricultural and rural development. Increased democratization will lead to an actual shift of resources to the most powerful constituencies: farmers and rural populations. This will place different players under pressure to help close the technology-divide in order to increase agricultural productivity.

Global and regional initiatives have identified Africa’s agricultural problems and have set ambitious policy targets to overcome them. The international donor community has launched new programs like AGRA, to spur agricultural technology and innovation in Africa. In addition, many of the CGIAR centers have increased their focus on Africa with the strong intention to generate a positive impact on the ground. The strategic plan acknowledges that all these are important steps in the right direction.

**AFRICA HARVEST’S COMPARATIVE STRENGTHS**

It is obvious that improving productivity in SSA’s least developed countries is a key to increased food output to avert the food crisis and high prices. Developing new technologies that target the staple crops, which are hardy and grow easily in the various climatic conditions in the region, will also be an important approach to increase food output. The most important determinant of success will be the capacity of the farmers to adapt and apply technology, access appropriate inputs in a timely fashion, and participate effectively in the agricultural markets by adding value to their produce and presenting it to the market in the desired state. This is exactly where Africa Harvest has identified its niche, based on its past successful experiences. As an international, not-for-profit organization, Africa Harvest’s particular comparative advantages lie inter alia in the following areas:

- **Technology development and transfer:** Africa Harvest does not conduct core research; it supports technology development and transfer through adaptive research, capacity building and orchestrating innovative consortia, including upstream and downstream research organizations in developed and developing countries. Moreover, it brokers public-private sector partnerships and facilitates technology, policy and communication processes, including bio-safety and other regulatory processes as well as advocacy and public relations.

- **Technology delivery to end-users:** Africa Harvest has developed innovative and successful models of technology delivery to smallholder farmers, building on the whole value chain approach. Realizing that successful innovation requires more than just handing out new seeds to farmers, this approach comprises numerous components that are adapted to each particular situation. Crucial components include community mobilization and empowerment, technical training and backstopping, credit access and linking farmers to input and output markets, and high-value supply chains.

- **Policy advocacy:** While working on technology development, transfer and delivery to end-users, Africa Harvest has gained considerable experience and expertise in identifying policy and other institutional constraints that adversely affect the pace at which the benefits can be derived by smallholders. This enables it to articulate and work with national governments and NGOs to persuade planners and policy makers on several policy issues.

- **Bio-safety regulatory frameworks:** Out of Africa Harvest’s potential target countries, only Burkina Faso, Kenya and Nigeria have a Bio-safety Act and only Burkina Faso has commercialized Bt cotton. Kenya hopes to commercialize Bt cotton in 2012. Since Africa Harvest has played a key role in the enactment of bio-safety acts in Kenya and Nigeria, it can initiate development of such regulatory frameworks in Senegal, Uganda, Rwanda, and Tanzania as well.

- **Regional harmonization of bio-safety regulatory frameworks:** For Africa to tap the full potential of biotechnology, especially on a regional basis, there is an urgent need to fast track the on-going endeavors to harmonize bio-safety and regulatory framework, spearheaded by regional bodies such as COMESA, CORAF and EAC. Africa Harvest’s presence in the region and its experience could greatly enhance these efforts.

- **Plant disease diagnostics centers:** Plant tissue culture offers great opportunities in improving the livelihood of African smallholders through timely provision of adequate planting material of vegetatively propagated crops, such as bananas, passion fruit and pineapples. However, there are no commercial disease diagnostic laboratories in the target countries to backstop certification of planting material. Africa Harvest can leverage the disease diagnostics technology for the benefit of smallholders.
• **GM technology transfer and deployment:** Africa Harvest has over five years’ experience in fostering technology development (biotechnology), exemplified by the on-going ABS Project. For Africa to tap the potential of biotechnology, there is a need for partnerships in technology development and deployment; creation of an enabling environment in bio-safety and regulatory framework, communication, leadership and management of partnerships. Africa Harvest can foster the establishment of such linkages in target countries. The growth from 1.7 million hectares of biotechnology-engendered crops in 1996 to 148 million hectares in 2010 is an unprecedented 87-fold increase, making it the fastest adopted crop technology in the history of modern agriculture. Importantly, this reflects the trust of millions of farmers worldwide who have consistently benefited from the significant and multiple benefits that these crops have offered over the last 15 years; it has provided farmers with the strong motivation and incentive to plant more hectares of biotech crops every single year since 1996, mostly with double-digit percentage annual growth. Despite the significant growth, only three countries in Africa – South Africa, Burkina Faso and Egypt – have commercialized GM crops. This presents great opportunities for Africa Harvest to use its experience in participating in GM technology transfer in the region for the benefit of smallholders.

