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Parliamentary Portfolio Committee
on Science and Technology
c/o zjansen@parliament.gov.za

Re: Intellectual Property Rights From Publicly Financed Research and Development Bill (B46-2008)

Dear Sirs,

I have recently returned to South Africa from Europe having effectively been asked to leave during the Apartheid Regime in 1966. I have been active in biotechnology and law for many years and am a member of a small committee that advises the President, Council and Parliament of the European Union on Ethical matters in science and technology - the European Group on Ethics. I have also acted as the specialist adviser to a Select Committee of the House of Lords in the United Kingdom in relation to Law and Biotechnology / Biosafety. It is a privilege to be able to return to my home country after many years of living in Europe; the experience in Europe should enable advice that ensures that mistakes are not repeated.

I am Professor of Intellectual Property Law at the University of Cape Town and Head of the Intellectual Property Law Research Unit. I am also Professor of Biotechnology & Society at the Technology University, Delft, the Netherlands and spend half the year in the Netherlands.

I believe I have to write to you in regard to this bill, for I do not believe it will achieve the purposes for which it aims, and will almost certainly be counter-productive in making research less productive and make more innovators leave South Africa. We need to use public-financed research to benefit the people and environment of South Africa.

I apologise for the length of this letter, but feel passionate about research in this country, and about the needs of our people.

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Summary

South Africa is considered one of the members of a small group of emerging countries. It is essential that it is able to effectively innovate and ensure that it is at the forefront of research, development and commercialisation in all aspects of new technologies so as to benefit its peoples and bring them out of the poverty that bedevils most of the developing world.

Publicly financed research should be directed at improving the lives of ordinary people and ensuring sustainability of our environment. South Africa is positioning itself for the global knowledge economy.

A vast range of new inventions are being developed each year, many in the biotechnologies, nanotechnologies and Information and Communications Technologies; few of these are being developed in Africa, yet we have unbelievable resources to exploit for the benefit of our people. These new technologies have abruptly transformed the ways in which research is conducted, facilitating the sharing of data and expertise between many institutions. Research is no longer an activity that takes place in a single laboratory; it involves many people working as a community all round the world and transcends national frontiers.

South Africa has developed a national innovation strategy, including increasing research capacity. South Africa has taken a leading role in advocating that the global intellectual property system should be responsive to the needs of developing countries.

The Intellectual Property Rights From Publicly Financed Research and Development Bill is out of step with these strategies imposing instead a dated paradigm adopted in the United States twenty nine years ago, which threatens to disrupt South Africa's innovation systems and foreclose on policy options for South Africa's national intellectual property system. Even scientists in the United States, Canada and Europe are questioning the impact of the current IP systems on effective innovation.

Developing South Africa's Research System

1. South Africa needs Science:

To compete in the global knowledge economy South Africa must create far greater capacity in science and technology. To do so South Africa must urgently increase the number of people with post-graduate degrees in science and technology, and strengthen our research systems and create an innovation friendly environment. We have to collaborate with scientists around the world to ensure that we are at the cutting edge of scientific development and to ensure that we can do research that will have an impact on the lives of our people.

One aspect of strengthening research systems is ensuring that publicly financed research has a socio-economic impact. The most powerful socio-economic impact of publicly financed research is that it produces skilled post-graduates for the economy. The next most important impact is to produce knowledge that underpins research and development by other sectors, for example knowledge that results in new medicines to combat disease or to provide clean affordable water and fuel.

The Minister and the Department of Science and Technology have a powerful and effective strategy to meet these challenges including endowing research chairs, targeting funding on important research fields, and supporting the creation of open access journals. Together these promise to unlock South Africa's research potential. These initiatives are however (in my

opinion) threatened by the Intellectual Property Rights From Publicly Financed Research and Development Bill (B46-2008), 'the Bill', which assumes that the primary purpose of publicly financed research is to generate licence income, and that mandatory patenting of research will achieve that purpose. The sweeping provisions of the Bill cannot deal appropriately with very complex systems involving a wide range of incentives and players.

