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CHAPTER ONE

Access to Knowledge: Economic, Global and Local Perspectives

Nagla Rizk & Lea Shaver

Conventional wisdom in Egypt today examines the issue of intellectual property (IP) solely as a question of policing and enforcement. The high levels of protection indicated by the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) are unquestioningly assumed to be desirable. Policy debates – and all too often academic ones as well – focus only on the questions of how to more efficiently tighten IP protection and crack down on piracy. Yet a more critical examination is urgently needed, whereby IP law, policy and practice are viewed from a development perspective rather than from an enforcement perspective.

This volume offers the first examination of IP issues in Egypt adopting a multidisciplinary bottom-up approach that aims at maximizing access and contribution to knowledge, and in turn, promoting development. Bringing rigorous empirical research to bear on unquestioned ideologies, the collaborating authors question the conventional wisdom that more IP protection is necessarily better for innovation and development, and hence desirable from a policy perspective. Examining cross-cutting currents in patents and copyright, the authors suggest that maximal protection of intellectual property is not only *not* the silver bullet to innovation and development promised by its promoters, but may actually stand in the way of these public aims.

To replace the misguided conventional wisdom on intellectual property, innovation and development, this volume suggests a new approach, guided by the touchstone of “access to knowledge.” By this term, we mean the coordination of public policy – across intellectual property, trade, information and communication technology (ICT) promotion, education, health and other areas – to ensure that the potential for knowledge-based development is maximized through programs, technologies and business models that enable knowledge to be shared widely and to flourish in conditions of

freedom. In this way, knowledge resources can be leveraged for the benefit of all, rather than be constrained or monopolized for the benefit of a few.

The chapters in this volume cannot offer a complete picture of all the policy issues relevant to this goal. Rather, our aim is to present an instructive cross-section of selected topics on access to knowledge issues that are of key importance to Egypt's development, illustrating the benefits that may be gained by reorienting our conventional wisdom and public policy to embrace this new paradigm. Toward this end, the collaborating authors have contributed chapters examining the theme of development through enhanced access to knowledge across a range of policy areas. Throughout, our goal is to draw out the connections – both theoretical and political – between areas of public policy not typically viewed through a common lens.

The costs and benefits of privatizing knowledge

The notion of knowledge as an essential resource for economic growth and development is by now beyond controversy. If the twentieth century's primary objects of trade were oil, steel and unskilled labor; the twenty-first century deals in information, technology and knowledge, where investment in intellectual capital has become the driving force for economic growth and development. Scholars and policymakers have used various labels to describe this new global reality: the information economy (Shapiro and Varian 1999, UNCTAD 2005), the knowledge economy (Drahos and Braithwaite 2002, Mokyr 2002, World Bank 2005) or simply the New Economy (Castells 1996, OECD 2000). In this context, the massive developments in information and communication technology have created an intricate web of connectivity, where knowledge tools and content are expanding and disseminating at unprecedented rates. It is clear then, that access to information and communications technology and intellectual property will crucially shape how countries fare in this new global reality.

Yet the question of who will enjoy access to these essential resources, and on what terms, is a topic of inadequate public discussion. Modern policy discourse now speaks of scientific and technological innovation overwhelmingly in the frame of private transactions: the purchase of music on compact discs, the sale of medicines on the export market, growth in the sales of software packages. By constructing knowledge as commodity, the prevailing logic frames its production and diffusion as conventional challenges that face private goods, and that are solved by means of private incentives and

regulated through the price mechanism functioning within regular markets. This discourse obscures the essential nature of knowledge as a global public good – one whose value paradoxically increases the more widely it is shared (Stiglitz 1999). Acknowledging this characteristic of knowledge immediately reveals a tension between IP-based incentives and optimal access.

Instead of emphasizing access to maximize the value to be derived from knowledge, the discourse of intellectual property treats exclusion as natural and inevitable. The monopolies provided by intellectual property protections may provide incentives for innovation, but they are not the only possible incentives, nor necessarily the best ones (Maskus 2000, Gallini and Scotchmer 2002). Intellectual property monopolies always impose a social cost, as knowledge goods are priced at higher than the price that would prevail in a competitive market. This leads to the accumulation of monopoly rents for the IP rightsholder, but limits the productive utilization of the knowledge good in the larger economy. Economists speak of the negative impact of IP monopolies as a static inefficiency, representing a short-term loss to overall welfare. This social cost is concretely experienced as trade-offs between IP protection and other values such as health, education, equality and freedom of expression.

