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THE NEED AND PRACTICAL EXAMPLES OF INTELLECTUAL
PROPERTY POLICIES

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INTRODUCTION

1. Universities as dynamic institutions are always in the process of defining and refining their role and objectives so as to remain relevant and useful to the societies they are serving. This contributed to the change of understanding of the function of a university to be not only a teaching institution as it was in the past. Today it taken for granted that a mission of any university worth the name includes research and public service. Activities carried out in research and public service through consultancy and professional advice are directly relevant to the topic at hand on the need of universities having intellectual property policies in their broadest meaning.

2. The importance of intellectual property policies and management in universities in Africa is being more recognised and appreciated to an increasing extent not only by universities but also governments and other institutions both public and private.

3. The expanding involvement of universities in research and development has brought remarkable changes in their role to society because it now means that they are capable of being inventors, vendors and purchasers of technology. Universities now either in their own or through their units or companies may be involved in manufacturing of commodities resulting from their inventions or from buying technology from other vendors. Discoveries by universities no longer end up being just a theoretical contribution to knowledge but they are applied in innovation and production.

4. The changes that have occurred have necessitated that the discussion on the need of intellectual property policies for universities has moved out of the traditional and narrow view of looking it only from copyright and associated issues. In contemporary discussion issues of industrial design, patents trade and service marks and allied rights are becoming even more crucial.

CHALLENGES TO AFRICAN UNIVERSITIES IN INTELLECTUAL PROPERTY RIGHTS

5. As much as the topic has been formulated in broader terms the workshop target is Africa and its universities and how they relate to policy aspects of intellectual property. In order to appreciate the challenges and problems that face African universities in general and on the management of intellectual property in particular, it is imperative to place them in their historical context. Most of the African universities today are what have been categorised as “second generation” and “third generation” universities¹. First generation are colleges that were affiliated to European universities which were established during the colonial period such as Fourah Bay College in Sierra Leone, Makerere College in Uganda, the Gordon Memorial College and the Kitchener School of Medicine in Khartoum, Achimota College in Accra and Yaba College in Lagos². Second generation universities were those established at

¹ Kabudi, A.M.M., The Development and Provision of Scientific and Technical Services in Tanzania: With Reference to University Libraries, Berlin, Verlag Dr. Koester, 1997, p. 101.

² Glimm, H., and Kueper, W., (Compilers), University, Science and Development in Africa, Bonn, DAAD, n.d., p.33.

the eve of independence or immediately after independence from colonial rule³. This includes the University of Dar es Salaam which started in October 1961 as a University College of the defunct University of East Africa⁴. Third generation universities are those planned and established post- independence governments in most cases a decade after independence responding to increased demand of university education and research⁵.

6. As much as the first and second-generation universities in Africa were influenced directly or indirectly by colonial policies they have collectively or individually fundamentally redefined the role of a university in Africa so as to meet the challenges and devise and offer solutions to problems that confront African countries⁶. The ambition and a noble one in that case has been to create development oriented universities that will meet the challenges of the 21st Century that has been categorised as that of science and technology. This is being achieved despite the multitude of problems that beset African universities and therefore affect the level of achievement in research and development as a result of inadequate research infrastructure and financial resources.

7. The challenge facing African universities is that of increasing research and consultancy capabilities and competency and integration of research, teaching and consultancy services so as to achieve scientific professionalism⁷. The realisation of that need has resulted in many African universities to revise or rewrite their research policies and programmes so as to define the research agenda of the institution that conforms to the development strategy of that specific country⁸. Furthermore, some African universities such as the University of Dar es Salaam have embarked on institutional transformation programmes which has included the preparation of strategic and actions of plan on research and development responding also to societal needs and challenges and demands of market-oriented economy⁹. Such strategic and action plans heed also to address and provide for systems of intellectual property management in universities.

8. Resulting from this new orientation has been the adoption of research policies backed by rules and regulations as well as strong directorates or departments of research empowered to oversee and co-ordinate research activities within the university and with other institutions. Directorates of research are the ones that have been assigned the focal point of issues of intellectual property in their respective universities. Also liaison offices or bureaux have been established in some universities to act as a link between them and the industry. Universities are not taken only as institutions of knowledge and skill creation but also as centres of entrepreneurship and technological development.

³ Kabudi, A.M.M., *op. cit.*, p. 101.

⁴ The University of East Africa, *The Calendar 1969/70*, p. 21

⁵ Kabudi, A.M.M., *op. cit.*, p. 101.