2. Science and technology are not necessarily commercial 'money-spinners'

In many instances the social impact of new science and technology may be more significant than 'commercial' return. For example, Jonas Salk who invented the polio vaccine refused to patent it, preferring that polio be largely eradicated. South Africa must ensure that science supported by public funds can address the needs of its people even where large companies are not willing to invest.

Rightfully, large international companies invest in projects that will have a significant financial turnover. Their investment will therefore be directed to markets that have money to spend. Developing countries are not necessarily their target markets, even though the new developments are desperately needed. Publicly finance research needs to fill the gap between market oriented research and products and public need. It is important that research in South Africa should have a socio-economic impact, and that that impact should be demonstrated. The knowledge gained from completed publicly financed research should not be left unused, nor should it to be appropriated by a single private corporation, due to neglect. However patenting is not necessarily the best way to achieve socio-economic impact of research.

Socio-economic benefits of publicly financed research include the following[1] that do not require patenting and may well be inhibited by patenting;

- increase in the number of post graduate students to learn the necessary skills in scientific and technological research;
- contribute to open learning materials;
- forming the basis of further and applied or market directed research;
- production of knowledge which government, business and the public benefit from without the creation of goods e.g. better understanding of the *climate* enables better prediction which benefits farmers, businesses, government and the public;
- devise appropriate technology solutions to problems faced by disadvantaged people which are freely disseminated;
- enhancing delivery of services by government
- a better educated and informed populace able to create and use knowledge;
- innovation across entire markets in which all firms make use of new technology to compete.

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1 The Australian government commissioned a lengthy investigation of the productivity of government-funded research, Productivity Commission Research Report, Public Support for Science and Innovation. The Report found "Ultimately, in terms of community wellbeing, it is the transfer, diffusion and utilisation of knowledge and technology that matters. The social return from public investment in R&D depends on: whether knowledge and technology are transferred out of universities (that is, whether they see the light of day); how fast and widely the knowledge diffuses among potential users; whether the knowledge and technology is developed into some form of practical application (that is, whether it is taken up in some form or other that is welfare enhancing); and how widely the resulting innovation is utilised. There are multiple pathways for achieving these benefits". These include enabling government to better discharges its functions, ensuring an educated populace (p74), to offset the failure of markets to produce knowledge, For example, better understanding of the climate results in better prediction by farmers, businesses, government and the public (p155) and enable non-market innovation resulting in better lives and healthier environments (p103-185).

3. How does research work?

The primary point of research is to give us information about the world. Information uncovered during research may not in itself have commercial value although it may at some stage be used, often in an unpredictable way, to produce commercial products. For example Watson and Crick discovered the structure of DNA that was the most important discovery from which all of modern biotechnology and genetics including new designer drugs have followed. We cannot necessarily predict whether particular research is likely to result in a commercial product, because the nature of research is to investigate something unknown. The international debate about the sequencing of the human genome and whether it should be commercial information on in the public domain was painful and prolonged. It was resolved in 2000 when President Clinton and Prime Minister Blair announced that it should be in the public domain, although inventions based on this, the largest and most expensive project of all time, should be patentable and commercialised where appropriate.

In his State of the Union Address in January 2000 President Clinton said, "Later this year, researchers will complete the first draft of the entire human genome, the very blueprint of life. It is important for all our fellow Americans to recognize that federal tax dollars have funded much of this research, and that this and other wise investments in science are leading to a revolution in our ability to detect, treat, and prevent disease." In March 2000 Clinton and Blair agreed the following:

