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INTELLECTUAL PROPERTY SYSTEM FOR UNIVERSITIES,  
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AND DEVELOPMENT ORGANIZATIONS**

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MANAGEMENT OF INTELLECTUAL PROPERTY RIGHTS AT UNIVERSITIES

*Document prepared by Dr. Asifa P. Nanyaro, Director General, Tanzania Industrial  
Research and Development Organization (TIRDO), Dar es Salaam*

## 1. Intellectual Property

Intellectual property can be defined as being products of human intellect, which have potential for commercial exploitation. Intellectual property rights are subdivided into industrial property, copyrights and neighboring rights. Industrial property consists of patents, utility models, industrial designs, trademarks and trade names.

## 2. Benefits of Intellectual Property Systems for Universities and R&D Organizations

The intellectual property system is useful to universities and R&D organizations first as a source of information from where further knowledge can be created and can be used to plan for further studies in the area of concern and as literature conveying recent discoveries and general information of interest. Secondly, it can be used as a source for products and services when their industrial or commercial exploitation is used for social, cultural or economic gains. These institutions benefit from the intellectual property system since they have missions of providing education, knowledge creation and support of the development of domestic industry and commerce. For example, information obtained from patent documents<sup>1</sup> is useful to:

- Avoid duplication of R&D work;
- Identify specific new ideas and technical solutions, products or processes;
- Identify the state-of-the-art in a specific technological field in order to be aware of the latest development;
- Assess and evaluate specific technology and to identify possible licensors;
- Identify alternative technology and its sources;
- Locate sources of know-how in a specific field of technology or in a given country;
- Improve an existing product or process;
- Develop new technical solutions, products or processes,
- Identify existing or prospective industrial property rights (validity, ownership,...), particularly to avoid infringement actions;
- Assess novelty and patentability of own developments with a view of applying for a domestic or foreign industrial property right;
- Monitor activities of competitors both within the country and abroad; and
- Identify a market niche or to discover new trends in technology or product development at an early stage.

## 3. Management of Intellectual Property Issues

The management of intellectual property rights at universities and R&D organizations is important in the light of present globalization and liberalization of economies all around the world. This, coupled with developments in communications, especially in information technology, has opened up new opportunities in trade and demand as a whole new outlook into the issues of protecting intellectual properties. This challenge demands that human resource

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<sup>1</sup> Source: WIPO Patent Information Services for Developing Countries (WPIS), WIPO Regional Seminar on Invention and Innovation in Africa, Abidjan, September 1-3, 1999.

development, education and research be done so as to create knowledge and skills to enable respective countries to receive benefits from the intellectual property systems. Universities and R&D institutions must address this. Along with these their missions should include issues of economical development and propagation and the protection of indigenous knowledge which has links with intellectual property rights.

To achieve this the institutions need to create institutional frameworks. This includes the institutions having internal policies on these rights. Along with these the creation of teaching and research programs in different faculties, committees and innovation centres will develop.

### 3.1 Teaching and Human Resource Development

Training and human resource development at universities and other similar organizations on the subject will need to be planned into specific programs, if benefits are to be derived from the intellectual property system. All faculties especially those teaching physical sciences, engineering, law and business management, need to develop curriculum covering the use and creation of intellectual property. There is a need to expose their students to the subject. Exposure to other groups, outside the institutions, who are dealing with national policy, trade, legislation including decision-makers, senior officials and law enforcers could be done through conferences and forums, as well as through exposure to the public at large. Several methods, including the use of media and distance-learning approaches specialized by the like of the Open University of Tanzania, can become handy. In this way a wider audience will be reached.

Contacts with the WIPO Worldwide Academy in organizing joint courses and/or organizing of the support for some teaching programs or the holding of symposia should be created. The WIPO course modules, via the Internet, are a good educating medium.

### 3.2 Issues of Economic Development

The issue of contribution of the universities and similar research organizations to economic development in respective countries is important. In a way these institutions participate by providing advice and mostly by producing the intellectual property which includes issues of invention and innovation. To start with, they should have strategies to push for national innovation policies and funding to execute them. This is necessary for sustained economic growth, which relies on the continuous flow of new ideas and products. This is because a systematic application of knowledge in solving problems creates technologies. For this to happen, knowledge must exist and be communicated to others. And knowledge and technology are the products of these institutions. Mostly this comes out in the form of intellectual property. Part of the management will create the links between institutions and the national development creations, which are government, industry and businessmen.

