Review article

North–South trade in intellectual property: can it be fair?

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For many developing countries trading in intellectual property has been a spectator sport. Active play in the high stakes game of ‘trading in knowledge’ has been for a few wealthy countries whose institutions and citizens own intellectual property (IP).

These IP-owner countries have the equipment needed to play – the funding systems, patent lawyers, marketing support services, and thriving government subsidized research labs and universities – enabling them to turn their research and development into IP, intangible but highly valuable financial assets. In the game of ‘trading in knowledge’, capturing strategic IP portfolios is the goal, and lucrative licensing contracts are the touchdown.

By adopting the World Trade Organization’s international agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS), the developing nations adopted the rules of the game and bought season tickets.

Under this agreement, in order to ‘reduce distortions and impediments to international trade’ adherents agree, inter alia, to enact in their national laws certain minimum standards of IP law protection, and to give foreign nationals the same treatment in IP that they give their fellow citizens. For many developing countries, this meant a commitment to a legal and administrative system without precedent in their national laws.
to see the benefits,\(^5\) believing that they would receive increased technology transfers or foreign investments as a result. Today, many of these nations, whose citizens and businesses do not generally own patents in significant numbers, and whose infrastructure for IP asset development is weak, are beginning to ask whether there are any benefits for them.

*Trading in Knowledge* is a collection of articles that offers diverse perspectives on the contemporary impetus to recognize the value of knowledge and richness of resources that exist in developing countries. However, its weakness is its failure to focus on the relationship of these perspectives to the existing IP system, and a glibness about how developing countries can, as a practical matter, achieve economic gain from their knowledge and resources in a world where IP ownership is a compelling economic force. The articles, though fascinating reading, finesse the question of how the developing countries can become owners of assets that have trading value in an international system.

Still, this book deserves praise on many accounts. The 30 articles are written by a broad range of authors from the developing world (including Argentina, Benin, Costa Rica, India, Kenya, Mali, Nigeria, Peru, South Africa, Sri Lanka, Thailand, Uganda, and Zimbabwe) whose works are otherwise difficult to access for most readers. The articles address food security, biodiversity, bioprospecting, patenting of plant and seeds, IP and health, traditional knowledge of developing country peoples, and a number of other topics. This broad scope offers a glimpse of the issues from the perspective of developing countries, generally a critical perspective.

The *tour de force* introduction by editor Graham Dutfield summarizes in a concise 20 pages the history of the developing nations’ problematical embrace of intellectual property. It traces the historical context for how the developing countries accepted international harmonization of IP laws in exchange for hoped-for concessions by the West to accept imports of food and other primary products. Dutfield surveys TRIPS and trade, genetic resources, traditional knowledge, biodiversity, plant variety protection, the World Trade Organization (the WTO), and the World Intellectual Property Organization (WIPO). And he achieves this feat of compact explanation in an objective way that gives the reader that rare prize: impartial knowledge shedding light on the complex issues to come.

Further examining the linkage between trade and intellectual property, ‘Origins and History of the TRIPS Negotiations’, by Adronico Odugo Adeede of Kenya chronicles the experience of developing countries in negotiations leading to acceptance of TRIPS in the Uruguay Round. These nations visualized agreement to accept international rules on TRIPS as a *quid pro quo* for hoped for ‘technology transfer’ and also for access to Western markets for protected items such as textiles and foods. Adeede concludes that ‘developing countries have still not realized the

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\(^5\) It may be argued that the anticipated gains from TRIPS adherence have not materialized, as there is little empirical or theoretical evidence of a direct correlation between adherence to TRIPS and adoption of IP laws, and increased foreign direct investment or technology transfer.
benefits promised’. He also asserts that the developed countries’ motives in inviting the developing countries to join TRIPs may not have been noble: ‘It would appear that the motive of the developed countries has been to expand their commercial control of the world’s biodiversity within the industrial sector, relying on instruments such as TRIPS’ (p. 34). Adeede’s short essay is a history of the developing countries collective disappointment in trade and IP negotiations.

