

Intellectual Property and Human Development

This book examines the social impact of intellectual property laws. It addresses issues and trends relating to health, food security, education, new technologies, preservation of bio-cultural heritage and contemporary challenges in promoting the arts. It explores how intellectual property frameworks could be better calibrated to meet socio-economic needs in countries at different stages of development, with local contexts and culture in mind. Options and scenarios for the future are discussed. A resource for policymakers, stakeholders, non-profit organizations and students, this volume furthermore highlights alternative modes of innovation that are emerging to address such diverse challenges as neglected or resurgent diseases in developing countries and the harnessing of creative possibilities on the Internet. The collected essays emphasize not only fair access by individuals and communities to intellectual property-protected material - whether a cure, a crop variety, clean technology, a textbook or a tune – but also the enhancement of their own capabilities in cultural participation and innovation.

Tzen Wong is a researcher and writer on topics including intellectual property, innovation and development. She has a background in law and social sciences. After obtaining her Masters degree in law from the University of Cambridge, UK, she has been active in the non-profit sector and is managing editor for the Intellectual Property and Human Development research project at Public Interest Intellectual Property Advisors, funded by the Ford Foundation. She has also written for the European Intellectual Property Review and the Encyclopedia of International Development.

Graham Dutfield is Professor of International Governance at the School of Law, University of Leeds. He is also an Adjunct Professor at the Centre for Studies of Intellectual Property Rights, Zhongnan University of Economics and Law, Wuhan, China, and a Research Affiliate at the Intellectual Property Law and Technology Program at Osgoode Hall Law School, York University, Toronto. He has a Doctorate in geography from Oxford University. He has authored several books, the most recent being an expanded second edition of *Intellectual Property Rights and the Life Science Industries*, now subtitled *Past, Present and Future*.



Public Interest Intellectual Property Advisors (PIIPA) is a leading global network and non-profit resource for developing countries and public interest organizations seeking expertise in intellectual property matters to promote health, agriculture, science, education, culture, biodiversity and the environment.

Through our IP Corps network of over 400 pro bono attorneys, academics and practitioners in 49 countries, we have coordinated pro bono IP support for 100 projects in developing countries and emerging economies. Examples of PIIPA's work include:

- Negotiated use of maize varieties for small, resource-poor farmers in Sub-Saharan Africa affecting the welfare and livelihoods of over 100 million people;
- Successfully challenged the validity of patents filed by two US companies on the medicinal properties of *maca*, a plant used by indigenous peoples in the Andes for medicinal and other purposes for centuries; and
- Published a seminal landscape analysis for the World Intellectual Property Organization and the World Health Organization on patent issues related to avian flu viruses and their genes, which is helping to remove obstacles to avian flu research and protect the ability of developing countries to share in the benefits of innovation.

Support for PIIPA

PIIPA provides professional services and capacity-building programmes to organizations worldwide. With a global network of volunteers we are able to keep our administrative costs low ensuring a high impact for all grants, contracts and donated funds. PIIPA has received generous support for the publication of this book from the Ford Foundation. For more information visit www.piipa.org.



Intellectual Property and Human Development

Current Trends and Future Scenarios

Edited by

Tzen Wong

Public Interest Intellectual Property Advisors

Graham Dutfield

School of Law, University of Leeds





CAMBRIDGEUNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314-321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi - 110025, India

79 Anson Road, #06-04/06, Singapore 079906

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9780521190930

© Public Interest Intellectual Property Advisors 2011

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2011 Reprinted 2011

A catalogue record for this publication is available from the British Library

Library of Congress Cataloging in Publication data
Intellectual property and human development: current trends and future scenarios / edited by Tzen Wong, Graham Dutfield.

p. cm.

Includes bibliographical references and index.

ISBN 978-0-521-19093-0 (hardback) – ISBN 978-0-521-13828-4 (pbk.)

1. Intellectual property (International law) 2. Sociological jurisprudence.

I.Wong, Tzen. II. Dutfield, Graham. III. Title.

K1401.I5533 2010

346.04'8 - dc22 2009039186

ISBN 978-0-521-19093-0 Hardback

ISBN 978-0-521-13828-4 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication, and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.



Contents

Boxes		page ix
Con	atributors	xi
Foreword by Sakiko Fukuda-Parr		xvii
Preface by Michael A. Gollin		xxi
Ack	nowledgements	XXV
Acre	onyms and abbreviations	xxix
Ove	rview	XXXV
1	Intellectual property through the lens of human development Tzen Wong	1
	1 The expanding matrix of intellectual property rights	5
	2 Rationales, checks and balances	16
	3 Capabilities and innovation	27
	4 Multiple ways of viewing development	36
	5 Conclusion: Re-posing the questions	46
2	Intellectual property and medicine: Towards global health equity Claudia Chamas, Ben Prickril and Joshua D. Sarnoff 1 Overview of intellectual property issues and trends	60
	relating to health	61
	2 Strategies and public-private initiatives for research into new medicines and vaccines3 Future scenarios relating to intellectual property	84
	and health	88
	4 Conclusion	95
3	Food security and intellectual property rights: Finding the linkages Hans Morten Haugen, Manuel Ruiz Muller and Savita Mullapudi Narasimhan	103
	1 The right to food: A conceptual and legal background 2 Trends in agricultural innovation and technology: The	106
	impact on farming communities in developing countries 3 Intellectual property rights in agriculture	112 117



