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EDITORIAL

In this issue

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I am very pleased to announce that, from next year, Food Security will become a bimonthly journal with issues published in February, April, June, August, October and December. I am extremely grateful to all authors who have submitted manuscripts and to reviewers for their painstaking work which has allowed both this expansion of the journal and to its being awarded an impact factor of 1.97 during the summer.

This December 2012 issue consists of 13 original papers, one conference report and four book reviews. The first paper is another in the "Crops that feed the world" series and is concerned with potato, which lies third after wheat and rice in *global* importance as a source of food. Paul Birch and his co-authors have produced a mine of information about the crop which is sure to become a classic reference.

Perhaps James Sumberg's contribution takes its title from certain railway stations where the curve of the track leaves a substantial space between train and platform. Consequently, alighting passengers are warned to "Mind the gap"! In dealing with yield gaps, the author points out that, although the concept is a useful one, it should be carefully defined. Over one parameter, the yield the farmer actually obtains, there is little difficulty: but is the gap defined as being between this and economic or technical yield in the field or between this and the maximum yield obtained at a research station or the calculated potential yield? Hence, mind the yield gaps for, as the author says, they are seldom what they seem! This paper is complemented by that of Serge Savary and co-workers which expands on one type of yield gap i.e. that caused by plant diseases and their implications for global food production and food security. The causes of plant disease are many and the damage they cause variable but, unfortunately, this is difficult to quantify. Moreover, the pathogens themselves are variable, often rapidly overcoming the resistance of a plant in which resistance genes have been laboriously introgressed by breeders. Thus the losses are not only directly those caused by the pathogen to the crop standing in the field but also indirectly in the considerable labour expended on breeding. The authors illustrate this complex subject with examples of losses in wheat in the USA and France, quality losses in cereals in Europe's Northern countries and yield losses to diseases in rice in tropical Asia.

Two papers concerned with water follow. M. Dinesh Kumar and co-authors point out that agricultural growth and food production in India are dependent on access to both arable land and utilizable water. However, there is a mismatch between these essentials - where arable land is abundant, water is scarce and where arable land is scarce, water is abundant. They suggest a number of correctives, such as: the judicious investment in surface water projects which encourage direct irrigation; improvement in projects which encourage direct irrigation and replenishment of over-exploited aquifers; better use of green water and a shift to low water consuming crops. In the second of these two papers Mintewab Bezabih and Salvatore Di Falco examine the effect of rainfall variability on the choice of food crops made by farmers in Ethiopia, some crops being more tolerant of erratic rainfall than others. They found that the uncertainty of rainfall prevented farmers from choosing high risk - high return crops and suggest that this could be mitigated by weather insurance policies and crop diversification.

Louise Sperling and Shawn McGuire in their article on seed security emphasize the importance of defining the type of security to be achieved whether it is for food production for home consumption, nutrition, resilience to stresses such as heat or income generation. Moreover, the issues of access and the contribution to commercial and livelihood bases must be addressed. They advocate refraining from using

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the general phrase 'seed secure' but rather to qualify it in relation to a specific goal such as 'Seed secure to ensure income generation'.

The next four papers deal directly with vulnerability to food insecurity, predominantly at the household level. Two are from sub-Saharan Africa, one from Brazil and one from India. Ayalneh Bogale and Maria Sassi write about Ethiopia and Malawi, respectively. Their primary concern is with rural communities whereas Erica Felker-Kantor and Charles Wood are concerned exclusively with female headed households in Brazil and Nilesh Chatterjee and co-authors write about food insecurity in urban poor households in Mumbai. In the Ethiopian study the emphasis is on the importance of family size, size of cultivated landholding, soil fertility, access to irrigation, number of extension visits, use of fertilizer and improved seed. In contrast the Malawi study accentuates the role of maize prices. These can vary enormously and are particularly influenced by season. This is because many subsistence farmers are unable to grow sufficient of the crop to feed their families throughout the year. As a result there are lean months, lasting from approximately November to March, the latter date being when the maize crop is harvested. During this time prices increase because of scarcity and part of the actual deficit is made up from informal cross-border imports. It is also the time when admissions of children, suffering from Severe Acute Malnutrition (SAM), to Nutrition and Rehabilitation Units peak. In the Brazilian study, female headed households were found to be significantly more likely to experience moderate or severe food insecurity than those headed by men. Moreover, food insecurity increased with increases in the number of men in the household whereas the converse was true if the number of women in the household increased. This reflects women's spending patterns which are more favourable to the welfare of children and other members of the household. Food insecurity in the Mumbai study was significantly associated with lower monthly household income, lower rank in the standard of living index (SLI) and low monthly per capita expenditure on food items. As in Brazil, households headed by women were particularly vulnerable and more so if the women were older, less educated and with less media use or access.

