Making the Most of Intellectual Property: Developing an Institutional IP Policy

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ABSTRACT
An institutional IP (intellectual property) policy forms the very foundation of IP management and, as such, serves as the starting point for a system of institutional best practices. The IP policy should be entirely consistent with the mission of the institution. Whether the role of the institution, as defined by its mission, is primarily disseminator of knowledge through teaching and publication, generator of research, technology transfer engine, or promoter of economic development through education and service and/or through technology transfer, the institutional IP policy should be drafted and enforced in a manner consistent with the mission. Doing so will bring efficiency and clarity to IP management, since all the components of the policy, including IP ownership, patenting, confidentiality, and disclosure can be written into the policy. Moreover, the intellectual property will serve the mission in a way that strengthens the institution’s credibility, reputation, and public image.

1. INTRODUCTION
Establishing an IP (intellectual property) policy is necessary for several important reasons. IP rights, including patents, copyrights, trademarks, and industrial property rights attach to research, administrative, and scholarly (including courseware) work products. Therefore, any public sector institution entering into research contracts with private sector entities will encounter IP issues. These matters will also need to be addressed in cases involving government-funding agreements, which often carry provisions for the disposition of intellectual property.

Of course, most universities already have IP policies in place in a number of areas. Faculty and students have an interest in publishing scholarly works, and publishing carries with it copyright ownership issues. Most often publishers require assignment of copyright, but what about the interests of the author or the institution? Lectures and course curriculum are also copyrightable. Who owns these? The faculty or the university? These same concerns govern other ostensibly more-complicated IP areas. For example, universities have an interest in owning or controlling the work product of nonacademic employees. Is there an operable work for hire doctrine that governs the country where the university is located? If not, agreements transferring ownership to the university must be in force.

These kinds of issues will grow increasingly relevant for public sector research institutions as they become more involved with national and global IP systems. Indeed, for a university wishing to adopt a technology transfer program structured around licensing, a conceptually solid, pragmatic IP policy will be an essential building block for the program. It is the foundation upon which all other IP activities and initiatives are built. For developing countries, putting an IP policy in place is an especially important step for protecting their interests. When a university in a developing country commercializes an invention, an IP policy can


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be used to establish an equitable basis for resolving issues related to ownership, disclosure, and the distribution of income. In fact, the World Intellectual Property Organization (WIPO) has documented that universities and R&D institutions in developed countries, and also some countries in Asia and Latin America can generate significant income from sources such as:

- royalties and fees from licensed patents from staff innovations and inventions
- consultancy
- research contracts
- sponsored research
- university-owned companies and joint ventures

Remember that it is too late to begin formulating IP policy when negotiations about IP have already begun. As Lita Nelsen, Director of the Massachusetts Institute of Technology (M.I.T.) Licensing Office, observes, “Although policies will change over time as the program evolves, the major issues must be decided in advance. Otherwise, a new program is likely to stall or fail altogether in an entangled committee indecision and policy ambiguity.”

2. MATCHING THE MISSION TO IP POLICY

Certain steps should be considered when establishing an institutional IP policy. Initially, administrators of the institution will need to assess its mission. This will involve examining not only the university’s mission statement but also prioritizing the institution’s roles with respect to the mission. These may include:

- disseminator of knowledge through teaching and publication
- generator of research
- technology transfer engine
- promoter of economic development through education and service and/or through technology transfer

Such considerations will help establish an institutional IP policy that supports mission priorities. For example, if the top priority is education and dissemination of knowledge, then IP policy should favor faculty ownership or release of intellectual property into the public domain, with less emphasis on IP protection. If R&D activities are the institution’s top priority, then the institution should have greater control of intellectual property (for example, more-flexible licensing arrangements with industry, to encourage industry funding, or more emphasis on industry needs). If the institutional mission emphasizes technology transfer and commercialization, then even greater institutional control of intellectual property may be most appropriate. This would involve IP strategies geared towards commercialization through inducing investment (exclusive licensing preferred), more-flexible royalty sharing with inventors to induce disclosures, and choosing the best commercial partners for any given technology. Finally, if the institutional mission priority is economic development, then a more-balanced IP ownership policy that promotes technology transfer, driven by economic development opportunities, may be preferred. Such an approach might focus on licensing regional companies and encouraging local spinouts by providing incubator facilities. Since economic policies will drive development and implementation of the IP policy that most supports economic growth, there should also be built-in flexibility to accommodate changes in economic climate.