In addition to the static inefficiency of IP monopolies, however, there may be a dynamic inefficiency as well. Because existing knowledge is also an input for further knowledge production, imposing restrictions on the use of existing knowledge through patents and copyrights increases the long-term costs of producing new knowledge (Benkler 2006). Locking up knowledge also involves an opportunity cost; impeding the potential for a continuous stream of innovation and further knowledge creation (Stiglitz 2006). Indeed, whereas economists typically talk of the classic tradeoffs between efficiency and equity, overly strict IP protection may present a scenario whereby *both* efficiency and equity are compromised.

Much like tax policy, economists have long suggested, the optimal design of IP protections requires careful balancing and tailoring (Nordhaus 1969). This is not, unfortunately, the approach predominantly reflected in IP law and policy today. Rather, the new international IP regime reflects the influence of political dynamics prioritizing the interests of developed countries over developing ones (Sell and May 2001, Drahos and Braithewaite 2002, Grandstand 2006). The treaties administered by the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO)

embody an IP-maximalist logic, specifying minimum protections in many areas, while making no effort to impose any limits. The World Trade Organization's 1994 Agreement on Trade-Related Aspects of Intellectual Property (TRIPS Agreement) further entrenched international commitment to uniformly high levels of IP protection. According to one legal scholar, these rules reflect the misguided notion that "One size fits all. And it is 'extra large'" (Boyle 2004, 4).

Unfortunately for the majority of the world's population, one size does not fit all when it comes to intellectual property. The privatization of knowledge is particularly detrimental for developing countries who are already importers and not exporters of most knowledge-based goods. The negative impact of monopolies, too, is more pronounced in the case of smaller developing countries given the smaller size of their markets, which are typically already dominated by "at most a limited number of firms" (Stiglitz 2006, 119). The costs of a maximalist IP regime that privatizes knowledge, therefore, will be greater and the benefits smaller in the case of developing countries (*ibid.*). It is thus particularly important from the perspective of nations such as Egypt to question the merits of privatizing knowledge, and give greater consideration to the virtues of openness, on the dimensions of both equity and efficiency.

Access to knowledge: a global perspective

As the global trade and knowledge architecture has moved toward harmonizing IP by imposing standards from the top down (Drahos and Braithwaite 2002, Sell 2003), another global trend also emerged, this time from the bottom up. The recent years have witnessed massive expansion of peer collaborative efforts engaged in knowledge production and sharing between communities cemented by trust (Benkler 2006, Tapscott and Williams 2006). Open source software, Wikipedia and the Human Genome Project are cases in point. These represent a development led by intellectual capital contributing from across the globe, irrespective of geographical boundaries. This may indeed be viewed as the globalization of grassroots knowledge production, which has interestingly thrived in parallel to the globalization of IP standards – regimes, rules and regulations – that is coming from above.

Also pushing against the tide has been a global network of public interest advocates seeking a different approach. The first salvo in this battle came in

from activists fighting to expand access to antiretroviral medicines (ARVs) in the late 1990s. With tens of millions of HIV-positive people worldwide, no situation better illustrated the cruel ironies of an innovation system that yields life-saving scientific discoveries, but then fails to make them accessible to most of the world. Approximately 40 million people worldwide are HIV-positive, including nearly 2.5 million children (UNAIDS 2006, 1). Almost two-thirds of those affected live in Sub-Saharan Africa (*ibid.*, 2), where total health care expenditures in this region – both public and private – average \$13 per person annually, excluding South Africa (World Bank 2005, 136). In contrast, governments and consumers in developed countries spend an average of \$2735 per person annually on health (*ibid.*). From a market perspective, Sub-Saharan demand for these medicines is insignificant. But the cost of denying access was, and continues to be, enormous.

Over time, the access to medicines activists were joined by other groups with a common interest in the commons (Boyle 2003). These included farmers in the developing world concerned about rights over seeds, educators concerned about access to learning materials, and software developers disturbed by the expansion of patents to computer code. Gradually, a loose movement has emerged under the banner of “access to knowledge” (A2K) (Kapczynski 2008). The A2K movement’s demands range from limitations and exceptions on copyrights, to regulation of anticompetitive practices and elements of Internet freedom, to compulsory licensing provisions for a wide range of knowledge goods (CPTech 2005).