vi contents

	4 Enclosure of the commons and some reactions5 The challenges ahead for developing countries: Ensuring better use of genetic resources and more targeted	123
	research and development	127
	6 Conclusion	131
4	Trends and scenarios in the legal protection of traditional knowledge Charles McManis and Yolanda Terán	139
	1 Fundamental concepts and distinctions in the legal	
	protection of traditional knowledge	140
	2 Transmission and loss of traditional knowledge	142
	3 Principal international agreements relevant to the legal	
	protection of traditional knowledge	143
	4 Trends in the legal protection of traditional knowledge	148
	5 Conclusion	166
5	Traditional cultural expressions: Preservation	
	and innovation	175
	Tzen Wong and Claudia Fernandini	
	1 Concepts and definitions	175
	2 Circulation and commodification of traditional	
	cultural expressions	178
	3 Limited protection of traditional cultural expressions	104
	through copyright, moral rights and design rights 4 Labels denoting origin and other characteristics	184 188
	5 Fixing or innovating?	198
	6 Some <i>sui generis</i> forms of protection for traditional	130
	cultural expressions	201
	7 Use of codes of ethics and protocols to supplement	201
	legal provisions	207
	8 Conclusion	210
6	Copyright and capability for education: An approach	
Ü	'from below'	218
	Margaret Chon	
	1 Linking intellectual property to development	219
	2 Linking development to capabilities	222
	3 Linking capabilities to educational access	225
	4 Linking educational access to copyright	229
	5 Substantive equality: Copyright and capability for	
	basic education	233
	6 Conclusion	241
7	Knowledge and education: Pro-access implications of	
	new technologies	250
	Dalindyebo Shabalala	
	1 Technology, education and copyright	251



		CONTENTS	vii
	2 Pro-access implications of information technology	on	
	knowledge and education		254
	3 Legislative developments and pro-access strategies	S	261
	4 Conclusion		274
8	Cultural diversity and the arts: Contemporary challen	iges	
	for copyright law	O	279
	Tzen Wong, Molly Torsen and Claudia Fernandini		
	1 Some concepts and definitions		280
	2 Cultural rights and intellectual property rights		282
	3 Emerging framework of protection for cultural dive		286
	4 Revisiting copyright as an economic incentive to cr		289
	5 Public access to cultural works: Nurturing capability	ties	
	for creative expression		298
	6 Changing notions of authorship		308
	7 Technology as a driving force for change		310
	8 Some scenarios and reflections for the future		314
	9 Conclusion		319
9	Scenario planning on the future of intellectual proper	rty:	
	Literature review and implications for human develop	pment	329
	Michael A. Gollin, Gwen Hinze and Tzen Wong		
	1 Scenario planning and intellectual property		329
	2 Intellectual property in the year 2025		330
	3 The future of the public domain: Scenario analysis		336
	4 Challenges and opportunities from new technolog	y	342
	5 Scenario planning and the Development Agenda		350
	6 Conclusion		357
App	endices		
APPE	ENDIX A. Capability, opulence and utility		367
	ENDIX B. Exploring alternative, collaborative models	of	
71111	innovation for medicines and vaccines	O1	369
APPE	ENDIX C. Strategies and laws to promote traditional		
	medicinal knowledge		376
APPE	ENDIX D. Educational use exceptions to copyright:		
	A comparison among selected jurisdictions	i	379
APPE	ENDIX E. Copyright and contemporary art: A case stu	dy	383
Inde	x		389



Boxes

1.1	Some types of intellectual property rights	page 6
1.2	Sui generis systems	17
1.3	Revisiting some assumptions on IPRs, information	
	and innovation	23
2.1	Generics and the price of medicines	67
2.2	Initiatives at the World Health Organization relating to	
	intellectual property and public health	85
3.1	Promoting healthy, culturally appropriate diets through	
	local knowledge and biodiversity	105
3.2	Intellectual property and the environment: Some issues	
	and debates relating to agriculture	114
3.3	An 'open source' model for plant genetic resources?	128
3.4	Combining traditional and modern knowledge	
	in agriculture	130
4.1	Traditional ecological knowledge and climate change	144
4.2	Prior informed consent, genetic resources and	
	traditional knowledge	146
4.3	Third-party patenting of innovations based on traditional	
	knowledge: <i>Hoodia</i> and other case studies	151
4.4	Regional and national <i>sui generis</i> systems for the	
	protection of traditional knowledge: A look at the Andean	
	Community and Peru	158
4.5	Collaborative research between traditional knowledge	
	holders and research institutions: AIDS and cancer	
	research based on the mamala tree	160
4.6	Some uncertainties and driving forces for the future	
	protection of traditional knowledge	167
5.1	The story of the Harris Tweed trademark	190
6.1	Millennium Development Goals	221
7.1	Changing power structures: Creators, producers	
	and distributors	253
7.2	Electronic journals and their impact on	
	scholarly publications	259
7.3	Expanding scope and term of copyright protection	262
7.4	Personal use, mass copying and criminal offences	265

ix



X BOXES

7.5	Exceptions and limitations within the international	
	copyright framework	268
7.6	Copyright limitations and exceptions for libraries and	
	archives: The WIPO 2008 study	270
8.1	Harry Potter and the 'fair use' wand	305