An exemplary case of an organization’s mission matching its IP policy can be found at the Drugs for Neglected Diseases Initiative (DNDi). Its mission statement proclaims that “[t]he mission of DNDi is to develop safe, effective and affordable new treatments for patients suffering from neglected diseases, and to ensure equitable access to these.” This mission provides the framework for the institution’s IP policy (see Box 1).

Note that DNDi explains how it “will pursue creative and innovative strategies to make the fruits of research projects readily available” in terms of its approach to managing intellectual property. This type of language provides for a flexible intellectual property management style that is consistent with its core mission. Strong IP policies, such as DNDi’s, incorporate such language to allow the institution to operate without being constrained by its own IP policies.
III. Intellectual Property and DNDi’s Work: Basic Principles

In implementing the IP strategy, DNDi will adhere to the following basic principles:

DNDi will ensure that the results of the work carried out under its auspices are disseminated as widely as possible and its products made readily available and affordable in developing countries. Where the acquisition of IP is not necessary to promote its mission and goals, DNDi will make all possible efforts to ensure that the results of its work are placed and remain in the public domain. However, it is possible that promoting DNDi’s mission and goals will sometimes require outputs to be protected by IP (see Sections IV and V). Given the costs involved, patenting is likely to be the exception rather than the rule. Other nonpatent types of IP such as confidential information (“trade secrets”) and copyrights will also need to be considered.

To make the results of its work useful and encourage the research community to engage in additional or follow-on research in the field of neglected diseases, DNDi will seek—whenever possible and without undermining its rationale for acquiring IP—to disseminate its research through publications, presentations, the Internet (emulating the Human Genome Project), and other appropriate channels.

DNDi does not seek to finance its research and operations through IP rent revenues. Although they will constitute an exception rather than the rule, patents might be sought to strengthen DNDi’s ability to ensure control of the development process and to negotiate with partners.

When IP is generated through DNDi-sponsored research projects, it should be used to achieve DNDi’s mission. To this end, DNDi will pursue creative and innovative strategies to make the fruits of research projects readily available to patients affected by neglected diseases. This will require avoiding prohibitively costly approaches, restrictive IP strategies, or other issues that may inhibit or delay the rapid adoption of the invention to the benefit of developing countries.
In designing an effective institutional IP policy, the inventor/author’s rights for IP assigned to the university should be clearly defined and could include a formula for sharing cash royalties earned, sharing of equity interests taken by university in a spinout, or retention by inventors/authors of personal rights to use intellectual property they develop (generally these are copyrights). Normally, a university would own “any intellectual property that is made, designed, discovered or created by a member of staff, students, guest researchers, etc., in the course of their employment and responsibilities or which makes significant use of the institution’s resources (including institution-administered funds or R&D institution-funded time, facilities, or equipment) in connection with its development.” The policy of M.I.T., for example, states that the university owns all intellectual property that arises under research grant funding or from significant use of M.I.T. facilities. In order to avoid potential disputes, the policy should clearly state what constitutes “institutional resources.” In the case of sponsored research, whether private or government, the usual approach to resolving ownership issues is to make them dependent on the terms of the grant, agreement, or prevailing law. Usually, the agreement would give the university ownership. It would also be a good idea to specifically address the ownership of intellectual property that students and visiting researchers generate. At M.I.T. faculty researchers and visiting scientists (including scientists who are assigned to M.I.T. for a limited period of time) must sign an Inventions and Proprietary Information Agreement prior to beginning work. It is highly recommended that universities have such IP forms.

An institutional IP policy should also consider whether the institution will reserve a shop right in intellectual property created by faculty, students, and staff but not owned by the institution. (Under the shop right rule, an employer is granted an irrevocable, nonexclusive license to inventions that originate with employees not hired to invent when such employees invent during working hours with the employer’s materials and facilities.) Such intellectual property could include publications, software, theses, works of art, or student works. To address this issue, it will be important to ask for what purposes such a shop right is reserved. For example, would it be for internal use only, or, possibly, for Internet delivery for distance learning programs?