⁶ Adjei, K., *The Role of African Universities in the Developing of Human Resources to Meet New Tasks*, in: Glimm, H., and W. Kueper (Compilers), *op. cit.*, pp. 185 0-195.

⁷ University of Dar es Salaam, *Institutional Transformation Programme, PMU/UDSM-200, University Level Five Year Rolling Strategic Plan 1998 - 2003*, Dar es Salaam, DUP (1996) Ltd., 1998, p. viii.

⁸ University of Dar es Salaam: *Research Policy and Operational Procedures for the University of Dar es Salaam*, Dar es Salaam, DUP (1996) Ltd., June 1998, p.5.

⁹ University of Dar es Salaam, *UDSM Five-Year Rolling Strategic Plan 1999/2000 - 2003/2004, Detailed Version No. 2*, June 1999, p. 1.

9. African universities are also faced with the challenge of formulating and adopting comprehensive intellectual property policies. They have lagged behind compared to universities in North America, Europe and Australia. In doing that they need to adopt the holistic approach to intellectual property and to learn from the experience of other countries. That does not mean that they should copy or imitate from other but rather they should creatively adapt and utilise whatever may be relevant instead of striving to re-invent the wheel.

THE NEED FOR INTELLECTUAL PROPERTY POLICIES

10. Intellectual property has been defined by some scholars to be that body of legal rights they be economic or moral which arise from mental and artistic endeavour and or efforts¹⁰. This paper proceeds from the understanding that intellectual property is attributable to a system of laws which provide exclusive economic rights in artistic and literary works by virtue of the copyright system; inventions by virtue of the patents system; trademarks identifying the origin of goods and services under the trademark system; registered designs for an article's appearance by virtue of the industrial designs system; and certain developed species and varieties of plant under the plant breeders' rights system¹¹.

11. It needs to be noted that under intellectual property rights technological inventions they are given protection under patents and design rights to the appearance of mass-produced goods¹². Copyright gives longer-lasting rights, i.e. to literary, artistic and musical creation while trademarks are protected against imitation when they continue to be employed in trade¹³. This has led to systematic development of a corpus of both national and international legal framework for the protection of such rights. Today the international protection of intellectual property has been facilitated by international conventions such as the Berne Convention for the Protection of Literary and Artistic Works and the Paris Convention for the Protection of Industrial Property.

12. This has been further developed by the Trade-Related Aspects of Intellectual Property Rights Agreement (TRIPS) adopted under the World Trade Organisation system responding to the need of having an internationally harmonised system of intellectual property protection for enhancement of trade and reduction of distortion and impediments to international trade. Discussing the general notions of the importance of intellectual property to international trade, Asein¹⁴ points out that it results in the following that:

- (a) a sound intellectual property law regime facilitates the transfer of technology and distribution of trade and services amongst nations;

¹⁰ Williams, J.F., *A Manager's Guide to Patents, Trademarks and Copyright*, London, Billing and Sons Ltd., 1986, p. II

¹¹ Janke, T., *Lessons for Protecting Indigenous Australian Cultural and Intellectual Property*, *Art, Antiquity and Law*, Volume 2, Issue 4, December 1997, p. 405.

¹² Cornish, W.R., *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights*, Second Edition, London, Sweet & Maxwell, 1989, p.3.

¹³ *Ibid.*

¹⁴ Asein, J., *Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) and Africa: Enforcement/Remedies*, Paper presented to the WIPO African Regional Colloquium on the Teaching of Intellectual Property Law, Pretoria, October 12 to 15, 1998, p.3.

- (b) Intellectual property is a vehicle for encouragement of domestic innovation, creativity and commitment to research and development;
- (c) Just as a strong intellectual property culture draws investment from the investing public, it also reassures the creative community that their place in the society is recognised by the state and that it will protect intellectual effort and ensure that they are adequately rewarded;
- (d) By encouraging domestic research and development to flourish, the state encourages the expansion of its productive sector thereby increasing the prospects of employment for its people;
- (e) With innovation and diversification of productive energies, there emerges a wide range of economic activity and a widening of the export base and revenue yielding capacity of the nations.

13. As pointed above countries have enacted a number of legislation for the protection of intellectual property rights. In the case of Tanzania, for example, this includes the Trade and Service Marks Act, 1986¹⁵; the Patents Act, 1987¹⁶ and the Copyright and Neighbouring Rights Act, 1999¹⁷ which repeals the Copyright Act, 1966¹⁸.

