

Agriculture and the Environment Volume I: Introduction and Commodities

A WWF HANDBOOK ON AGRICULTURAL IMPACTS AND BETTER PRACTICES

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Preface

Live like you'll die tomorrow; farm like you'll live forever.

There are two basic truths that will shape the future of farming—there is a steady increase in the consumption of food and fiber produced by agriculture, while at the same time there is a steady decline in the quality and productivity of soil around the world. The two trends are on a collision course. This collision will not be avoided by a single solution.

It is this trajectory that explains why a former farmer, anthropologist, and human rights activist now works in an environmental organization focusing on agriculture. It is a question of survival. Most biodiversity lives in the soil rather than on top of it, and most is found in areas of human use rather than parks or protected areas. However, as a result of the increased demand for agricultural products and the use of unsustainable agricultural practices, farmers convert natural habitat into new agricultural lands after they exhaust and abandon the lands that they previously farmed. As a consequence, farming is the single largest threat to biodiversity and ecosystem functions of any single human activity on the planet.

This book shows how this pattern can be broken and identifies activities that producers, policy makers, researchers, market-chain players, and environmentalists can play in the creation of more sustainable agricultural practices within the evolving context of global trade.

The people who know the most about making farming more sustainable are farmers themselves. The most innovative among them are often simply trying to survive economically in an increasingly competitive world. They use resources more efficiently, and they are constantly experimenting with new crops, combinations of crops and practices, and technology. Innovation comes from experimentation. Many producers are actually farming with nature rather than against it. This does not mean that they are returning to the practices of their ancestors, but rather they are experimenting with a mix of old and new approaches that give them better returns with fewer inputs and fewer impacts. Many producers have learned a very important truth—that to save money is to make money. For example, some have found that they make more money increasing soil vitality and fertility and reducing inputs than they do by focusing on increased yields alone.

Many producers have also come to realize, some the hard way, that in a global economy with increased transparency and information, what some producers do can affect the reputation of all. As a consequence, producers are organizing themselves to protect their interests and reputations. The most progressive are beginning to organize their industries to share experiences and lessons learned as well as to negotiate as larger blocks with regulators, buyers, investors, and nongovernmental organizations (NGOs).



Most environmental NGOs have no interest in becoming agricultural development agencies. But most have also come to realize that they cannot achieve their missions without ensuring that farming practices become more sustainable. Such groups are now beginning to develop agricultural programs through which they intend to engage producers, but most have not yet developed (much less implemented) detailed approaches through which they will engage agriculturalists. Furthermore, most NGOs are far more comfortable working with governments to develop regulatory approaches to address the negative impacts of agriculture—in short, to tell farmers what they cannot do. Such "stick" approaches are not likely to work by themselves. Furthermore, they provide no incentive for producers to do better than what is required by law.

This book identifies a number of approaches and market-based incentives that would encourage producers to achieve entirely new levels of performance, and as a result raise the expectations of government, and others, about what is even possible. The goal of NGOs should not be to put farmers out of business, but rather to make sure that they or their descendents can still farm the same piece of land in twenty or fifty years without the use of unsustainable inputs. This book identifies areas where agriculture can be made more sustainable globally while at the same time reducing pressure on natural habitats and increasing biodiversity and ecosystem services within areas that are farmed.

Government officials around the world have fewer resources with which to reduce the impacts of agriculture on the one hand or to make it more sustainable on the other. Increasingly, they are asked to do more with less. This book demonstrates how government land use and zoning programs can be based on the productive potential (or the unproductive potential) of areas as well as the value of natural resources and habitat for other purposes. It shows officials how to think about the medium- to long-term costs of allowing, much less giving incentives to, the establishment or continuation of unsustainable agricultural production systems.

Some governments, too, are experimenting with very innovative approaches to support or encourage sustainable agriculture. For instance, they are exploring how to link regulatory structures, licenses, and permits to performance and to better management practices (BMPs) in order to encourage the adoption and use of more sustainable practices as well as the standards by which performance is measured. While not exhaustive, this book offers a number of examples from different types of countries as well as from different types of crops and producers that provide government officials with considerable information about how to think about adapting or incorporating similar approaches in their own countries.

The manufacture and sale of agricultural products throughout the market chain from the producer to the consumer are increasingly centralized and vertically organized. Most of the players are monitoring the increased public concern regarding product quality in general and chemical residues in particular. Where there are consumer concerns there are potential liabilities. This book suggests how food manufacturers and retailers can begin to think about greening their supply chains through the adoption of BMP-based screens that reduce not only their overall liability, but also the environmental impact of their producers and increase their profitability at the same time.

Finally, there are dozens of research topics and areas that are suggested for each of the crops discussed in this book as well as for hundreds of crops not discussed in this book. Such research could be pivotal in helping to put agriculture on a more sustainable footing. To best accomplish this, however, researchers may need to distance themselves from the money and interests of input suppliers as well as the latest theories of the day that preoccupy academia. There is a tremendous amount of research whose results and findings could be applied immediately and could help producers reduce their environmental impacts as well as increase their profitability. Most would consider such research timely and in the public interest.

While my editor would probably kill me for saying this, this book is not intended to be comprehensive. Libraries have been filled with books written about each of these crops. Rather, the goal of this book is to identify and analyze several concrete examples of ways that a wide range of commodities are being produced around the world that reduce their environmental impacts. The goal is to show that there are new ways of thinking and acting that reduce agricultural impacts. These ways of thinking are relevant to most crops produced on the planet, but they cannot be adopted whole cloth—they will have to be adapted to different crops and circumstances. The most important thing to take away from the book, then, is not what to think in any specific circumstance but rather how to think. And of course, while most of these actions make sense for farmers in their own right, there are also important roles for governments, buyers, environmentalists, investors, researchers, and consumers.

This book will stimulate dialogue and discussion among producers and between producers and others genuinely interested in these issues. Such discussion, based on new facts, will amplify, redirect, and focus the debate on sustainable agriculture. As such, the book should encourage the identification of BMPs from around the world and stimulate their analysis so that the lessons can be more widely disseminated to reduce the impacts of global agriculture and increase its sustainability and profitability at the same time. Our future, and the future of every other living thing on the planet, will depend on it.

> Jason W. Clay 24 February 2003