

Guest editorial: Smallholder cassava production and the cassava processing sector in Africa

BEN BENNETT

WHICHEVER WAY YOU LOOK at it, cassava is important for the future of Africa. Whether from the perspective of tackling hunger in a world of uncertain climate conditions, as a source of food security when other crops fail, as a means to create a cash income through processing and sales, as a driver of local agro-industry, as a way of reducing the cost burden of imports through substitution and/or biofuel production, or, for many hopeful politicians, as a future export crop with comparative advantage. The FAO says that the world produced 277 million tonnes of cassava in 2013, of which 158 million tonnes came from Africa (57 per cent) and 54 million tonnes from one country, Nigeria (19.5 per cent). None of this African production is traded; all is consumed domestically. How much is lost post harvest: we only have a vague idea. What we do know is that yields are very low by international standards. On a recent mission to Nigeria I listened to a group of experts agree a target yield of 12 tonnes a hectare; a low level of ambition when the starting point is somewhere between 6 and 12 tonnes per hectare and the most efficient are reaching 20 to 30 tonnes per hectare.

Cassava is Africa's second most important food source in terms of per-capita calories consumed after maize. Notwithstanding, it has been, until recently, neglected, particularly at the level of national policy. This is fast changing. New donors have taken up the challenge of Africa's cassava economy and revisited some old challenges with new techniques and approaches on both the production and downstream market sides. Changes in rural economies, particularly urbanization and new patterns of demand, offer new opportunities for supply of cassava at scale. The challenge now is to match productivity advances with market development.

In this issue of *Food Chain* we consider some of the results of recent fieldwork and assess their implications for the future of the crop.

An important challenge for the cassava economy in many countries is the disconnect between small-scale production and large-scale demand for cassava starch. In many countries, this is managed by a traditional cassava processing sector based either on dried chips or a fermented product like *garri* in Nigeria. The next scale up from this was, traditionally, the cassava starch plant. New, medium-scale cassava processing technologies are emerging, the most notable of which is high

Ben Bennett (Ben.Bennett@greenwich.ac.uk) is Professor of International Trade and Marketing Economics and Head of the Food and Markets Department at the Natural Resources Institute, University of Greenwich, London. He has, for the past 27 years, been supporting the development of rural markets in Africa and Asia.

© Practical Action Publishing, 2015, www.practicalactionpublishing.org
<http://dx.doi.org/10.3362/2046-1887.2015.001>, ISSN: 2046-1879 (print) 2046-1887 (online)

quality cassava flour (HQCF). Until recently, the cost of mechanically drying HQCF was prohibitive. Startling efficiency gains highlighted by Andrew Marchant and colleagues in their work on reducing the fuel costs for drying HQCF suggest that the key problem of energy costs is surmountable. The improvements to locally fabricated flash dryers are possible game changers. In their paper on cassava brown streak disease (CBSD), Rory Hillocks and Midatharahally Maruthi show, from a field survey in East Africa, that this disease, that was previously thought to threaten production, may be less devastating due to the emergence of tolerance: good news for farmers wanting to make HQCF.

For large swathes of Africa, the technological leap of using mechanical drying is already a step too far. In these areas, sun and solar will be crucial to achieving sufficient scale to meet the demand of local industries like bakeries and paperboard factories. The implications of scaling using either artificial and/or sun/solar drying and the challenges of organizing a very large number of small-scale drying efforts to meet the demand of factories is highlighted in a paper by Richard Lamboll and colleagues from work on a donor programme in Nigeria, Ghana, Malawi, Uganda, and Tanzania.

Of course, if we are successful in creating a cassava processing sector based on increased smallholder productivity, we will also derive a large volume of waste in the form of peels and water. In their paper on using cassava peels as a substrate for growing mushrooms, Anton Sonnenberg and colleagues demonstrate that this is indeed viable where large volumes of peels are aggregated. Iheanacho Okike and his team at ILRI demonstrate from their ongoing research on cassava peels that sun-drying at scale is possible and has potential for a number of uses, but that reaching scale where supply is dispersed will be difficult.

Unexpected consequences from technical innovation are highlighted in two papers that consider the gender impacts in the cassava value chain. Lora Forsythe and her colleagues show from research on several different cassava production and processing projects that simply targeting value chains that have women involved does not de facto mean that those women will benefit. Petra Bola Abdulsalaam-Saghir demonstrates from research in south-west Nigeria, Ghana, and Vietnam that, by opening up opportunities for using cassava waste, there is a high probability that a hitherto unmeasured economic opportunity for women will be unwittingly transferred to men. With the current drive to reduce waste and post-harvest losses in mind, this finding is important for the future design of interventions with this aim. It is also really commendable to see genuine South-South collaboration among the cassava range states, a sign of a new spirit of collaboration among global cassava researchers in the post-harvest field.

Unlike other key staple crops in Africa, cassava has largely fallen under the radar of government policy. In a fascinating 'Crossfire' discussion, two important experts on the cassava economy go head-to-head on the subject of Nigeria's attempts to use policy to grow its cassava sector. Professor Sanni Lateef Oladimeji takes the view that subsidy is a necessary means to an end and rightly observes that developed countries hardly shy away from applying these sorts of tools in their domestic economies while promoting market-based solutions in third countries. Dr Gideon Onumah takes a more cautionary and less interventionist stance. Both views have merit.

Also addressed in this issue is new data on the role that drivers of trucks play in quality of meat in the Mexican cold chain by Ema Maldonado-Siman et al. Finally, Patrick Mulvany and Ben Murphy show the potential power of local food webs as undervalued drivers of demand and sources of resilience comparing the United Kingdom with Kenya.

*Ben Bennett,
Natural Resources Institute, UK*