14. National law and international law systems; on intellectual property protection provide the basis for general guidance to universities when formulating their policies on intellectual property. Policies must abide to the law in order to for them to be legally recognised and enforceable. Together with laws governments have also issued other national policies that are relevant and need to be taken into consideration during promulgation of a university intellectual property policy. In the case of Tanzania, for example, that will include the National Sustainable Industrial Development Policy (1996 - 2020)¹⁹, the National Science and Technology Policy for Tanzania²⁰ and the National Higher Education Policy²¹. For example the Sustainable Industrial Development Policy states that Tanzania has adequate intellectual property laws to regulate intellectual; property including acquisition of patent rights in new inventions and innovations, and assurance of effective protection of all such patents²². This includes legislation to protect the right to use trade and service marks, the right to sue for infringement and pass-off as well as legislation for copyrights and neighbouring rights²³. It reiterates that Tanzania being signatory to the World Trade

¹⁵ Act No. 12 of 1986.

¹⁶ Act No. I of 1987.

¹⁷ Act No. of 1999.

¹⁸ Act No. 61 of 1966.

¹⁹ United Republic of Tanzania, Sustainable Industrial Development Policy (1996 - 2020), Dar es Salaam, October 1996.

²⁰ United Republic of Tanzania, The National Science and Technology Policy for Tanzania, Dar es Salaam, April 1996.

²¹ United Republic of Tanzania, National Higher Education Policy, Dar es Salaam, February 1999.

²² United Republic of Tanzania, Sustainable Industrial Development Policy, p.21.

²³ Ibid.

Organisation will abide by the trend of protection within the Trade Related Aspects of Intellectual Property Rights (TRIPS)²⁴. The National Science and Technology Policy for Tanzania provides policy objectives on research and development (R&D) in the universities and other institutions of higher learning as well as patents²⁵.

15. The Research Policy and Operational Procedures for the University of Dar es Salaam points out that the National Higher Education Policy and the National Science and Technology Policy have an impact on university policies²⁶. They also spell out the need of institutions of higher learning to develop research policies and guidelines that will define the research agenda of the institution in line with nation's development strategy²⁷.

16. Therefore, in line with national policies and laws as well as international law intellectual property policies needed by universities are those that effectively protect both economic rights of the right holders be it the university itself or its staff and students. They should also offer incentives to university staff and students and encourage innovation, creativity and commitment to research and development.

17. They are the crucial resource that the universities have as they are the creators of intellectual property.

MATTERS TO BE ADDRESSED IN UNIVERSITY IPR POLICIES

18. Universities in Africa need to formulate and adopt comprehensive intellectual property policies backed up by an institutional framework of rules and guidelines as well as an organisational structure that is effective in co-ordination and facilitation of intellectual property development and protection. There are universities in Africa such as the University of Cape Town in South Africa that has even an Intellectual Property Manager in the university's Office of Industrial Liaison²⁸.

19. One of the objectives of an intellectual property policy would be to provide guidance to the staff and student body as well as third parties with respect to intellectual property. Matters that require to be addressed by such a policy include, *inter alia*, the nature of intellectual property, its ownership, exploitation and the specific procedures adopted within that particular university for research as well as intellectual property. Another crucial aspect is that of dispute resolution mechanism. In this paper, I will dwell with the four aspects as discussed below.

²⁴ Ibid.

²⁵ United Republic of Tanzania, The National Science and Technology Policy for Tanzania, pp.52-53 and p. 58.

²⁶ University of Dar es Salaam, Research Policy and Operational Procedures for the University of Dar es Salaam, op. cit., p.5.

²⁷ Ibid.

²⁸ University of Cape Town Web site, <http://www.uct.ac.za>

Nature of Intellectual Property

20. Universities need to define intellectual property broadly and their policies need to be comprehensive in their coverage and holistic in their approach. It should cover any copyrightable or patentable matter. The often-mentioned requirement for patentability for an invention is that it must be new or novel and inventive step and being capable of industrial application²⁹. That means that the nature of intellectual property should include:

- Patents
- Copyright in literary works (including computer programmes), dramatic works, musical works, artistic works, films, sound recordings, broadcasts, published editions and certain types of performances.
- Trade and service marks
- Designs
- New plant varieties
- Circuit layouts (computer chips)
- Trade Secrets and other confidential material

21. Some universities, however have some reservations with trade secrets protection arguing that does not augur well with openness in knowledge sharing is part of the academic mission.

