

REDUCING GLOBAL POVERTY
PATTERNS
OF POTENTIAL
HUMAN PROGRESS

VOLUME 1



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REDUCING GLOBAL POVERTY

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Cover Art

The cover art, an oil painting by Margaret Lawless, represents a world populated by individuals with very different incomes and life situations, most of whom are poor and very large numbers of whom suffer great poverty. Its images represent differing segments of the world's population, the dynamism of movement within and between them, the disruptive character of transition, and the uncertainty of the future even for those who attain economic well-being.

Although poverty brings degradation and even death, the painting captures our fundamental belief that all humans deserve treatment that draws attention to their basic dignity and beauty. That belief has influenced also our choice of pictures throughout this volume, even though we could have chosen very painful images of the affects of poverty.

The S-curve of the hillside behind the three abstract figures suggests the character of multiple and interacting global human transitions, of which the movement from poverty to well-being is only one. The transformation of the global human condition to long-term, sustainable well-being encompasses many such transitions, which are therefore a pervasive theme and image of work from the Frederick S. Pardee Center for International Futures.

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Preface

■ *The tables accompanying volumes in this series are the most extensive available long-term forecasts of human development.* ■

■ *Prediction is impossible, but forecasting is necessary.* ■

This is the first in a series of volumes that explore prospects for human development—how development appears to be unfolding globally and locally, how we would like it to evolve, and how better to ensure that we move it in desired directions. The UN Development Programme’s (UNDP) annual Human Development Report (HDR) heavily influenced this series. Although our volumes are totally independent from the HDRs, they share the UNDP’s attention to different specific issues each year. In our case, however, the analyses are forward looking with a time horizon of fifty years further into the century, making the series something of an HDR plus fifty. The country-specific tables accompanying the volumes constitute the most extensive available set of long-term forecasts across multiple issues of human development.

Each volume will be global, long-term, and integrated in perspective across a wide range of human development systems (namely systems such as population growth, the spread of education, the advance of health, the growth of economies, and changes in governance patterns). This first volume focuses on poverty reduction, recognized in the Millennium Development Goals to be the foundational human development goal. The next will look at the future of global education, and the third will turn to prospects for global health.

The volumes emerge from the Frederick S. Pardee Center for International Futures at the University of Denver’s Josef Korbel School of International Studies. The International Futures (IFs) modeling project has been dedicated for three decades to developing and using the strongest possible global, long-term, multiple issue capability for exploring the future of key global issues. At the core of the project is the IFs computer system, with an extensive database, forecasting capability, and scenario analysis assistance. IFs facilitates such analysis for 182 countries individually or in groupings, across demographic, economic, energy, agricultural, environmental, and sociopolitical issues.

The IFs system has been used in support of many forecasting projects, including those of the European Commission, the U.S. National Intelligence Council, and the UN Environment Programme. The partners of the IFs team in such projects have been numerous, as they are in this set of volumes. For example, cooperation with the RAND Corporation has been very important in developing this first volume.

Among the philosophical underpinnings of the IFs project are the beliefs that (1) prediction is impossible, but forecasting is necessary for understanding change and to support policy making; (2) analysis should always be built around alternative possible futures; and (3) the tools for forecasting should be fully open and transparent (IFs with Pardee is freely available to all users).

The long-term, global, and integrated multiple-issue characteristics of this series make the effort both unique and highly ambitious. A number of assumptions underlie our belief that it is time for such a set of volumes focused on a variety of human development systems.

First, human development systems are growing in scope and scale. Human numbers and incomes continue to rise, causing the extent of our interactions with each other and with our broader environment to grow rapidly. This does not mean that issues are necessarily becoming more fundamentally insurmountable than in past eras. It does mean, however, that attention to the issues must have a global perspective, as well as local and regional ones, and that the issues require an integrated perspective.

Second, change in human systems has accelerated. Although demographic growth is slowing, global economic growth has gradually risen, and sociopolitical change is extraordinarily rapid. One important ramification of the pace of change is that it has become more important to look further ahead and to anticipate where that change may be or could be taking us. A long-term perspective, as well as an integrated and global one, is required.

Third, goals and priorities for human systems are becoming clearer and are more

frequently and consistently enunciated. For instance, the UN Millennium Summit and the 2002 conference in Johannesburg set specific goals for 2015, including many that focus on the human condition. Such goals are increasingly guiding a sense of collective human opportunity and responsibility.

Fourth, understanding of human systems has grown rapidly more sophisticated. With respect to data, the second half of the twentieth century was a period of explosion in human assessment of all the elements of sustainable development. It is remarkable to recall that at the middle of the twentieth century, the gross national product (GNP) was a relatively new measure and that the human database concerning worldwide individual life conditions, economic well-being, and social capacity was skimpy at best. Large-scale and consistent data collection has now characterized most of the world since about 1960 and has continued to improve. In addition, new concepts and measures linked to such data, such as the human development index, have emerged to tell us much about ourselves.

With respect to understanding the dynamics of our systems, progress has been equally rapid. Although it may sometimes be discouraging that debates about the drivers of economic growth, poverty reduction, and other change are so extensive and intense, any survey of the unfolding of development theory will quickly show the accumulation of insights. Windows into understanding the world condition have opened.

Fifth, and derivatively, the domain of human choice and action is broadening. Constructive action depends on being able to set goals, on being able to assess the condition of our environment, and on being able to anticipate the dynamics that might unfold with and without our action. As we have argued, each of these foundations of human action has strengthened.

