

are written by contributors from around the world (North and South America, Europe and Australia), the emphasis is on Europe.

The organic farming movement progressed slowly from its early pioneers of green environmentalists and social reformers. By the 1980s, the market was still less than 0.1%. However, a series of food scares, changes in lifestyles and a greater disposable income initiated a demand for 'healthy' food. Suddenly, organic farming was seen by both growers and retailers as a lucrative market, with consumers willing to pay a premium. Expansion of demand brought problems of availability and sustainability of supply. The chapter Development of Standards highlights the bureaucracy of intervention by governments (a plethora of committees, standards, directives and acronyms) to establish systems to satisfy that demand.

The attitude of the agricultural establishment moved from initial rejection, to tolerance and finally integration into the mainstream. Many of the practises encouraged by the early organic growers are actively pursued today – municipal waste recycling, the use of green manures, integrated pest management, minimum tillage and fair trade.

The book is a good informative overview of the development of organic farming, including detailed histories of the International Federation of Organic Agricultural Movements (IFOAM), the Soil Association and the Research Institute of Organic Agriculture (FiBL).

Peter Gill

Tropical Crop-Livestock systems in Conservation Agriculture. The Brazilian Experience. Integrated Crop Management. Vol. 5, 2007. By J. N. Landers. Rome: FAO (2007), pp. 92, US\$22.00. ISBN 978-92-5-105692-9. doi:10.1017/S0014479708006509

This well-written, informative and authoritative book is an important contribution to the evidence that conservation agriculture (CA) – based on direct planting of crop seeds, permanent soil cover of organic matter and crop rotation – is fundamental to achieving true sustainability of agricultural production.

In rotational systems of crop-production, short breaks under pasture are important for maintaining productivity over the longer term. The book describes the inverse – how principles and practices of CA, are applied in revitalizing degraded pastures in livestock-production systems through the interpolation of short periods under crops within long periods under grass.

The six chapters' technical content, primarily concerning Brazilian situations, is complemented by clear definitions, tables, figures, text-boxes and photographs. Comparing results from six case studies shows that relatively modest investments in moving towards integrated crop-livestock zero-tillage systems (ICLZT) are viable, with attractive net returns and very adequate internal rates of return.

As much of the expansion of 'the agricultural frontier' in Brazil is at the expense of native forest, it is significant that well-managed ICLZT systems enable greater farm output to be achieved through safe improvement of production per hectare than, otherwise, through lateral expansion by further deforestation.

The final chapter lists important policy recommendations for promoting conservation-effective agriculture and for facilitating farmers' transition to such systems.

The book is aimed at agronomists, advanced farmers, extension workers and agricultural decision-makers. Illustrating both quantitative and qualitative benefits of an application of CA principles, its scope, content and style will also recommend it to a wider readership.

Francis Shaxson

International Research on Natural Resource Management: Advances in Impact Assessment. Edited by H. Waibel and Z. Zilberman. Wallingford, UK: CAB International (2007), pp. 270, £75.00. ISBN 978-1-84593-283-1. doi:10.1017/S0014479708006510

This book is a successful attempt to identify quantitative methods for assessing the impact of CGIAR natural resource management research (NRM). In doing so clearly and objectively, it provides a foundation for impact assessment for a wider set of research projects.

The first part examines the rise of NRM and its relationship with research for productivity enhancement. It includes a detailed exposition of modelling of micro- and macro-level NRM innovations and their adoption. The second part examines seven contrasting NRM impact assessment case studies, two covering NRM policy

research issues and five on NRM challenges at farm level. The methods and results are described in sufficient detail to enable the reader to determine their efficacy in assessing economic, social and environmental impacts, and the returns to research investment made. The third part analyses the main lessons learned from the cases, and looks at the way ahead for NRMR impact assessment.

The main contributors to the book are economists, which flavours the methods used, the presentation of results and their analysis. Social impact is considered, but given insufficient weight. It is also difficult to discern the replicability and scaling-up potential of the CGIAR projects. No indication is given of the cost of impact assessment, or of the capacities required to carry them out. More discussion of the implications for project design would have been useful. Notwithstanding, this is an extremely useful book for researchers, research managers and development practitioners looking for ways to assess objectively the impact of research projects.

Barry Pound

Irrigation Systems – Design, Planning and Construction. By A. Laycock. Wallingford, UK: CABI (2007), pp. 320, £65.00. ISBN 978-184593-263-3. doi:10.1017/S0014479708006522

‘Over a quarter of a billion hectares of the planet are irrigated. Entire countries depend on irrigation for their survival and indeed for their very existence.’ These words, from the author’s preface, set the scene for this extensive and informative book, which draws on his 40 years of experience worldwide.

The engineering coverage is encyclopaedic, concentrating on ‘surface irrigation’, where water flows to the fields via channel systems. However, beyond consideration of just about every engineering aspect of canal design and construction, there are also chapters headed Troubleshooting – Feedback from the Field, and Costs and Economics.

The author takes a broad view of the social and political contexts in which surface irrigation operates in the early 21st century, whilst linking such topics to engineering practicalities. This is an important contribution, following a period when irrigation planning has been (too?) heavily dominated by socio-economic approaches.

The text pages are well illustrated with diagrams, design drawings and photographs. However, there is also extensive additional image material – listed separately in the book – which may be downloaded from the author’s own website (at no charge) or, in higher definition, via a separate CD (at cost of £100) – obtainable from the publishers. The reader without access to the Web (or the CD) will have plenty to absorb from the book itself, as the ‘extra’ material is additional to the main themes. The book, although not cheap, is to be recommended to (as the publisher rightly suggests) ‘engineers, technicians, agriculturalists, economists, students and policy makers’.

Henry Gunston

Fairness in Adaptation to Climate Change. Edited by W. N. Adger, J. Paavola, S. Huq and M. J. Mace. Cambridge, Mass. USA: The MIT Press (2006), pp. 319. £16.95. (paperback). ISBN 0-262-51193-2. doi:10.1017/S0014479708006534

The award of the Nobel Peace Prize in 2007 to the IPCC and Al Gore has helped to refocus the world’s attention on global climate change. Moving from arguments of concentration on mitigation of climate change to a more realistic adaptation to the expected changes, this collection of articles explores how poor countries could argue the social justice aspects of the steps they need to undertake to finance the adaptation. The developing countries may well bear the brunt of the impacts of climate change – they are the most vulnerable from a climatic point of view, from a financial and technological point of view, and with fragile production systems. But the developing countries also possess natural resources that if suitably mobilized may greatly contribute to the global efforts not only to adapt to but also mitigate climate change. The book contains a wide variety of arguments for seeing efforts on climate change in the context of social justice and not only technology. It is a most useful supplement to the current debate and provides pointers to mechanisms that may unite the industrialized and the developing countries as international conventions on climate change will be revisited in the coming years.

Stein W. Bie