- The United States and the United Kingdom are the leading partners in the Human Genome Project, the international effort to map and sequence the 3 billion "letters" and to locate and identify the roughly 100,000 genes that make up the human genetic code.
- This project will revolutionize the practice of medicine, providing the means to custom tailor treatments to the needs of each patient, and prolong healthy life by predicting and preventing diseases.
- Unencumbered access to the raw human sequence data will promote its use by scientists all over the world in their efforts to understand human biology and disease at the level of individual genes.
- The single most important development in human biology in the short term will be the completion of the sequencing of the human genome. Government-funded research activities have made important contributions to this result. The private sector has also made significant advances in recent years.
- The single biggest challenge to humankind will be to take this vast storehouse of information and rapidly develop new products to diagnose and treat human disease. That process will require continued support for government research. It will also require a suitable environment for the private sector to develop new products, including appropriate intellectual property protection.

It is thus important to note that placing some research results in the public domain will be both of significance to all the people and have enormous commercial potential for new discoveries based on the original work.

Placing some discoveries in the public domain, assessing the potential of scientific research, and identifying the products and processes that might follow is truly important to a healthy

research environment. A healthy research system has many levels and kinds of research, and public research institutions in particular should encourage fundamental research[2].

4. Is there a need to protect research results from appropriation?

There is a need to ensure that researchers are aware of the impact of their research for the good of the society. Sometimes that impact requires protection of research from appropriation. Ensuring that Universities and research institutions are aware of the need to protect their research from appropriation is an important step in changing the research culture in South Africa – as elsewhere. Protection against appropriation sometimes requires the strategic use of intellectual property rights by such means as open licences, defensive patents and where appropriate remunerative licensing schemes.

Knowledge governed by intellectual property is always an important *input* into research as well as an *output*. The patenting of research tools threatens the viability of research[3]. Appropriate protection for research which prevents research from being privatised includes "open source patenting"[4] and open licensing such as the BiOS licences[5].

Modern research is exceptionally complex, so that often very few people are able to understand the nature and import of the research at a given point in time. As a result the only persons able to understand what is the most appropriate protection for research are researchers themselves. We welcome a requirement that research workers should think about appropriate protection of intellectual property arising from their research, and the public benefit from research including commercialisation where appropriate.

There is a global movement to ensure that knowledge, which can be freely disseminated using information and communications technologies, is open wherever possible[6]. This includes open access to scientific research by the worlds leading universities, such as Harvard in February this year[7], and widespread commitment to open educational resources by signatories of the Cape Town Declaration in January this year[8].

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2 The level of abstraction involved in university research is precisely what differentiates the understanding gleaned in academic research from industry research. While this tends to make academic research less susceptible of immediate commodification it is precisely this quality that qualifies graduates, especially doctoral graduates to conduct independent research in industry.
See 'Universities and the Knowledge Economy', Robin Cowan , January 2005,
See also 'Structural Holes, Innovation and the Distribution of Ideas', Robin Cowan and Nicolas Jonard, November 2006, UNU-Merit Working Paper Series 2006-39,
' The Explicit Economics of Knowledge Codification and Tacitness', Robin
Cowan, Paul A David and Dominque Foray, Industrial and Corporate Change, Vol 9, No. 2 2000

3 *"Can Patents Deter Innovation? The Anticommons in Biomedical Research'*, Michael A. Heller, Rebecca S. Eisenberg, *Science* 1 May 1998:
Vol. 280. no. 5364, pp. 698 - 701

4 'Open Source Patenting' Sara Boettinger and Dan Burje, JIBL Vol 01 1 2004

5 The BiOS licences are among the licensing tools for biological sciences developed by Cambia, an 'independent, international non-profit institute', see http://www.cambia.org/daisy/cambia/home.html

6 For more information see Science Commons (http://sciencecommons.org/) and, Cambia (http://www.cambia.org/)

7 In February 2008 Harvard Faculty of Arts and Sciences adopted an open access principle see http://www.fas.harvard.edu/home/news_and_events/releases/scholarly_02122008.html