Ownership of Intellectual Property

22. It is a reality today that most of the intellectual property rights are often not held by the inventive individuals. Corporations, government agencies or cultural institutions hold the bulk of these rights³⁰. Today universities are among institutions that hold intellectual property rights. In most of policies universities assert ownership of intellectual property created by academic and non-academic staff as a result of their employment by a university. This is even more where the invention or discovery is a result of a research which has been funded by the university or other public or donor sources. The issue of ownership becomes a bit complex in situations where the funding is either partially or wholly comes from external sources. In such situations it is desirable that a shared proprietorship and a formula for sharing of intellectual property right ownership be devised to deal with cases of that nature. An aspect relevant to mention here is the disclosure clause requiring members of staff.

23. The issue of ownership of intellectual property is not only confined to university staff. It extends also to students and this goes beyond copyright as the tradition has been and extends to other types of intellectual property. Some universities assert ownership of intellectual property created by students where the funding has been provided by or obtained by the university and where they had required substantial use of university resources. There are universities which claim ownership of intellectual property created by students where it has resulted from the use of pre-existing intellectual property owned by the university. What is relevant here is that the policies in the aspect of ownership of intellectual property cover

²⁹ Cornish, W.R., Intellectual Property, op. cit., p. 114.

³⁰ Janke, T., op. cit., p. 405.

staff both academic and non-academic and students. Students contribute a lot in university research activities that lead to inventions and innovations, especially postgraduate students in all faculties ranging from natural sciences to engineering as well as fine arts which can be developed and harnessed by the industry when for example it comes to design of products.

Exploitation of Intellectual Property

24. Many universities have changed their approach to intellectual property and they are now willing to exploit and reap the benefits of their research results³¹. This largely deals with commercialisation of intellectual property and the sharing of benefits which accrues from the exploitation of for example an invention or innovation. Issues of licensing or material transfer contracts are crucial to be considered in the exploitation of intellectual property by universities. Licensing of university inventions has generated controversy and it has attracted protagonists as well as opponents on whether it is desirable for a university to indulge itself in such activity. Normally aspects of sharing of revenue arising out of the exploitation of intellectual property between the university and the member or members of staff who created it are also addressed as part of exploitation of intellectual property.

Institutional Framework

25. Some university intellectual property policies provide for an institutional framework or arrangement to oversee the implementation of the policy. They are styled differently but essentially, they have almost the same obligations and duties to perform. They are the custodians of policy and regulations on intellectual property in their respective universities. They are responsible for the day to day management and administrative matters relating to intellectual property.

PRACTICAL EXAMPLES OF INTELLECTUAL PROPERTY POLICIES

26. The discussion does not start from a *tabula rasa* because there are universities that have already adopted modern and comprehensive intellectual property policies and regulations. Most of the examples in this paper are derived from universities in United States. Examples are also drawn from universities in Australia. Unfortunately, it has proved difficult to access such policies from African universities through the Internet. The only document discussed in this paper from Africa is the Research Policy and Operational Procedures for the University of Dar es Salaam. The availability for discussion policy documents from African universities would have been more instructive for this presentation in understanding how they have dealt with the issue of intellectual property. The following discussion briefly reviews the salient features of some of the intellectual property policies.

³¹ Badawy, M.A., Intellectual Property Rights Protection Arranged and Gathered, November 1997, p. 1

Policy Examples from American Universities

(i) Cleveland State University

27. Cleveland State University under the College of Graduate Studies and research and the University Office of Research and Economic Development has issued the Patent and Copyright policy³². The policy recognises research as an integral part of education process in generating knowledge, encouraging the spirit of enquiry and the development of scientists, engineers and other scholars.

28. The policy has a provision on disclosure which requires faculty members, other employees and students to timely disclose to the university inventions which have been developed from research or investigations supported by the university³³.

29. It provides for a Patent Review Committee whose duties, *inter alia*, are to review the merits of invention and make recommendation to the President of the University for the management of the invention, including its development, patenting and exploitation. If the committee determines that the university has rights to the invention then it can make one of the following recommendations that:

- (a) The University should pursue legal protection of the invention, through patent or otherwise, and seek commercial development of the invention;
- (b) The University should dedicate its right to the public, adhering to the wishes of the inventor or creator where feasible; or
- (c) The University should transfer or waive its rights in favour of permitting the inventor or creator to protect and develop the invention at his or her own expense, and whether and what conditions should be attached to a transfer or waiver. At a minimum, such a transfer shall be subject to retention of a non-transferable, royalty-free license in favour of the university to be used in connection with the University's mission of teaching, research, and service.