The strongest expression of this growing movement is an insurrection of sorts within the World Intellectual Property Organization. In 2004, these voices succeeded in prompting a call for a new WIPO Development Agenda that would redefine the institution’s mission to consider IP regulation as a means toward the end of equitable development, rather than as an end in itself (WO/GA/31/11 2004). As approved by the WIPO General Assembly in 2007, the 45 Adopted Recommendations under the Development Agenda specifically invoke the language of “access to knowledge” as a goal to be promoted by balanced intellectual property policies (WIPO 2007, Recommendation 19).

As used by these public-interest advocates, the concept of access to knowledge communicates something much broader than access to education and opportunities for learning. First, the term “knowledge” is understood to broadly refer to data, information, tools, inventions, literature,

scholarship, art, popular media and other expressions of human inquiry and understanding. Second, the demand for “access” is also broadly intended – pertaining not only to the right to access these products as consumers, but also the right to participate as producers in their creation, manipulation and extension. This political demand for openness thus implicates policy-making in areas as diverse as Internet governance, libraries and education, cultural development, scientific and industrial research and development, competition policy and public health.

Thus far, scholarship on access to knowledge has articulated this concept primarily within the frame of economic development (Balkin 2006, Benkler 2006, Shaver 2008). This frame emphasizes the broad economic benefits that may be achieved through greater access to knowledge. This is also the dominant frame used by the access to knowledge movement, notably in the WIPO Development Agenda. It is equally possible, however, to advance access to knowledge claims within the international human rights framework. The 1948 Universal Declaration of Human Rights states: “Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits” (UDHR, Article 27). This is precisely the claim of the access to knowledge movement.

For some, support for the access to knowledge movement reflects skepticism of capitalism’s ability to innovate the solutions humanity needs most – such as low-cost health interventions and improved seeds suited to conditions in the global South. For others, access to knowledge represents a way to unlock trapped economic value, which will inevitably lead to new and expanded business opportunities. From both perspectives, the access to knowledge movement is a reaction against “intellectual enclosure,” seeking to reclaim resources that were once treated as part of the common heritage of humanity, before they were converted into private property (Boyle 2003). Access to knowledge is a demand for democratic participation, for global inclusion and for economic justice.

Alongside the mobilization of civil society and developing country governments at international fora, an increasing number of scholars are also doing important work in this field (e.g. Boyle 1997, Fisher 2001, Helfer 2003, Sell 2003, Jaffe and Lerner 2004, Reichman and Maskus 2004, Drahos 2005, Lessig 2005, Benkler 2006, Chon 2006, Sunder 2006, Netanel 2008, Deere 2009, Dinwoodie and Dreyfuss 2010, Okediji 2010). This emerging literature is helping to promote a critical perspective on

the IP-maximalist trend and revive attention to the virtues of openness in knowledge. Additional research is still urgently needed, however, to further conceptualize and investigate the economic and legal issues confronting access to knowledge, particularly in the global South. Given the basic insight of the access to knowledge perspective that both equity and efficiency can be improved by expanding distribution of knowledge goods and tools, how can public policy operate – in areas as diverse as ICT, software, trade, education, health, culture and agriculture – to promote this goal? Such work is particularly needed from the perspective of developing countries, given their unique realities. The current research volume on Egypt emanates from this standpoint.

Access to knowledge: an Egyptian perspective

The story of access to knowledge in Egypt is a multilayered one, which may be visualized – to use a uniquely Egyptian symbol – as a pyramid. At the top of the pyramid shines Egypt's prominent position on the international knowledge arena. As the next chapter in this work describes, Egypt has served as a leader in promoting access to knowledge internationally, with a strong international presence and influence in shaping the A2K agenda on behalf of developing countries. Indeed, the very term “access to knowledge” as a banner for this emergent movement was suggested by an Egyptian diplomat, who is also a contributor to this volume. Interestingly, that was not the first time an Egyptian used the term. Before becoming Secretary General of the United Nations, Egypt's Director of the Egyptian National Council of Human Rights, Boutros Boutros-Ghali, used that exact phrase, characterizing “access to knowledge” as a human right.¹ As far as we know, this is the earliest evidence available for the use of the phrase, which illustrates the Egyptian fingerprint on the concept.

