



In this issue

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This issue starts with a welcome to Conny Almekinders as Senior Editor for the Sociological aspects of food security. This topic, together with nutrition was the responsibility of Andrew Jones, who will continue to look after nutrition but a decision has been made to allocate another Senior Editor for Sociology, an important element of food security. Following this is a special section comprising the second set of papers from the Trans-SEC project on regional food and nutritional security in Tanzania. After an introduction to the section by Stefan Sieber, and following an overview of the project by him, there are a further 10 Tanzanian papers. The issue continues with a review of the seafood supply chain from a fraudulent perspective, nine original papers and reviews of three books, two concerning the opportunities for food and nutrition security in the Americas and one with the central theme of the 17 Sustainable Development Goals.

Michaela Fox and co-authors point out that food fraud is an intentional act for economic gain and state that it is a risk to food integrity, the economy, public health and consumers' ethics. Owing to increasing consumer demand, resource limitations, high value and complex supply chains, seafood is particularly vulnerable to extensive fraud. The authors investigated the supply chains for finfish, shellfish and crustaceans in the UK and showed that there were multiple opportunities for fraud, such as the catch method employed, species substitution and adulteration. Mapping these opportunities within the supply chains provides a foundation on which control measures may be based.

The next two papers both concern water. Sukhwinder Singh and Julian Park report on the serious over exploitation of groundwater in the Indian Punjab. In the central zone of this area, the groundwater level had sunk by more than 0.60 m annually between 2000 and 2010. The authors warn that if

current policies are not changed, this area could lose all its groundwater for ever. One small water conservation measure, which was to delay planting of rice by 2 weeks, was agreed by about 20% of the 120 farmers surveyed.

Simone Passarelli and co-authors investigated the potential for small-scale irrigation to contribute to improved diets as measured by the Household Dietary Diversity Score in Ethiopia and Tanzania. In both countries, unadjusted comparisons showed that irrigating households produced more vegetables, fruits and cash crops and had higher production diversity and dietary diversity compared to non-irrigating households.

Using a newly developed and validated tool, Ramya Ambikapathi and co-authors, showed that food purchase and frequency measurement, taking into account context-specific behaviours at the household level, can be used as surrogates for dietary intake patterns and nutritional status among children. This method is non-intrusive and, with appropriate pilot testing and validation, could be used as an indicator of acute changes in household food security status.

Flora Chadare and co-authors suggest that making better use of local resources is a way to address the issue of under-nourishment in developing countries. Working across eight agro-ecological zones in Benin, they found considerable variation in resources but that the baobab tree (*Adansonia digitata*) and groundnut (*Arachis hypogea*) recorded the highest number of usages for food in general and infant foods in particular. The authors emphasise that further studies are needed to assess the availability of resources throughout the year, their access and the bioavailability of the nutrients in the infant foods made from them.

Resilience is the capacity to withstand shocks and recover from them without long lasting negative consequences. Marco d'Errico and co-authors estimated household resilience to food insecurity in Tanzania and Uganda. Using, inter alia, the FAO's Resilience Capacity Index (RCI), they found that adaptive capacity was the most important factor that contributed to resilience of a household and this depended on the level of education and on the proportion of income earners to total household members.

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Douglas Merrey and co-authors studied climate change and changing livelihoods in Rasuwa, a high altitude district in Nepal. There, people are heavily dependent on agriculture and livestock for their food security. Crops include millets, buckwheat, local beans, and barley as well as rice, potato and vegetables. Changes in occurrences of snowfall and snowmelt, rainfall, and temperatures are having both positive and negative effects. Adaptation to these changes includes altering cropping patterns, integration of livestock with agriculture and obtaining income from non-farm activities.

The Bangladesh Ministry of Agriculture has been promoting climate-smart agriculture (CSA) through climate field schools since 2011. Kamrul Hasan and co-authors assessed the impact of this policy and found that, in terms of per capita annual food expenditure, adoption of CSA practices was positively associated with household food security. Although this was important it was not sufficient for the enhancement of food security as other characteristics of farmers, such as personal education, pond size, cattle ownership and market difficulty had large effects. The authors conclude that the food security of coastal farmers in southern Bangladesh could be increased by the adoption of saline-tolerant and flood-tolerant crop varieties, pond-side vegetable cultivation and rainwater harvesting for irrigation.

Coosje Hoogendoorn and co-authors point out that maize is a food field crop with a highly developed formal seed sector. Reporting on four field studies in Malawi, Zambia, the state of Chiapas in Mexico and the state of Bihar in India, they found that many farmers were growing hybrid varieties, particularly where the higher yields justified the higher cost of seed. In Malawi and Zambia this may have been promoted by government subsidies but, should these cease, it is questionable that farmers would continue to purchase hybrid seed. Moreover,

there is still a demand for improved open pollinated varieties and local varieties. Thus, for the foreseeable future, there is still a task for public maize breeding and farmer based maize seed systems.

As in most other low- and middle-income countries, South Africa faces the triple burden of food insecurity, undernutrition and diet-related chronic disease. Anne Thow and co-authors contend that supply-side policies play a critical role in this situation but these are subject to a number of different policy sectors, resulting in incoherence. Current reconsideration of economic agendas offers an opportunity for increased recognition of food security and nutrition priorities. These should include achieving food and nutrition security, creating links between producers and consumers and consideration of the nutritional quality of the food supply, all under a framework of policy coherence.

Stephen Waddington reviews two books produced by the Inter-American Network of American Academies of Sciences concerned with the challenges and opportunities for food and nutrition security in the Americas. The first has an emphasis on the roles of science and technological innovation and was well received but the second, which is a regional analysis of these topics prepared from country assessments, did not live up to the promise of its title.

The central theme of *Cooperatives, Economic Democratization and Rural Development*, edited by Jos Bijman, Roldan Muradian and Jur Schuurman relates to many of the 17 Sustainable Development Goals adopted by UN General Assembly in 2015. David Skydmore found the book a most useful source of information and thought it would be likely to be of value to policymakers and practitioners.