

In this issue

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This issue of Food Security contains 10 original papers, and a book review. The original papers report phenomena that range from hunter-gatherers through making better use of aquatic environments, projections of future food production and availability of suitable diets to the more sociological issues of young people's reluctance to engage in farming as a career and the difficulties experienced by refugees in obtaining an adequate diet in their countries of settlement.

Homervergel Ong and Young-Dong Kim report on the use of wild edible plants by the Ati Negrito people, the aboriginals of the Philippines, who number about 33,000. Sixty-nine taxa in 31 families were recorded. Plants for consumption were selected for their caloric content and preference for sour and salty tastes. Slimy textures were also favoured, a clear soup called *laswa*, made from a variety of wild plants but also some cultivated vegetables, being popular.

The next two papers concern the development of aquatic environments for improved productivity, livelihoods, income and food security. Joffre and co-authors review interventions in aquatic agricultural systems in Bangladesh, Cambodia and Zambia. Increases in productivity were found in 20 of the 31 studies examined but only in one case was it measured beyond the life of the project. In 15 of the projects participatory approaches were adopted and here there was evidence that these were more successful. The authors suggest that a study of interventions with varying degrees of participation would be a worthwhile future endeavour.

Haque and Dey examined the impacts of interventions in alternating fish-rice culture in Bangladesh. Here rice is cultured individually during the dry season on farmers' respective lands but fish are cultured communally during the rainy season when their individual lands cannot be discerned owing to flooding. In areas adopting the communal approach, average fish production increased from 124 kg/ha/yr. to 394 kg/ha/yr. and fish consumption increased by 32% over control sites.

Also in Bangladesh, John Fiedler and Keith Lividini monitored diet quality and nutrition status by means of household consumption and expenditure surveys (HCES). They point out that these overcome the limitations of the FAO Food Balance Sheets, the traditional source of data to inform food policy, and provide information about consumption patterns at the sub-national and household levels. HCES can be used to calculate baseline indicators and define and prioritize specific actions for improving nutrition.

Ratna Purwestri and co-authors studied the Demak Regency in Central Java, Indonesia, where there is a surplus of rice and yet a high incidence of childhood stunting (32%). Households with stunted children grew rice mainly, or solely, for own consumption and had significantly smaller rice fields than households with non-stunted children. However, rice production, farm income and agriculture diversity were not significantly different in the two household types. Rather, the authors attributed stunting to lack of expenditure on health and environmental conditions and recommended education in these domains.

Concerns about the adequacy of future food supplies for food security have led to modeling studies. One of these by Hongdan Li and co-authors, in Northeast China, compared the modeled yield of maize with the actual yield. They found that, according to one statistic, the average potential yield increase of maize was 3.32×10^3 kg/ha, which would generate a

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surplus of 136.56 million tons – sufficient to feed 341.4 million people in other areas of China.

R.S. Ritzema and co-authors state that food insecurity remains prevalent throughout East and West Africa, despite considerable investment in development. They examined the proposal that ‘sustainable intensification’ (SI) of crop production might overcome this and suggest that inadequate attention has been paid previously to the diverse resource endowments of household and farm characteristics. In order to assess the food availability of 1800 households from research sites in 7 countries in East and West Africa, they applied a simple energy based index and used it to estimate the effects of three strategies: increased crop production, increased livestock production and increased off-farm income. They found that increased crop and livestock options might primarily benefit food-adequate and marginally food-inadequate households, but had little impact on the most food-inadequate households. They therefore question what SI can realistically achieve and suggest that intensification strategies must be augmented with transformational strategies in order to reach the poorest households.

Again, tackling the problem of food insecurity in Sub-Saharan Africa and the question of whether sustainable agriculture (SI) can be part of the solution, Klaus Doppelmann and co-authors evaluated 17 published multi-year and multi-site studies. They found consistent gains in yields of maize grain, protein, biomass and rain productivity with the application of nitrogen fertilizer and more efficient use of fertilizer was achieved with legume diversification, particularly in intercrop systems. Here grain, protein, vegetative biomass and resource use efficiency were 1–5 times those of sole maize cultivation. However, there was high variability among the results obtained from the SI options applied suggesting, in common with the previous paper, that account should be taken of local conditions rather than ‘a one size fits all’ approach. In conclusion, for maize SI, the authors suggest expanding farmers’ access to multipurpose legumes as intercrops, such as long-duration pigeon pea, which provide food and copious biomass, and to N fertilizer as well as local adaptation of water-conserving tillage practices.

The last two papers in this issue are more concerned with sociological issues. According to James Sumberg and co-authors, an emerging orthodoxy is that agriculture is the key to addressing youth unemployment in Africa. Using Q methodology, the authors examined the attitude of high school students in Ghana, aged 15–23, to farming. Two research questions were asked: What explains young people’s attitude to farming and what should be done about rural young people and farming? Overall young people’s

attitudes to farming were largely negative owing to their sense of educational advantages, desire for modern jobs, dislike of hard work and lack of services in rural areas. The authors conclude with the sobering statement that, “the challenge is not so much how to get young people interested in agriculture, but how to make agriculture worthy of their attention”.

In the final paper, Danielle Nunnery and Jigna Dharod examine the difficulties in being food secure experienced by Asian and African refugees, who had been resettled in the United States for an average of 8 years. Major factors were experience of previous food shortage in refugee camps, health care costs, and remittance of resources to relatives in their original home country.

Fiorella Picchioni and co-authors report on a conference with the title ‘Roads to interdisciplinarity – Working at the nexus among food systems, nutrition and health’ with the subtitle ‘1st Annual Agriculture, Nutrition and Health (ANH) Academy Week’, which was held in Addis Ababa from 20th to 24th June 2016. The ANH Academy was established in 2015 to facilitate learning, knowledge sharing, capacity building and collaborative partnerships among those working within agri-health with support from the Innovative Metrics and Methods for Agriculture and Nutrition Actions (IMMANA) research programme. There were four themes: Value chain and market approaches in agri-health; Pathways among agriculture, food systems, and health; Environmental sustainability of food systems; Gender and household dynamics approaches in agri-health.

Steven Yearley thought that Daniel Callahan’s book, *The Five Horsemen of the Modern World: Climate, Food, Water, Disease and Obesity* was an admirable idea but felt that it did not live up to the author’s ambitions.



Richard Strange, Editor-in-Chief of Food Security. Richard Strange’s background is in Plant Pathology, a subject to which he was attracted by its relevance to food security and in which he has published over 100 papers and two books. He currently holds an Honorary Chair at University College London and is a Fellow of the International Society of Plant Pathology. He has been involved in numerous overseas projects, several of which were located in African

countries, and has supervised Ph.D. students from these and other countries of the Developing World in topics directly concerned with plant disease problems affecting their food security.