30. The policy has elaborate provisions on rights to inventions and patents and the distribution of income. On rights to invention it provides that:

- (a) All rights with respect to inventions from research activities of faculty members, other employees and students of the University that are supported by the University or by the University facilities, equipment, or resources shall be assigned to and controlled by the University.
- (b) All rights with respect to inventions resulting from personal and independent research activities that are not supported by the University or by University facilities, equipment, or resources shall be the property of the inventor.

³² CSU Patent and Copyright Policy, available at <http://www.csuohio.edu/uored/POLICIES/patent.html>

³³ "Ibid., Article 28.23

- (c) All rights to inventions resulting from sponsored research grants, contracts, fellowships, or special arrangements shall be controlled by the terms of those agreements. Faculty members, other employees and students accepting sponsored research grants shall execute such agreements in a manner that will enable the university to conform with the requirements of the sponsoring agencies and shall abide by the provisions of such agreements and the sponsored research section of this policy.

31. The copyright policy on the other hand provides that its purpose is to encourage creative activities while ensuring the benefit of creativity, resources, and energy expended is shared equitably by all parties concerned - creators, sponsors and users³⁴. The policy objectives on copyrightable materials are listed to include the following:

- (a) To promote the development and utilisation of materials created by members of the University community in the course of their university activities;
- (b) To provide adequate recognition and incentives to the creators of such materials through a share in any proceeds from the materials;
- (c) To provide a means whereby authors can claim title to and protect their intellectual products, including protection from publication by others; and
- (d) To meet requirements imposed by government agencies or private foundations that contribute funds to support the creation and publication of scholarly works, consistent with the University's basic objective.

32. The University Office of Research and Economic Development has responsibilities of managing university's intellectual property. One of its duties is to assist the Office of the University Legal Counsel in obtaining legal protection of intellectual property and for arranging for licensing or other commercial development. It includes preparing and prosecuting applications for patent, plant variety protection, and other legal protection; negotiating or assisting in negotiation of licenses and related agreements and monitoring the collection of royalties or other related income.

(ii) Rice University

33. The intellectual property policy of Rice University has provisions on patents and licenses! copyrights and trade secrets³⁵. What may be of interest is the policy provision on trade secrets. It is in principle against invoking trade secrets protection on the argument that it is against the principle of openness which is essential for an academic institutions. It nevertheless recognises exceptional circumstances where trade secrets protection may be relevant to individual members of the university. It provides *in extenso* that:

“Since trade secrets are proprietary, confidential information, the restrictive practices and procedures required to maintain them are contrary to the principles of an open scholarly institution such as Rice University dedicated to, teaching and original research and to free exchange and dissemination of new knowledge. Nevertheless, it is realised

³⁴ Art. 28.30

³⁵ Rice University Research Policy No. 303-90 available at <http://www.rufice.edu/>

that in some cases trade secret information is necessary for the carrying out certain types of research. While Rice University cannot guarantee the confidentiality of trade secret information, individual faculty staff and/or students may be asked by the supplier of trade secrets information to sign non-disclosure agreements. It must be recognised that in accepting such trade secrets and/or a computer software under license, the University and its members involved may be subject to legal action through trade secret laws if the terms of a license or non-disclosure agreement are violated. Depending upon the terms of the specific agreement, examples of violation may include (but are not limited to) decompiling the object code, making unauthorised copies of the source code, failing to maintain confidentiality of program and documentation material, etc.”

34. The office responsible at Rice University for intellectual property issues is that of the Vice President for Research. It also has an Office of Sponsored Research, which deals with other institutions who fund research at the university.

(iii) Duke University

35. The Duke University Policy on Inventions, Patents and Technology Transfer has a chapter on Copyrightable Intellectual Property which categorises intellectual property matters into traditional works and technological works³⁶. Traditional works refers to educational, scholarly, artistic, or literary works including books, articles, manuscripts, films, CD-ROMs, and musical compositions, and other works of the kind that have historically been deemed in academic circles to be the property of their authors. The following may only be considered to be traditional works only when they are accessory to or an electronic expression of an educational, scholarly, artistic or literary work: texts and other works stored in computer media, computer programmes, computer software and databases³⁷.