**EXPERIENCE IN GENDER MAINSTREAMING**

Improving the availability and access to food invariably calls for a serious rethinking of the role of women as agricultural producers and as agents of food and nutritional security. Africa Harvest has continued, and will continue, to address the issues of gender, HIV and AIDS, which have been defined by the United Nations Economic and Social Council (in 1997) as ‘a strategy for making women’s as well as men’s concerns and experiences an integral dimension of the policies and programs in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated’. Africa Harvest recognizes that the constraints that prevent or make it difficult for communities, especially women, to adopt new technologies must be addressed as a priority. The strategic plan acknowledges that, in most African communities, governance systems make it difficult for women to have a political voice. Gender inequalities result in less food being grown, less income being earned, and higher levels of poverty and food insecurity. Africa Harvest recognizes that to achieve its goals it will have to effectively address – and reduce – the gender disparities. It must, however, be emphasized that Africa Harvest seeks to be a contributor, and will work closely with its partners and key role players to highlight how gender inequalities make it difficult to fight poverty, hunger and malnutrition.

Africa Harvest, in close collaboration with its partners and key stakeholders, has, over time, implemented organizational changes to facilitate gender sensitivity in development issues. Its strategic plan will pay more systematic and wider attention to gender issues in realizing its vision and mission. Some of the critical interventions that will pervade the implementation of all planned activities include working with governments and key players in target countries to identify the gender, HIV and AIDS-related barriers and strategic opportunities within program and project designs. Africa Harvest will also identify and support appropriate actions to reduce identified barriers and capitalize on the opportunities.

African women have consistently played a big role in agricultural production. It is no surprise that their role is receiving increasing international attention; former UN Secretary General, Kofi Annan, said: ‘a green revolution in Africa will happen only if there is also a gender revolution’.

Agriculture in Africa, especially of smallholder farmers, is not mechanized; women provide much of the labour involved in farming activities. Despite women farmers being largely responsible for food production, gender disparities continue to exist. For example, according to United States Agency for International Development (USAID), women only receive 7% of agricultural extension information despite contributing 75 to 80% of all labour in food production and 50% in cash crop production. Africa Harvest’s experience is that women are increasingly becoming farm managers and heads of farm households; in fact, women manage 50% of all Kenyan smallholder farms.

The contribution of women to the agricultural sector is immense; yet they receive little or no recognition for their role. Women are generally marginalized in the policymaking, administration and decision-making structures of the agriculture sector. Most African countries do not have a national gender policy, and gender issues are addressed using a variety of legal and policy provisions. The existing laws provide for equal rights and privileges to both women and men, but their interpretation through common law and social conventions often leads to difficulties and compromises.
Africa Harvest’s experience has been that women involved in farming have little voice due to a number of factors, such as lack of land ownership, societal roles of women, low education levels, low-income levels and division of labour. Kenyan women often do not own the title deeds to the land on which they farm. This is an impediment to decision-making as they need to seek consent from their husbands or fathers prior to making any decision concerning the land. Agricultural development agenda, like any other development agenda, is normally propagated through public forums or public meetings. Most women will not attend such meetings, and, even if they do, they are not given a chance to express themselves, or their opinions are not given the attention they deserve.

Literacy levels among most women farmers in Africa are very low. In most cases, women have no access to new technologies in agriculture or new farming methods due to limited exposure to the necessary forums. Further, even if they have gathered expertise, it is rarely acknowledged.

