



## In this issue

R. Strange<sup>1</sup>

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The issue begins with a special section of nine papers arising from a project by the name of Transmango, concerning food and nutritional security in Europe, which is introduced by Terry Marsden and co-authors. This is followed by an article reviewing the impact of agricultural input subsidies on food and nutrition security, 14 general papers and two book reviews. With a topic so diverse as food security, it is difficult to group the general papers by subject matter but they may be roughly categorized as follows: Production of crops i.e. diversity, quantity and quality (seven papers); A paper on aflatoxin contamination of complementary feeding formulae in Ghana; A paper on developing and validating a food security scale for the Guarani people of Brazil; Coherence of crop production and nutrition policies (three papers); and Economic aspects of food security (three papers). Of course, some topics, such as diversity - whether of crops or diets - appear in more than one paper and in papers placed in different categories.

Helen Walls and associates review the role of agricultural input subsidies (AIS) in improving food and nutrition security. Although AIS are widely thought to be important means of improving agricultural productivity in low- and middle-income countries (see article by Todd Benson and Tewodaj Mogues below and in this issue), they found the literature was sparse concerning the impact they have on nutrition and health. Consequently the authors recommend research in this area.

Cultivation of kitchen gardens in rural Tanzania and their implications for nutrition interventions were investigated by Constance Ryback and associates. However, the prospects seem poor as only 9.9% of residents in the sub-humid region of Morogoro had kitchen gardens and even fewer, 2.2%, in the semi-arid Dodoma region. Moreover the diversity of the vegetables grown was low.

Crop diversity and its effects on livelihoods of rural farm households in Zambia are discussed by Rhoda Mukuka and Munguzwe Hichaambwa. Factors that favoured crop diversity included agricultural extension, asset endowment, access to land and markets and investments in irrigation and water harvesting. Crop diversification had a significant and positive impact on farm income and the number of months in the year when households had adequate food provision (MAHFP).

Christine Sauer and co-authors, also working in Zambia and on an aspect of crop diversification, found that cereal-legume rotations were associated with statistically significant increases in production of calories and protein by households as well as the gross value of crop sales.

Inorganic fertilizer can significantly raise crop productivity on smallholder farms but its availability may be hampered by constraints in the supply chain. These were studied by Todd Benson and Tewodaj Mogues in Mozambique, Tanzania, and Uganda who found that the constraints were not specific to inorganic fertilizer but related to more general missing goods, such as poor market resources and transport networks.

Mica Jenkins and co-authors discuss the factors that affect Mozambican farmers' willingness and ability to adopt and retain vitamin A-rich varieties of orange-fleshed sweet potato (OFSP). The current OFSP varieties are acceptable to farmers and consumers but there are several factors that inhibit their adoption reaching a critical proportion of the sweet potato crop, which would ensure their establishment. Among these is lack of OFSP planting material and the perception that white-fleshed sweet potato (WFSP) varieties are more drought tolerant and require less effort to cultivate them. Key interventions to address these challenges are the decentralization of OFSP vine multipliers, continued efforts to breed and distribute more drought tolerant OFSP varieties and education on the similarity of agronomic practices required for producing and preserving OFSP and WFSP.

Kukom Edoh Ognakossan and co-authors studied post-harvest losses of on-farm stored maize caused by rodents in Kenya. Losses ranged from 2.2 to 6.9% in shelled maize grain and from 5.2 to 18.3% in dehusked cobs after storage for 3 months. Mould count in rodent damaged grain was

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✉ R. Strange  
r.strange@ucl.ac.uk

<sup>1</sup> University College London, London, UK

significantly higher in rodent-damaged grain than non-damaged grain as was aflatoxin incidence. The authors advocate that rodent control should be included among post-harvest strategies to conserve maize.

Following on from the previous paper, Nelson Opoku and co-authors give an example of just how dangerous and pervasive aflatoxin contamination of foodstuffs can be. In Ghana, 40% of deaths in children under five are attributed to malnourishment. In order to combat this, complementary foods, which have been promoted to curb infant and child malnutrition, and which are cereal based or cereal-legume based are flooding the market but little has been done to check their wholesomeness. The authors found that all of the 48 complementary food brands tested were contaminated with aflatoxin and 16 were above the permissible limit of 20 ppb, some even ranging up to 1094 ppb. Thus, these complementary foodstuffs, rather than boosting the well-being of children, might have actually worsened it because of their high aflatoxin concentrations.