8 The Cape Town Open Education Declaration, signatories include leading institutions such as the University of Cape Town, Universidad de Cádiz, European Graduate School EGS, Public Library of Science etc. http://www.capetowndeclaration.org/

5. Should South Africa adopt the Bayh-Dole approach?

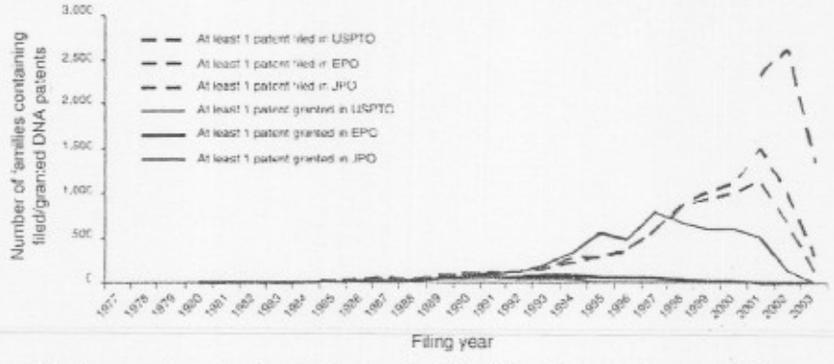
The Bill is inspired by the Bayh-Dole Act, which was passed in 1980 in the United States, to regulate an aspect of the contracts between federal agencies, and universities for research funding. However in the intervening twenty-nine years the way in which research is conducted has changed radically, with the spread of the Internet that was originally created to share information about research.

Information and communication technologies have enable researchers to share data on a scale not imagined in 1980. Multi-national research consortia have become the norm.

Research on the Baye-Dohl Act suggests that it negatively impacts research systems without necessarily resulting in significant revenue for most research institutions[9]. Very few of the patents taken out in the United States have ever earned much in the way of royalty or licence fees, and few institutions have gained financially from the provisions of the Bayh-Dole Act.

The Bill is based on a flawed premise; that the fundamental purpose of university research is to generate revenue through licence fees. As a result its procedure is flawed, since it creates a structure that will tend to prevent sharing of knowledge, regardless of whether there is any probability that the research will result in a commercial product. Instead of creating structures to identify the social and economic benefits likely to result from particular research, and the means of realising those benefits the Bill creates a structure which regards a decision not to obtain registered rights as the exception rather than the rule.

South Africa's has remarkable research potential, but the systems in place suffer from grave threats including an ageing research population, the steeply rising costs of international journals, and inadequate systems to ensure diffusion of research results.



Filed applications and granted patents in patent families claiming human DNA sequences

DNA patenting: the end of an era? (/nbt/journal/v25/n2/full/nbt0207-185.html)
Michael M Hopkins, Surya Mahdi, Pari Patel & Sandy M Thomas
Nature Biotechnology 25, 185 - 187 (2007)
doi:10.1038/nbt0207-185

Research is also showing that the number of patents approved in the area of biotechnology and genetics by the major patenting offices is falling (United States, Japan and Europe).

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9 'Public Research And Private Development: Patents And Technology Transfer In Government-Sponsored Research', 82 Va. L. Rev. 1663 (1996), 'Bayh-Dole Reform and the Progress of Biomedicine' arti K Rai and Rebecca S Eisenberg 66 Law & Contemp. Probs. 289 (Winter/Spring 2003) p289

There are many reasons for this, with patent offices being reluctant to agree to a patent unless there is an obvious utility and disallowing broad claims

6. Multinational Research Consortia

A significant proportion of important scientific research is conducted through research consortia, involving numerous institutions across the world. South African research institutions benefit from participation in consortia through collaboration with global leaders, being exposed to best practise, early access to research data and access to expensive research hardware. Very little meaningful research can be achieved without participation in these consortia. Since research requires the co-operation of many individual researchers and organisations across the world it can only operate in an "open source" way, which permits all the researchers to make use of research results in order to progress in the research, and to agree within the consortia as to the manner in which IP should be handled.

