

Arguments Against the PUPFIP Bill

Centre for Internet and Society | 2010-02-01

Pranesh Prakash

The Protection and Utilisation of Public Funded Intellectual Property Bill (PUPFIP Bill) is a new legislation being considered by Parliament, which was introduced in the 2008 winter session of the Rajya Sabha. It is modelled on the American Bayh-Dole Act (University and Small Business Patent Procedures Act) of 1980.

Summary

How is the legislation unnecessary?

1. The Indian government does not have vast reserves of underutilized patents, as the U.S. did in 1980.
2. Technology transfer is very important, but pushing IPRs aggressively is not the best way of ensuring technology transfer.

How is the legislation harmful?

1. Excessive patenting lead to gridlocks and retards innovation.
2. The legislation makes mandatory that which is optional now, and is anyway being followed in many institutions.
3. Copyright, trademark, etc., seem to be covered under the definition of “public funded IP”.
4. It will result in a form of double taxation for research, and will increase the consumer cost of all products based on publicly-funded research.
5. It could have unintended consequences of varied kinds, including discouraging fundamental research as well as discouraging industrial research.
6. Non-disclosure requirements in the Bill restricts the dissemination of research within the academic community, and curtails freedom of speech.
7. Exclusive licensing enables restriction on the dissemination of academic research in the marketplace, and increase in cost of products based on public-funded research.

Additional Resources

- On the PUPFIP Bill
- On Bayh-Dole

Arguments

How is the legislation unnecessary?

1) The Indian government does not have vast reserves of underutilized patents, as the U.S. did in 1980. The idea behind the Bayh-Dole Act was that the research funded by the government (and owned, in the US, by the government) was being underutilized. In 1980, over 28,000 unlicensed patents lay with the U.S. government.¹ The Act shifted the title of such works from the government to the University or small business that conducted the research, thus allowing them to take out patents on the research outputs. In India, under present laws, the researcher(s) own the rights over their research whether they be government-funded or not. Usually, due to employment contracts, the research institutes already have the right to patent their inventions. Thus, currently, there is no need for an enabling legislation in this regard, as there was in the U.S.

In fact, currently, the Council of Scientific and Industrial Research (CSIR) has over 5173 patents (counting both those in force and those under dispute), while only 222 patents are licensed (with 68 of them being under dispute). Thus, even with the IP being in the institute's hands, there is a "problem" situation similar to that which necessitated Bayh-Dole in the U.S. Thus, quite contrary to the aims of the Act, further patenting will only lead to a situation of even more underutilized patents.

2) Technology transfer is very important, but pushing IPRs aggressively is not the best way of ensuring technology transfer. At a recent seminar held at NUJS Kolkata on the PUPFIP Bill, it was revealed that while IIT-Kharagpur's TTO-equivalent (called the Sponsored Research & Industrial Consultancy division - SRIC) currently handles over Rs.300 crores through 850 projects, only around Rs. 5-15 crores (exact figures weren't available) are currently made through its patent portfolio.² Thus patents don't seem, on the face of things, to be the best way of ensuring technology transfer. Indeed, the oft-cited 28,000 unlicensed patents held by the U.S. government were composed primarily of patents for which industry had refused to take exclusive licences.³

Many contend that one of the most important functions of a patent is to get inventors to disclose their inventions rather than keep them as secrets. This reason for awarding a patent is invalidated if stronger protection is granted to trade secrets (no term limit, for instance) than for patents. Secondly, this

¹See So et al. and Thursby and Thursby, quoted in the National Knowledge Commission's letter to the Prime Minister.

²See Prof. Vivekanandans' presentation "Patenting and Technology Transfer-the IIT Khargpur Experience"

³See Anthony So et al., *Is Bayh-Dole Good for Developing Countries*, 6 PLoS Biol e262 (2008)

reason for granting patents is not valid in case of government-funded research in academia and research institutes. The culture of publication and the economy of reputation are sufficient to ensure disclosure. Even without these intrinsic factors, there grant requirements can necessitate publication. If mere publication is believed to be insufficient, then the government would do well to ask for technology dissemination plans before grants are made. At any rate, monopoly rights in the form of patents are thoroughly unnecessary.