An institutional IP policy should also cover stranded IP by establishing a default for intellectual property not covered by the policy. In other words, what intellectual property is owned by the inventor, author, or institution? Despite efforts to be clear about these matters, disputes are probably inevitable. A carefully crafted institutional IP policy will therefore consider establishing an IP disputes-resolution committee. It is better to set this up in advance of potential disputes so that it can be used to deal with problems as they arise.

Indeed, an IP policy should seek to harmonize the conflicting interests of all the stakeholders. WIPO suggests that “in order to harmonize the various conflicting interests of stakeholders and achieve broad-based objectives, an intellectual property policy for universities and R&D institutions should address some of the following issues:

- coverage of intellectual property policy
- ownership of intellectual property
- disclosure of intellectual property
- marketing, commercialization and licensing of patents
- distribution of income
- rights and obligations of an inventor and the institution
- other pertinent issues

Again, despite such efforts and the best intentions of all involved, conflicts of interest will likely arise. For example, the goals of sponsored research may conflict with the aim of the university to disseminate research results quickly and widely. Or there may be other legitimate but opposing goals between the institution and private interests that put researchers in conflict with their
employer. Universities and R&D institutions must therefore develop policies and procedures for the disclosure and management of conflicts of interests.\textsuperscript{10}

It is also difficult to ensure compliance with policies related to the disclosure of inventions. A comprehensive review procedure is often used in the private sector, but the resources and time required for such procedures make them impractical for the university. The best way to ensure compliance, therefore, is to educate researchers about the potential value—to the university and themselves—of their discoveries. Enlightened self-interest has always been an effective motivator.

5. ADMINISTERING THE IP POLICY
Identification of who shall administer and enforce institutional IP policy is another key ingredient of the policy. Possible administrators include:

- vice president for research
- technology transfer office
- IP office
- provost

A patent committee that will address patent policy issues, and make decisions on patent filings, may also be established.

6. BUILDING, IMPROVING, AND SELLING THE IP POLICY
For more mature institutions, officials, at some point, will need to assess whether to design and implement a new policy or revise an old one. An initial step in this assessment might be to take a snapshot of “what is” so that the effectiveness of existing policies, contractual commitments, and legal constraints can be determined.

When pursuing these efforts, it would be wise to gain the support of the highest levels of administration and to determine a path of least resistance for the process, perhaps via the faculty senate or the administrative committee. In addition, it will be critical to persuade faculty of the need to change the IP policy or to implement a new one. Gaining such backing will lend importance, urgency, and credibility to the endeavor.

Policy developers may want to make available for comparison other universities’ policies in order to show that any suggested changes are not out of the mainstream. Providing such material, and opportunities for informed discussion and debate as to the pros and cons of suggested changes to the IP policy, will ease anxieties and highlight the benefits the changes will provide. Indeed, throughout the entire process, it will be important to focus on the positive aspects that any changes to the policy may bring.

The IP policy will have to be “sold,” both inside and outside the institution. Educating stakeholder communities as to what the policy is and why it is will promote acceptance. However, to be successful, the proper pitch must be made. This will most likely involve:

- making the policy comprehensible to the reader
- providing incentives for participants
- establishing IP management as a service to the community
- applying the policy with consistency
- showcasing the benefits

One of the primary benefits of the policy will be shared licensing revenue, and a firm, cut-and-dried policy will be music to everyone’s ears. It should be straightforward with very few exceptions. M.I.T., for example, gives the inventor(s) one-third of net royalties (after taking 15% for administration and any unrecovered patenting costs for the case). The remaining funds are shared between academic departments and the university general fund under a formula involving patenting costs for unlicensed cases.\textsuperscript{11} WIPO’s recommendations are equally clear:

\textit{100% of the revenue goes to the institution until all out-of-pocket expenses associated with protection and exploitation of the patent or copyright have been reimbursed. Such expenses include fees associated with patent filing and copyright registration and any other continuing costs associated with licensing and other commercialization of the intellectual property. Thereafter, the net income is shared between the inventor and the institution; the general trend is that the inventor’s percentage share decreases whereas that of the institution increases as total net}
Technology transfer, which is a by-product of M.I.T.’s primary missions of education and research, is conducted to fulfill institutional goals:

- to foster continuing public support for basic research by showing public benefit (namely, new products)
- to stimulate more industrial support for research
- to foster community support by creating jobs and new companies
- to help students learn entrepreneurial attitudes
- to enable faculty to see the practical results of research

8. SPECIAL PLANT ISSUES

The International Maize and Wheat Improvement Center’s (CIMMYT) policy on intellectual property is exemplary. The policy shows how a public sector research institution involved in crop improvement seeks to achieve a balance between the institutions express mission of serving the greater global public interest and acknowledging issues relating to IP rights protection. The CIMMYT IP policy articulates these concerns, providing a coherent, comprehensive, and comprehensible statement that is the foundation of an institutional IP policy that is consistent with and true to the institutional mission:

As a publicly-funded international research institute, CIMMYT regards its research products as international public goods. Yet, in the current political and legal environment, producing and keeping the products of its research in the public domain, free for use and development both by scientists and farmers, have become increasingly problematic. It is in this context that CIMMYT has examined, and will continue to examine, its policies and practices in regard to intellectual property rights. CIMMYT’s commitment to the resource-poor remains as strong and passionate as ever. As a direct consequence of this commitment, CIMMYT has a responsibility to be alert to changes in the political, legal and market environments. When necessary, CIMMYT must also be ready to adopt new tools and strategies in order to keep faith with its mission.
Box 2: M.I.T.’s Policy on Intellectual Property

13.1 Intellectual Property

M.I.T. Policies and Procedures

The aim of the Institute’s policy on patents, copyrights, and other Intellectual Property is to make available Institute technology to industry and others for the public benefit, while providing recognition to individual inventors and encouraging the prompt and open dissemination of research results.

13.1.1 Ownership of Intellectual Property

With the exception of student theses as described below in Section 13.1.3 (Ownership of Copyrights in Theses), rights in patentable inventions, mask works, tangible research property, trademarks, and copyrightable works, including software (“Intellectual Property”), made or created by M.I.T. faculty, students, staff, and others participating in M.I.T. programs, including visitors, are as follows:

a) Inventor(s)/author(s) will own Intellectual Property that is:
   i) not developed in the course of or pursuant to a sponsored research or other agreement (the faculty advisor, administrative officer, or the Office of Sponsored Programs contracts administrator can advise on the terms of the agreements that apply to specific research); and
   ii) not created as a “work-for-hire” by operation of copyright law (a “work-for-hire” is defined, in part, as a work prepared by an employee within the scope of his or her employment) and not created pursuant to a written agreement with M.I.T. providing for a transfer of copyright or ownership of Intellectual Property to M.I.T.; and
   iii) not developed with the significant use of funds or facilities administered by M.I.T. (“significant use” is discussed in Section 2.1.2 of the Guide).

b) Ownership of all other Intellectual Property will be as follows:
   i) ownership of Intellectual Property developed in the course of or pursuant to a sponsored research or other agreement will be determined according to the terms of such agreement;
   ii) ownership of copyrightable works created as “works-for-hire” or pursuant to a written agreement with M.I.T. providing for the transfer of any Intellectual Property or ownership to M.I.T. will vest with M.I.T.;
   iii) ownership of Intellectual Property developed by faculty, students, staff, and others participating in M.I.T. programs, including visitors, with the significant use of funds or facilities administered by M.I.T. will vest with M.I.T.
Importantly, with regard to access to germplasm resources, CIMMYT encourages the availability of such resources in a manner consistent with its greater mission of serving the poor of developing countries.

This commitment is reiterated several times in CIMMYT’s IP policy, which is clearly articulated within the overall context of the guiding principles that establish the foundation of the CIMMYT global mission (see Box 3).

This theme is repeated again in the CIMMYT IP policy, making CIMMYT’s mission the predominant determinative factor throughout the entire document (see Box 4).

In addition to the provisions found in the CIMMYT IP policy, other provisions that would be applicable to plants and IP issues are related to:

- genetically modified plants
- essentially derived varieties
- hybrid crops (issues relating to inbred parental lines)
- designated and non-designated germplasm as per the treaty, under the FAO
- status of land races
- freedom to operate
- access issues relating to the Convention on Biological Diversity

These issues relate directly to how crops are actually improved, that is, by:

- conventional crossing of preexisting varieties
- introgression of genes from wild germplasm resources
- genetic engineering via plant transformation

9. CONCLUSIONS

The establishment—or revision—of institutional IP policies is a great tool for advancing internal institutional discussions on the role and function of intellectual property. Once finalized, an effective IP policy should fulfill three fundamental criteria:

1. It should be based on and reinforce the core mission of the institution the policy serves. The mission drives IP management, not vice versa.