Each consortium sets standards for the way in which intellectual property based on the research should be protected and where appropriate exploited. For example, one of the largest public funded systems for research initiatives in the world is the European Union's Framework Programme 7 – a programme that permits South African Researchers to participate. FP7 leaves the decisions as to the handling of Intellectual Property, both within the project and in relation to results from the project, to a consortium agreement[10]. Consortium members have the right to define, by common agreement, the background knowledge that each one of them is going to make available to the project or to exclude specific background from their obligation to grant access rights. Consortium members are thus able to delimitate the background knowledge they are going to share.

As they involve multiple stakeholders and sources of funding consortia will not negotiate exceptional terms for individual researchers or lone institutions, or individual countries. The Bill fails to acknowledge the existence of these research consortia. The provisions on co-funding with private institutions are not appropriate for participation in consortia[11]. The requirement that research results must be subject to attempts to commercially exploit them in the manner required by the Bill is directly contrary to the conditions of participating in international research consortia. The consequence will be that South African research institutions will no longer be able to engage in multi-country research.

Closely related is the issue of research that is financed or co-financed not by corporations but by non-profit organisations or foreign governments who finance research on the basis that it will be available on an open access basis. **The provisions in the bill on co-funding with private partners are therefore not appropriate since they require commercialisation of the research results in a particular manner**. The requirements of the multitude of co-financing organisations have to be addressed.

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10 Consortium members have three main obligations regarding the management of the results of the research by themselves or other consortium members:

- protect it (at least when it is capable of commercial or industrial application),
- use it (in further research or commercial activities) and
- disseminate it (to the relevant public or the public in general).

11 For example, section 15 permits a private entity or organisation to become a co-owner of intellectual property only if it commercialises intellectual property.

7. Intellectual Property Policy

South Africa has played an important role as one of proponents of a development friendly international intellectual property system, including the adoption of the Development Agenda at the World Intellectual Property Organisation. This includes a recommendation:

> "To encourage Member States, especially developed countries, to urge their research and scientific institutions to enhance cooperation and exchange with research and development institutions in developing countries, especially LDCs."[12]

Passing the Bill will undercut efforts by South Africa to ensure that the international intellectual property system is responsive to the needs of developing countries, including efforts to ensure that Africa has access to the research results of developed countries.

The current Patent Act is apartheid era legislation that has no exception for research, nor does it exclude research tools from patentable subject matter. If process patents are taken out to protect new techniques, their use in universities will depend on permission from a 'thicket' of patent holders; this will slow research down enormously, even where the research is not intended to result in a commercial product. Even identifying that which can or cannot be used openly will be a problem.

The current patent system does not involve as detailed an examination of patents as that done in Europe, Japan, Canada or the United States. This is a problem, as international companies do not trust the validity of South African Patents. Introduction by South Africa of a full patent examination system will depend on the availability of skills in highly scientific and technical matters. Universities could supply skilled examination, on an 'as-needed' basis, but not if the universities and researchers involved have a direct interest in preventing patenting by others, and attempting to patent the same or similar technology themselves. This will no longer be a viable policy option for South Africa.

Conclusion

Patenting is only one possible way of ensuring that research has a positive socio-economic impact. The South African government is already deploying a far wider policy response. However in its emphasis on compulsory patenting the Bill runs the risk of displacing this far more nuanced policy response. This is because the Bill is the only legislation in this area, creating legal obligations for the range of players. Set against policy documents that do not create legal obligations this will tend to skew the research environment as universities, researchers and government officials respond to legal obligations.

Funding and attention will be diverted from creating systems to assess all the social and economic benefits of research and the most appropriate ways of realising them.