How is the legislation harmful?

1) Excessive patenting lead to gridlocks and retard innovation. It sees protection of IPR as the sole means of encouraging innovation and driving research to the doorstep of consumers. The trend around the world is that of exploring alternative forms of spurring innovation. Even in India, CSIR has gone for an innovative "Open Source Drug Discovery" project, which has proven very successful so far. Furthermore, recent literature shows that excessive patenting is harming research and innovation by creating gridlocks.⁴ If platform technologies and basic research (such as SNP) gets mired in patents, then the transaction costs increase (not only in terms of money, but more importantly in administrative terms). This ends up in research clearances getting blocked, and thus retards innovation. It must be remembered that intellectual property is not only an output, but also an input. The more aggressively the outputs are guarded and prevented from being shared, the more the inputs will be affected. The study of patent thickets and gridlocks has reached such a stage that the U.S. law has been changed to reflect this. Firstly, the Bayh-Dole Act was amended in 2000 to state that the objectives of the Bayh-Dole Act were to be carried out "without unduly encumbering future research and discovery". Now, the courts (in the *Bilski* case) have increased the standard of obviousness in patent law (which means that less patents will be granted). Furthermore, the U.S.P.T.O. and the U.S. Senate are currently considering means of overhauling the U.S. patent system, which many fear is close to breaking down due to over-patenting. All these are signs that the footsteps we are seeking to follow are themselves turning back.

2) The legislation makes mandatory that which is optional now, and is anyway being followed in many institutions. While the CSIR labs pursue patents aggressively, they also run the OSSD project. The latter might not be permissible if the Act is passed as it stands. Furthermore, this would increase the number of underutilized patents, which is a problem faced currently by CSIR, which has had an aggressive patent policy since the 1990s. Unlicensed patents constitute around 93% of CSIR's total patent portfolio. (In contrast, MIT averages around 50% licensing of patents.) If aggressive patenting is made mandatory, it adds

⁴See Michael A. Heller & Rebecca S. Eisenberg, Can Patents Deter Innovation? The Anticommons in Biomedical Research, 280 Science 698 (1998)

substantially to administrative costs of all institutes which receive any grants from the government. These institutes might not be large enough to merit a dedicated team of professionals to handle

3) Copyright, trademark, etc., seem to be covered under the definition of "public funded IP". This leads to a ridiculous need to attempt to commercialise all government-funded research literature (and the government funds science research, social sciences, arts, etc.). Furthermore, while the definition of "public funded IP" includes copyrights, trademarks, etc., yet the substantive provisions seem to only include those forms of IP which have to be registered compulsorily (copyright and trademark don't – copyright comes into existence when an original work is expressed in a medium, and trademark can come into existence by use). Importantly, seeking to commercialise all copyrighted works of research would hamper the movement for open access to scholarly literature. The initiative towards open access to scholarly literature is something that National Knowledge Commission has recommended, and is a move that would result in increased dissemination of public-funded research, which seems to be an aim of the PUPFIP Bill as well.

4) It will result in a form of double taxation for research, and will increase the consumer cost of all products based on publicly-funded research. This bill would increase the consumer cost of all products based on publicly-funded research, because of the additional burden of patent royalties.

Public funds research -> Institute patents research -> Pharma MNC gets exclusive license over research -> Drug reaches market.

Assuming an exclusive licence: Cost of the drug = cost of manufacturing, storage, etc. + *mark-up (monopolistic) cost* + *cost of licence*.

Thus, in effect, the public has to pay twice for the research: it pays once to enable the scientist to conduct the research, and once again in the form of royalties to have that research brought to the marketplace.