Sixth, human development itself has increasingly given us new levers for action, should we choose to use them. These include the vast benefits of human development to date: the advance in the life conditions and individual

capacity of so many, the growing wealth of humanity, the growth of our social capacity, and the expansion of a broad knowledge base. For instance, the recent emergence of new information and communication technologies has dramatically enriched the human ability to access existing knowledge, to develop and use networks for its application, and to accelerate creation of still more knowledge.

Seventh and finally, discussions and debates concerning the appropriateness of goals, the quality of measures, and the patterns of likely and possible development have emerged globally. There will probably always be metadebates around the need for conscious social choice and action to manage transitions (versus letting self-correcting systems function), as well as minidebates concerning the most appropriate tactics for accomplishing goals that have already been set. In the turmoil of those debates, we should not lose sight of the importance of their occurring at all.

Will humanity grasp its opportunities to build on these foundations and substantially enhance the global human condition in this century? Will we build a transition to sustainable development broadly defined to include human capacity development, social justice, and environmental sustainability? Our success in reducing poverty and in eliminating altogether the most egregious manifestations of it will be one key test. It is to that collective effort that we dedicate this volume.

■ *Our success in reducing poverty is foundational to sustainable development.* ■

Acknowledgments

The authors give special thanks to Frederick S. Pardee, who not only funded the development of this report but helped conceptualize the series that this volume initiates. In addition, he has generated a constant flow of ideas with respect to the subjects and structure of this volume, with special attention to the supporting data tables in the volume and online. It is often asserted that a volume would not exist without the contributions of a particular individual. In this instance, the contributions of Frederick Pardee were, in fact, absolutely essential.

The authors of the volume take both credit and responsibility for its ultimate content. We built, however, on tremendous foundations of work directed toward understanding and reducing global poverty. The hope that motivated our work was that this study would contribute something to that ongoing stream of effort.

The IFs simulation model, the core tool of this volume, has been developed over a great many years under the direction of Barry Hughes at the University of Denver. Thanks to the support of the University of Denver and the Frederick S. Pardee Center for International Futures, the complete system, including both a downloadable version and an online version, is available for all users at www.ifs.du.edu.

IFs, developed originally as an educational tool, owes much to the large number of students, instructors, and analysts who have used or reacted to the system over many years and provided much-appreciated advice for enhancement. It is impossible to name all those who have provided feedback and ideas, but they include John Agard, James Allan, Alan AtKisson, Robert Ayres, Steven Bankes, Gerald Barney, Christian Berg, Donald Borock, Mark Boyer, Peter Brecke, Stuart Bremer, Matthew Burrows, Jonathan Cave, Richard Chadwick, Claudio Cioffi-Revilla, Sam Cole, Tom Coyne, Mark Crescenzi, Thomas Cusack, Jim Dator, Paul Desanker, Pol Descamps, Karl Deutsch, Bert de Vries, James Dewar, William Dixon, Faye Duchin, Joan Eamer, Rich Engel, Thomas Ferelman, Martina Floerke, Miriam Galt, Siwa Msangi, Jay Gary, Ted Gordon, Paolo Guerrieri, Harold

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Other than the authors, none of the named individuals or institutions bears any responsibility for the current status of the model or for the analysis presented here. Their support is nonetheless greatly appreciated—it takes a world to write such a volume.

Barry B. Hughes

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Abbreviations

ACC	Ahluwalia, Carter, and Chenery	MA	Millennium Ecosystem Assessment
AIDS	acquired immune deficiency syndrome	MDG	Millennium Development Goal(s)
BRICs	Brazil, Russia, India, and China	MER	market exchange rates
DOE	U.S. Department of Energy	MFP	multifactor productivity
DRC	Democratic Republic of the Congo	NAS	national account statistics
EIA	Energy Information Agency (of the US DOE)	NEPAD	New Partnership for Africa's Development
FDI	foreign direct investment	NGO	nongovernmental organization
FGT	Foster, Greer, and Thorbecke	OECD	Organization for Economic Cooperation and Development
G-7	Group of 7 (Canada, France, Germany, Italy, Japan, United Kingdom, United States)	PEI	Poverty and Environment Initiative
GDP	gross domestic product	PEP	Poverty-Environment Partnership
GEO	Global Environment Outlook	PPP	purchasing power parity
GNI	gross national income	R&D	research and development
GSG	Global Scenario Group	SAM	social accounting matrix
GTAP	Global Trade and Analysis Project	SRES	Special Report on Emissions Scenarios
GWP	gross world product	SSA	sub-Saharan Africa
HDI	human development index	TI	Transparency International
HDR	Human Development Report	UN	United Nations
HELI	Health and Environment Linkages Initiative	UNDP	United Nations Development Programme
HIV	human immunodeficiency virus	UNEP	United Nations Environment Programme
HPI	human poverty index	WCED	World Commission on Environment and Development
IBRD	International Bank for Reconstruction and Development (World Bank)	WDI	World Development Indicators
ICP	International Comparison Project	WEC	World Energy Council
IDA	International Development Association (World Bank)	WHO	World Health Organization
IEA	International Energy Agency		
IFI	international financial institution		
IFs	International Futures (modeling system)		
IIASA	International Institute for Applied Systems Analysis		
IMF	International Monetary Fund		
IISD	International Institute for Sustainable Development		
IPCC	Intergovernmental Panel on Climate Change		