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12 The 45 Adopted Recommendations under the WIPO Development Agenda http://www.wipo.int/export/sites/www/ip-development/en/agenda/recommendations.pdf

I have worked hard with others to find ways to suggest to Parliament to improve this bill. I would prefer that it not be passed, but agree with others making submissions to you that there is much to be done to make the law usable and innovation friendly.

To achieve the ends there is a need to define the goals:

- South Africa should become a global leader in open content creation, and collaborative research.
- Devise a system, together with South Africa's research institutions to assess the social and economic benefits of publicly financed research properly understood.
- Create incentives for researchers to assess the social and economic impact of their work.
- Reform the South Africa patent system, ensuring adequate exceptions for research.
- Assess the costs of the patenting research tools for research in South Africa.
- Create guidelines to ensure that South African research institutions take adequate measures to protect against appropriation of research results.
- Advocate for changes to the global intellectual property system that prevent the exclusionary patenting of research tools.
- Impose patent and commercialisation requirements only through contractual terms of specific grants.

I apologise again for the length of this letter; it had to be detailed in order to explain why I am deeply troubled by that which you have been presented with.

I believe the law will not work, will hamper research and ensure the opposite of its intention – isolate South African scientists, make them even more willing to leave our shores and deter research.

I have attached an appendix to this letter with some possible remedial clauses that might help in improving the working of the bill. I hope that they will be helpful in your deliberations

Yours sincerely

Julian Kinderlerer

Appendix

1. Ensuring research is not impaired

It is important that the Bill should reflect the larger policy framework through explicit reference to the framework, especially in the section on the purpose of publicly financed research and development. The Bill should not countenance that research should lie unused, but instead present research institutions with a range of options to realise this aim, depending on the nature of the research, the specific research environment and the larger socio-economic context. Thus some research should be commercially exploited while other research should equally become publicly available under the principles of open access.

Draft Provision:

It is recommended that the Act should have the following objects (replacing current section 2):

> *To make provision that knowledge from publicly financed research is utilised for the benefit of society, whether it be for social, economic, military or other purposes;*
>
> *To require recipients of publicly financed research to assess, record and report on the benefit for society of publicly financed research;*
>
> *To acknowledge and reward human ingenuity and creativity;*
>
> *To protect intellectual property developed from publicly financed research from appropriation, and ensure that it is available to the people of the Republic;*
>
> *To require the identification of commercialisation opportunities of intellectual property from publicly financed research;*
>
> *To enable the State, where necessary, to use the results of publicly financed research and development and the attendant intellectual property in the interests of the people of the Republic.*

It is recommended that Section 3 be amended to contain the following sub-section:

> *This Act shall be interpreted and applied so that intellectual property arising from publicly financed research shall be protected without unduly encumbering future research and discovery.*

2. Multinational Research Consortia

The Bill fails to acknowledge the existence of these research consortia. The requirement that research results must be subject to attempts to commercially exploit them in the manner required by the Bill is directly contrary to the conditions of participating in international research consortia. The consequence will be that South African research institutions will no longer be able to engage in multi-country research.

The provisions on co-funding with private institutions are not appropriate since they require commercialisation of the research instead of its dissemination on an open access basis to form the basis of further research, and teaching.

Conclusion:

- Research undertaken by South African institutions as part of research consortia should be dealt with according to the terms agreed within the consortium, and should depend on the sources and requirements of all the funding agencies.
- Research which is financed or co-financed by philanthropic donors on condition that it shall be open access shall be protected through open access systems

Draft Provisions:

Additional subsections for section 3

The intellectual property arising from publicly financed research undertaken by recipients as participants in international research consortia shall be dealt with according to the policies of, and agreement with the consortium and the requirements stipulated by the major funding agencies. Notwithstanding any other provision of this Act it shall not be necessary to commercialise intellectual property as identified by this measure arising from publicly financed research undertaken in participation in a research consortium unless the proportion of funding from South African public funds is greater than 30% of the total funding available to the consortia.