5) It could have unintended consequences of varied kinds, including discouraging fundamental research as well as discouraging industrial research. The former could happen since institutions and individual scientists have a financial incentive to shift their focus away from fundamental research; the latter, conversely, because the filings and bureaucracy involved could drive scientists away from reporting or even engaging in industrial research [pdf]. Faculty and researcher involvement in the business of licensing is a sub-optimal usage of their talents, and there are scientists who would rather stay away from business (as is shown by the intake of former industry-researchers into government-funded labs such as those of CSIR).

6) Non-disclosure requirements in the Bill restricts the dissemination of research within the academic community, and curtails freedom of speech. This will bring about a shift in science and research which is always done upon others' work. This is why in the U.S., the National Institute of Health (N.I.H.) has sought to ensure (without any legal authority) that it only finances that research that on single nucleotide polymorphism (S.N.P.) which is not patented, and is shared freely amongst scholars. Since this requirement of the N.I.H.'s does not have any legal backing (since it is contradictory to the Bayh-Dole Act), institutions are free to get the grant from N.I.H. and then go ahead and patent their inventions.

7) Exclusive licensing enables restriction on the dissemination of academic research in the marketplace, and increase in cost of products based on public-funded research. The bill allows for both assignment of licences as well as exclusive licences. Both of these enable monopolistic pricing to be undertaken by the licensee/assignee. There are not even any mechanisms in the Act to ensure, for instance, that a public call is made to ascertain that no parties are willing to consider a non-exclusive licence. Patents are generally said to grant a monopoly right because of the opportunity to recover costs of research and development. When the research is being done by public-funded money, there is no justification for monopoly rights on that research, since there are no excessive costs to recover.

Additional Resources

On the PUPFIP Bill

- February 5, 2004: NIPER holds parallel session of Indian Science Congress (Express Pharma)
- October 27, 2006: Susan Finston, India to Propose New Technology Transfer Legislation (Bayh-Dole 25)
- January 16, 2007: National Knowledge Commission's Letter to Indian Prime Minister (National Knowledge Commission)
- April 15, 2007: Archita Bhatta, Proposed IPR law raises concern (Down to Earth)
- May 31, 2007: Science & Technology needs to be core of the economic development says Kapil Sibal (PIB Press Release)
- November 13, 2007: Government Accords Approval to National Biotechnology Development Strategy (PIB Press Release)
- February 1, 2008: Yudhijit Bhattacharjee, Indian Government Hopes Bill Will Stimulate Innovation (Science)
- February 19, 2008: Shamnad Basheer, Exporting Bayh Dole to India: Whither Transparency? (Part 1) (Part 2) (SpicyIP)
- March 17, 2008: Kalpana Pathak, Varsities may soon own patent rights (Business Standard)