Fred Abbott, an American law professor, describes the difficulties developing countries have faced in multilateral trade negotiations concerning trade and IP (p. 43). His list of these disadvantages helps the reader understand the un-level playing field for trading in knowledge. He maintains that developing countries have had little leverage in trade and IP negotiations, and he hints as well, inadequate legal advice.6

Thai Jakkrit Kuanpoth’s essay on TRIPS and ‘lessons from Asian countries’ continues the history lesson on trade negotiations and IP, expressing his view that most Asian countries have been powerless in the face of trade threats from the developed countries. However, he points out that IP may be accepted because of its potential as an economic stimulant and innovation incentive system and further argues that Japan and Thailand, unlike other Asian nations, adopted intellectual property protection on its own merits as a tool for economic development, rather than as a concession for collateral trade benefits.

After the introductory historical chapters, Trading in Knowledge plunges into hot topics, including the controversy over access by the rich countries to genetic materials from plants and animals located in developing countries; the debate over whether life forms including genes, plants, and microbes should be patentable; how legal schemes for ownership of plant varieties affect food security and the availability of seeds for poor agrarian economies; how patents affect the availability and price of medicines for life threatening diseases such as AIDS; and, finally, how the traditional knowledge of poor people throughout the world can be valued and protected against exploitation. A list of more controversial and bitterly fought global trade topics may not exist.

Ambassador Boniface Guwa Chidyausiku of Zimbabwe addresses the patenting of plants, and the controversial Article 27.3(b) of TRIPS which provides that states may exclude from patenting: ‘plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other

6 ‘Developing countries may have different capacities in respect to effectively analyzing TRIPS issues and in this context, the availability of external analytical assistance will be important from the outset.’ (p. 42). What Abbott does not explain is that intellectual property legal expertise is like any other element of this game of IP – those who have never played it before are at a distinct disadvantage with respect to those who have been playing for years. To a certain extent, capacity building programs offered by WIPO and the WTO are supposed to have addressed this inequality in professional competence; however, one fault of Trading in Knowledge is the failure to address this real problem. Most developing countries have few or no patent agents, patent lawyers, or licensing professionals, and a scant few objective policy advisors who can assist them in relating IP strategy to trade and other related issues. Abbott’s elliptical reference is the only place where this problem is touched upon.
than non-biological and microbiological processes.’ He expresses the concerns of African nations that developed countries engage in bioprospecting and biopiracy by visiting biodiversity rich countries, exporting plants, plant extracts and other biological materials, then filing patents on inventions based on such materials. Pointing out that the vast majority of biotechnology related patents in the world are filed by the United States (37%), Japan (37%), and Western Europe (19%), he raises concerns that patents on plants and plant derivatives will lead to a net transfer of income from developing to developed countries. This scenario adds to the debate about whether ‘naturally occurring’ materials such as micro-organisms, cell-lines, gene sequences, genes, and transgenic plants and animals should be patentable subject matter (p. 103). Chidyausiku closes with an historical review of the highly critical African Group position on Art. 27.3 (b) and a call for a ban on patenting of all naturally occurring living organisms and their parts.

Several articles address legal systems that provide for the ownership of varieties of seeds and plants, including the International Union for the Protection of New Varieties of Plants (UPOV). TRIPS requires that members adopt some form of legal system for ownership of newly developed plant varieties whether under the UPOV system or under a *sui generis* (national, self-created) law. Jeanne Zoundjihekpon’s article on plant variety protection in Francophone West Africa is a rousing criticism of the Revised Bangui Agreement, a regional agreement that commits these African nations to accept plant variety protection on terms more restrictive than TRIPS itself. Zoundjihekpon’s perspective is that such systems will have a negative impact on farmers by making them dependent on multinationals and foreign scientific research institutes, will cause loss of crop diversity by promoting uniformity of plants and seeds, and will result in the ‘plunder of African biological resources’. The author cites several examples of patents that have issued to European, Japanese, and US businesses and universities based on West and Central African plants and related research. She cites one recurring situation where an African plant is identified for a certain use (e.g. a sweetener), is exploited at low prices by exportation, and then later is synthetically produced using biotechnology so that the source African nations no longer receive compensation.

