

**WIPO/INN/ABJ/99/7**

**ORIGINAL:** English

**DATE:** September 1999



GOVERNMENT OF THE REPUBLIC  
OF CÔTE D'IVOIRE



WORLD INTELLECTUAL  
PROPERTY ORGANIZATION

## **WIPO REGIONAL SEMINAR ON INVENTION AND INNOVATION IN AFRICA**

organized by  
the World Intellectual Property Organization (WIPO)  
in cooperation with  
the Government of the Republic of Côte d'Ivoire

**Abidjan, September 1 to 3, 1999**

### **ROLE AND FUNCTIONS OF AN INNOVATION CENTER**

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## "FROM IDEA TO PRODUCT" EMPOWERMENT OF AFRICAN INVENTORS AND INNOVATORS BY R&D ORGANISATIONS

### 1. INTRODUCTION

1.1. This paper examines the role that R & D organisations or innovation centres in Africa can play in assisting African inventors and innovators in order to benefit from their inventions, innovations or ideas and to contribute to the economic and technological development of their countries. It cites examples of what the Botswana Technology Centre (BOTECH) science and technology R&D organisation, is doing to encourage and assist citizens with inventive or innovative ideas and to promote inventions and innovations of potential commercial value. The paper briefly highlights what the education system is doing to encourage and support inventive and innovative activities. It also briefly highlights the effort by the Design Institute of the South African Bureau of Standards (SABS) to assist designers.

1.2. The paper focuses on the following as possible ways innovation centres could assist potential inventors and innovators;

1.2.1. Organisation of activities to promote inventions and innovation.

1.2.2. Education on the importance of intellectual property for the economic development of a country.

1.2.3. Development of policies for assisting inventors/innovators and people with novel ideas.

1.2.4. Assessment of inventions and innovations, prototyping, and commercialisation.

1.2.5. Influence of the school curriculum.

### 2. EDUCATION ON THE IMPORTANCE ON INTELLECTUAL PROPERTY

2.1. Education is one important tool that innovation centres can utilise given that many people in Africa still do not know much about intellectual property and the commercial value of the inventions or innovations. The danger is that such ignorance poses a threat to many good inventions and ideas of potential commercial value that can easily be stolen and taken to other contexts where people can claim their originality and intellectual property. For example there are some traditional medicine processes that have been commercialised in developed countries. In Botswana a plant called the 'Devil's Claw' has been used for many years to treat different ailments. Now it has been commercialised and is available exported to overseas markets in a tablet form. It is likely that the intellectual property rights do rest with the locals who assisted with information on the medicine. Again one has a strong feeling that many people in Africa may have lost their inventions/innovations and ideas of great value to poachers from other parts of the world. There should also be some arts many ingenious inventions, innovations and novel ideas of potential commercial value that have not been exploited. Innovation centres working with national intellectual property offices are better placed to educate the potential inventors and innovators on intellectual property rights through different media including publications, seminars and exhibitions.



### **3. INNOVATION CENTRES AS PROVIDERS OF AN ENABLING ENVIRONMENT FOR INVENTORS AND INNOVATORS**

3.1. For Africa to emerge from being a consumer of goods and services from the developed world, it has to invest largely on the untapped creativity and ingenuity of its people. Governments have a major role to play in assisting innovation centres to provide an enabling environment for potential inventors and innovators. Lewett in his concept paper entitled "A Study on the Creation of Innovation Centers in Developing Countries" indicates that:

The developing country's government should sponsor and support the program to the extent possible, e.g. through provision of a financial incentive (award) to select program participants, provision and seed money for promising inventions ... [Lewett 1998:31

3.2. Commerce and industry have a major role to play in supporting inventors and innovators because they stand to benefit from some local inventions. So they too, should work closely with innovation centres and this should include assistance with sponsorship of activities for promoting inventions and innovations and the prototyping and testing of products for technical and commercial feasibility.

### **4. INNOVATION CENTRES AS PROVIDERS OF ASSISTANCE TO INVENTORS AND INNOVATORS**

4.1. Innovation centres should play an important part in assessing inventions/innovations for originality, technical performance, commercial feasibility, technical drawings, prototyping and the manufacturing. All these aspects involve cost that is out of reach for many inventors and innovators. There are many people with original ideas who lack technical expertise to conceptualise them. Innovation centres should therefore assist such people to turn their ideas into reality. For example in 1998 BOTEK ran a national design competition in which contestants were required to design a miniature solar hearing aid. Some entrants presented their ideas in a text form and it was clear to the engineers what they wanted to express. The people with ideas should be one way of developing local industries, which in turn should impact on the economic development, creating jobs and generating wealth for inventors and innovators. It could also form part of the commercialisation strategies for innovation centres even if it is on a cost recovery basis.

### **5. INNOVATION CENTRES AND POSSIBLE CONTRIBUTION TO THE SCHOOL**

#### **Curriculum**

5.1. Innovation centres and intellectual property offices can make a major contribution to the school curriculum to ensure that children are introduced to basics of commerce, industry and intellectual property at an early stage. BOTEK is involved in educational task forces charged with developing curricular and this provides an opportunity to contribute to the curriculum. It also participates in educational activities including exhibitions and career fairs.