Ana Maria Segall-Corrêa and co-authors point out that there are over 800,000 indigenous people in Brazil belonging to 305 ethnic groups and speaking 274 different languages. The authors concentrated on developing and validating a food security scale for one of these ethnic groups, the Guarani people. An original 11-item scale was winnowed to 6-items and this simpler scale is thought likely to have considerable potential for improving the governance of food security of the Guarani and other indigenous communities in Brazil and, indeed, more generally.

In the first of the three papers dealing with the coherence of crop production and nutrition policies, Mosumi Das and co-authors chart the progress of Indian states towards Sustainable Development Goal (SDG) 2 i.e. ending hunger, achieving food security and promoting sustainable agriculture. Southern states, with their superior governance, performed better than the rest of the states on almost all indicators. Consequently, the authors suggest that, with appropriate interventions and governance, all Indian states could achieve food and nutrition security by 2030.

Nigel Poole and co-authors report that levels of stunting (low height for age) in some Provinces of Afghanistan can be as high as 70%. As agriculture is the main source of livelihoods of over half the population it has the potential for being a strong driver of a reduction in the under-nutrition that is the cause of stunting. However, development of nutrition sensitive agriculture has been hampered by weaknesses in policy formulation, focus, knowledge management, and human and financial resources. They suggest that reducing nutrition insecurity will depend on decentralizing policy ownership to the regions and provinces through stronger subnational governance.

Stunting is also prevalent in Myanmar, where Anu Rammohan and co-authors found that 37% of children aged 7–60 months were stunted. However, children from

households where agriculture was the main source of income were less likely to be wasted (low weight for height) but there was no significant relationship between the size of crop harvest and children's nutritional outcomes.

The first of three papers, which has a strong economics flavor, is concerned with Vietnam's adoption of rice intensification in order to yield a surplus for export in the 1990s. This involved substituting an annual wet season crop with two or three croppings of High Yielding Varieties (HYV) per annum and the construction of low and high dikes in the delta of the Mekong River. Although the aim of rice surplus was achieved, Van Kien Nguyen and co-authors found that an unintended consequence was a deleterious effect on the food security of those who actually farmed the rice through decreases in the farm household catch, collection and consumption of wild foods.

Tilahun Woldie [Mengistu](#) and co-authors studied the uses of maize as a bioeconomy crop in Ethiopia. They found multiple uses of biomass, beside that from grain, including biomass from cobs (without grain), husks, leaves, stalks and roots. Examples are animal feed, fuel, soil enrichment and construction e.g. of fences and beehives. However, the exploitation of these uses is hampered by lack of market access, limited information and extension support and lack of technology. These factors will have to be addressed if maize is to make its full contribution to the bioeconomy and food security of Ethiopia.

Samuel Kobina Annim and Raymond Boadi Frempong examined the nexus of food diversity, income and access to credit in Ghana. They found that income and access to credit contributed to a diversified diet. The authors suggest that microfinance institutions in rural areas should be encouraged through tax exemptions and financial support systems in order to promote better diets among people who live in such areas.

#### Book reviews

The overarching themes of the IFPRI Annual Report 2018 are 'globalization and antiglobalization trends' and major topics included food security and trade, investment, migration, knowledge and data, developed countries' policies and global institutions. Ulrike Grote found that, although some of the report consisted of updating information on predictable material it also contained some innovative thinking on different perspectives of food security, making the report well worthwhile reading.

David Ingram commends most strongly 'Pollination Services to Agriculture: Sustaining and enhancing a key ecosystem service' both on account of its subject and the breadth and depth with which it is treated. He highlights the importance of diversified farming systems as they not only support pollinators but a range of other ecosystem services including regulation of pests and control of soil erosion.

#### Message from Richard Strange

As many readers of Food Security already know, I shall be stepping down from my position as Editor in Chief of Food Security after 10 happy and informative years. I should like to take the opportunity of thanking the many people who have contributed to the success of the journal, principally the authors but all those who have given up valuable time to review papers – the Reviewers themselves - Associate editors, Senior editors, Members of the Advisory Board and all at Springer who made the project possible. Clearly there are too many people to name but I should like to say a special thank you to Peter Scott, my co-conspirator in starting the journal and one whom I

could always call on as a member of the Advisory Board for guidance. The original prediction for the journal by Springer, the publisher, was for a quarterly of 80 pages per issue but by 2013 the journal had already become a bimonthly and since then it has grown further. This year, the total number of pages will certainly be within hailing distance or may even surpass 1600, a round number which equates to fivefold that of the original estimate.

I am delighted to announce that, from the 1st January next year, the Editor in Chief will be Serge Savary, who has already contributed much to the journal as an author, Associate Editor and Reviewer. I wish him all the very best in his new appointment.

Richard