In ‘The World of Biotechnology Patents’ Silvia Salazar, a Costa Rican lawyer, critiques plant variety protection and patenting of plants, life forms, and genes. She questions the ethics of ‘manipulating what God has created’ and also warns against the concentration of ownership in the international agriculture industry. Given the gravity of her concerns, her recommendations are curiously mild, including *inter alia* consideration of an international anti-monopoly code and more training on intellectual property rights (IPRs).

One of the most enlightening of all of the perspectives is the brilliant evocation of the world of African farmers in terms of their values, seed collection practices,

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7 Article 27.3(b) of TRIPS reads: ‘[M]embers shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or any combination thereof.’
and agrarian existence by Niangado and Kebe from Mali. From an intellectual interest in law and agriculture, the reader is led to a vivid glimpse of living with the land, using seeds, maintaining and alternating diverse seed lines. This new perception helps one appreciate the difficulties of imposing a system of seed variety ownership in an ancient agrarian land where seeds are saved and passed on and where a wide diversity of seeds is a guarantee of food security. The authors state: ‘We take the view that IPRs may have the effect of excluding farmers and restricting them to using local varieties’ (p. 133). Although there are certainly contrary arguments and more benign perceptions of how African agriculture might be affected by proprietary legal systems, including the view that ownership systems offer incentives for new agricultural development, the purpose of Trading in Knowledge appears not to be to present balance, or defend all views, but rather to offer a different view and thereby stimulate thought and promote understanding.

Niangado and Kebe also address developed country supported programs for seed banks under the patronage of the Food and Agriculture Organization of the United Nations (FAO). Since the 1970s there has been a large-scale program based on worldwide networks to gather plant genetic resources and place these ‘germplasm’ in publicly available collections: ‘From the collected material, the International Agricultural Research Centers were able to build up many gene banks. Yet in Africa at present few of the national research institutes possess any of the material gathered during the programme’ (p. 129). Unfortunately, the authors do not elaborate on this stunning statement, and the implications of making agricultural collections of genetic materials from the developing world freely available to well-funded developed country research institutions and enterprises, where they can be studied, developed, modified, and exploited, are not further developed.

The recent FAO International Treaty on Plant Genetic Resources (ITPGR), adopted in 2001, is discussed in several articles, and Trading in Knowledge reproduces extracts in a handy appendix. Robert Lettington of the United Kingdom provides a short history of this treaty and the antecedent agreements from the early 1980s that led to it. According to this author, the purpose of ITPGR is to permit the ‘free flow of germplasm at the global level’ and to ‘facilitate access’ to this germplasm. He describes the networks of research institutes and the banks of native plant genetic materials that have been established throughout developing countries. He also mentions the system of ‘benefit sharing’ that is supposed to occur as a result of use by developed country parties of these plant genetic materials which he states is ‘mandatory’ in some cases and ‘voluntary’ in other cases. Lettington unfortunately does not adequately explore the practical meaning of ‘voluntary’ benefit sharing, a concept virtually unknown in the developed country business world, where value exchanges are governed by calculations of the relative leverage of the negotiating parties, by considerations of shareholder value, and by legal limitations.