Contributors

Claudia Chamas is a researcher at the Oswaldo Cruz Foundation (FIOCRUZ), Ministry of Health in Brazil. She is also a professor in the Masters and PhD Programs on Public Policies, Strategies and Development at the Institute of Economics of the Federal University of Rio de Janeiro (in association with FIOCRUZ). She works on intellectual property issues and is the author of several journal articles on biotechnology and pharmaceuticals. She received a bachelor's degree in chemical engineering and an MSc and DSc in production engineering at the Federal University of Rio de Janeiro. In 2000 and 2002, she was visiting researcher at the Max-Planck-Institut für Geistiges Eigentum, Wettbewerbs- und Steuerrecht in Munich. She has organized seminars and coordinated research projects funded by Brazilian funding agencies (including CNPq and Faperj). She is a member of the Brazilian Association of Intellectual Property and the Brazilian Ministry of Health's Intellectual Property Committee.

Margaret Chon is the Associate Dean for Research and the Donald & Lynda Horowitz Professor for the Pursuit of Justice at Seattle University School of Law. The author of more than forty articles, book chapters and essays, including recent pieces on global intellectual property and development, she characterizes her scholarship genre as global intellectual property equality. Professor Chon is a graduate of Cornell University College of Arts and Science, University of Michigan School of Public Health and the University of Michigan Law School. Throughout her legal career, Professor Chon has been active in many community and professional organizations. Her recent publications include 'A Rough Guide to Global Intellectual Property Pluralism' in *Working Within the Boundaries of Intellectual Property* (R. Dreyfuss, H. First & D. Zimmerman, eds., Oxford University Press, 2010) and 'Intellectual Property and the Development Divide', 27 Cardozo Law Review 2821 (2006).

Claudia Fernandini is Director General of Clarke, Modet & C° Peru and founder of Fernandini Abogados. Her responsibilities include general company administration, strategy and prosecution of intellectual property, litigation, unfair competition, licensing, Internet, advertising and consumer defence, among other areas related to management of



xii CONTRIBUTORS

intellectual property in Peru and abroad. She is an attorney at law admitted to the Lima Bar Association since 1992, and has a masters degree in business administration. She has conducted many (national and international) presentations and seminars, published numerous articles and is frequently interviewed in local media on issues related to intellectual property. She has been ranked among the top IP lawyers in Latin America by *Latin Lawyer* magazine.

Sakiko Fukuda-Parr is Professor of International Affairs at the New School. She is a development economist working on human development and human rights perspectives on international development policy, including access to global technology. From 1995 to 2004, she was director of the United Nations Development Programme (UNDP) Human Development Reports. She has written widely on issues of poverty, inequality, gender, human rights, technology and development aid. Her most recent publications include *The Gene Revolution: GM Crops and Unequal Development* (2007, main contributor and editor) and Readings in Human Development (2003, edited with A.K. Shiva Kumar).

Michael A. Gollin is a patent attorney at Venable LLP in Washington, DC, where he chairs the life sciences group. He is Adjunct Professor at Georgetown University's McDonough School of Business and at the Franklin Pierce Law Center. He is the chair of Public Interest Intellectual Property Advisors (PIIPA), which he launched in 2002. Mr. Gollin is the author of *Driving Innovation: Intellectual Property Strategies for a Dynamic World* (Cambridge University Press, 2008) and many other works. He holds a JD from Boston University School of Law (1984), a *Diplom* (MS) in zoology and molecular biology from the University of Zurich (1981), and a BS in biochemical sciences from Princeton University (1978).

Hans Morten Haugen is Associate Professor at Diakonhjemmet University College in Oslo. He has a PhD in law from the University of Oslo, awarded for his dissertation on 'The Right to Food and the TRIPS Agreement: With a Particular Emphasis on Developing Countries' Measures for Food Production and Distribution' (Martinus Nijhoff Publishers, 2007). He writes on human rights, intellectual property rights and environment and resource rights. He is a member of the International Project on the Right to Food in Development (IPRFD) at the Norwegian Centre for Human Rights, University of Oslo. Before embarking on his academic career, he worked on international affairs and human rights for the Church of Norway Council on Ecumenical and International Relations.

Gwen Hinze is the Director of International Policy at the Electronic Frontier Foundation (EFF), an international civil liberties legal service and public interest advocacy organization based in San Francisco, California. She directs legal and policy analysis for EFF's international programme which aims to educate global policymakers about the need for balanced



CONTRIBUTORS XIII

intellectual property regimes that protect creators, preserve access to knowledge, foster technological innovation and empower digital consumers. Ms. Hinze previously litigated in California, practised commercial and finance law at Australian law firm Allens Arthur Robinson and worked for the Australian government in public policy and litigation. Ms. Hinze is a member of the State Bar of California and is admitted to practise as a Barrister and Solicitor in Victoria, Australia.