Price of staple foods is a topic taken up by Andrew Dorward. Where these have risen, those who are poor and are net buyers, in both rural and urban communities, have been most negatively affected. The short term negative effects can be ameliorated by economic growth and lower price transmission and these have led to lower increases in global poverty, hunger and malnourishment than some hunger and poverty simulations have suggested.

Kefasi Nyikahadzoi and co-authors have questioned the value of Agricultural Research and Development (ARD) in which there is a linear approach in stakeholders from researchers, through extension workers, farmers, agricultural processors and marketers finally to consumers. They contend that rather working on problems that appeal to researchers, research should be based on constraints facing farmers. In order to achieve this they propose an Integrated Agricultural Research for Development (IAR4D) concept using what they call Innovation Platforms (IPs). Here all the stakeholders just mentioned interact with each other in a co-ordinated manner to improve the productivity of smallholder farmers. The paper includes some preliminary results from Eastern Zimbabwe, which demonstrate the value of such an approach, and suggestions for further development.

Mark Wahlqvist and co-authors draw attention to the fact that Asia, despite the Green Revolution, has the largest number of undernourished people in the world and faces a daunting future with regard to food security. They advocate a number of policies to improve the situation. These include greater emphasis on family planning and enlightened migration; retention or encouragement of plant-based diets (the rapid change in diets of some countries to ones that are more meat based is a particular challenge); integration of food, health and environmental approaches to create resilient regional food systems; and the incorporation of food into the broader human security agenda. Although implementation of these policies would seem to be largely concerns of governments, the authors' opinion is that much progress could be made at the community and household level.

Glenn Hyman and co-authors have produced a very full report on the Second Scientific Conference of the Global Cassava Partnership for the 21st Century, which took place in Kampala. The conference was hosted by the government of Uganda and brought together 400 scientists and professionals working on the improvement of cassava, the third most important *tropical* crop after rice and maize. Among the topics discussed were genetic improvement, advanced breeding strategies, control of pests and diseases, post-harvest processing, marketing, agronomy and soil fertility research. For those about to develop an interest in cassava, this report would be a good place for them to start their literature search on this important crop. Cassava will also feature as an article in the "Crops that feed the world" series shortly.

Benny Dembitzer's book "Sleep walking into global famine" is reviewed by Tam Dalyell, a former member of the British Parliament. It is encouraging to read that Dembitzer contends that we need to assemble the total picture of the many factors that threaten the world's food supplies in order to understand the situation – a view which is very much in tune with the philosophy of this journal.

"Reshaping Agriculture for Nutrition and Health" is a collection of 23 short papers prepared from a conference, held in February 2011 in New Delhi and organized by the International Food Policy Research Institute (IFPRI), with the title "Leveraging Agriculture for Improving Nutrition

and Health". As Jeff Waage, who has reviewed the book writes, "On rare occasions, a single scientific gathering becomes a defining, global milestone for a new direction in research and development" and goes on to state that this conference was a case in point. Again, as in Benny Dembitzer's book, the multifaceted nature of the problem being tackled is in evidence – this time the nexus of agriculture, nutrition and health.

Arie Kuyvenhoven provides a thoughtful review of the 2011 Global Food Policy Report of the International Food Policy Research Institute. The price hikes of 2007–2008 and again of 2011 have shown that the world is facing a volatility in food prices not known for about four decades. The common factors underlying this volatility is a slowing down in the growth of agricultural productivity, higher energy prices stimulating biofuel production, a depreciating dollar, strong commodity demand from emerging economies, major changes in commodity futures trading and weather shocks. Again the multifaceted nature of food security is emphasized.

The seasonal fluctuation in the availability of food is a subject that may too easily be forgotten in countries with developed economies, which have the economic ability to import food from all over the world and to store it. In less developed countries it is a fact of life, which may be extremely unwelcome, as is starkly illustrated by Maria Sassi's paper in this issue. In this she documents the occurrence of the lean months in Malawi when the maize grown by subsistence farmers runs out. The collection of essays with the title "Seasonality, rural livelihoods and development" edited by Stephen Devereux, Rachel Sabates-Wheeler and Richard Longhurst is reviewed by Camilla Toulmin. She concludes that building more resilience into both rural and urban livelihoods will need to be at the heart of sustainable economic development and that these essays provide useful pointers for the achievement of this task.