The lack of education also affects their income levels, which are often lower than those of men. Further, women often prefer to meet the basic needs of their households first, before committing capital toward agricultural activities. Women farmers spend over half of their income on food purchases. The rest of the money is used for medical bills, clothing and communal savings. It is evident that women in Africa play a crucial role in meeting the food and nutrition needs of their families – but they do so with inadequate resources.

Africa Harvest recognizes that women have detailed, complex knowledge of seeds and the growing systems of which they are in charge. Recent research demonstrates the value of women’s indigenous knowledge base as a source of productivity growth. Africa Harvest seeks to tap this repository in implementing its programs.

Its projects are designed to improve the livelihood of women farmers. The TC Banana project, for example, has a subsidy component that enables more women to benefit. This is all the more significant considering that banana is considered a ‘women’s crop’. Africa Harvest’s field officers schedule their capacity building meetings at timings that are convenient for women and keep to a two-hour timetable to enable women to attend to their other responsibilities. Farmer training schools and demonstration sites of the TC Banana project are located at places that are easily accessible to women.

The TC Banana project in Chura, Kenya empowered women to increase their yields and income from banana plantations. As men begin to recognize the importance of the women’s role in the production of bananas, they allowed them a greater share of the benefits. Africa Harvest’s field officers are in close contact with the women farmers, to ensure that they receive ample agricultural extension and keep abreast with the latest developments in agricultural technology. But all told, the implementation of these projects has not all been smooth sailing. Cultural taboos have inhibited acceptance of agricultural technologies among some women. The Marakwet community, for example, forbids its women to plant trees.

Africa Harvest has consistently ensured that group governance committees incorporate gender equity to ensure a balance in decision-making. Africa Harvest’s collaboration with partners such as the Ministry of Agriculture or the Kenya Agricultural Research Institute helps to cement the credibility and legitimacy of the Foundation with the women farmers who attend the meetings. They are, therefore, more amenable to new agricultural technologies.

The Food Security and Ecosystem Management for Sustainable Livelihoods in Arid and Semi-Arid Lands of Kenya is another project that has had a positive impact on the livelihoods of women. The project promotes high-value traditional crops, short-cycle livestock and roof water harvesting, all of which are aimed at reducing the amount of time women spend on these activities and thereby provide with more time for their household duties.

As an organization, Africa Harvest has committed itself to gender-balanced representation at all levels. The Board of Directors is 50% female. Of the senior management, 30% are women and, for the rest of the staff, 54% are women. Evidently, Africa Harvest pays attention to gender issues and has, over time, implemented organizational changes designed to facilitate greater attention to these issues.