Charles McManis is the Thomas and Karole Green Professor of Law and Director of the Intellectual Property and Technology Law Program at Washington University in St. Louis, Missouri. He received his BA degree from Birmingham-Southern College in 1964, and both his MA (in philosophy) and JD degrees from Duke University in 1972. During 1993 and 1994, he was Fulbright Fellow in Korea, where he lectured and did research at the International Intellectual Property Training Institute in Taejon. He has served as a consultant for the World Intellectual Property Organization (WIPO) in India, Korea and Oman. His book, *Intellectual Property and Unfair Competition in a Nutshell*, is now in its sixth edition. He is also co-author of *Licensing Intellectual Property in the Information Age*, the second edition of which was published in 2005 by Carolina Academic Press, and editor of a multi-authored volume *Biodiversity and the Law: Intellectual Property, Biotechnology and Traditional Knowledge* (Earthscan, 2007).

Manuel Ruiz Muller is a lawyer from the Catholic University in Lima, Peru, with a masters degree in intellectual property and competition law. Since 1991 he has been working and doing research on biodiversity and related issues, such as biotechnology, traditional knowledge, biosafety and agrobiodiversity. He has published extensively on these issues and has been a consultant for FAO, UNDP, UNEP, IUCN, ICTSD, WIPO, the World Bank, Bioversity International and other national, regional and international organizations. He is currently the Director of the International Affairs and Biodiversity Program of the Peruvian Society for Environmental Law.

Savita Mullapudi Narasimhan is a consultant on intellectual property, trade and development with a focus on the importance of balanced rights to achieve human development goals. Her specialized areas of work include intellectual property and access to medicines and genetic resources. Towards this end, she has worked with various intergovernmental organizations including WIPO, the World Bank and UNDP providing advice to governments from more than twenty developing countries. At UNDP, she conceptualized the IP, Trade and Biodiversity project. Her educational qualifications include a BA (economics), LLB from University of Bombay, India, and an LLM from George Washington University. She teaches as an adjunct faculty member at several universities in India and the United States including the Indian Institute of Technology, Bombay, and New York University.



xiv contributors

Ben Prickril is an International Programs Officer within the National Cancer Institute's (NCI) Office of International Affairs (OIA). In this role he helps coordinate international research on the detection, prevention, treatment and palliation of cancers. He is also active in international scientific exchange, coordination of cancer activities under collaborative international agreements and coordination with other federal organizations involved in international activities, including the National Institutes of Health's Fogarty International Center, the Office of Global Health Affairs, the State Department and other federal offices. Before joining NCI's Office of International Affairs, Dr. Prickril served as an international biotechnology consultant and was the Chief Scientific Officer (2004–2006) of the World Life Sciences Forum, BioVision in Lyon, France. He received his PhD in bioinorganic chemistry from the University of Georgia (US) in 1992.

Joshua D. Sarnoff is Associate Professor at DePaul University College of Law, Chicago. He is a registered patent attorney and a member of the Board of Directors of the Federal Circuit Bar Association and has been involved in a wide range of intellectual property legal and policy disputes. He has submitted testimony to the United States Congress on patent law reform bills, has filed numerous amicus briefs in the United States Supreme Court and the Court of Appeals for the Federal Circuit on important patent law issues, and has been a pro bono mediator for the Federal Circuit as well as a consultant to the United Nations Conference on Trade and Development (UNCTAD) on intellectual property, trade and environmental issues. Mr. Sarnoff was formerly in private practice in intellectual property, environmental and food and drug law. He previously taught at the Washington College of Law, American University, and at the University of Arizona College of Law.

Dalindyebo Shabalala is a University Lecturer in International Economic Law (Intellectual Property) at Maastricht University and Academic Coordinator for Project Acquisition at the Institute for Globalisation and International Regulation (IGIR). Previously, he was the managing attorney of the Center for International Environmental Law (CIEL) Geneva office, and Director of CIEL's Intellectual Property and Sustainable Development Project which focused on issues at the intersection of intellectual property and climate change, human health, biodiversity and food security, as well as addressing systemic reform of the international intellectual property system. Mr. Shabalala was a Research Fellow in the Innovation, Access to Knowledge, and Intellectual Property Programme at the South Centre (2005–2006). He received his BA degree in political science and cognitive science from Vassar College in 1998, where he was a Ford Foundation Scholar in the Political Science Department. Mr. Shabalala received his Juris Doctor, cum laude, from the University of Minnesota Law School in 2004, where he worked with Professor David Weissbrodt on researching the human rights responsibilities of transnational corporations.



CONTRIBUTORS XV

Yolanda Terán is a member of the Kichwa people, from Ecuador, and a museologist, educator and researcher. She has degrees in museum studies from the University of Leicester and the Universidade do Rio de Janeiro. She has served as special adviser to the Minister of External Affairs of Ecuador on indigenous issues. She has also taught as a Fulbright Scholar at Sisseton Wahpeton Community College in South Dakota on 'Contemporary Issues for Indian Life' and at the University of New Mexico, where she is a doctoral candidate on indigenous languages. She was a consultant and interpreter for the National Museum of the American Indian, New York. She is a member of the Indigenous Women Network on Biodiversity from Latin America and the Caribbean (RIMB). She is also the education coordinator of Andes Chinchasuyo Indigenous Organization from Ecuador. In 2006 she was the regional coordinator for Latin America and the Caribbean for the Traditional Knowledge Indicators Working Group of the Convention on Biological Diversity (CBD).