The Lettington article, as well as articles by several other authors in the collection, refer to the goal of providing ‘access’ to developing country genetic resources...
and traditional knowledge as if it is an obvious proposition that access is a desirable objective for the developing country. The *quid pro quo* for access is supposed to be ‘benefit sharing’ to compensate the developing country parties. There is almost a mantra-like quality to the invocation of access and benefit sharing, as if the mere convention of using these words has value. At the same time, the legal mechanism for trading in genetic resources and benefit sharing, as well as the leverage that the developing countries have for insisting on benefit sharing, is only vaguely referred to. One envisions a negotiation between an indigenous people’s leader and a lawyer from a New York law firm, in which the leader demands a royalty for use of plant genetic materials and the hard-nosed lawyer replies: ‘Or what?’

Questions abound. Is the access provided first, and ‘fair and reasonable’ benefit sharing considered after the fact? Or, as in the IP system, does the owner have the legally protected and exclusive right to withhold consent, subject only to satisfactory conclusion of a license agreement? Who will assist the holders of genetic resources and traditional knowledge in the negotiations with the far more powerful parties on the other side of the negotiating table? Trading in knowledge that is not legally protected is likely to be equally as resource intensive as trading in knowledge that has a solid legal basis, but less likely to create the conditions for advantageous terms. The fairness and enforceability of a scheme of access and benefit sharing is what separates a legal system reflecting justice from dressed-up biopiracy.

Several articles in *Trading in Knowledge* discuss national laws and regional schema for the protection of genetic resources and traditional knowledge. However, these articles emphasize the historical evolution of such laws, and do not focus sufficiently on the enforceability of such laws, their practical effect, and the infrastructure that is in place to make the laws into the basis for a functioning trading system for knowledge-based assets. For example, ‘Andean Community Regimes on Access to Genetic Resources, Intellectual Property, and the Protection of Indigenous People’s Knowledge’ by Peruvian Manuel Ruiz, provides a fascinating history of regional legislation on the topic. He describes an Andean Community collective decision to establish a ‘regional legal regime on access to genetic resources and benefit sharing.’ The decision is described as a regulation that has several components including ‘that indigenous peoples have the right to decide over the use of their knowledge, innovations, and practices’ and that ‘contracts are the main instrument through which access and benefit sharing will be regulated’ (p. 240).

This description is not as specific as the reader – who at this point is eager to know more – might wish. Ruiz candidly states his disappointment: ‘From accumulated and partial evidence over the last few years, it seems clear that Decision 391 has had limited impact in achieving its most important objectives’ (p. 240). He further states that ‘transaction costs’ for implementing this decision ‘seem particularly high’. Although this reference to transaction costs is not explained, it is
assumed that he means that it is expensive for a nation to enforce such laws and to support indigenous communities in using them, including the costs of lawyers, regulations, and other costly administrative items. The world of trading in knowledge may have an upside, as venture capitalists say, but it is costly to operate.

Ruiz also describes more recent regulations adopting a variant approach. Based on the Convention on Biological Diversity (CBD), the Andean countries have promulgated rules that require applicants for patents in certain circumstances to submit ‘access contracts’, as a prerequisite for the grant of the IP right. The rationale for this approach is that, in theory, the bio-prospector has to prove that he has reached an agreement with an indigenous community before he succeeds in receiving a patent for an invention based on or derived from the genetic material he accessed. The sanction for failing to follow the rules is that the patent is rejected. But while Ruiz terms this an ‘innovative mechanism’ he does not provide information as to the impact of this approach. How many patents have been rejected? How many contracts concluded? Were the terms of these contracts in fact ‘fair and equitable’? How has fairness been measured and assessed in such cases? Perhaps this omission of practical data is because the law was relatively new (2000) at the time of publication, but it is hard to assess this law without such information.

Further, the hard nut of the problem of national and regional legislation is that it has no extraterritorial effect. Ruiz acknowledges this: ‘There are some constraints, though, including jurisdictional limitations in the sense that this mechanism can only be applied in member states [of the CBD]. There could be practical problems in, for example, identifying the exact geographical and legal origin of genetic resources contained in a biotechnical invention.’ In other words, although these rules sound good, the countries whose nationals engage in bioprospecting may be the same countries that refuse to adopt the rules against it. Ruiz concludes wistfully, ‘If industrialized countries adopt these measures and include them in their own IPR regimes, this could pave the way to a process of mutual confidence building among those traditionally supplying resources and those using them, and positively influence international negotiations, research and development initiatives and bioprospecting endeavors in general’ (p. 243). Trading in Knowledge would have been an even better book if it had devoted some attention to the problem of the territorial aspects of law, or to use lay terminology, the problem of trying to contain the flow of a liquid by packaging it in a porous container.