36. Technological works refers to creative works, inventions, and discoveries other than traditional works that are eligible for copyright but do not constitute patentable technology. These include computer programmes, computer software, databases, integrated circuit design, industrial designs and other technologies used to support the electronic capture, storage, retrieval, transformation, imaging and/or presentation of digital data and information³⁸.

37. The Duke University policy provides that the ownership of all traditional works belongs to the author and may be copyrighted and commercialised by the author at his or her own expense. The same applies to technological works resulting from research or other work conducted by the university employees wholly on their own time without use of university funds or facilities. But for technological works resulting from research or other work conducted by university employees in whole or in part on university time or with significant use of university funds or facilities is considered to be the university's property. The rights and title are therefore assigned to the University.

38. Inventions, patents and technological transfer section of the policy also deal with, among others, issues of ownership of inventions and supportive technology and division of income. Again inventions resulting from research or other work conducted by university employees wholly or on their own time and without use of university funds and facilities are

³⁶ Duke University: Policy on Copyrightable Intellectual Property, available at <http://ww.ors.duke.edu>

³⁷ Ibid., p. 2.

³⁸ Ibid.

the property of the inventor and he or she is at liberty. It is inventions resulting from research or other work conducted in whole or in part on university time or with significant use of university's funds or facilities that is considered to be the property of the university. In such cases employees assign all rights and title to such inventions and are required to make known and available to the university all supportive technology related to the invention.

39. The policy contains elaborate provisions on income sharing between the inventor and the university. It has a range of criteria to be used where in certain cases the inventor earns fifty percent of the income remaining after payment of direct expenses. From the remaining ten percent goes to the Office of Science and Technology, ten percent to the inventor's laboratory, ten percent to the inventor's department and twenty percent to the university for research support³⁹.

40. The Director of the university's Office of Science and Technology and the Intellectual Property Committee which is appointed the University President are responsible for technological works, i.e. inventions, patents and technology transfer.

(iv) Cornell University

41. Cornell University has a patent policy and copyright policy both approved by the Executive Committee of the University's Board of Trustees. The Cornell University Patent Policy states that the primary obligation in conducting research is the pursuit of knowledge for the benefit and use of society⁴⁰.

42. It states further that because university research enjoys substantial public support it is incumbent upon the university to seek assurance that any resultant patent right be administered consistent with the public interest. It thus provides that inventions conceived or first reduced to practice in the furtherance of the university research must be promptly disclosed in writing to the university.

43. On ownership of the invention the policy provides that all patentable inventions made by individuals on their own time and without the use of universities resources belong to the individual inventor. Like policies of other universities all patentable inventions that arise out of university research that belong to the university. In the later case the inventor is required to co-operate and assist the university in all phases of the patent application process and must assign the rights to the Cornell Research Foundation Inc.

44. The Cornell policy has a part dealing with licensing which states that it is the general policy of the university to encourage the development and marketing of inventions resulting research so as to reach a public usefulness and benefit. This is achieved through various forms of agreements including the granting of exclusive licenses in conformity with federal and state laws.

³⁹ Ibid. VI.C.2.

⁴⁰ Cornell University Patent Policy available at <http://www.research.comell.edu>

45. Cornell Research Foundation is empowered to engage patent management agencies or firms for the purposes of obtaining services and advice with respect to the patentability of inventions, the obtaining of patents and the management and licensing of patents. At the university itself there exists a Patent Advisory Committee appointed by the Vice President for Research after consultation with the Research Policy Committee.

(v) Washington University in St. Louis

46. The Intellectual Property Policy and Guidelines on Intellectual Property and Technology Transfer outline at length the responsibilities of the university in relation with intellectual property⁴¹. It provides that it the responsibility of the university to:

- Educate the faculty regarding intellectual property and tangible research property; provide support as it deems necessary or desirable to obtain legal protection of university intellectual property; facilitate the transfer of intellectual property to public use and develop mechanisms within the Centre of Technology Management for licensing and management of technology;
- Provide legal support as it deems necessary and desirable to defend and protect the interests of the University and creators of the intellectual property against third party claims or unauthorised use; share royalties, equity or other income derived from University intellectual property with creators;
- Report to research sponsors as required by research and licensing agreements and applicable laws and regulations. In a timely manner return to creator the ownership of intellectual property which the Centre of Technology management cannot, or decides not to patent and/or license; and
- Provide a process for resolution of disputes that arise between and among the University regarding intellectual property.