In contrast to Egypt's strong international stance on the A2K platform, however, the country's domestic policy formulation does not reflect a similar clarity of vision. Stepping down one layer to the center of the pyramid, we view the disconnect between Egypt's international position and its domestic policy formulation. The complexity of Egypt's domestic stance emerges as we consider the dynamics (interrelationships, or lack thereof) between

1 Referring to Article 27 of the Universal Declaration of Human Rights, Boutros-Ghali wrote: “By the right of an individual to culture, it is to be understood that every man has the right of access to knowledge, to the arts and literature of all peoples, to take part in scientific advancement and to enjoy its benefits, to make his contribution towards the enrichment of cultural life” (Boutros-Ghali 1970, 73).

the different bodies involved in domestic A2K policy formulation and implementation. Different arenas of policymaking emerge as blocks which fit together unevenly, with significant gaps in between.

Across this middle layer, however, the domestic scenario is dominated by a conventional wisdom that views IP from the perspective of policing piracy. Discussion of IP issues is confined to courtrooms, legal personnel and enforcement contexts, wherein a maximalist IP regime is assumed to be justified on an ethical or sometimes even religious basis. This reflects limited realization of the developmental angle of the IP debate, which is partly explained by the void in scholarship in Egypt on intellectual property as a development issue, compounded by the lack of qualified human resources to give the subject the multidisciplinary, empirical approach that it requires.

Additional interesting insights emerge as we move further down to the base of the pyramid, which represents actual practices on the ground. Here, weak enforcement and loose implementation of domestic laws present another instance of disconnect, this time between domestic policy formulation (middle layer) and actual practices on the ground (the base). The low and inconsistent enforcement of IP-maximalist policies offers limited alternatives and leaves the consumer with basically two choices: the expensive original or the illegal copy. In areas ranging from music to software – to take just two examples to be discussed at length in the chapters that follow – consumers frequently opt to ignore IP law. Indeed, intellectual property policy is increasingly marginalized by practices of both production and consumption on the ground, wherein Egyptians take the challenges of realizing access to knowledge into their own hands with little consideration for formal legal regimes.

From an Egyptian perspective then, it may be the case that practices on the ground are in fact more in sync with Egypt's international stance than is the country's domestic policy formulation. This insight emphasizes the importance of approaching IP as a tool to be adapted – even turned on its head – to fit the developmental needs of the country, rather than impose a ready made formula from the top down. It also highlights the need to treat IP issues from the perspective of more rigorous empirical research, to think critically about the law, to test ideologies and question conventional wisdom, particularly the idea sometimes sold to Egyptian policymakers that greater IP protection is an unmitigated boon for development.

The contributions of this volume: a preview and themes

This book approaches access to knowledge in Egypt from a developmental perspective and features the contributions of an interdisciplinary team of Egyptian scholars in economics, law, political science, management, computer science and media, affiliated with the American University in Cairo. The chapters that follow examine the themes of intellectual property, innovation and development through essays on a variety of topics: policy-making through trade negotiations and treaties, commons-based business models in the music industry, the future of open source software and information and communications technology for development. Each chapter grounds its approach in the Egyptian experience, while offering conceptual and policy insights relevant to audiences worldwide. Together, they illustrate common themes at the heart of intellectual property and innovation policy in the developing world.

Ahmed Abdel Latif, the diplomat many credit with giving the access to knowledge movement its name, contributes a chapter examining Egypt's active role in international debates on this issue. The work surveys Egypt's historical and recent participation in international deliberations and negotiations particularly as one of the fourteen countries behind a successful push for a Development Agenda at the World Intellectual Property Organization. The chapter also examines the domestic policy-making structure on these issues, which involves various government ministries and agencies as well as civil-society organizations. Addressing the existing coordination mechanisms between these entities, Abdel Latif notes the inherent tensions resulting from different government agencies pursuing policies in accordance with their respective mandates. The chapter concludes with recommendations to promote greater policy coherence in favor of access to knowledge – at both the domestic and international levels – drawing on the experience of Egypt as well as experiences of other developing countries active in the area of A2K.

Intellectual property policy not only influences the pace of scientific innovation, but also the affordability of the products ultimately derived from that innovation. The third chapter in this volume - contributed by Hossam Bahgat and Rebecca Wright - explores the challenges facing Egypt in balancing IP regulations and trade policies with its obligation to protect the right to health, including access to medicines, on the other. Some of the

challenges explored in the chapter are internal to Egypt's national drug policy and policymaking structure and the nature of the local pharmaceutical industry. Another set of challenges appears to come with mounting pressures from developed countries and multinational pharmaceutical corporations who are seeking to maximize their gains in the region's largest market through a variety of means, including bilateral trade agreements, litigation against health authorities and local generic producers, as well as direct political pressure. The chapter concludes by advocating a coherent, transparent and rights-based national policy on intellectual property and access to medicines. The authors also identify a number of areas that require further research. These include the analysis of drug patents granted since 2005, the scope and content of existing IP training programs for judges and prosecutors, and decisions issued by Egyptian courts on issues of drug patentability.

