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.*

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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.

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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

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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.

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*'.[1] 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 well-being, 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

[1] 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).

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

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

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.

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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
API	Active pharmaceutical ingredient
ARIPO	African Regional Intellectual Property Organization
ARV	Antiretroviral
ASEAN	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
CBD	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
CI	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
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

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
EPO	European Patent Office
EU	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 Index
HIV	Human immunodeficiency virus
HRBA	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
IDRC	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

IFPMA	International Federation of Pharmaceuticals Manufacturers & Associations
IGF	Internet Governance Forum
IGNCA	Indira Gandhi National Centre for the Arts
IGWG	Intergovernmental Working Group on Public Health, Innovation and Intellectual Property
IIED	International Institute for Environment and Development
IITF	International Indigenous Information and Communication Technologies Task Force
ILO	International Labour Organization
IMPACT	International Medical Products Anti-Counterfeiting Taskforce
INTECH	Institute for New Technologies
IP	Intellectual property
IPRs	Intellectual property rights
ISE	International Society of Ethnobiology
ISF	International Seed Federation
ISTEC	Ibero-American Science and Technology Education Consortium
ITPGRFA	International Treaty for Plant Genetic Resources for Food and Agriculture
IUCN	International Union for Conservation of Nature
KEI	Knowledge Ecology International
LCA	Library Copyright Alliance
LDC	Least developed country
MDGs	Millennium Development Goals
MERIT	Maastricht Economic Research Institute on Innovation and Technology
MIHR	Centre for the Management of Intellectual Property in Health Research and Development
MIT	Massachusetts Institute of Technology
MMV	Medicines for Malaria Venture
MTA	Material transfer agreement
NEA	National Education Association (United States)
NGO	Non-governmental organization
NIAAA	National Indigenous Arts Advocacy Association (Australia)
OAPI	African Intellectual Property Organization
OECD	Organisation for Economic Co-operation and Development
OSDD	Open Source Drug Discovery
OTOP	One Tambon One Product
OVOP	One Village One Product
P2P	Peer to peer (file sharing system)
PAHO	Pan American Health Organization
PCT	Patent Cooperation Treaty
PDP	Product development partnership
PGR	Plant genetic resources
PGRFA	Plant genetic resources for food and agriculture

PIC	Prior informed consent
PIIPA	Public Interest Intellectual Property Advisors
PIPRA	Public Intellectual Property Resource for Agriculture
PPP	Public-private partnership
PVP	Plant variety protection
QALY	Quality-adjusted life year
QMRD	Qualified Medical Research and Development
QUNO	Quaker United Nations Office
R&D	Research and development
SAARC	South Asian Association for Regional Cooperation
SADC	Southern Africa Development Community
SCCR	Standing Committee on Copyright and Related Rights
SIDS	Small island developing states
SME	Small and medium enterprise
SMTA	Standard Material Transfer Agreement
SPDA	Peruvian Society for Environmental Law
SPLT	Substantive Patent Law Treaty
TAK	Traditional agricultural knowledge
TBA	Tuberculosis Alliance
TCE	Traditional cultural expression
TEBTEBBA	Indigenous Peoples' International Centre for Policy Research and Education
TK	Traditional knowledge
TMK	Traditional medicinal knowledge
TPMs	Technology protection measures
TRALAC	Trade Law Centre for Southern Africa
TRIPS	Trade-Related Aspects of Intellectual Property Rights
TTAB	Trademark Trial and Appeal Board (United States)
TWN	Third World Network
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNPFII	United Nations Permanent Forum on Indigenous Issues
UNU	United Nations University
UNU-IAS	United Nations University Institute of Advanced Studies
UPOV	International Union for the Protection of New Varieties of Plants
USPTO	United States Patent and Trademark Office
WBU	World Blind Union
WCO	World Customs Organization

WCT	WIPO Copyright Treaty
WHA	World Health Assembly
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WPPT	WIPO Performances and Phonograms Treaty
WTO	World Trade Organization
WWF	World Wide Fund for Nature

