

# WATER-WISE

## Smart Irrigation Strategies for Africa SUMMARY



**A**frica is seeing a surge of interest in irrigation among small-scale farmers as climate change brings more erratic weather. **Currently, only 6 percent of arable land in Africa is irrigated, compared to 14 and 37 percent in Latin America and Asia respectively.** At the same time, a growing population across the continent demands a more reliable and continuous supply of food. It is estimated that without additional investment in irrigation, the share of people at risk of hunger could increase by 5 percent by 2030 and 12 percent by 2050.<sup>i</sup> Elevating irrigation to a top policy priority and bringing irrigation to scale could help ensure the continent's food security in the face of more extreme weather conditions and be an engine of agricultural transformation.

The Malabo Montpellier Panel's report, *Water-Wise: Smart Irrigation Strategies for Africa*, summarizes the key findings of a systematic analysis of what six African countries – Ethiopia, Kenya, Mali, Morocco, Niger and South Africa – at the forefront of progress on irrigation have done right. The report has identified a set of policies and practices summarized below which, if brought to scale, could significantly improve the resilience and livelihoods of rural communities and spur overall agricultural growth and transformation in Africa. By adapting these lessons to countries' specific contexts and scaling them up across the continent, African governments can meet their national and international commitments to agricultural growth and transformation.

***Across the continent there is a high potential to increase the area of land under irrigation<sup>ii</sup>, particularly in countries south of the Sahara where irrigated land could be expanded to 38 million hectares, up from the current 7.7 million.<sup>iii</sup>*** Expanding and upgrading irrigation systems—of all types—requires successful partnerships between farmers, governments and the private sector. It will require tax cuts on imported technologies and machines; training of farmers on how to operate irrigation systems; and regulation governing the use of water in agriculture. ***If governments were to meet the 10 percent CAADP expenditure target for agriculture and allocate just 1-5 percent to irrigation development, considerable investments in irrigation infrastructure would in fact be feasible and profitable.<sup>iv</sup>*** The Malabo Montpellier Panel recommends that governments establish a clear policy and regulatory environment, supported by public investments, to catalyze and facilitate private sector engagement and innovation in irrigation. In turn, the private sector could work with national and local governments and research institutions to develop locally suitable technologies, along with finance arrangements to ease access to irrigation equipment for smallholder farmers. ***Irrigation development can make good business sense: yields from irrigated crops are twice or more in comparison to rain-fed yields on the continent,<sup>v</sup> and under climate change, the benefits of expanding areas under irrigation are estimated to be twice as high as the costs.<sup>vi</sup>***

## Recommendations:

1. Irrigation needs to be elevated to a top policy and long-term investment priority.
2. Smart regulation for water use needs to be coupled with incentives to promote the dissemination of technologies for the use of treated waste water.
3. To minimize the potential risks of irrigation to human health and the environment, regulation governing the regular maintenance of irrigation infrastructure and the use of fertilizers in irrigation systems is needed, complemented by significant ongoing investments in the maintenance and repair of irrigation and drainage systems.
4. Increased investments need to be made by the private sector to build and improve distribution networks for irrigation equipment.
5. The private sector has a crucial role to play in the design, development and dissemination of innovative, smart technologies for irrigation.
6. To take irrigation to scale through effective public-private partnerships, financial securities, smart subsidies, or tax waivers need to be put in place as incentives for the private sector to engage with smallholders.
7. Irrigation requires collective action in most circumstances. Incentives for collective action need to be provided, as well as policies for conflict resolution mechanisms at local level.
8. Increased investment in institutional and physical infrastructure to expand access to skills development and upgrading is critical.
9. The acquisition of new irrigation systems and equipment by smallholder farmers requires a supportive fiscal regime where barriers to accessing finance for equipment and services are removed and access to micro-credits and leasing arrangements for irrigation equipment is facilitated.

<sup>i</sup> C. Ringler, M. W. Rosegrant, N. Perez, and H. Xie. The Future of Irrigation: Farmer-Led. In preparation for publication by the World Bank as a background paper for the WFIF conference. International Food Policy Research Institute, unpublished

<sup>ii</sup> Irrigation potential is defined as the area of land that is potentially irrigable (Source: FAO Statistical Yearbook 2014. Africa Food and Agriculture. <http://www.fao.org/3/a-i3620e.pdf>)

<sup>iii</sup> FAO. 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on [2018/11/15]

<sup>iv</sup> L. You, C. Ringler, U. Wood-Sichra, R. Robertson, S. Wood, et al. 2011. What is the irrigation potential for Africa? A combined biophysical and socioeconomic approach. *Food Policy*, 36(6): 770-782. <http://doi.org/10.1016/j.foodpol.2011.09.001>

<sup>v</sup> African Union. 2018. Inaugural Biennial Review Report of the African Union Commission on the Implementation of the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods. <http://www.donorplatform.org/news-caadp/au-summit-1st-biennial-review-on-the-status-of-agriculture-in-africa-triggers-unique-momentum-249.html>

<sup>vi</sup> A. Bouzaher and S. Devarajan. 2009. Climate Change: Africa's Development Opportunity. Energy-Climate Change Technology (ETC) Conference Bergen, 23-24 September 2009. World Bank [http://blogs.worldbank.org/files/african/Climate%20Change\\_Africa%20Development%20Opp.pdf](http://blogs.worldbank.org/files/african/Climate%20Change_Africa%20Development%20Opp.pdf).