5.2. Botswana has since 1989 introduced a subject called Design and Technology in its secondary school curriculum. The subject is offered to every child at junior secondary school and about 50 percent at senior secondary level. Design and Technology challenges the

creativity and imagination of students as they engage in problem solving activities. Students are taught graphics, electronics, plastics, wood and metal technologies. Their knowledge of graphics helps them to express and communicate their ideas more effectively. Over the years, one has seen many ingenious products made by students, which unfortunately were not patented. At exhibitions people took photographs and made videos of well designed products placing them in a vulnerable situation. This is why it is important to include an element of intellectual property in the curriculum.

## **6. ASSISTANCE TO INVENTORS AND INNOVATORS BY THE BOTSWANA TECHNOLOGY CENTRE**

6.1. The Botswana Technology Centre (BOTEK) has is working on the implementation of strategies to promote innovative and inventive activities and to assist people with commercially viable inventions, innovations and ideas to prototype and manufacture stage. This includes the development of guidelines for inventors and innovators, National Design for Development Awards and a Science and Technology Club.

## **7. GUIDELINES FOR INVENTORS AND INNOVATORS**

7.1. The main objective of the BOTEK guidelines for inventors and innovators is to assist inventors, innovators and people with novel ideas by facilitating concept development, market research, prototyping, manufacturing of commercially viable inventions. It will also assist with the refinement or improvement of technically unsound or commercially unfeasible inventions, innovations or idea proposals. BOTEK will assist inventors with technology transfer and the soliciting of financial assistance from government. This shall only be done after extensive market research to establish commercial viability of a product. Funding for the Inventors Policy is being sought from the Science and Technology budget, set aside by government and should be available in due course.

## **8. INNOVATION CENTRES AS STIMULATORS OF INVENTIVE THINKING**

8.1. One of the roles of innovation centres should be to stimulate inventive and innovative thinking amongst their societies. This can be done through activities such as competitions and award schemes. Design competitions also provide a good platform for encouraging inventive and innovative thinking. The Design Institute of the South African Bureau of Standards hosts and annual Design for Development Awards that give recognition to well-designed products and offer solutions to the various problems faced by rural and urban communities. These awards have attracted interests from neighbouring countries including Botswana and Zimbabwe.

8.2. In realising the need to stimulate a culture of invention and innovation in Botswana, BOTEK will be running its first design awards which will be sponsored by Shell Oil Botswana. The awards will give recognition to novel and innovative designs, prototypes and products that offer good design solutions to various problems faced by communities in both rural and urban areas. Credit will be given for designs, prototypes and products that contribute to industrial and or enterprise development in Botswana. WIPO is to be approached for assistance with prizes and advice.

## 9. SCIENCE AND TECHNOLOGY CLUB

9.1. The science and technology club is a forum for application of inventive and innovative thinking amongst professionals in different fields of science and technology as they work on joint projects with youth from educational institutions around Botswana. The projects will be aimed at providing scientific and technological solutions to real life problems in communities based on research findings.

## 10. CONCLUSION

10.1. It is commendable to realise that WIPO is committed to the development of innovation centres in developing countries, based on reports and concept papers that have been written so far. It is crucial that the establishment of more innovation centres is paired with ongoing support to ensure sustainability. Running an innovation centre can be very costly and many countries in the African Continent can not afford to maintain these centres. Sustainability would be achieved if the innovation centres were able to generate some income from assisting inventors and innovators. The assistance could include facilitating the link between originators and innovators with potential financiers in order to assist in the commercialisation of inventions and innovations. But this would depend on the commercial viability of the inventions and innovations. It would also depend on how they are managed and the support they get from government and other stakeholders.

10.2. Incentives for good management based on measurable criteria could boost performance and productivity of innovation centres. WIPO could play a crucial part in this regard by creating a prize for well managed projects and innovation centres. Countries could also consider introducing presidential awards for outstanding inventions and innovators as a means enhancing the status of inventors and innovators. There is need to lobby government and commerce and industry to recognise and support local inventions and innovations. Incentives could be introduced for this purpose. In Botswana for instance there was a time when government introduced lower taxes for industries that were using local materials. This had its pros and cons but it illustrates that there are possible ways on supporting local invention and innovations,, which are also crucial for national identity.

## BIBLIOGRAPHIES AND REFERENCES

Lewett, P. George P., 1998, *A Study of the Creation of Innovation Centers in developing countries*, World Intellectual Property Organisation.

Rouse, B. William, 1991, *Design for Success: A Human-Centered Approach to Designing Successful Products and Systems*, John Wiley & Sons. Inc.

Rouse, B. William, 1992, *Strategies for Innovation*, John Wiley & Sons, Inc.

Turner V. John, (undated), *Master Plan for Establishment of Innovation Centers in Developing Countries*, WIPO Report, GriffinTurner & Associates (Pty) Ltd.

**ABSTRACT****"FROM IDEA TO PRODUCT" EMPOWERMENT OF AFRICAN INVENTORS AND DESIGNERS BY R&D ORGANISATIONS**

This paper examines the role the R & D organisations in Africa can play in empowering inventors and designers to benefit from their inventions, innovations or ideas. It discusses possible ways of assisting inventors and designers with the process of prototyping, intellectual property and commercialisation of their products. Presently there seems to be very little assistance offered to African inventors and designers and as a result the continent is not making much impact on the international market by the way of products. Many countries are not making much effort to promote home grown inventors and designers. There is also very little education on the value of inventions and innovations to the economic development of a country and how inventors and designers can benefit from their intellectual property. The paper cites work by the Botswana Technology Centre (BOTEC) to assist inventors or designers to prototype and commercialise their products. It also briefly highlights the effort by the Design Institute of the South African Bureau of Standards (SABS) is doing to assist designers.

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