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8 The Convention on Biological Diversity or CBD, which is excerpted in an annex to Trading in Knowledge, is an international agreement which entered into force in 1993, but has not been agreed to by several key international traders in knowledge, including the United States. The convention’s objective is to promote ‘fair and equitable’ sharing of benefits arising out of the utilization of genetic resources. Article 15 of the CBD provides that states have sovereign rights over their genetic resources and that access shall be on mutually agreeable terms and conditions and shall be subject to ‘prior informed consent’.
An overall critique of *Trading in Knowledge* is that there is a dreamy cast to some of the perspectives in articles discussing these hard-as-nails issues. The authors employ too many clichés. Almost every contributor points out that the rights of the poor who are holders of traditional knowledge should be ‘recognized’ and ‘protected’ so that the people receive ‘fair and equitable’ ‘benefit sharing’. This string of words is repeated faithfully, but there is little explanation of how this result will be achieved in practice. Many of the essays are both wordy and too short to develop useful analysis or provide facts to support conclusions.

Ghate Utkarsh’s five page essay on documentation of Traditional Knowledge repeats in several passages that there should be ‘recognition’ of traditional knowledge and ‘equitable benefit’ to indigenous people when others exploit this knowledge. It is hard to argue with the proposition that the value of poor people’s knowledge should be recognized, valued, and compensated. However, the author does not adequately address what is meant by recognition other than admiration, and how equitable arrangements might be achieved given that there is currently no internationally accepted legal protection for traditional knowledge as such, regardless of the inherent value of this knowledge. Indeed, it is the value of indigenous people’s knowledge of plants and their uses – combined with the dominant perception that this knowledge is free for the taking – that has made biopiracy (or bioprospecting if this term is preferred) so attractive to businesses from the North.

Utkarsh praises the practice of creating searchable electronic databases of plants and traditional remedies and uses as a possible basis for ‘sharing benefits resulting from commercialization’. But she does not address what would keep a would-be biopirate or even a legitimate but self-interested business person from simply helping himself, other than vague notions of fairness and good will. She asserts that: ‘[T]raditional knowledge can be better protected, both from erosion and from biopiracy, through publicity and not secrecy, as there is little danger of biopiracy’ (p. 194). But disclosure of valuable information without legal protection is risky. Indeed, most corporations operate on the principle that they have a fiduciary duty to their shareholders and to no one else, limited only by the bounds of law. In the absence of a law prohibiting unlicensed use of a traditional formula, most corporations will seek optimum shareholder value in the form of efficient exploitation of available research leads.

A common theme in the essays is praise for traditional knowledge of people in developing countries. Awareness-raising concerning the richness of poor countries knowledge and of their biodiversity is a laudable goal, but the reader begins to wonder how developing countries will take this praise and recognition of their worth to the bank. Rather than examine how traditional knowledge will be handled in the real world of playing hard ball with contracts, it is far easier to engage in praise and glorification of traditional knowledge, because this offends no one and does not interfere with the status quo. *Trading in Knowledge* – to continue the sports metaphor that started this review – throws too many soft balls.
There are several articles that describe efforts in certain countries to enact laws that offer some form of legal protection to traditional knowledge. These articles are fascinating, but there is little or no discussion of how these laws work. This may be understandable as many of these laws are new and empirical data may be lacking as of the time of publication. Still, ultimately, the critical reader wonders what impact a law protecting traditional knowledge in a developing country will have on acquisitive researchers from rich countries that do not have such national laws and have no intention of enacting them.