Africa Harvest is integrating gender mainstreaming into its strategic plan to address the challenges that African women in agriculture face by providing them with the necessary resources, and addressing the constraints that prevent women farmers from adopting new technologies. One of the interventions under this plan is to conduct gender analyses that will identify critical areas in which gender-responsive actions are likely to help realize Africa Harvest’s vision. It is committed to addressing the gender disparities that prevent the Foundation from fully contributing to making Africa free of hunger, poverty and malnutrition.
### Acronyms and abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>Africa Biofortified Sorghum</td>
</tr>
<tr>
<td>ABSF</td>
<td>African Bio-fortified Sorghum Forum</td>
</tr>
<tr>
<td>AFAAS</td>
<td>Africa Forum for Agricultural Advisory Services</td>
</tr>
<tr>
<td>AFSTA</td>
<td>African Seed Traders Association</td>
</tr>
<tr>
<td>ASAL</td>
<td>Arid and Semi-Arid Lands</td>
</tr>
<tr>
<td>AU</td>
<td>African Union</td>
</tr>
<tr>
<td>Bio-Innovate</td>
<td>Bio-resources Innovations Network for Eastern Africa Development</td>
</tr>
<tr>
<td>BMGF</td>
<td>Bill and Melinda Gates Foundation</td>
</tr>
<tr>
<td>CAADP</td>
<td>Comprehensive Africa Agriculture Development Program</td>
</tr>
<tr>
<td>CGIAR</td>
<td>Consultative Group on International Agricultural Research</td>
</tr>
<tr>
<td>CIMMYT</td>
<td>Centro Internacional de Mejoramiento de Maíz y Trigo</td>
</tr>
<tr>
<td>COMESA</td>
<td>Common Markets for East and South Africa</td>
</tr>
<tr>
<td>CPI</td>
<td>Corruption Perception Index</td>
</tr>
<tr>
<td>DRC</td>
<td>Democratic Republic of Congo</td>
</tr>
<tr>
<td>EAAPP</td>
<td>East African Agricultural Productivity Program</td>
</tr>
<tr>
<td>EABL</td>
<td>East African Breweries Limited</td>
</tr>
<tr>
<td>EAC</td>
<td>East African Community</td>
</tr>
<tr>
<td>ECOWAS</td>
<td>Economic Community of West African</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
</tr>
<tr>
<td>FARA</td>
<td>Forum for Agricultural Research in Africa</td>
</tr>
<tr>
<td>GCGH</td>
<td>Grand Challenge for Global Health</td>
</tr>
<tr>
<td>GEF</td>
<td>Global Environment Facility</td>
</tr>
<tr>
<td>GFAR</td>
<td>Global Forum for Agricultural Research</td>
</tr>
<tr>
<td>GFRAS</td>
<td>Global Forum for Rural Advisory</td>
</tr>
<tr>
<td>GHA</td>
<td>Gender, HIV and AIDS</td>
</tr>
<tr>
<td>GM</td>
<td>Genetically Modified</td>
</tr>
<tr>
<td>GO</td>
<td>Governmental Organization</td>
</tr>
<tr>
<td>IACG</td>
<td>International Agriculture Consulting Group</td>
</tr>
<tr>
<td>ICAR</td>
<td>Indian Council of Agricultural Research</td>
</tr>
<tr>
<td>ICRISAT</td>
<td>International Crops Research Institute for Semi-Arid Tropics</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>IFAD</td>
<td>International Fund for Agricultural Development</td>
</tr>
<tr>
<td>IFPRI</td>
<td>International Food Policy Research Institute</td>
</tr>
<tr>
<td>ILRI</td>
<td>International Livestock Research Institute</td>
</tr>
<tr>
<td>ISAAA</td>
<td>Africa Regional Director of the International Service for the Acquisition of Agri-biotech Applications</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goal</td>
</tr>
<tr>
<td>NARO</td>
<td>National agricultural research organizations</td>
</tr>
<tr>
<td>NARS</td>
<td>National Agricultural Research System</td>
</tr>
<tr>
<td>NEPAD</td>
<td>New Partnership for Africa's Development</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organizations</td>
</tr>
<tr>
<td>ODA</td>
<td>Overseas Development Aid</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>RECs</td>
<td>Regional Economic Communities</td>
</tr>
<tr>
<td>RUFORUM</td>
<td>Regional Universities Forum for Capacity Building in Agriculture</td>
</tr>
<tr>
<td>SADC</td>
<td>Southern African Development Community</td>
</tr>
<tr>
<td>SPAAR</td>
<td>Special Program for African Agricultural Research</td>
</tr>
<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
</tr>
<tr>
<td>SSANAAS</td>
<td>Sub-Saharan African Network on Agricultural Advisory Services</td>
</tr>
<tr>
<td>TC</td>
<td>Tissue Culture</td>
</tr>
<tr>
<td>TEP</td>
<td>Trees for energy project</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
</tbody>
</table>
Africa Harvest was founded in 2002 by Dr Florence Wambugu, a well-known Kenyan scientist. It was incorporated in USA as a non-profit foundation. Its headquarters are in Nairobi, Kenya, and it has regional offices in Johannesburg and Washington DC.

The foundation promotes the use of science and technology to fight poverty, hunger and malnutrition by increasing agricultural yields and incomes. Africa Harvest works in partnership with many other organizations; these include national, regional, pan-African and international agricultural research organizations. Africa Harvest particularly likes to work at the grassroots level, where it has the best opportunity to improve the livelihoods of farmers and rural communities.