

Food security in Africa needs a tailored approach, suggests new research

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A one-size-fits-all approach to African agriculture development will not lead to growth, suggests research published in Food policy. The authors of the study say that instead of blindly adopting 'solutions' that have worked in other continents, governments and researchers should consider the context more closely and develop a tailored approach. Selected by an international advisory board, the research paper has been awarded this month's Elsevier Atlas award.

The researchers suggest that developing new technologies - to improve the output of tree and root crops that are predominant in Africa, and reduce the need for manual labor - would be more effective than copying the approaches that worked in Asia and Latin America.

"Assuming Africa is an appropriate setting for another Asian-style Green Revolution is misleading and could result in, yet again, a frustrated attempt to attain sustainable agricultural growth," said Dr. Alejandro Nin-Pratt, lead author of the study.

In the 1960s and 70s, Asian and Latin American countries experienced a 'Green Revolution' - a dramatic increase in their production of crops like wheat, maize and rice. New varieties of the crops with a higher yield, combined with the use of fertilizers and irrigation, resulted in more efficient and successful agriculture. African governments set up policies and programs to mirror this approach, but the Revolution didn't reach Africa. The government support became financially unstable, eventually resulting in the collapse of many African economies in the 1970s and

80s.

Today, soaring populations and decreases in the amount of land available for food production in Africa have led some to believe the Asian Green Revolution may be replicated. The Asian Green Revolution was spurred on by labor-intensive technology, so for a similar approach to work in Africa, labor has to be abundant and cheap.

The researchers selected Ghana as a case study. The research revealed no evidence of increased food production reflecting the Asian Green Revolution. The results also showed that the cost of labor in Ghana still limits the development of labor-intensive technologies like the ones that featured in the Asian Green Revolution.

"Smallholders don't often use technologies like fertilizer that were developed for cereal crops because they have other options," explained Dr. Nin-Pratt. "It's more effective for them to grow different crops that demand less fertilizer and produce higher output per hour worked, like cassava, and supplement their income with service jobs in the cities. Rapid population growth has not necessarily made Africa more suitable for an Asian style Green Revolution."

The results may not be replicated in every African country, but showing that the Asian Green Revolution approach is unsuccessful in Ghana suggests that it cannot be applied blindly to the whole continent.

There is more research to be done, say the authors. The development of technology more suitable for Africa, for example to increase productivity of root and tree crop production systems and a more labor-saving technology package for cereal production, will be a path worth exploring.

On the news that the research paper was selected to win the Elsevier

Atlas award, Dr. Nin-Pratt commented: "This is good news and totally unexpected as well, which makes it even better news. I can only say that I'm honored for this award and thank Elsevier and the [advisory board](#) for this distinction.. I must also say that I really appreciate what Elsevier is doing to increase the visibility and the impact of the work done by researchers around the world."

Sue Corbett, Executive Director INASP, one of the Atlas Advisory Board members, said, "This is a good example of the close contextual analysis that is needed for rapidly developing countries to make good decisions and to avoid the blind adoption of 'solutions' from elsewhere."

The guest editors of the special issue of *Food Policy* in which the award-winning paper was published commented, "We appreciate the innovative and policy-relevant insights contributed to our special issue by the authors, Alejandro Nin-Pratt and Linden McBride, and thank Elsevier's Advisory Board for honoring their paper with the Atlas award. We agree that was an outstanding article among a collection of insightful pieces on the new dynamics of land and labor issues in Sub-Saharan Africa."

More information: "Agricultural intensification in Ghana: Evaluating the optimist's case for a Green Revolution", by Alejandro Nin-Pratt - International Food Policy Research Institute, Washington, DC, USA, and Linden McBride - Dyson School of Applied Economics and Management, Cornell University, Ithaca, NY, USA ([DOI: 10.1016/j.foodpol.2014.05.004](#)). The article appears in *Food Policy*, 48 (2014) 153-167, published by Elsevier. The article is available for free on: www.sciencedirect.com/science/.../ii/S0306919214000785

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