There is no article that provides data on whether people in developing countries have actually been able to use these newly created laws to extract royalties or payments from developing country users. By the time of publication of *Trading in Knowledge*, many of the laws discussed have been in effect for five years or more, and yet there little if any analysis of the current efficacy of these laws. The discussion about the ITPGR, the CBD, plant variety protection, and various regional and national laws concerning traditional knowledge concentrates on the themes and intentions and negotiating histories, but sheds little light on how these laws are enforced. Likewise, there is little reference to the critical issue of whether these laws are achieving satisfactory results for poor people and if not, why not.

There is no discussion of the common phenomenon of perfectly legal but disastrous ‘sponsored research’ contracts so prevalent in developing countries, whereby laboratories operated by developing country scientists enter into low-value contracts with rich country businesses and universities, giving up their intellectual property rights over their research in exchange for lump sum payments, old equipment, and other low-value compensation. Many research labs in developing countries are so under-funded that the intellectuals and scientists who run them may feel forced to accept these unfavorable contract terms in order to keep their labs operational.

*Trading in Knowledge* offers little discussion of voluntary IP licensing, despite many references to technology transfer. Technology transfer’s best mode of execution is licensing of rights to IP, but the reality is that there is relatively little IP licensing from the IP owner countries to developing countries. Looking at the poorest countries, Article 66.2 of TRIPS obliges the IP owner countries to create incentives for their citizens to transfer technology to least-developed countries (LDCs). *Trading in Knowledge* does not contain any article that analyses the extent to which this important provision has or has not worked as a way to make trading in knowledge work for the LDCs. Professor John Barton of Stanford Law School briefly mentions Article 66.2 in connection with an idea for a Technology Transfer Treaty (p. 62), but some discussion of why a new treaty might succeed in concrete terms while old undertakings have not would be helpful.

Three excellent articles are devoted to TRIPS and its impact on public health. Balasubramaniam’s hard hitting ‘Access to Medicines and Public Policy Safeguards Under TRIPS’ critiques the failure of rich countries and institutions to address the increase in poverty and correlated decline in public health in South and
Southeast Asia. Despite UN programs, he says, many of these countries are ‘moving backwards’. Internationally agreed deadlines to reduce child mortality have been missed. Further, he claims, WHO programs to deliver essential drugs are not successful in terms of solving the problem of access: ‘There seems to be an apparent contradiction between the success of the WHO Essential Drugs Programme and the fact that more than half of the world’s population has no regular access to essential drugs’ (p. 136).

In reflecting on Trading in Knowledge, one must conclude that it is a brave book. It covers new ground. But in exploring this new terrain, it is curious that it devotes almost no attention to the possibility that developing countries and indigenous peoples could use the existing field of IP in order to become owners and exploiters of IP. Since TRIPS exists, and for better or worse, now has been almost universally adopted by developing and developed countries alike, the reality is that patents and other forms of IP are legally recognized on an international basis. A patent may be filed by a national of a developing country in almost any country in the world and the receiving country is bound to accept the application and honor the patent if it is awarded. Similarly, a patent granted in a developing country can be used to invalidate a patent application on the same subject matter in another country, as it is ‘prior art’ and therefore precludes the issuance of a patent. Trading in Knowledge would have been a more complete book if it had included a critical examination of the hypothesis that developing country citizens, given investment in legal and research infrastructure, can use their traditional knowledge and genetic resources as rich resources for patents and other IP, thereby becoming owners who can ‘trade in knowledge’.

Professor Barton touches on these issues in his thoughtful ‘Integrating IPR Policies in Development Strategies’ noting the need to ‘[E]nable developing country scientists to use the IP system in the developed world. The international legal system provides for reciprocity – the developing country scientist can file for a patent in the developed world (where because of the large market size, the patent is most likely to be valuable) just as the developed world scientist can file for one in the developing world. But the developing world scientist often does not have the funds to have the application prepared, so the reciprocity is often meaningless in practice’ (pp. 59–60).