Molly Torsen has been the Vice President of the International Intellectual Property Institute (IIPI) in Washington, DC, since early 2006. Overlapping with her work at IIPI, she completed a consultancy at WIPO and wrote a legal compendium for WIPO's Creative Heritage Project. The focus of this project was to look at practical applications and uses of current intellectual property laws with regard to traditional cultural expressions. Prior to her work at IIPI and WIPO, Ms. Torsen completed a legal fellowship at the Arts and Humanities Research Council (AHRC) Research Centre in Edinburgh where she focused her research and publication on the nexus between intellectual property law and contemporary art. She is a graduate of the University of Washington School of Law.

Tzen Wong is a researcher and writer on topics including intellectual property, innovation and development. She has a background in law and social sciences (economics and sociology). After obtaining her masters degree in law in 1999 from the University of Cambridge, UK, she worked on health and governance issues at the Monitoring and Evaluation Division of the International Federation of Red Cross and Red Crescent National Societies in Geneva. In 2005, she co-drafted the 'Practice Note on Traditional Knowledge, Access to Genetic Resources, and Benefitsharing' with members of a Taskforce at the United Nations Development Programme (UNDP). She is Managing Editor at PIIPA for its Intellectual Property and Human Development research project, funded by the Ford Foundation. She is also working with the creative sectors to link copyright law to cultural policy and development. She has worked in Singapore and Budapest and is currently based in New York.



Foreword

Sakiko Fukuda-Parr

One of the major challenges of the twenty-first century is to make globalization more inclusive and equitable, to better serve the purpose of human development. In this endeavour, managing intellectual property (IP) is a key issue. Few issues were as contentious in the negotiations over multilateral trade rules. Negotiations over the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) were pivotal in finalizing the 1994 Marrakesh Agreement which created the World Trade Organization (WTO), and in adopting the 2001 Doha Declaration which launched the WTO's Doha 'Development Round'.

A core purpose of intellectual property rights (IPRs) including patents and copyrights is to achieve a balance between two potentially conflicting social objectives: encouraging innovation by recognizing private rights in intangible creations and ensuring the diffusion of new technologies and cultural works to a broad range of stakeholders. Superficially, the controversies that arise can be understood as a conflict of economic interests. The different interpretations and potentially competing objectives of IP can lead to tensions between the interests of inventors or authors and those of the public, between the technologically advanced countries and those with weaker capacities, between corporations that seek to maximize profit and the public that seeks access at least cost. But, as this book argues, much more is at stake than conflicts over material gains and losses: IP laws and policies must take on a much broader set of human development goals and concerns. The social function of IP is not only about providing incentives and rewards for creativity; it is also about ensuring that innovations, including new technologies, ultimately help to improve capabilities, sustain livelihoods and support people's fundamental rights.

While bargaining between governments defending their perceived economic interests has done much to shape the international IP and trade agendas, pressure from social and political movements to consider the human consequences of IPRs has been influential since the 1990s. Civil society concerns, for example, about the rights of indigenous peoples, farmers and the plight of persons living with HIV/AIDS, was part of a larger critique about the social impacts of 'Washington Consensus' policy-led international development agendas, liberalization policies and economic globalization.

xvii



xviii foreword

By the late 1990s, as country after country liberalized trade and capital flows, and many began to dismantle post-war social welfare systems, controversies over globalization began to dominate debates about development policy. As Joseph Stiglitz put it, globalization was a force -'like a giant wave, that can either capsize nations or carry them forward'. Much of the controversy was growth and income oriented, concerned with whether globalization (or liberalization policies) is good or bad for growth, income, income distribution and poverty reduction. From the human development perspective, however, the questions are broader. The UNDP Human Development Reports, which I led between 1995 and 2004, explored policy agendas for promoting integration for human development, focusing on distributional impacts within and between countries and on the potential of harnessing globalization for the empowerment of people. We argued for stronger national policies to protect human priorities, as well as more appropriate global governance in which both the multilateral rules and the process for their formulation would be inclusive and equitable. One major question relating to IP was the nexus between technology, globalization and human development. Breakthrough science in information communications and biotechnology was a key driver of globalization; the computer and the Internet have made possible the mass dissemination of information, and high-yielding varieties of rice and maize have turned food-deficit countries into major food exporters. History has shown, however, that breakthrough technologies can be a source not only of opportunities for improving human wellbeing, but also of new inequalities. Although the social function of IP is not only about incentivizing technological innovations, it is important to design appropriate IP policies and laws to ensure that new technologies ultimately enlarge genuine choices and foster human development.

As stated earlier, the analysis of IPRs and their broad range of social ramifications go beyond economic considerations. Economic analysis framed in the utilitarian perspective of providing incentives for more material production is particularly limiting in this context. The utilitarian perspective is at best neglectful of, and at worst blind to, the effects on distribution of benefits and costs, the far-reaching social consequences of technological innovation, the social priority in technological innovation and diffusion that can solve enduring problems of poverty, and the claims that human beings have basic rights to participate in and benefit from innovations and creative expressions.

