Alerts for policy makers

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We thought it would be useful if we were to extract from the papers published in the first 2 years of *Food Security* those points that could be of immediate value to Policy Makers concerned with food security issues. (Numbers after each entry refer to volume and pages).

Measurement of food insecurity

1. **Measurement of food security in an urban slum in North India:** Siddarth Agarwal and associates report on household food insecurity in an underserved Delhi slum using a four point scale. Their recommendations for ameliorating the situation include improving entitlements, linkage of the poor to employment schemes and upgrading their skills. 1: 239–250.
2. **Food insecurity in Bangladesh:** Jennifer Coates draws attention to the necessity of measuring food insecurity at the individual as well as at the household level. 2: 81–95.
3. **Urban household food demand in Nairobi, Kenya:** M.P. Musyoka and associates, using an econometric

model, provide guidance for improving food security in this capital city. 2: 179–193.

Agricultural research and sustainability

1. **The necessity of revitalizing agricultural research for global food security:** This paper by the World Food Prize Laureate of 2009, Gebisa Ejeta, draws attention to the very successful U.S. Land Grant University Model of education, research and extension and suggests that this could be repackaged to fit the needs of today elsewhere. 1: 391–401.
2. **Improving food security in Timor-Leste through agricultural research:** William Erskine and associates show how this small post-conflict nation has radically improved its food security by introducing, from institutes of the Consultative Group for International Agricultural Research, germplasm of staple crops that were appropriate to the agro-ecological environment that prevails in the country. 1: 403–412.
3. **Peanut improvement:** Nalini Mallikarjuna and David Hoisington have made a successful wide (interspecific) cross which it is hoped will allow development of cultivars with resistance to the most important peanut diseases. 1: 457–462.
4. **Weed control:** Jonathan Gressel and Bernal Valverde claim that although weeds, of all biotic constraints, cause the greatest crop losses, they are often ignored. They present biotechnological solutions for the control of the parasitic weed *Striga* and the control of weeds in rice crops. 1: 463–478.
5. **Sustainable food security in Africa:** Dennis Garrity and associates show how intercropping with particular tree species sustain a green cover of the land through-

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out the year, improve soil fertility *inter alia* by nitrogen fixation, and improve crop productivity. 2: 197–214.

6. **Bt crops:** Alan Raybould and Hector Quemada document the food security benefits for developing countries of crops genetically modified with *Bt* genes. 2: 247–259.
7. **Lowland farming inefficiency in Benin:** Alphonse Singbo and Alfons Lansink provide empirical evidence for increasing food security by adopting an integrated rice-vegetable farming system in West African lowlands. See December 2010 issue.
8. **Yams:** Robert Asiedu gives an overview of the importance of this staple crop for income and food security. See December 2010 issue.

Physical environment issues

1. **Soil degradation:** Rattan Lal outlines strategies for enhancing soil fertility. 1: 45–57: 2009.
2. **Water requirements for feeding humanity:** Malin Falkenmark and associates show how better water management will allow the world to carry the population predicted for 2050 of 9 billion people. 1: 59–69.
3. **The effect of climate change on the water and food nexus in China:** Jianxin Mu and Shahbaz Khan apply a simulation model to analyse the likely food surpluses or deficits in China in the years 2030–2050, based on population growth and irrigation scenarios. 1: 413–430.
4. **Climate change:** Chris Funk and Molly Brown call attention to the declining rainfall on the eastern seaboard of Africa, which threatens food security in that area. 1: 271–289.
5. **Effect of climate change on diseases of crop plants:** Neal Evans and associates predict the possible effects of climate changes on plant disease using diseases of oilseed rape as models. 2: 143–156.
6. **Soil sequestration of carbon:** Rattan Lal explains the potential for the sequestration of carbon by world soils and its effect on mitigating climate change. 2: 169–177.

Biological environment issues

1. **Food preservation by drying:** In two papers Antoine Leclercq and associates show how construction of drying equipment from local materials in Mali could be used to preserve vegetables 1: 197–205 and fish 2: 71–80.
2. **Intercropping:** Kiros Hadgu and associates demonstrate enhanced soil fertility and barley yield in the vicinity of the nitrogen fixing-tree *Faidherbia albida*. 1: 337–350.