### 3.3 Indigenous Knowledge and Technology

Indigenous knowledge and technology has historically evolved out of using local resources in the areas concerned to solve local problems and satisfy needs. Some knowledge and technology were lost due to a lack of documentation, or because of secrecy obligations imposed on knowledge holders or otherwise being expressed as being related to

religious mystique, and also due to the lack of development matching the changes of tradition and/or political situation. This wealth which could also be linked to the local resources should be documented in the appropriate form and eventually protected as intellectual property. This can happen if the relevant institutions have programs to address this issue.

### 3.4 Research, Patents, and Publications

The institutions should support research in the field of intellectual property rights. As well, they should put actual efforts towards supporting the creation and research activity, which will result in these properties especially in publications and patents. The issue of a lack of seriousness in scientific or such contribution is often raised when one looks for the contribution in publications of science or engineering publications from African countries as compared with those produced elsewhere. The amount of patents is also few. In an article written by Mr. Mamadou Traore<sup>2</sup> on “Where are the African Inventors?” and “What do They Invent?” he showed that patent applications from 1964 to 1999, for 15 OAPI countries, namely, Benin, Burkina Faso, Cameroon, Central African Republic, Côte d'Ivoire, Gabon, Guinea, Mali, Madagascar, Mauritania, Niger, Senegal, Chad and Togo, totaled 643. This can be compared with, for instance, the Massachusetts Institute of Technology (MIT), which had 1,500 patents involved in the licensing process from 1980 to 1995 (a study prepared by Mr. Brett Altschul<sup>3</sup>). It also seems that African countries contribute in only a few fields of the International Patent Classification (IPC). In 1995, WIPO statistics showed that patent applications from Burundi, Sierra Leone, Zambia and the Democratic Republic of Congo had only 22 fields out of 32 IPC classes.

### 3.5 Policy

The aim of having a policy on patents, copyrights and other intellectual properties at these institutions is to provide the technology and know-how for industry and the public enabling them to benefit. At the same time individual recognition will result in encouraging the prompt dissemination of research results and will provide the research staff with possible rewards. There, the ownership and the administration of resources and information on disclosure should be spelled out.

### 3.6 Advisory Committees and Innovation Centres

To execute the policy mentioned above institutions must create some committees, which oversee the implementation of the policy and advise the management on review of the policy or other matters associated with the execution. In the area of innovation and invention, a centre should be created within the existing facilities. This centre will link the institution and inventor to the industry or market, the main issues being legal aspects associated with filing a patent and the business management aspects linked to finding industrial partners, to negotiating out a licensing agreement and, finally, to exploitation. The centre should be a light weight and competent and should also be in contact with financial and commercial institutions.

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<sup>2</sup> Source: Mr. Mamadou Traore, “Where are all the African Inventors?” “What do They Invent?” presented at the WIPO Regional Seminar on Invention and Innovation in Africa, Abidjan, September 1-3, 1999.

<sup>3</sup> Source: Mr. Brett Altschul, MIT study, University Patents Add Millions (<http://www-tech.mit.edu>).

#### 4. Problems in Management Associated with the African Environment

Some hindrances for effective management of intellectual property rights in the African environment are those associated with the lack of abundant reference information, necessary to create confidence. Often, the institutional policy will not cover all the areas associated with the different areas of intellectual property. Lack of a dynamic and rewarding policy, which is fully communicated to members, will also be of some hindrance. It is important that stakeholders are involved in its evolution and review process. Finally, the difficulty of enforcement due to infrastructural shortcomings should be expected. This would be viewed as a result of funding, cultural issues and weak economics and industries. The issue of documentation and storage of information and its retrieval could slow down the action.

#### 5. Conclusion

The process of managing property rights in universities and research organizations will succeed, if the institutions create a lasting viable culture of innovation, invention and respect for intellectual properties. A clear understanding of the roles of each stakeholder inside the institutions, as well as outside, is important. Along with these, continuous communication must exist with the external stakeholders including the government, the industry, the legal and the financial institutions. Partnership must be forged between the different groups so that the atmosphere of creativity thrives.

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