Intellectual property rights are intended to promote innovation, but research has shown that this is not always the case and that IPRs can also put obstacles in front of research and innovation. They are intended

World Bank 2000, 'World Bank Sees "Localization" as Major New Trend in 21st Century', World Development Report 1999/2000 press release, available at http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0, contentMDK:20014638~menuPK:34463~pagePK:34370~piPK:34424~theSitePK:4607,00.html (accessed 28 October 2009).



FOREWORD XIX

to reward creators, but in certain contexts fail to recognize the creativity and innovation of local communities and other social networks. They are intended to fulfil a social purpose, but that purpose can be too narrowly defined and miss out on some essential human challenges.

As the chapters in this volume show, the range of legal rights within the umbrella of IP impact human capabilities and endeavours in complex ways. The human development and capabilities approach provides a broad and useful framework for analysing the social impact of IPRs because the approach defines the purpose of development as enlarging the choices and capabilities that people have to lead a life they value. This framework focuses on a wide range of actual and potential human consequences that are of concern to diverse peoples in the world. The wide range of challenges that different individuals and communities face, and the diversity of their priorities, is precisely what makes a single policy approach to IPRs inappropriate and impossible. How IP frameworks might be reformed to meet these diverse challenges requires greater exploration. It is also the shades of grey that make the topic fascinating to study. This is a unique volume that brings together scholarly papers on all the key issues of human development and intellectual property rights. I expect that this book will provide an enjoyable and informative read, and it will become a much valued resource for individuals at all levels of knowledge and involvement in the IP and international development spheres.



Preface

Michael A. Gollin

We all share the desire to live healthy and meaningful lives, in communities that keep us safe, provide us and our children with educational and employment opportunities and leave us the freedom to choose our own paths. Economist Amartya Sen challenged societies to pursue these ends – referred to as human development – rather than only narrower objectives like increasing gross domestic product. That is, we should measure individual endeavour and national wealth in terms of how well each of us can live rich rewarding lives, not just how much financial output we produce per capita. Moreover, we should organize our social institutions to help us in this broader effort.

This book brings a human development perspective to the complex institutions, laws and practices referred to collectively as intellectual property, or 'IP'. What is the role of IP in human development? The answers to be found in the following chapters provide a fresh look at IP and how it affects the ability of people in developing countries to benefit from advances in medicine, agriculture, education, the arts and cultural traditions. The authors go further by looking at how trends and future changes in IP laws might impact people in developing countries, for better or worse.

Innovation has played a central role in human development through history, leading to advances in culture, knowledge, agriculture, health and technology, but also to imbalances in access to and control over these fruits of creativity. The roots of intellectual property may be found in ancient practices for controlling access to innovation, such as guild secrecy and the use of trade names. Intellectual property laws in the modern sense first emerged 500 years ago and have expanded to become a principal force channelling and shaping innovation and commerce around the world. Yet the extensive research, debate, reform and training about IP in recent years show no signs of leading to a global consensus on the impact of current IP systems on human welfare, much less how potential reforms would help, or hurt, larger society.

The increasing social importance of IP is easily gauged by the rising intensity of arguments for stronger or weaker rights. Many of these arguments are laid out among the diverse views summarized in the chapters. For example, some stakeholders argue that patents on AIDS medicines are too strong to permit fair access to existing drugs, while others counter

xxi



XXII PREFACE

that weaker patents are destroying the incentive to discover new drugs. Some groups argue that copyright law blocks public access to educational and artistic works and hampers collaboration. Others point out that weak copyright protection undercuts the creative work of artists and authors. There is debate over where IP rights support – or thwart – traditional practices. Ultimately, there is no simple answer except the need to strike a productive balance between the many interests involved – a balance that serves the public interest in human development.

Several years ago, in writing *Driving Innovation*, I realized that IP, often viewed as a tool of human capital, can be seen instead as an instrument by which innovators express individual and collective choices regarding their creations. In this light, IP can contribute not just to economic development, but also to the development of freedom – of personal choice, individual responsibility and free expression. IP can be a tool for human development.

Of course 'development' has different meanings in different countries, and the dynamics differ among the sectors considered here (medicine, agriculture, education, cultural heritage, contemporary arts and communication technology). In each sector, different predictions about the future of IP have been made. The future scenario planning exercises explored in this book are a fascinating tool for guiding action away from destructive paths towards balanced outcomes.

This book began with the effort by Public Interest Intellectual Property Advisors (PIIPA) to find practical ways for IP to help serve the public interest in developing countries. Since 2002, PIIPA has assembled teams of experienced IP practitioners and made matches with developing country clients seeking help in accessing technology via licensing, protecting their cultural expressions, preventing expropriation of traditional knowledge and in reforming national IP legislation to meet international requirements and local needs.