Crop health

1. **Economic impact:** Darren Martin and Dionne Shepherd report on the economic impact and control of maize streak disease, a serious pathogen in Africa that can sometimes cause total crop loss. 1: 305–315.
2. **Plant health clinics:** Jeffrey Bentley, Eric Boa and associates demonstrate how successful these have been in Bolivia, where they have alleviated poverty, reduced pesticide abuse and increased harvests. 1: 371–386.
3. **Production constraints:** Stephen Waddington and associates assess the relative importance of abiotic, biotic, management and socio-economic constraints to the production of wheat, rice, sorghum, cowpea, chickpea and cassava in Asian and African farming systems. 2: 27–48.
4. **Regulation of the spread of plant pests and diseases:** Alan MacLeod and associates chart the evolution of international regulatory processes to prevent the introduction and spread of plant pests and diseases. 2: 49–70. In a further paper on this topic, Katharina Dehnen-Schmutz and associates examine the role of such regulatory mechanisms for the control of plant disease and food security using potato production in Britain as a case study. 2: 233–245.
5. **Plant diseases:** Maurizio Vurro and associates describe emerging infectious diseases of important crop plants in developing countries and demonstrate their impact on agriculture and their socio-economic consequences. 2: 113–132.
6. **Plant pests:** Toby Bruce introduces new solutions to combat the enormous losses in production caused by plant pests. These include activation of natural defences by agrochemicals, habitat manipulation (push-pull) and genetic modification. 2: 133–141.
7. **Failure of the sorghum crop in Tanzania:** Sam Page and associates ascribe this failure to late delivery of seed, which was contaminated with the fungus causing Covered Kernel Smut disease, and limited availability of cultivars resistant to the parasitic weed, Striga. 2: 157–167.
8. **The importance of plant health to food security:** Julie Flood points out that losses “from field to fork” of crops from plant health problems often amount to 30–40%. She illustrates her paper with a variant of the fungus causing stem rust of wheat to which few cultivars planted on the Indian sub-continent are resistant, and also the important cash crop coffee in which a wilt disease has spread rapidly, causing severe impacts on the incomes and livelihoods of coffee farmers in affected areas of the Democratic Republic of the Congo, Uganda, Ethiopia and Tanzania. 2: 215–231.

Nutrition and human health

1. **Locally available sources of food:** Mengistu Fentahun and Herbert Hager report that although wild fruits are present all the year round in Ethiopia, taboos prevent exploitation and they are only used in the extremis of famine. 1: 207–219.
2. **Edible fruit from tree species in the homegardens of Kerala, India:** U.M Chandrashekara found 101 species of fruit trees in the coffee-based homegardens of Kerala, 46 of which were actively cultivated. 1: 361–370.
3. **HIV/AIDS and nutrition:** Scott Naysmith and associates report on the association of HIV/AIDS and malnutrition in Swaziland where HIV prevalence is over 15% of the population. 1: 251–260.
4. **HIV/AIDS and food prices in East and Southern Africa:** Stuart Gillespie and associates draw attention amongst other matters in their article to the fact that because prices of maize and white rice had doubled within a year women resorted to having multiple sex partners in order to meet their needs for food and other essentials, thus spreading the virus. 1: 261–269.
5. **Nutritional considerations and food security:** Prakash Shetty advocates dietary diversification and biofortification in order to improve the essential micronutrient content of food in the developing world. 1: 431–440.
6. **Understanding disease:** Gabriela Rugalema points out the importance for the success of control programmes that disease should be understood from a local perspective. Disease caused by a single pathogen may have multiple local names and diseases caused by several pathogens may have a single name. 1: 441–445.
7. **The nutritional value of small scale fisheries:** Nozomi Kawarazuka and Christophe Béné call attention to three ways in which small scale fisheries can enhance household nutrition: by direct consumption, as fish are rich in vitamin A, calcium, iron and zinc, by providing a source of income, and indirectly by improving the economic status of women which impacts directly on household food security. See December 2010 issue.