Notwithstanding any other provision of this Act it shall not be necessary to commercialise intellectual property arising from publicly financed research which is significantly financed by co -funders, including private funders, non-profit foundations, foreign governments, or international organisations, on condition that the research results shall be freely available. The results of research under this subsection, referred to as co-funded open access research, shall be timeously made available under an appropriate open licence.

Additional obligations in Management obligations (currently 5(1))

(f) report on research undertaken as participants in research consortia, including, the benefit to society of the research and the terms imposed on intellectual property arising from the research by each consortium;
(g) report on co-funded open access research, including, the benefit to society of the research and the terms imposed on intellectual property arising from the research by each consortium;

Additional definition in section 1
Research consortium: an arrangement by two or more research institutions, or by individual researchers in their roles as employees of research institutions, which enables the sharing of data, research resources and results for the purposes of collaborative research

3. The decision to patent research

The order of sections 4 and 5 in the Bill is a potential cause for confusion. It would be preferable if the section on recipient's obligation and disclosure duties were to be first, and a section concerning election in respect of commercialisation second, following the likely order of events. Both sections refer to statutory protection, which is not defined but is apparently a reference to the species of intellectual property rights which require registration such as patent rights. All intellectual property rights are granted by statute, including copyright, and performers protection both of which do not require registration, but arise *ex lege* when certain conditions are met. Copyright arises when a qualified person reduces an original work, of a specified kind, to material form. It would therefore be preferable to refer to obtaining registered rights rather than statutory rights.

When a researcher identifies intellectual property rights arising from research as potentially commercially valuable, then the researcher should report that potential as set out in section 5 (2). Where a researcher identifies intellectual property rights arising from research as requiring registered rights then the researcher should report that potential as set out in section 5(2). Intellectual property arising from publicly financed research might require obtaining registered rights as appropriate protection. This does not mean that those rights should necessarily be commercially exploited but instead may play a role in preventing appropriation by defensive registration, participation in a patent pool or other means of preventing appropriation.

Thereafter that specifically identified research should not be publicly disclosed in a way which would prejudice obtaining registered rights in the research. The identification of potentially commercially valuable intellectual property should be dealt with according to guidelines which enable the identification of that research, and appropriate ways of avoiding premature disclosure of that research. However research in respect of which no such requirement has been identified should not be subject to the same restrictions, and researchers should be entitled to publish it. The requirement that recipients should assess all publicly financed research for intellectual property which may be prejudiced by publication seems to require technology transfer offices to examine all research prior to publication. Technology transfer offices do not have the capacity to process all research carried out in an research institution, nor is it desirable that they should do so, since it each case it requires an understanding of highly specialised, extremely complex scientific knowledge, instead researchers should be required to identify when it seems likely that research results shall require registered rights.

Recipients shall report on all the types of protection used, and the rationale for using them.

Recommendation:

Researchers should therefore have the responsibility of alerting recipients on appropriate protection for research.

Research institutions should introduce codes of good practise to guide research workers in applying appropriate protection to research, and identifying research likely to be commercially valuable.

Draft Provisions:

Additional Recipient obligations

Addition to current s5(1)

(f) in the case of an institution to put in place mechanisms to annually assess, record and report on the benefit for society of publicly financed research conducted in that institution to the Department of Science and Technology;

Addition to current s5 (2)

provide effective and practical measures and procedures for the protection of intellectual property;

amend current s5 (2) (b) to read
ensure that personnel involved in research and development disclose to the recipient that research results might require registered rights protection or are potentially commercially valuable, prior to the publication of that research

amend current s5 (2) (c)
assess intellectual property identified by researchers as requiring registered rights, or having potential for commercialisation, to determine whether it merits registered rights, and where appropriate apply for and ensure that it obtains registered rights in its name

amend current s5 (2) (d)
refer disclosures for which it elects not to obtain registered rights to NIPMO within 30 days of making such election;

amend current s5 (2) (e)
report on intellectual property for which it elects to obtain registered rights, the reasons for obtaining protection, and where appropriate, the state of commercialisation of the rights to NIPMO on a biannual basis

delete current s5 (2) (f) and (g)

