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### **THE NEW MILLENNIUM AND THE ROLE OF INTELLECTUAL PROPERTY IN AFRICAN DEVELOPMENT**

*Document prepared by Mr. Craig Burton-Durham, Deputy Registrar  
Department of Trade and Industry (DTI), Pretoria*

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## **1. INTRODUCTION**

Intellectual property has proved to be one of the most effective tools in ensuring the economic and technological prosperity of industrialized countries and is increasingly being recognized by developing countries as indispensable in achieving their socio-economic goals. Most African countries have inherited intellectual property systems from their former colonial rulers, which are based upon the legal systems of these countries. It is important that these systems be constantly reviewed in order that they keep pace with changing needs and priorities.

In assessing the role of intellectual property in the economic development of African countries, it is necessary to firstly define the concept and to secondly determine the development objectives of such countries.

## **2. INTELLECTUAL PROPERTY DEFINED**

Intellectual property has been defined as those products of the human intellect, which are capable of commercial exploitation.

Intellectual property comprises two main branches, namely:

- industrial property: encompassing chiefly inventions, trademarks and industrial designs; and
- copyright: chiefly in literary, musical, artistic, photographic and audiovisual works.

In view of the present topic, focussing on invention and innovation in Africa, I shall confine myself to those aspects pertaining to invention and innovation.

## **3. DEVELOPMENT OBJECTIVES OF AFRICAN COUNTRIES**

### **3.1 Introduction**

The development objectives of African countries are directed toward the solution of specific problems of a socio-economic nature. These objectives are reflected in the social and economic policies and strategies, which are pursued in this regard and in the identification of these in various national and international fora. Priorities will, of course, differ from country to country and from region to region but there are nevertheless a number of issues common to all countries on the African continent.

**3.1.1** The development of a sound agricultural and industrial base by the following means:

- the improvement of agricultural systems and methods are the progression toward food self sufficiency;
- the stimulation of commercial activity and economic growth;

- the establishment of appropriate small, medium and large scale industries in priority sectors;
- the reduction of dependence on imported products through the development of a thriving manufacturing sector;
- the increased use of local raw materials as inputs in the manufacturing sector;
- the promotion of exports of finished products rather than of raw materials;
- the maximizing of economic benefit from the rich heritage of indigenous technologies such as traditional art and textile designing.

### **3.1.2 Rural development**

This would include the taking of measures to achieve the following:

- the improvement of the general infrastructure in rural areas;
- the provision of better living standards;
- the improvement of amenities;
- the developments of effective and efficient low cost technology particularly in the areas of agriculture and water conservation.

### **3.1.3 Science and technology**

The implementation of an effective science and technology policy to ensure the following:

- the acquisition of appropriate technologies suited to local conditions, on fair and reasonable terms;
- the adaptation of foreign technologies to suit local conditions;
- the promotion and development of indigenous innovative capacity;
- the upgrading of technology in the informal production sector;
- the upgrading of new and renewable sources of energy;
- the improvement of infrastructure in the areas of health and communications;
- the development of human resources.

### **3.1.4 Overcoming obstacles to the practical implementation of development objectives**

The following problems often result in the achievement of development objectives either being delayed or not succeeding:

- the lack of equipment;
- the absence of infrastructure;
- the lack of amenities.

## **4. THE RELATIONSHIP BETWEEN INDUSTRIAL PROPERTY AND TECHNOLOGY DEVELOPMENT**

### **4.1 The systematic application of knowledge in the solving of problems gives rise to technology**

Both invention and innovation are characterized by the following features:

- they both require the application of systematic knowledge in providing a solution to a particular technical problem, with which the inventor or innovator is confronted in either trade industry or agriculture;
- the knowledge must exist and be capable of being communicated by one person to another;
- the knowledge must be directed toward solving a problem in trade, industry or agriculture.

An invention essentially is a reflection of the application of systematic knowledge i.e. knowledge, which is organized in such a way, that it presents a solution to the problem. Technology is born from the process, whereby knowledge is systematically applied in the resolution of problems.

In the case of patented inventions, this technology is described and disclosed in a prescribed manner and form.