- March 17, 2008: P.T. Jyothi Datta, Public-funded research may pay dividends for scientists (Business Line)
- March 17, 2008: Joff Wild, India considers Bayh-Dole style legislation (IAM Magazine)
- April 30, 2008: M.K. Unnikrishnan and Pradeepti Nayak, Lessons from Bayh Dole Act and its relevance to India (PharmaBiz)
- July 2008: Sean M. O'Connor, Historical Context of U.S. Bayh-Dole Act: Implications for Indian Government Funded Research Patent Policy (STEM Newsletter)
- July 7, 2008: Shamnad Basheer, Mysterious Indian "Bayh Dole" Bill: SpicyIP Procures a Copy (SpicyIP)
- July 09, 2008: Latha Jishnu, Does India need a Bayh-Dole Act? (Business Standard)
- September 2008: V.C. Vivekanandan, Transplanting Bayh-Dole Act- Issues at Stake Authors (13 Journal of Intell. Prop. 480)
- September 18, 2008: Shamnad Basheer, Indian Patent Bill: Let's not be too hasty (SciDev.net)
- October 28, 2008: Anthony So et al., *Is Bayh-Dole Good for Developing Countries*, 6 PLoS Biol e262 (2008)
- October 31, 2008: Cabinet gives approval for Protection and Utilization of Public Funded Intellectual Property Bill, 2008 (PIB Press Release)
- November 2008: Annette Lin et al., The Bayh-Dole Act and Promoting the Transfer of Technology of Publicly Funded-Research (UAEM White Paper on the Proposed Indian Bayh-Dole Analogue)
- November 1, 2008: Editorial: Not in Public Interest (Mint)
- November 12, 2008: Ben Butkus, As India Mulls Bill Modeled on Bayh-Dole, Critics Claim It May Stifle Innovation (Biotech Transfer Weekly)
- December 16, 2008: Pranesh Prakash, Indian "Bayh Dole" Bill before Parliament (Commons Law)
- January 23, 2009: Editorial: Time to Rethink Intellectual Property Laws (SciDev.net)
- March 12, 2009: Feroz Ali Khader, Does Patenting Research Change the Culture of Science? (The Hindu)
- April 24, 2009: Sunil Abraham & Pranesh Prakash, Does India Need Its Own Bayh-Dole? (Indian Express)
- September 21, 2009: C.H. Unnikrishnan, Proposed Patent Bill Is Flawed, Say Experts (Mint)
- September 23, 2009: Editorial: An Idea That's A Patent Misfit (Mint)
- October 2009: Bhaven N. Sampat, The Bayh-Dole Model in Developing Countries: Reflections on the Indian Bill on Publicly Funded Intellectual Property (UNCTAD - ICTSD Policy Brief No. 5)
- January 2010: Amit Shovon Ray & Sabyasachi Saha, Patenting Public-Funded Research for Technology Transfer: A Conceptual-Empirical Synthesis of US Evidence and Lessons for India (ICRIER Working Paper No. 244)

- January 2010: Mrinalini Kochupillai, *The Protection and Utilization of Public Funded Intellectual Property Bill, 2008: A Critique in the Light of India's Innovation Environment*, 15 J. Intell. Prop. Rights 19 (2010)
- January 16, 2010: Amit Shovon Ray & Sabyasachi Saha, Intellectual Bottlenecks (Financial Express)
- January 21, 2010: Latha Jishnu, Perils of the US Model (Business Standard)
- January 22, 2010: Rema Nagarajan, Scientists Fume Over New Patent Bill (Times of India)
- January 26, 2010: Shamnad Basheer, The Problem with Patents (Mint)
- February 5, 2010: Shalini Butani, Public Research May Become More Private (Business Line)
- February 8, 2010: Anika Gupta, Scientists Want Changes in Innovation Bill (Mint)
- February 9, 2010: C.H. Unnikrishnan, Parliament Panel Wants Govt Review on Innovation Bill (Mint)
- February 15, 2010: Leena Menghaney, A Bad Example from the U.S. (Down to Earth)
- February 19, 2010: Pranesh Prakash, A Patent Conundrum (Indian Express)
- SpicyIP coverage by tag 'Bayh Dole'
- Presentations from NUJS, Kolkata conference on the PUPFIP Bill

On Bayh-Dole

Newspapers and Magazines

- Marcia Angell, The Truth About the Drug Companies, New York Review of Books, July 15, 2004
- Clifton Leaf, The Law of Unintended Consequences, Fortune Magazine, Sept. 19, 2005
- The Bayh-Dole act's 25th birthday, The Economist, Dec. 20, 2005
- Janet Rae-Dupree, When Academia Puts Profit Ahead of Wonder, N.Y. Times, Sept. 7, 2008

Academic Journals

- Amy Kapczynski et al., Addressing Global Health Inequities: An Open Licensing Approach for University Innovation, 20 Berkeley Tech. L.J. 1031 (2005)
- Anthony So et al., *Is Bayh-Dole Good for Developing Countries*, 6 PLoS Biol. e262 (2008)
- Arti K. Rai & Rebecca S. Eisenberg, *Bayh-Dole Reform and the Progress of Biomedicine*, 66 Law & Contemp. Probs. 289 (2003)
- David C. Mowery & Arvids A. Aiedonis, *Numbers, Quality, and Entry: How Has the Bayh-Dole Act Affected U.S. University Patenting and Licensing?*, 1 Innovation Pol'y Econ. 187 (2000)

