



# Toward a food secure future: Ensuring food security for sustainable human development in Sub-Saharan Africa



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## ABSTRACT

Food security remains a top development priority and global concern. It is enshrined in the 2030 Agenda for Sustainable Development in Sustainable Development Goal two. Food security is also a core component of the human development and capability paradigm, since food access and entitlements are critical for reinforcing essential human capabilities. In introducing this special issue, this paper argues that agriculture is central to improving food security and reducing poverty in Africa. It suggests that realizing the potential of agriculture in Africa requires rapid increases in land productivity and increases in agricultural yields. A science-based approach that integrates gender and sustainability is critical to meet this goal, through the design and implementation of policies that improve the availability farm inputs and farm technology. The paper concludes by introducing the papers in this special issue.

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## 1. Introduction

Food security has remained for many decades a top priority for the international community and a central topic in academic development research. Despite impressive progress in addressing the basic nutritional needs of the world's poor and most vulnerable, there still remain important pockets of food insecurity around the world, affecting hundreds of millions of people.<sup>1</sup> Sub-Saharan Africa continues to account for a large share of these, with more than one in four people in this region (nearly 218 million) remaining undernourished (UNDP, 2012: 9).

Food security constitutes a core component of the human development and capability paradigm (UNDP, 1990). Enhancing food availability and entitlements is critical for reinforcing essential human capabilities and, therefore, constitutes a precondition for sustainable human development. In other words, 'well-nourished people exercise their freedoms and capabilities in different domains—the essence of human development' (UNDP, 2012: 2). Amartya Sen's entitlement (Sen, 1976, 1981) and capabilities analysis (Sen, 1985, 1993; Drèze and Sen, 1989), which are core building blocks of the human development and capability paradigm,

also constitute essential contributions to the conceptualization of the drivers of food insecurity. The entitlement approach with its focus on people's command over food as a result of endowments, exchange conditions and production possibilities, revolutionized the understanding of the proximate triggers of hunger and famine. The capabilities approach, on the other hand, emphasized that being free from hunger depends on expanding other capabilities, for example, being in good health and being educated. This approach recognizes both the instrumental effects that expanding one set of capabilities may have on another, but also places emphasis on their intrinsic value.

Both the entitlement and capabilities approaches have had a major influence in the evolving definition of food security over successive World Food Summits, from a focus on availability of food (United Nations, 1975), to access and utilization (FAO, 1996), and to stability in all dimensions (FAO, 2009), and a decisive role in shaping our understanding of food security and development concerns. This special volume extends their systematic application to food security in the context of Sub-Saharan Africa, the region with the highest share of hungry and malnourished people.

Before introducing the papers in this special issue, this paper reviews existing evidence and a comparative analysis of Asia's green revolution experience, to argue that a science-led and employment-intensive approach to agricultural development aimed at rapid productivity growth can make great inroads in ensuring food security, reducing poverty and enhancing human development in Sub-Saharan Africa. These gains can be maximized

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<sup>1</sup> The United Nations (2014) estimates that the proportion of undernourished people in developing regions has decreased from 24 percent in 1990–1992 to 14 percent in 2011–2013. However, this same report, finds that progress has slowed down during the past decade.

if efforts focus on raising yields of food staples produced by small-holder farmers in the region.

## 2. Raising agricultural yields in Sub-Saharan Africa: A cornerstone to enhance food security and achieve sustainable human development

Progress in agriculture has the potential to both improve food security and advance human development in the African continent. In most parts of Sub-Saharan Africa agriculture determines food availability, especially where transport is costly and trade uncertain and where food needs cannot be easily met through trade and imports. Agriculture also determines *food entitlements* for the 70–80 percent of poor Africans that rely on its production for income and work. It also determines how people in the region use much of its land and water and, therefore, how sustainably they use their natural resources (UNDP, 2012).

Agricultural progress that is underpinned by gains in farm productivity has the potential to unleash a virtuous cycle that can sustain food security and reduce poverty on the continent, while avoiding the depletion of land and water resources (UNDP, 2012). Productivity growth – especially, but not exclusively, in small-holding farms – generates farm employment opportunities and decent wages, including for unskilled labor, and rural non-farm income, while enhancing the poor's command over food staples by increasing their purchasing power as a result of higher income and lower food staple prices – the latter benefiting both rural and non-rural poor that are net-consumers of food. These gains also translate into increased availability of public and private resources that can be invested in improved infrastructure, services, research and social protection, all of which can contribute to further advance agricultural productivity, food security and human development.

However, not all types of agricultural development are equally effective in improving food security and promoting broad-based economic development. As this paper shows, the experience of much of Asia and many parts of Africa proves that rapid, science-based, employment-intensive and smallholder-focused agricultural growth provides the most effective way to kick-start growth, reduce poverty, enhance food availability and entitlements and accelerate human development. In much of Sub-Saharan Africa, realizing this potential for agriculture implies increasing agricultural productivity, especially agricultural yields.