### **4.2 The role of inventions and innovations in development and progress**

**4.2.1** One of man's greatest distinguishing features must be his ability to constantly innovate and create and to commercially exploit the products of his intellect. Without inventions and innovations, progress, as we know it today, would simply not be possible.

Whilst the notion that inventiveness and innovation belong only to those endowed with more than a smattering of creativity may have held true at the turn of the century, this is no longer the case as there is more and more evidence to indicate that innovation and invention are being stimulated in the quest for technical advancement. The combined effect of the need for the advancement of technology in certain critical areas with accumulated knowledge, result in the stimulation of invention and innovation.

**4.2.2** The protection and recognition which the inventor or innovator receives in exchange for his investment in invention and innovation is critical in ensuring the continuity which invention and innovation make to technological progress.

### **4.3 The interface between invention, innovation and economic progress**

**4.3.1** Sustained economic growth relies upon a perpetual flow of new ideas and products in order to ensure the continued improvement in living conditions and efficient production. If the productive sectors of the economy are to be optimally utilized, then new products and processes must necessarily be forthcoming in order to achieve this objective.

**4.3.2** The single greatest measure of a country's economic progress is undoubtedly to be found in productivity as expressed in output per unit of input. While productivity may be influenced by a wide variety of economic and social factors, technological innovation is most probably the greatest contributor to increased productivity. Technological innovation results in the more efficient utilization of labor, capital and natural resources, thereby facilitating a greater output with less of an input.

**4.3.3** The economic benefit, which flows from imported productivity is increased economic growth. The increase in productivity allows valuable resources to be liberated to perform other productive tasks.

**4.3.4** Invention and innovation accordingly play an integral part in the economic development of both developing and developed countries.

**4.3.5** If the economic benefits, which a country stands to gain from fostering a climate and culture of innovation and inventiveness are to be fully realized, it is imperative that the participation in this process be driven by the nationals of each country. Economic autonomy and self-reliance cannot come without indigenous participation in the process. It is submitted that each country possesses such a reservoir of creative and innovative talent. The challenge facing countries in Africa today is how to tap into and harness this wealth of talent for the economic good of all our countries. The successful implementation of such a strategy requires not only an educative process, whereby the stakeholders are informed and aware of the benefits which accrue to those willing to engage in and utilize their inventive and innovative skills.

**4.3.6** The importance of the contribution which small, medium and micro enterprises and indeed individual inventors are able to make in the field of invention and innovation, must not be underestimated and much valuable inventive activity in this sector is often lost due to the high fees which must often be paid to secure the protection of inventions.

### **4.4 The evolution of innovation policy**

The linkage between invention, innovation and economic development has come to the fore during the past few decades, as is evidenced by the increased recognition, which both industrialized and developing countries are according to innovation. The acceleration of development policies can only be accomplished alongside scientific and technological development.

**4.4.1** The approach toward innovation and invention has shifted dramatically since the 18<sup>th</sup> and 19<sup>th</sup> centuries, when the emphasis fell on individual inventors to develop and

commercially exploit their inventions. The State's involvement went only as far as the granting of the monopoly in the invention. The industrial application and commercialization of the invention was left to the rules of free trade.

**4.4.2** The end of the World War II saw a growing interest and involvement by governments in the promotion of inventive and innovative activity. This gave rise to the formation in many countries of state-owned and subsidized research and development centres. The effect of this was to replace the individual inventor and innovator with large teams of researchers and inventors in either industry or government.

**4.4.3** As already stated, the importance of developing and encouraging innovation and inventive activity, at the single inventor and small and medium enterprises levels, cannot be overemphasized. It is in fact here, that the greatest growth potential in the developing economy lies only by the encouragement of invention and innovation in these sectors can the momentum of sustained economic growth be sustained.

Economic reality has shown that a failure or delay in incorporating innovation policies at critical stages of industrial development gives rise to crises in the following areas:

- productivity rate;
- adaptation to fluctuation in prices of energy and raw material resources;
- vulnerability to international competition with resultant economic stagnation.