Overview

Scope and aims

This book examines the social impact of intellectual property (IP) policies and laws. Addressing both current trends and future scenarios relating to IP and human development, it is aimed at the calibration of IP frameworks to better meet social needs in countries at different stages of economic development, according to local contexts and culture. While the priorities for human development may evolve with time and vary between communities, this volume addresses topics that are of concern to all: health, food security, access to education, opportunities and risks from new technologies, the protection of the environment and the preservation of bio-cultural heritage, as well as the promotion of contemporary expression in the arts. As highlighted in the various contributions to this volume, IP laws interact with all these areas of human endeavour in palpable ways, and a multidisciplinary approach is needed to assess their impact on human well-being. In particular, this study introduces and engages the concept of 'capabilities' (developed by Sen, Nussbaum, Fukuda-Parr and many others) in evaluating human welfare and links these ideas to the existing literature on IP and innovation. Since the choices and capabilities of individuals and communities relating to particular areas, such as health and education, inevitably affect other important capabilities – for example, free expression and political participation – the diverse areas of human development cannot be approached in isolation. It is hoped that their treatment side by side in one book may draw out inter-connections not only between areas or sectors, but also in the responses contemplated by policymakers and civil society towards more balanced solutions for the future. Concerns of human rights and social justice cut across all topics in this volume and are given particular emphasis. Other cross-cutting or related themes, such as gender equality and climate change, are addressed in particular sections within chapters.

This book begins by revisiting some of the basics in IP law including long-held assumptions in patent and copyright laws on the dynamics of innovation. In doing so, it considers whether these assumptions adequately account for the different cultural values and attitudes towards creativity, as well as the essential role of social networks in fuelling innovation. The chapters of this book look beyond the kind of innovation

commonly associated with scientific laboratories or the R&D divisions of companies to consider, for example, the innovative practices of farmers, indigenous and other traditional communities bound by customary practices and the virtual or 'imagined communities' of cyberspace (Strathern 2005). Are the same assumptions on income incentives for innovation in high-tech laboratories and large-scale operations of equal meaning and relevance to innovators in other contexts and cultures? Going beyond Anglo-American analyses of IP (particularly copyright and patents) as mainly providing economic incentives for innovation, or the natural rights arguments for protecting IP as an extension of the 'personality' of creators (Fisher 2001), this book explores how different cultural values and contexts shape the motivations and capabilities of individuals and communities in their innovative endeavours.

The UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions of 2005 highlights in its Preamble that 'cultural diversity creates a rich and varied world, which increases the range of choices and nurtures human capacities and values, and therefore is a mainspring for sustainable development for communities, peoples and nations'.[1] One question explored in this book is how IP protection, cultural diversity and human development link up in practice. Some answers may be found, for example, in the unfolding literature on the IP protection of traditional knowledge (TK). Indigenous peoples and local communities guided by customary practices have emphasized the pursuit of 'development with culture and identity' as central to their human rights and human development,[2] and the inter-generational transmission of their TK is part of this endeavour. Discussions on the IP protection of TK have taken place internationally at the World Intellectual Property Organization (WIPO), UNESCO and also within the context of the 1992 Convention on Biological Diversity, especially for TK relevant to the conservation of biodiversity. There is increasing awareness, however, that biodiversity is intrinsically linked to cultural diversity. For example, the TK of indigenous peoples weaves together elements of both, and there is a tendency now to speak of the protection of their bio-cultural heritage. How exactly does IP intersect with the protection of bio-cultural diversity? Do IP frameworks have a 'homogenizing' effect on agricultural practices and cultural products as some discern from trends of globalization (Tansey 2008, p. 216), or can they be adapted to strengthen the diversity of innovation systems and cultural expressions in the world? Some suggest that the notions of Western private property central to IP laws are simply incompatible with the social relations underpinning 'communal' forms of innovation (Leach 2005; Anderson 2009); others see hope for

[1] UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions (Paris, 20 October 2005), 45 I.L.M. 269 (2006), available at: http://unesdoc.unesco.org/images/0014/001429/142919e.pdf (accessed 3 February 2010).

[2] This has been identified as a special theme at the Permanent Forum on Indigenous Issues, Ninth Session, 19–30 April 2010. See http://www.un.org/esa/socdev/unpfii/en/session_ninth.html (accessed 10 January 2010).