Food safety

1. **Mycotoxins:** Ebrahim Rahimi has detected the occurrence of aflatoxin in milk in Iran. 1: 317–320.
2. **Adulteration:** Kirti Sharma and Manish Parakdar give an account of how milk came to be adulterated with melamine in China and its consequences. 2: 97–107.

Socio-political issues

1. **Food as security:** David Fullbrook points out that the special significance of food as a necessity for life is often overlooked in preference to exploitation of other resources such as oil, steel and rubber. Yet nations that are not food secure are fundamentally insecure, as recent food riots have shown. 2: 5–20.
2. **Famine in Africa:** Stephen Devereux attributes the persistence of famine in Africa to inappropriate interventions, adverse relations between governments and donor agencies and unaccountability of famine prevention in countries with weak democracies. 1: 25–35.
3. **The African Green Revolution 1:** Pedro Sanchez and associates report on the improvement of food security in 80 Millennium Villages which has occurred owing to ecologically sound, science-based policies, community mobilization, gender empowerment and effective governance. 1: 37–44.
4. **The African Green Revolution 2:** Joel Negin and associates argue that the African Green Revolution must include sustainability, gender empowerment and nutrition. 1: 351–360.
5. **Dissemination of improved wheat seed in Bangladesh:** Sam Page and associates report on the success of a bottom-up seed production and dissemination system which enabled poor and ultra-poor farmers to cross the local poverty line in Bangladesh. 1: 99–109.
6. **Stabilization of cereal prices:** Paul Dorosh suggests that a combination of national stocks (to prevent very large price increases), reliance on international trade (to limit government intervention in most years), promotion of domestic production (through investment in irrigation, research and extension) and targeted safety-net programmes are needed to address the food security requirements of poor households. 1: 137–149.
7. **Market Information and food insecurity response analysis:** Christopher Barrett presents a framework to help in the decision process of whether donors should provide food or cash to alleviate food insecurity. 1: 151–168.
8. **The L'Aquila Food Security Initiative:** This important document in which commitments were made to mobilize \$20 billion over three years for sustainable agricultural development without prejudicing adequate food aid in emergencies is presented in full. 1: 235–237.
9. **Market integration in Niger:** Michael Shin shows that market integration collapsed during the food crisis in Niger in 2004/5 and argues that market volatility can exacerbate food crises which can be counteracted by market integration. 2: 261–269.

10. **Global land acquisition:** Beth Robertson and Per Pinstrup-Andersen point out that rich nations poor in agricultural land are attempting to boost their food security by buying up land in poor nations which are rich in agricultural land. This has serious implications for those who have traditionally farmed these lands but may not have formal land titles, and for their countries. 2: 271–283.
11. **Drought insurance:** Peter Hazell and Ulrich Hess review the potential role for and experience with index-based insurance for managing drought risks in agriculture and rural areas in the dry areas of developing countries. They argue that such insurance could make important, market-based contributions in catalysing sustainable safety nets and promoting agricultural growth. See December 2010 issue.
12. **Food security and farmer participation:** Thakur Tiwari and associates present encouraging evidence for rapid gains in food security from new maize varieties for complex hillside environments in Nepal when farmers are involved in varietal selection and community-based seed production. See December 2010 issue.
13. **Fish farmers in Tripura, India:** Kehar Singh and Madan Dey show that increasing fish yield among fish farmers in this area of India has an important role to play in reducing poverty although without decreasing income inequality. Employment of those in the lower income groups in government jobs could play the dual role of alleviating poverty among relatively poor fish farmers and reducing income inequality among fish farming households in the study area. See December 2010 issue.
14. **Farmers' Field Schools:** Modesto Olanya and associates demonstrate the value of these schools in increasing the knowledge of farmers in Uganda about crop production as applied to potato, with particular reference to the management of disease. See December 2010 issue.
15. **Food security and poverty in Mexico:** Osiel Gonzalez shows that the poorest rural and urban households who are net buyers of maize were the most adversely affected by the increase in price of this cereal during 2006–2008 although the higher prices did benefit maize producers in rural areas. See December 2010 issue.