The challenge, which developing countries therefore face in achieving their economic and social goals, is to master changing economic circumstances, which give rise to increased costs of natural resources and basic materials by the implementation not only of new technological and managerial approaches but also through increased innovative and inventive activity.

## **5. THE IMPORTANCE OF AN EFFECTIVE INDUSTRIAL PROPERTY PROTECTION SYSTEM IN THE ECONOMIC DEVELOPMENT OF AFRICAN COUNTRIES**

### **5.1 Patent protection**

**5.1.1** An effective patent system is an indispensable part of any science and technology policy, which is dependent upon invention and innovation for its success. It is the prospect of being granted a limited monopoly to commercially exploit and benefit from the contribution which the inventor makes to trade, industry or agriculture, which fans the flame of invention.

**5.1.2** Only by providing prospective inventors and innovators with the certainty of protection and the exclusive right to exploit the fruits of their research and labors, can a favorable climate for the transfer of technology be ensured.

**5.1.3** A patent system, which is to encourage inventive and innovative activity, must be flexible enough to accommodate the requirements of inventors from the single inventor to the large corporations, which require protection for their inventions.

**5.1.4** The requirement, that patents be clearly described and disclosed through publication results in the creation of a culture of technological advancement, in that valuable effort and costs are saved in the process of furthering the quest for solutions to technical problems, as relevant information in each field is freely available.

**5.1.5** The statutory protection of industrial property serves two chief functions. Firstly, it secures and gives expression to the moral and economic rights of creators in the products, which they have created. Secondly, it acts as a clear reflection of government policy on promoting creativity and in disseminating and applying the results of this creativity in a manner, which ensures that the creator is protected from the unfair exploitation of his creation. This has the effect of stimulating economic and social development.

**5.1.6** Only by providing for an inventor or innovator to obtain protection for his creative endeavors, can the investment of time, money and effort in the research and development, which are associated with these activities, be ensured. Not only does the granting of patent protection ensure that a further and most important investment in the industrial application of the invention is made, but it also contributes to the world supply of documentary sources of technology.

**5.1.7** The fact that patents are subject to time and territorial limitations makes the system a useful aid for those countries requiring access to technological information for development purposes. It is however, important, that this system be well integrated with appropriate technological promotion bodies in such countries. The extent to which the advantages of the patent information system will be of benefit to developing economies is largely dependant on the extent to which the patent system is understood, accepted and incorporated into the administrative infrastructure of the countries concerned.

The following are essential elements for the success of the patent information system:

- an awareness on the part of governments of the usefulness of the patent system for purposes of technological development;
- the existence of an industrial property system capable of providing adequate patent information services; and
- coordination between those branches of government charged with technology development and transfer and the intellectual property office where the patent information is administrated.

**5.1.8** It must be emphasized that the successful utilization of this system will only be possible if the full cooperation and commitment of government exists at the policy level. The establishment of coordination and linkages with the relevant authorities is accordingly essential.

## **5.2 Utility models**

The process of inventive and innovative activity often results in novel products, which although of value to the advancement of technology, nevertheless do not meet the exacting standards of patent protection. Such creations are nevertheless deserving of protection and must be stimulated and encouraged. Utility model type protection fulfils the need for this



type of protection and is particularly relevant in the developing economy context as it serves the interests of indigenous invention, which is necessary in ensuring economic development.

### **5.3 Industrial designs**

The rich heritage, which Africa possesses in the area of traditional art and folklore, is a source of economic activity, which can greatly contribute to the stimulation of local craft industries. These creations would typically fall within the realm of industrial design protection. As with the patent system an effective design protection regime stimulates creative activity.

## **6. THE EFFECT OF GLOBALIZATION AND THE MULTILATERAL TRADING SYSTEM**

A realistic determination of the role of intellectual property in the economic development of Africa cannot be made without consideration of the current global economic climate, within which the economies of African countries are required to function. These economic realities will largely shape and determine the parameters, within which the intellectual property system will serve its purpose in the development of African economies.