47. Responsibilities of the creators of intellectual property are stipulated as follows:

- The creator of new intellectual property shall disclose in a thorough and timely manner all inventions, discoveries and other works that belong to the university;
- The creator shall provide such assistance as may be necessary throughout the technology transfer process to protect and effectuate transfer of intellectual property, including assignment or transfer of the intellectual property;
- The creator shall arrange for the retention of all records and documents that are necessary to the protection of the university's interests in the intellectual property;
- The creator shall abide by all commitments made in license, sponsored research and other agreements, and laws related to federally and private funded research; and
- The creator shall promptly disclose all potential conflicts of interest to the appropriate Disclosure Review Committee.

⁴¹ <http://www.wustl.edu/policies>

48. Washington University in St. Louis has established the Centre of Technology.

49. Management which manages university's intellectual property. The Centre is given the duty to evaluate inventions and other intellectual properties disclosed to it and suggest form of intellectual property protection and potential for transfer through licensing. Its duties include providing legal support that is required for all technology transfer activities and prepare legal instruments necessary in realising the technology transfer objective.

(vi) Indiana University

50. The Indiana University claims intellectual property in what the policy terms as "applicable intellectual property." That is any Invention, creation, innovation, discovery or improvement developed with university resources other than traditional works of scholarship and institutional works⁴². Institutional works are defined as works created at the instigation of the university, under the specific direction of the university, for the university's use, by a person acting within the scope of his or her employment or subject to written contract.

51. The policy contains clauses on intellectual property transfer and commercialisation agreements. They touch on the issue of collaboration between the university and third parties. On that aspect, it provides that:

"Indiana University welcomes agreements with third parties for the development, use, dissemination, and commercialisation of intellectual property, consistent with the University's mission and the Principles on Intellectual Property."

52. The responsibility of administration of intellectual property is vested to the Technology Transfer Office headed by a director. The office is supervised by the University Research Policy Committee and the Technology Transfer Advisory Committee. All disclosures are required to be submitted to the Technology Transfer Office which determines whether the university desires to obtain protection for the intellectual property.

(vii) Indiana State University

53. The Indiana State University has issued a Draft Intellectual Property Policy containing guidelines and principles on intellectual property rights⁴³. The Draft does not include provisions on formulas on revenue sharing and differentiation of rights. It caters for copyright and trademarks as well as patents and trade secrets. The draft policy recognises and proposes protection of trade secrets by the university.

54. On the issue of ownership of intellectual property, the provision on patents and trade secrets provides that in general all rights to all inventions, discoveries, and other patentable or trade secret works that are conceived disclosed, or reduced to practice by university employees in the context of their employment, students in an employment relationship with the university, or any person including university employees and students who use university resources including, but not limited to, facilities, equipment, funds, personnel, or funds under

⁴² Indiana University, Office of Research and University Graduate School, Intellectual Property Policy, available at <http://www.indiana.edu>

⁴³ Indiana State University, Intellectual Property Policy available at <http://www-isu.indstate.edu>

the jurisdiction of the university shall be assigned and controlled by Indiana State University. The co-ordinator is placed under the Office of the Vice President of Academic Affairs and is advised by the Intellectual Property Advisory Committee.

55. On the administration side, the policy proposes the establishment of the office the Co-ordinator of Technology Transfer and Copyright. The tasks of the Co-ordinator include providing training, advice, and information on matters of copyright, trademark, patent, trade secret and other intellectual property issues.

(viii) Stanford University

56. Stanford University has a comprehensive policy addressing various aspects of Intellectual property, including the ownership and licensing of patentable inventions and copyrightable materials. It also has a policy on what is categorised as tangible research property as distinguished from intangible property that is inventions, patents, copyright and trade marks. The Tangible Research Property Policy defines tangible research property to be tangible or corporeal items produced in the course of research projects supported by the university or external sponsors. Tangible research property includes such items as biological materials, engineering drawings, computer software, integrated circuit chips, computer databases, prototype devices, circuit diagrams and equipment.

57. The Stanford University Research Policy Handbook has a chapter on inventions, patents and licensing⁴⁴. The policy essentially requires that potentially patentable inventions created at Stanford University with more than incidental use of University resources must be disclosed and assigned to the university. This must be done regardless of the source of funding which supported the work and regardless of the inventor's association with Stanford University.

58. The university's Office of Technology Licensing is the operational arm of implementing the policy which includes outgoing Material Transfer Agreements for biological materials. It is responsible for managing the intellectual property assets of Stanford University. The Director of Technology Licensing manages the Office of Technology Licensing.