The challenge to seek a fuller alignment between Egypt's international A2K leadership and its domestic policies is further taken up by the fourth chapter. Looking particularly at the area of copyright policy for the creative industries, this contribution by economist Nagla Rizk documents practices in Egypt's music industry that maximize access to knowledge and achieve a balance between creators and users. Thanks to the culture of weddings and parties, a thriving live music scene flourishes in Egypt, providing incentives for the creation and distribution of music in a *de facto* commons operating outside the realm of copyright. These live performances – rather than the sale of copyrighted recordings – emerge as the prime source of musicians' incomes. For both the popular stars and alternative musicians, the live music scene offers models of music generation and delivery that are open for access and continuous development, calling into question the relevance of copyright. At best, the copyrighted recording becomes a reputation device to promote the musician; at worst, a constraint on artistic freedom and access to culture. Generosity, sharing and gift giving are inherent in the group culture of the Egyptian people. Music is experienced within social gatherings, and recordings are widely copied, shared and downloaded, irrespective of the law. Such social practices provide models of *de facto* commons that emanate from the bottom up, and that provide a medium whereby the interests of musicians and users are brought closer without much need for copyright protection.

The promising potential of business models that provide incentives for creativity, without relying on IP-based exclusion, has also been highlighted

by the experience of open source software. The next chapter in this volume, contributed by Nagla Rizk and computer scientist Sherif El-Kassas, looks at the current and potential role of open source software (OSS) in the developing Egyptian software industry. Over the past decade, OSS has globally expanded, with the OSS movement extending to encompass growing communities and markets as represented in different business models. This emergence holds strong implications for access to knowledge, as OSS is believed to promote knowledge liberalization and human capital development through a bottom-up approach and innovative business models within flexible legal alternatives to proprietary software. This chapter studies OSS within the overall software industry in Egypt, based on extensive field research involving interviews with the business community, NGOs, academic institutions and government officials. The authors conclude that the existence of a healthy OSS sector alongside the existing proprietary models would have several advantages for Egypt as a developing country rich with Arabic content, whose potential has not yet been realized in the digital world. Toward that end, they identify particular barriers to the growth of the OSS industry, and suggest how policy might be shifted to stimulate the emergence of this promising sector.

Continuing on the theme of access to new technologies, the final chapter, contributed by Sherif Kamel, Professor of Management and Information Systems at the American University in Cairo, focuses on emerging information and communication technology. From mobile phones to the Internet to software applications, emerging ICT represents an invaluable vehicle for expanding access to knowledge. Since the 1990s, the Egyptian government has implemented a large number of projects to diffuse and leverage ICT for development. The implications of these projects have varied across different sectors and communities with a number of successes and failures realized. This chapter analyzes the experiences of the Egyptian ICT sector, with particular attention to the government's goals of building out IT infrastructure, expanding opportunities for education, and promoting digital Arabic content. The chapter evaluates recent projects, identifying lessons learned and recommendations for future implementations to maximize the potential for ICT to contribute to access to knowledge in Egypt.

The book's chapters travel between different worlds: the mainstream world where maximalist IP approaches are applied as part of the integration in the global order, and the parallel alternative world that finds for itself some space to act outside the scope and limitations of those maximalist

approaches. The latter includes activities that are encompassed within the formal economy as well as informal activities that are totally outside the realm of the IP system. Between these worlds, we try to analyze the picture of how best knowledge can be accessed, utilized and contributed in Egypt in its capacity to promote the well-being of its people.

Taken together, the contributions of this volume illustrate the importance of access to knowledge for both innovation and development. Intellectual property regulation is shown to play a crucial role in research and innovation – a role much more complex than conventional wisdom may suggest. IP law can dramatically affect the government's ability to provide public goods – ranging from health care to education and from software to music. Intellectual property law also has important implications for market competition; more open approaches may favor small entrepreneurs offering new products and services. And in the area of copyright, IP regulation has strong implications for democratic and cultural freedom, education and freedom of expression. These studies thus offer important reading for policymakers, legal scholars and the public, in Egypt and beyond.

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