- David C. Mowery, et al., *Learning to Patent: Institutional Experience, Learning, and the Characteristics of U.S. University Patents After the Bayh-Dole Act, 1981-1992*, 48 Mgmt. Sci. 73 (2002)
- Donald Kennedy, *Editorial: Enclosing the Research Commons*, 294 Science 2249 (2001)
- F.M. Scherer, *The Political Economy of Patent Policy Reform in the United States*, 7 Colorado J. Telecomm. High Tech. L. 167 (2009)
- Henry Steck, *Corporatization of the University: Seeking Conceptual Clarity*, 585 Annals of Am. Acad. Pol. & Soc. Sci. 66 (2003)
- Jason Owen-Smith, *Trends and Transitions in the Institutional Environment for Public and Private Science*, 49 Higher Educ. 91 (2005)
- Jerry G. Thursby & Marie C. Thursby, *University Licensing and the Bayh-Dole Act*, 301 Science 1052 (2003)
- Jerry G. Thursby & Marie C. Thursby, *Who is Selling the Ivory Tower? Sources of Growth in University Licensing*, 48 Mgmt. Sci. 90 (2002)
- Josh Lerner, *Review of 'Ivory Tower'*, 43 J. Econ. Litt. 510 (2005)
- Joshua B. Powers, *R&D Funding Source and University Technology Transfer: What is Stimulating Universities to Be More Entrepreneurial?*, 45 Research in Higher Educ. 1 (2004)
- Lita Nelsen, *The Rise of Intellectual Property Protection in the American University*, 279 Science 1460 (1998)
- Marcia Angell & Arnold S. Relman, *Patents, Profits & American Medicine: Conflicts of Interest in the Testing & Marketing of New Drugs*, 131 Daedalus 102 (2002)
- Maria Jelenik, *Review: Two Books on Technology Transfer*, 50 Admin. Sci. Q. 131 (2005) (Review of 'Ivory Tower')
- Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 Science 698 (1998)
- Rebecca Henderson, et al., *Universities as a Source of Commercial Technology: A Detailed Analysis of University Patenting, 1965-1988*, 80 Rev. Econ. Statistics 119 (1998)
- Rebecca S. Eisenberg, *Public Research and Private Development: Patents and Technology Transfer in Government-Sponsored Research*, 82 Virginia L. Rev. 1663 (1996)
- Rebecca S. Eisenberg & Richard R. Nelson, *Public vs. Proprietary Science: A Fruitful Tension?*, 131 Daedalus 89 (2002)
- Richard Jensen & Marie Thursby, *Proofs and Prototypes for Sale: The Licensing of University Inventions*, 91 Am. Econ. Rev. 240 (2001)
- Roberto Mazzoleni & Richard R. Nelson, *Economic Theories about the Benefits and Costs of Patents*, 32 J. Econ. Issues 1031 (1998)
- Thomas A. Massaro, *Innovation, Technology Transfer, and Patent Policy: The University Contribution*, 82 Virginia L. Rev. 1729 (1996)

- Walter W. Powell & Jason Owen-Smith, *Universities and the Market for Intellectual Property in the Life Sciences*, 17 J. Pol'y Analysis Mgmt. 253 (1998)
- William M. Sage, *Funding Fairness: Public Investment, Proprietary Rights and Access to Health Care Technology*, 82 Virginia L. Rev. 1737 (1996)
- Zach W. Hall & Christopher Scott, *University-Industry Partnership*, 291 Science 553 (2001)

Resources

- TIIP Newsletter: Patents and University Technology Transfer (2003)
- Bay-Dole 25