(ix) University of Massachusetts

59. The intellectual property policy of the University of Massachusetts states its intention to be the facilitating of commercial development of intellectual property arising at the university⁴⁵. The policy further states that in doing so it aims at providing an incentive to university inventors or creators to participate in such development while acknowledging the University's primary goal of the discovery and dissemination of knowledge. The policy addresses three categories of intellectual property, that is inventions, copyrightable works, and tangible research material. Tangible research mater Commercialisation of university-owned

⁴⁴ Available at <http://www.stanford.edu>

⁴⁵ University of Massachusetts, Intellectual Property Policy, Amherst & Boston available at <http://www.umass.edu>

intellectual property is done by the University Office of Commercial Ventures and Intellectual Property through licensing or other arrangements. The Executive Director of the Commercial Ventures and Intellectual Property is in charge of the office and works the Vice-Chancellor for Research.

Examples from Australian Universities

(i) University of New South Wales

60. The Intellectual Property Policy of the University of New South Wales provides guidance for academic and general staff and students on the practices of the University of New South Wales with respect to intellectual property⁴⁶.

61. On ownership of intellectual property, the policy states that the university has right of ownership of intellectual property created by academic and general staff as a result of their employment by the University. It also asserts ownership of intellectual property created by students where:

- Generation of the intellectual property has required substantial use of institutional resources,
- Generation of the intellectual property has resulted from the use of pre-existing intellectual property owned by the University,
- The intellectual property belongs to a set of intellectual property generated by a team of which the student is a member, and
- The intellectual property has been generated as a result of funding provided by or obtained by the institution.

62. The Deputy Vice-Chancellor for Research and International is responsible for the management of intellectual property. He is also the arbiter where a dispute arises on whether the University has a legitimate claim over intellectual property developed by staff or students.

(ii) University of Western Australia

63. Intellectual property policy of the University of Western Australia has been codified into Intellectual Property Regulations that has replaced former Patent Regulations, which did not encompass copyright and other forms of intellectual property⁴⁷.

64. The regulations have interesting provisions on private consultancies undertaken by staff to bodies outside the University and intellectual property. It stipulates that staff and students who are acting as consultants must take care not to make inappropriate use of knowledge that is protected by covenants of confidentiality or of intellectual property of which they are not the exclusive owners.

⁴⁶ Available at <http://www.infonet.unsw.edu.au/poldoc/ippol.htm>

⁴⁷ University of Western Australia, Intellectual Property Regulations, available at <http://www.acs.uwa.edu.au/research/policy/ip/ipreg.html>

65. The administrative and management responsibilities of intellectual property are under the Pro Vice-Chancellor (Research) assisted by Intellectual Property and Contracts Officer. There is also a company known as the Technology and Innovation Management Pty Ltd jointly owned by four public universities in Western Australia. It exists to commercialise intellectual property developed in universities. In the case of Western Australia the Intellectual Property and Contracts Officer is the link between staff and students and the company.

University of Dar es Salaam

66. The Research Policy and Operational Procedures for the University of Dar es Salaam⁴⁸ issued in June 1998 has touches on aspects of proprietorship of research outputs. It provides that in principle, proprietorship of research results or outputs is vested with the University. The policy affirms that: “There is no disputing this when all funding is from within the University, other public sources, or where donor finding is not tied to any specific research projects”. On shared proprietorship, the policy provides criteria for ownership which includes intellectual contribution, financial contribution and facilities for research.

67. In implementation of the new research policy the University has established the Directorate of Research and Publication charged with the responsibility of administering and co-ordinating research.

CONCLUDING REMARKS

68. In concluding African universities, need to strengthen their capacity in research and development. The impediment to that has mainly been the lack of adequate financial resources as well as lack of modern research facilities. Cooperation in research and development between universities and the private sector may be helpful in diversifying sources of funding for research.

69. The need to protect and manage intellectual property created by academic and general staff and students in universities is now well appreciated. They also need to formulate and implement policies and guidelines or regulations on Intellectual property that will encourage inventions and innovations and offer incentives through are reasonable and equitable benefit sharing formula.

70. They also need to establish where they do not exist and strengthen where they exist, institutions within universities that will co-ordinate and manage intellectual property rights. These institutions should also be the link with the market and be active in marketing research products of their universities.

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⁴⁸ University of Dar es Salaam, Research Policy and Operational Procedures, op. cit., p. 14.