In 2007, the Ford Foundation commissioned PIIPA to assemble an expert team, drawn from PIIPA and partner institutions, to survey the literature on IP trends and future scenarios and how different outcomes might impact neglected groups. An aim of the Ford initiative was to contribute to the development of more balanced IP regimes which highlight the importance of the public interest, strengthen the public domain, respect the right to development and support the voices of frequently neglected stakeholders. With continued support from Ford until mid-2010, the research team compiled a unique body of literature on issues, trends and future scenarios relating to IP and human development. That shared resource was invaluable to the authors of these individual chapters, and the resulting bibliography will facilitate further research. The research team, under Tzen Wong's direction, expanded and revised the initial study to address further dimensions of IP and human development, and this book is the result of that effort. The contributing authors



PREFACE XXIII

span the globe and include a diverse group of legal practitioners, professors and development activists. They bring a breadth of perspective and experience with the practical implications of IP policy debates. The editors worked deftly with the authors to weave the various chapters and perspectives into a comprehensive work that addresses the crucial questions of how IP impacts human welfare and how changes in IP laws, and new approaches, might make it easier or harder for disadvantaged individuals and communities to improve their lives. These questions, and the answers that follow, should be of great interest to policymakers and activists, businesses and consumers, researchers and students, artists and engineers, IP professionals and lay people alike. On behalf of PIIPA and the many volunteers who contributed to the completion of this work, we welcome your interest and participation in promoting the goals of human development.



Acknowledgements

We are grateful to the Ford Foundation for supporting the independent research that produced this volume, as well as for their support for its distribution. With the Foundation's generous support, copies of the book have been directly mailed through Cambridge University Press to a cross section of stakeholders around the world. Guidance from the Ford International Intellectual Property Initiative (IIPI) Committee in 2007–2008 was invaluable in the genesis of this research project, and we are especially appreciative to Ana Toni, Alan Divack and Kyle Reis for their wonderful support and insights towards the broadening of the research in 2009–2010 to cover important areas of human development.

Project funding has been leveraged manyfold by in-kind pro bono help from members of PIIPA's extensive international network, including IP Corps members who provide pro bono support to developing country organizations, and other individuals working on the public interest dimensions of IP. Significant support has also been received from partner institutions around the world. We are particularly indebted to the following individuals and their host organizations for their excellent support towards the outreach and literature review in various regions: Jorge Garcia and Alfredo Schwarz (formerly) of the Ibero-American Science and Technology Education Consortium; Dalindyebo Shabalala (formerly) of the Center for International Environmental Law (now with the University of Maastricht); Shauna Eisenberg, Sarah Huisentruit, Teresita Ramos and Michael Ryan of the Creative and Innovative Economy Center at the George Washington University Law School; Beatrice Chaytor and Roselynn Lewis (former intern) of the Policy Planning and Research Division, Ministry of Trade and Industry, Sierra Leone; and Paul Asiimwe of Sipi Law Associates in Uganda.

We are most grateful to Sakiko Fukuda-Parr of the New School (Director, 1995–2004, UNDP Human Development Reports) for her encouragement and Foreword. We also wish to thank the contributors and participants from different regions for their commitment to a multidisciplinary approach in tackling the new and complex issues in IP and human development. We hope that the process has been an enriching one for all who shared time and thoughts.

Along with the chapter authors, we wish to thank various individuals for their contribution of case studies or extracts, especially David

xxv



XXVI ACKNOWLEDGEMENTS

Clark (Brooks World Poverty Institute), Gwen Hinze (Electronic Frontier Foundation), Jakkrit Kuanpoth (University of Wollongong), Gary Martin and Hattie Wells (Global Diversity Foundation), Geoff Tansey (Joseph Rowntree Visionary for a Just and Peaceful World), Emily Taylor (International Development Research Centre), Brendan Tobin (National University of Ireland) and Uma Suthersanen (Queen Mary, University of London). We are also grateful to Matt Spannagle (UNDP Environment and Energy Group) for his salient contribution on climate change issues and to Fred von Lohmann (Electronic Frontier Foundation) for his interesting updates on Internet law.

We are especially grateful to Margaret Chon at Seattle University School of Law for her many inspiring ideas and to her (former) research assistants, Therese Norton and Nancy Yamashiro, for their meticulous help. Our further thanks go to the reference librarian, Kerry Fitz-Gerald, at Seattle University School of Law. We also wish to thank Charles McManis at the School of Law, Washington University in St. Louis, and his (former) research assistant Mackenzie Dewerff.

We are grateful to many individuals who contributed to the peer review or provided relevant literature and comments. We wish to thank the following individuals: Samuel Adewusi, Keith Aoki, Jane Anderson, Christoph Antons, Paul Asiimwe, Edson Beas, Jeremy de Beer, Joshua Bell, Kathy Bowrey, Molly Beutz Land, Ronaldo Lemos, Beatrice Dove-Edwin, Beatriz Fernandez, Brian Fitzgerald, Sean Flynn, Brett Frischmann, Roya Ghafele, Haidy Geismar, Hala Essalmawi, Honor Keeler, Debora Halbert, Marjorie Heins, Victoria Henson-Apollonio, John Howkins, Stanley Kowalski, Tina Kuklenski-Miller, Maria Mendoza, Richard Owens, Ruchi Pant, Pedro Roffe, Sisule Musungu, Richard Ponzio, Laura Quilter, Rakhi Rashmi, Ilko Rogovich, Madhavi Sunder, Yeshwanth Shenoy, Benny Spiewak, Antony Taubman, Isabel Triana, David Vivas, Martin Watson and Daphne Zografos.

We are indebted to PIIPA chair Michael Gollin for his invaluable guidance. We are also most grateful to PIIPA's President and CEO, Mark Davis and to PIIPA board members and advisors, especially Rita Khanna, Joshua Sarnoff, Charles McManis, Manuel Ruiz and Roy Widdus. Our thanks also go to Ben Prickril for his early outreach efforts.