The experiences derived from Asia's green revolutions show the potential for mass reductions in poverty through agricultural development, especially if driven by investments to raise the availability of farm inputs, strengthen science and technology, and improve access to and connectivity of local and global markets (Lipton, 2012). However, while the successes of Asian farm policy provide important lessons for Africa, so do its failures. In particular, the experience of Asia shows that in order to attain the best outcomes in human development, environmental sustainability and gender equality concerns need to be fully integrated as core components of policies for agricultural development.<sup>2</sup>

## 3. Agriculture can improve food security and reduce poverty

An unmistakable characteristic of long-term economic development is a progressive reduction in the relative importance of agriculture, with people moving out of farming, and the time previously used to produce and acquire food devoted to other eco-

<sup>2</sup> There is extensive literature on both these topics. FAO (2011) presents a comprehensive and in-depth analysis of the role of women in agriculture. Pingali and Rosegrant (1994) on the other hand provide a useful review of the environmental impacts of green revolution experiences in Asia.

nomics activities. In the context of Asia's green revolution, this process has typically been underpinned by technical transformations in irrigation, seeds and fertilizers, as well as social transformations of farm institutions, policies and, often, land distribution, which have enabled sustained increases in the production of staple food crops.<sup>3</sup> The ensuing increases experienced in agricultural productivity have made it possible for more workers in industry and services to be fed by relatively fewer farmworkers and at a relatively lower cost, a key factor underlying the success of many Asian countries in promoting the structural transformation of their economies.

The Asian experience of agricultural development and structural transformation raises important questions for African policy-makers seeking to accelerate economic and social progress in the African continent. Should development policy place its emphasis on sectors other than agriculture, such as services and manufacturing, which can drive socioeconomic transformation in the region? Or should agriculture and agricultural policy still remain the main focus of development policy in Sub-Saharan Africa? And, in the realm of the agricultural sector, what type of agriculture should African governments seek to promote? And how do different models of agricultural development affect food security and poverty reduction prospects in the continent?

Frustration with the lack of progress in agriculture in Sub-Saharan Africa, especially when compared to the success of global agricultural powerhouses like Brazil has led to the defense of large mechanized farming as a solution to the region's apparent failings in promoting agricultural development (see, for instance, Collier and Dercon, 2014). However, these proposals need to be viewed in light of earlier unsuccessful efforts in Africa to force this kind of economic transformation.<sup>4</sup> It is equally important not to lose sight that large-scale, capital-intensive agriculture and industrialization fail to address the reliance of most Africans, especially the poor, on employment-intensive small farming for four key determinants of food security and human development: work, income, food and gender status.<sup>5</sup> Hence, when it comes to work, more than two thirds of the economically active population in Sub-Saharan Africa is employed in agriculture, with the proportion for young workers in some cases being even higher (UNDP, 2012). On the other hand, with about 70 percent of the extreme poor in Sub-Saharan Africa living in rural areas (Ravallion et al., 2007),<sup>6</sup> farm incomes continue to remain key for most African households. And even though some 30–40 percent of their income comes from rural non-farm sources, these activities tend to prosper only with growing farm incomes (Lipton, 2012). As regards food, cereals and starchy roots provide two thirds of the energy intake of Africans (three quarters for the poor), with over 75 percent of cereal demand and almost all consumption of starchy roots covered by local agricultural production, the rest being catered through imports (Lipton, 2012). Finally, agriculture plays a particularly important role when it comes to the status of women in the continent. For example, Africa has the largest share of the agricul-

<sup>3</sup> There is an extensive volume of literature dating back to the later 1960s and early 1970s examining Asia's Green Revolution experience. For a recent review, see Peter B. R. Hazell's 'The Asian Green Revolution' (Hazell, 2009).

<sup>4</sup> Eicher and Baker (1992), for example, describe how the success of large-scale agriculture in the colonial period, such as the Gezira scheme in Sudan, tea plantations in East Africa, the Firestone rubber estates in Liberia and the Unilever estates in the Democratic Republic of Congo, fueled the ambition in the post-colonial period, especially in the 1960s through the 1970s, for "transformation approaches" based on the settlement of unoccupied land by large mechanized farming, the vast majority of which resulted in failure.

<sup>5</sup> This discussion is based on Lipton (2012).

<sup>6</sup> This figure by Ravallion et al. (2007) is for 2002 and based on the \$1.08/day poverty line, in 1993 purchasing power parities; that is, before the PPP revisions that increased the extreme poverty line to \$1.25/day (in 2005 PPPs), introduced by the World Bank in 2008. However, Ravallion et al. (2007) suggest that poverty is likely to remain predominantly rural in Africa for decades.

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