2. It should indicate areas of flexibility that allow an institution to pursue creative deals and arrangements.

3. It should be a succinct statement, as opposed to a detailed list of procedures. The latter can be accessed elsewhere, while the IP policy should be the basis of regularly updated IP strategies and serve as a guiding principle for the management of intellectual property.

Following the above criteria will allow you to successfully navigate the sometimes choppy seas of the IP system, and the end results of such a voyage will certainly be worthwhile.

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1 www.wipo.int/freepublications/en/intproperty/848/wipo_pub_848.pdf
2 Lita Nelsen, Director, M.I.T. Licensing Office, personal communications.
3 See, also in this Handbook, chapter 17.8 by J Banerji and B Pecoul. See also the latest version of DNDi’s IP policy, www.dndi.org/cms/public_html/insidearticleListing.aspx?CategoryId=87&ArticleId=320&TemplateId=5; The Medical Research Council of South Africa also follows an exemplary IP policy, innovation.mrc.ac.za/ippolicy2.pdf.
5 See supra note 2.
6 web.mit.edu/policies/13.1.html
7 A shop right is "an implied-in-law nonexclusive license of a patent from an employee to the employer. A shop right is generally implied when an employee who is not specifically hired to invent uses the employer's facilities to invent, usually while on the job. The shop right rule grants to such employer the royalty-free right to use the invention of the employee. It is based on the employer's presumed contribution to the invention through materials, time, and equipment." [McCarthy JT,
Box 3: CIMMYT Intellectual Property Policy

IV. OBJECTIVES AND OPERATING POLICIES

1. CIMMYT will manage intellectual property issues with:
   • integrity;
   • equity;
   • responsibility; and
   • accountability.

2. In the pursuit and management of intellectual property rights, CIMMYT will be
   guided by:
   • its mission; and
   • its special responsibilities to the resource poor arising from its role as a provider of
     germplasm, technologies, and information.

However, the CIMMYT IP policy does not leave the articulation of its mission and its
views on IP issues so general. The policy also specifically states how it views IP issues
within the context of the CIMMYT mission. Hence, the IP policy is built upon, and indeed
interwoven with, the mission:

IV. On occasion, CIMMYT may enter into contracts that provide for the acquisition and
management of confidential materials. CIMMYT may also seek to protect the products
of its research by obtaining intellectual property protection through patents, plant
breeders’ rights, copyrights, trademarks, statutory invention registrations or their
equivalent, and/or trade secrets to serve the resource poor in the following kinds of
situations:

1. to support public and private partnerships which pursue mission-based research or
   which develop and apply research results;

2. to assure ready access by others to research products developed or funded by CIMMYT;

3. to avoid possible restrictions arising from “blocking” patents and to ensure CIMMYT’s
   ability to pursue its research without undue hindrance;

4. to facilitate the transfer of technology, research products and other benefits to the
   resource poor including, where appropriate, through commercialization or utilization
   of research products; and/or

5. to facilitate the negotiation and conclusion of agreements for access to proprietary
   technologies of use to CIMMYT’s research and in furtherance of its mission.

Box 4: CIMMYT Intellectual Property Policy

IV. In seeking intellectual property rights, CIMMYT will be guided by its commitment to
serve the resource poor, rather than by opportunities to obtain recurring revenues.
To the extent that financial returns are generated via intellectual property, they will
be used by CIMMYT to support its efforts to implement the FAO Global Plan for the
Conservation and Sustainable Utilization of Plant Genetic Resources for Food and
Agriculture, adopted by 150 countries in 1996.
8 Stranded IP is IP that is not covered by the formal policy. No policy is perfect, so certainly not all IP will be covered explicitly. If the IP is not covered, then there is a presumption that the university owns it, that the creator owns it, or that it must be reported to the technology transfer office and a determination made as to who owns it.


10 See also in this Handbook, chapter 5.8 by AB Bennett.

11 See supra note 2.


13 www.cimmyt.org