Barton also proposes that developed countries could commit, in an international instrument, to ‘assist developing nations in achieving educational and scientific technological goals (p. 63n.). Other than Professor Barton’s very brief foray into the subject, there is no critical examination of how developing countries might use the IP system to ‘trade in knowledge’, given a period of intensive investment in

9 These two terms are used jointly here, for convenience recognizing that they are not synonymous.
10 Another article by Carlos Correa of Argentina, entitled ‘Formulating Effective Pro Development National Intellectual Property Policies’ addresses IP policy, but his focus is not on helping developing countries to own and trade in IP. Rather, he emphasizes the importance of adjusting IP policy instruments to the varying needs of nations depending on level of development.
education and infrastructure, in much the same way that the developed countries do today. Arguably, the title of the book although appealing, is a misnomer, because trading in knowledge in today’s world means trade in intellectual property. Multi-million dollar contracts between enterprises do not contain clauses referring to knowledge sharing and fair and reasonable compensation, but rather these contracts are licenses to use IP rights. These contracts are hard fought and negotiated asset exchanges involving patents, copyrights, valuation formulae, definition of the scope of rights and obligations, and royalties.

The hypothesis must be considered and evaluated that developing countries could develop, own, and exploit their knowledge as IP, licensing out their intangible assets of value and licensing in assets of value in exchange. Japan, once an accused imitator and patent infringer in the semi-conductor wars of the 1980s, became a patent owner and power through proactive development policies, a strategy that Korea and Singapore pursue today. This politic of technology development and IP asset management required investment, but it also clearly generated economic stimulus and corollary economic effects in terms of jobs, service industries, and other economic spill-overs. Trading in Knowledge assumes that developing countries today do not have that option, and omits any evaluation of a development strategy of asset development and trade in intellectual property.

Why this omission? It may be that the obstacles to and cost of IP asset development and trading in IP are considered too high. The portfolios of developed countries are so large and mature that traditional knowledge holders and poor countries may not be able to mount a strong offense or defense. These realistic considerations and their implications deserve discussion. It may be that some persons lack confidence in developing countries’ capacity to develop and manage IP assets. It may be lack of awareness of the fact that there are research labs and universities throughout the developing world. Others might point out that with globalization and privatization, developing countries have been subjected to almost irresistible pressure by the Bretton Woods institutions to reduce investment in national infrastructure, including education and research and development.11

Meanwhile, the rate of investment in research and development in Europe, the US, and Japan – the great patent owners in contemporary economy – has increased dramatically. Trading in Knowledge should at least have considered and evaluated the possibility that developing countries could pursue a strategy of intensified human capital investment and IP asset development, funded by development banks, foundations, private investors, taxes, surtaxes on IP registration, and other sources. Rather than pay for electronic searchable databases of traditional knowledge, why not fund developing country scientists searching for malaria treatments and then assist them in owning the results of such research?

The IP owner countries understand that trading in knowledge means investment in knowledge infrastructure, combined with airtight legal protection for research

results (nothing so vague as ‘fair and equitable benefit sharing’). Ask a general
counsel of a multinational corporation if he would agree to publish his clients’
trade secrets in a public database, or to accept undefined ‘fair and equitable’
compensation for his clients’ valuable assets and he would look at you as if you
had asked him to set-up a child day care center in his office.

The authors of the collected articles make runs around the subject, but do not
come right out and ask if the playing field for trading in knowledge could be made
more level, and if the answer to this question is ‘yes’, what might happen. What if
developing countries were helped to build up their universities, to strengthen their
national research capacities, to believe in their own inventors and creators, to
protect and own their inventions and creations, and to trade in markets North and
South with their knowledge-based assets? What would happen if developing
countries took the ball and ran with it? You won’t find out from reading this book,
but you can imagine.