the scope of this book, but also introduces something on the style of the book. The book is a detailed report on the findings of an interdisciplinary study team. The approach has been a “concerted action”, and the approach of the team has been comprehensive, complex and intensive. The book following a report format has Chapter 1 providing an introduction and Chapter 2 providing the methodology of the study. Here the style is intensive and a little overbearing and, although there is much excellent information, many readers will be tempted to scan through these pages. Indeed the intensity of the reporting style used throughout the book often detracts from its readability. The strength of this book is the depth of really useful information given in the result sections (Chapter 3), where checklists for sustainable landscape management are comprehensively described. Here valuable information for scientists, planners and students is found: the information is provided as a concentrated resource rather than as a text with a consistent flow. Finally, Chapter 4 gives an assessment of organic agriculture within this full definition of sustainable agriculture.

The background for the book is the changes in land-use, resulting in changes in landscape and the subsequent demands and responsibilities of society and its institutions. This background is one of the main issues for agricultural landscape integrity early in this new century. The central thesis is that humanity depends on living nature to survive and now nature also depends on humanity for its survival as well. Hence the requirement for understanding in detail the abiotic and biotic environment and ecology of a landscape, and, importantly, the sociological, economic and psychological factors that are also part of a landscape. Again it is important to comment on the detail provided here; for example, qualities such as “re recuperative and inspiring sensory qualities like smells, sounds and visual elements, under absence of notoriously intrusive and stressing impressions” are well covered. The checklist has a multitude of targets.

The authors describe the ‘product’ of the book as providing a comprehensive set of general standards and analytical tools of reference. This product is certainly provided. It will be frustrating for some readers that the book is difficult to read, but I am sure that it will be used and appreciated as a valuable resource for policy planning and implementation.

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Against the Grain: Agri-Environmental Reform in the United States and the European Union

To appreciate this book one must have an interest and preferably some knowledge of agricultural policy. Policy decisions of the past have frequently had unintended consequences, particularly in terms of environmental degradation. More recently, there have been policy changes to reverse this trend. The central argument of the book is that in order to appreciate the significance of the policy reforms of the 1980s and 1990s and predict where they are going, it is necessary to understand why they occurred and how they were accomplished. In the introduction to the book the author sets the scene and gives an outline of each of the chapters of the book.

When governments began to intervene seriously in the incomes of farmers they assumed prosperous family farmers make best environmental stewards. Chapter 1 follows the results of this assumption, particularly in the US, and the rise of environmentalists who contended that it was not so. However, it was not until budgetary pressures joined environmental concern that reform began to take place. Chapter 2 explains that the onset of agri-environmental reform took place at the same time in many countries, more due to these budgetary pressures than environmental ones.

The middle chapters of the book compare the experiences of the US, UK and European Union in development of agri-environmental policy. Differences in political culture, policy traditions and institutional procedures have caused differences in the rate of progress and direction of policy in the different countries. The US has been characterised by some
books, while change in the UK has been more incremental in nature.

International agricultural policy reform under the aegis of the World Trade Organisation is slowly taking place and there is potential for a convergence of policy design between North America and Western Europe. Where government support to agriculture continues, it is more likely to be justified in more direct "purchaser-provider" terms than ever before. Farmers and others will be contracted by the state to produce the public environmental goods that an increasingly wealthy society demands. This could produce considerable change as subsidies to farmers are argued for in terms of individual merit rather than a collective good. What is this likely to mean for agri-environmental strategies that so far have been based on continued reform of agricultural policy rather than its abolition? Chapter 6 assesses how far the scaling down of market price support and the "decoupling" of public subsidies are likely to benefit the environment, and compares the American and European cases for retaining some form of government support to agriculture on environmental grounds.

In Chapter 7 the various threads of the book are drawn together to present a comparison of the origins, evolution, and likely development of agri-environmental policy in the US and EU. The chapter reflects on what has been achieved, and seeks to identify what countries can learn from each other.

As with all books of this type there is considerable use of acronyms/initials. They are generally explained but occasional slips occur to mystify the uninitiated — but the good list of abbreviations in the front of the book alleviates the problem.

While the book is written as a text for senior undergraduates and post graduates in agricultural and environmental economics, it is suitable for a broad range of readers who wish detail and analysis of the socio-political element in environmental issues.

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Climate change and global crop productivity

‘This book examines the case for man-induced climatic changes, the role of agriculture in these apparent changes, and the impact of those changes on agriculture.’ (p. 4). Introductory chapters, in parts I and II, discuss the case for and the importance of climatic change and variability as well as agricultural contributions to greenhouse gas emissions. ‘Agriculture provides both sources and sinks of greenhouse gases.’ (p. 37). Significant sources discussed include CH4 from flooded rice paddies and manure ponds associated with intensive animal industries, N2O released from nitrogen fertilizers and CO2 from the burning of crop residues and bare fallowing. Reductions in emissions discussed include reduced energy use through reduction in tillage and elimination of bare fallow. Sinks are increased through introduction of no till and reduced tillage systems which influence soil organic matter levels and increased plantings of woody perennials, in particular trees.

Part III contains chapters developed from a crop ecosystem perspective in which the impact of climate change is discussed. Each of the first 11 chapters of part III deals with a major world food, fibre or forage crop, reviewing the likely impacts of climate change on crop productivity, and then concluding with a useful summary and suggestions for future research. Interesting comparisons are made on the variable impact of climatic change on a wide range of crops belonging to groups exhibiting C3, C4 and crassulacean acid metabolism (CAM) photosynthetic pathways. Within the C3 group, legumes are compared with non legumes. Root and tuberous crops are included, along with trees, grasslands, rangelands, cereals, cotton and vegetables.

The conclusions include the following.
1. Crop legumes are expected to benefit more than non-legumes from increased CO2 concentrations, due to their ability to symbiotically fix atmospheric N2, thus enabling them to cope with the predicted lower levels of tissue protein.
2. Root, tuberous and woody perennial crops have an inherently large sink capacity for CO2 because of their ability to translocate C compounds to their storage organs or woody tissues.