There are a number of factors, which have had a significant impact on the global intellectual property scene and which cannot be discounted in evaluating the role of intellectual property in the new millennium. The most notable multilateral development is unboundedly the advent of the world trading system as provided for by the GATT (General Agreement on Tariffs and Trade). The Uruguay Round of negotiations saw the establishment of the WTO (World Trade Organization) under the WTO Agreement, which entered into force on January 1, 1995, as the body responsible for the administration of the global trading system. The inclusion of the TRIPS Agreement in the GATT package of agreements is of particular significance in shaping the role which intellectual property rights will play in the economic development of countries in the new millennium.

Despite their being substantial differences in approach between the GATT/WTO rules and intellectual property rights, they have been brought together, in a way that they are subject to the provisions of the basic principles of the GATT 1994 and other relevant international agreements and conventions.

Whilst GATT provides for the liberalization of international trade through the removal of barriers to trade, TRIPS (which entered into force on January 1, 1996) makes provision for minimum standards of protection, which countries are obliged to grant in the protection of intellectual property rights. These standards are universal and various time limits have been established for countries to comply with TRIPS. Developing countries are obliged to ensure that compliance is achieved by the end of the current millennium, whilst least developed countries will have until 2005 to meet the requirements laid down by TRIPS.

Intellectual property rights have, despite their monopolistic and territorial characteristics, now become part and parcel of the multilateral trading system and their interface with international trade cannot be denied, as they have become trade related. The impact with the globalization of markets, where multinational enterprises increasingly conduct their marketing and manufacturing activities across the national borders of their home

countries must be carefully evaluated in providing for the interests of small and medium sized enterprises and of the single inventor within the African context.

It is imperative that the intellectual property system of developed countries be sufficiently flexible to provide for the interests of both large inventors in technology, thereby ensuring much needed technology transfer and foreign investment, whilst at the same time providing for the stimulation and development of domestic innovative and inventive capacity. Only by ensuring the development of domestic capacity in key sectors can developing countries maximize the potential of intellectual property for the development of their economies.

The simultaneous provision of technical assistance to such countries by organizations such as WIPO, UNCTAD and WTO furthermore, is of key importance to the realization of the full potential of intellectual property for economic development in Africa.

*TRIPS ARTICLE 66.2* requires that developed country Members provide incentives to their enterprises and institutions, so as to promote and encourage the transfer of technology to least developed countries in order to enable them to create a sound and viable technological base. The effective implementation of provisions such as these, are imperative, if developing countries are to receive optimal economic benefit from multilateral trading system.

## **7. CONCLUSION**

Globalization brought about by the enormous pace of change and technological development in the world over the past few decades, poses the greatest challenge to the economic development of the countries of Africa. If we look toward impetus and growth in the new millennium, then it is evident that the greatest potential lies within the developing economies of the world.

The developed world will be called upon to make major structural changes in their economies during the new millennium if they are to survive.

It is against this background that intellectual property, particularly in the areas of invention and innovation, will play a fundamental role in the development of Africa for it is in technology that one of the most important determinants of economic development lies. The last few decades have seen a widening in the technology gap between developing countries and developed countries, and the development and transfer of technology at fair and reasonable costs, will continue to constitute one of the key elements in accelerating the pace of economic and social development in such countries.

The development of domestic inventive and innovative capacity is an indispensable part in ensuring the successful implementation of economic policy objectives. As already indicated, however, the process will be informed by developments at the multilateral level and it is important that the interests of African countries in this area be effectively articulated in the appropriate fora, so as to ensure the maintenance of a climate conducive to the development of invention and innovation within the African context.

Only through establishing vibrant thriving economies in Africa can the people be assured prosperity. Intellectual property is an indispensable economic tool in achieving these economic objectives during the new millennium.

The cultivation of an awareness of the role and benefits of intellectual property, amongst both the government and potential users and beneficiaries of the system, is an important factor in the achievement of success, for without the knowledge and use of the system by those who should benefit from it's use, can it serve no valuable economic purpose.

Finally, we can contemplate the wise words of Pliny, the Roman elder, as we enter the new millennium:

***“Ex Africa semper aliquid novi!”***

Something new always comes out of Africa.

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