We have been fortunate to have the support of a resourceful research team at PIIPA who worked in different parts of the world and time zones to put this book together. They come from a variety of disciplines. We are especially grateful to our assistant editor (law), Claire Comfort, for her meticulous help in legal editing from PIIPA's offices in Washington. We are also appreciative of the professional teamwork from our assistant editor (social science), Robyn Tan, now pursuing a masters degree in development studies in Mumbai, India; public health researchers Sharon Low and Claudia Trezza, both with masters degrees in public health, now based in Liberia and New York respectively; and law researchers (based



ACKNOWLEDGEMENTS XXVII

in the US) Sarah Coleman, Marybeth Grunstra and Sarah Gurfein, along with Dhruv Paul, in legal practice in New Delhi.

Our further thanks go to Tasmin Rajotte at the Quaker International Affairs Programme (QIAP) for her support and indispensable publication advice. We are also grateful to Tim Scott at the UNDP Human Development Report Office for his invaluable insights. Review and proofreading of manuscripts was the task of many helpful individuals. We thank especially Rosemary Wolson, David Wong and Terence Hay-Edie.

We are most grateful to Cambridge University Press for taking on the publication of this monograph and in particular to the Press's senior editor, John Berger, for his keen and open-minded guidance throughout the process. We learnt a lot from the excellent work of their production team, especially project manager Barbara Walthall and copy editor Marjorie Ballentine, and we also wish to thank the anonymous Cambridge University Press reviewers whose comments and suggestions were most helpful in fine-tuning the study.

Finally, our heartfelt thanks extend to our families and friends whose encouragement and active support made this research endeavour possible.



Acronyms and abbreviations

A2K Access to knowledge

AAP Association of American Publishers

ABS Access and benefit-sharing

ACTA Anti-Counterfeiting Trade Agreement

AIATSIS Australian Institute of Aboriginal and Torres Strait Islander Studies

AIDS Acquired immune deficiency syndrome

ALACDE Latin American and Caribbean Law and Economics Association

AMC Advanced market commitments

ANDES Association for Nature and Sustainable Development

Aoc Apellation d'origine contrôlée
Apr Active pharmaceutical ingredient

ARIPO African Regional Intellectual Property Organization

ARV Antiretroviral

ASSINSEL ASSOCIATION of Southeast Asian Nations
ASSINSEL International Association of Plant Breeders

ATRIP Advancement of Teaching and Research in Intellectual Property

CAFTA Central American Free Trade Agreement

can Andean Community of Nations

CARICOM Caribbean Community

СВD Convention on Biological Diversity

CESCR Committee on Economic, Social and Cultural Rights

CFS Committee on World Food Security

CGIAR Consultative Group on International Agricultural Research

cı Consumers International

CIEL Center for International Environmental Law CIFOR Center for International Forestry Research

CIP International Potato Center

CIPIH Commission on Intellectual Property Rights, Innovation and

Public Health

CIPR Commission on Intellectual Property Rights

 ${\bf COP}$ (CBD) Conference of the Parties (to the Convention on Biological

Diversity)

CP TECH Consumer Project on Technology
CRC Convention on the Rights of the Child

CSIR Council for Scientific and Industrial Research (South Africa)

cso Civil society organization

xxix



XXX ACRONYMS AND ABBREVIATIONS

CTEA Copyright Term Extension Act

DIGERPI General Office for the Registry of the Industrial Property of the

Ministry of Commerce and Industry (Panama)

DMCA Digital Millennium Copyright Act
DNDI Drugs for Neglected Diseases Initiative

DRM Digital rights management
ECHR European Court of Human Rights
EDV Essentially derived variety
EFF Electronic Frontier Foundation
eIFL Electronic Information for Libraries

European Patent Office
European Union

FAO Food and Agriculture Organization of the United Nations

FDA Food and Drug Administration (United States)

FDI Foreign direct investment
FHSST Free High School Science Texts
FIS International Seed Trade Federation
FOEI Friends of the Earth International
FPIC Free, prior and informed consent

FTA Free trade agreement

GATT General Agreement on Tariffs and Trade
GDI Gender-related Development Index

GDP Gross Domestic Product
GEM Gender Empowerment Measure

GI Geographical indication
GMO Genetically modified organism

GPL General Public License

GRAIN Genetic Resources Action International

HDI Human Development IndexHIV Human immunodeficiency virusHRBA Human rights-based approach

IAASTD International Assessment of Agricultural Knowledge, Science and

Technology for Development

IAVI AIDS Vaccine Initiative

ICBG International Cooperative Biodiversity Group
ICCPR International Covenant on Civil and Political Rights

ICESCR International Covenant on Economic, Social and Cultural Rights

ICOM International Council of Museums

ICTs Information and communication technologies

ICTSD International Centre for Trade and Sustainable Development

International Development Research Centre

IEGBIIP International Expert Group on Biotechnology, Innovation and

Intellectual Property

IELRC International Environmental Law Research Centre

IESA Institut d'Etudes Supérieures des Arts

IFLA International Federation of Library Associations and Institutions