Additional definition:

open patent or design licence in the public interest, whichever is appropriate for the research results;

registered rights means patent, design or other intellectual property rights requiring registration to exist

Recommendations in respect of section 4

Draft provision:

s4 (1) *Subject to section 15 (2), intellectual property arising from publicly financed research shall vest in the recipient*

4(2) *a recipient which elects not to retain the rights conferred by subsection 4(1) or obtain registered intellectual property rights where such rights are appropriate must....*
.....

The intellectual property arising from participation by recipients in international research consortia and partially funded through public funds shall be dealt with according to the policies of, and agreement with the consortium and the requirements stipulated by the major funding agencies

4. Rights of creators to benefit-sharing

The provision requiring that creators are only entitled to revenue from intellectual property if they are South African citizens or ordinarily resident in the Republic will discourage foreign doctoral and post-doctoral students from carrying out research in South Africa, since while they might arguably benefit during their residence in the Republic they will cease to benefit when the leave South Africa. They may not be entitled to stay in South Africa. Many foreign doctoral and especially post-doctoral students bring external funding, skills and experience to contribute to research in South Africa. Gifted South African researchers with external funding will have an incentive to conduct research outside the Republic. South Africa will lose the inventors by trying to retain all the revenue from the invention. This provision will deter most scientists and developers from participating in research or development in South Africa, to the detriment of the stated principles of the bill.

Draft Provision:

section 10 (1) should be amended:

Intellectual property creators...provided that they are South African citizens or ordinarily resident in the Republic at time that they participate in the research, until such rights expire.

5. Definition of intellectual property

The definition of intellectual property currently in the Bill is untenable with a real likelihood of negative consequences. The definition refers to creations 'capable of being

protected by law from use by any other person, whether in terms of South African law or foreign law. This creates an impossible situation as it is over-broad, since it refers not only to intellectual property rights but to any law which protects from use which must mean prevents use, which could include competition laws, both common law and statutory competition law, defamation law, labour law, privacy laws and the like. It adds to that the impossibility that this shall be in terms of South African and foreign law. It is impossible to know all the ways in which a person might be prevented from using a creation of the mind; it is also impossible to know precisely whether an intellectual creation would be subject to intellectual property in all the jurisdictions of the world. Since a court could not reasonably discover all the possible permutations of intellectual property law in the entire world the provision would be void for vagueness. In addition patent rights are territorial, and section 12 restricts transactions that would licence intellectual property offshore. This creates a situation where a recipient may be obliged to obtain rights in another jurisdiction but is simultaneously discouraged from doing so.

The current definition has the further unfortunate consequences. The requirement that statutory protection, which seems to refer to registered rights coupled with a definition of protection anywhere in the world, must be obtained requires research institutions to obtain software patents. Software patents are available in the United States as the result of a judicial decision that has never been confirmed by the US Supreme Court. However South African patent law does not permit software patents, and the Minister of Public Administration has condemned opportunistic software patents in South Africa as abusive. The Bill requires that software be commercially exploited, by means of registered rights and proprietary licences. This is directly contrary to the open source policy adopted by government, and defeats one of the primary purposes of that policy which is the encouragement of software skills development that will be able to serve the information technology needs of government.

Recommendation

Amend the definition of intellectual property to refer only to intellectual property rights recognised by South African law.

Adopt the changes already suggested so that software can be protected by application of an appropriate open licence, or through a proprietary licence according to government and institutional policies.

Draft Provision:

*"**Intellectual property**" means patent, copyright, performer's protection rights, trademark, registered designs and the like, but excludes copyright in learning materials, theses, dissertations, articles, handbooks and the like which in the ordinary course are associated with conventional academic work;*