

# The Patent System and Innovation Performance in Ethiopia

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## Introduction

- Ethiopia is in the process of formulating a national science, technology and innovation policy
- Creation of a development oriented intellectual property system a core element of the policy
- A national System of Innovation Approach is adopted in the formulation of the policy

## Introduction

- A national system of innovation approach is based on the interaction among the actors in the system:
  - Universities
  - R&D organizations
  - Enterprises
- Universities and research organizations are generators of knowledge while enterprises are mainly knowledge users

## Introduction

- Patents play a key role in the flow of knowledge between the main actors in the national innovation system
- Out put of R&D is knowledge/information
- Market failure in coordinating the dissemination and use of knowledge due to its public goods nature

### The need for government intervention

- Public goods character of scientific and technological knowledge
  - Non-rivalrous
  - Non-excludable
- Institutional solutions to public goods related problems of knowledge
  - Financing of intellectual work by government
  - Government subsidy or grant of awards
  - Exclusive rights to the use of research out put through intellectual property rights

By conferring temporary market exclusivities, patents allow producers to Recoup the costs of investment in R&D and reap a profit

## Patents and Developing Countries

- Most scientific research concentrated in the advanced and a few developing countries
- The impact of patents differs among countries depending level of development
- National patent systems should be shaped to reflect socio-economic development needs of countries. This is reflected in the WIPO Development Agenda

## Patents and devt.Cont'd

- **Cluster A: Technical Assistance and capacity building**
  - “WIPO technical assistance shall be ,interalia, development oriented, demand driven and transparent taking in to account the priorities and special needs of developing countries especially LDCs, as well as the different levels of development of member states.”

## The IP System in Ethiopia

### The Legal Framework

- The Constitution of 1994

Every one has the right to own property. Property includes both tangible and intangible property owned by individuals, organizations and communities (Article 44)

The Federal government shall patent inventions and protect Copyrights {Article 51(19)}

## The IP System cont'd

- The Patent law of 1995

### Objectives

- To encourage local inventive and creative activities
- To encourage the transfer and adoption of foreign technology

## The IP system Cont'd

- The Copyright and Related Rights Law of 2004

Gives protection to literary and artistic works including computer soft ware

There is no registration requirement. The right starts automatically when the work is created as long as it is original and fixed

Exceptions for quotations on a justifiable level and reproductions for teaching, libraries and archives

## The IP system Cont'd

- The Trademark law of 2006
  - Gives protection to signs capable of distinguishing the goods or services of one enterprise from that of another

Allows Parallel Importation

## The IP System Cont'd

- The Plant varieties act of 2006
  - Gives protection to varieties which are distinct, uniform and stable
  - Exception to research which is conducted to generate new varieties of plants

## The IP system cont'd

- Access to genetic resources and community knowledge
  - Ownership of genetic resources is vested in the state and the Ethiopian People
  - Ownership of community knowledge is vested in the concerned local community
  - Prior informed consent necessary

## The IP System Cont'd

### IP Administration

- Ethiopian Intellectual Property Office
- Objectives of the office
  - Legal protection for intellectual property
  - Collection, organization and dissemination technological information contained in patent documents
  - Study analyze and recommend policies and legislation on intellectual property to the government
  - Promote knowledge and understanding of intellectual property among the general public.

## The IP System Cont'd

- Membership in International Treaties World Intellectual Property Organization (WIPO) ,1998
- Nairobi Treaty on the Protection of the Olympic Symbol in 1982.
- Convention on Biological Diversity,1992
- International Treaty on Plant Genetic Resources for Food and Agriculture ,2004
- African Model Law on Community Farmers' and Plant Breeders' Right and Access to Biological resources.
- Submitted its request to accede to the World Trade Organization (WTO) in 2003 and the first working party meeting on Ethiopia's accession to the organization was held in May 2008



## Main Features of Ethiopian Patent Law

Ethiopia is not a member of the WIPO standard setting treaties such as the Paris convention

The main features of the patent law are ,however, similar to that of other member countries

## Main Features Cont'd

### Subject matters excluded from protection:

- plant or animal varieties or essentially biological processes for the production of plants or animals,
- discoveries, scientific theories and mathematical methods
- methods for treatment of the human or animal body by surgery or therapy, as well as diagnostic methods practiced on the human or animal body
- Inventions contrary to public order or morality
- Schemes ,rules or methods for playing games or performing commercial activities
- Computer programs

## Criteria of Patentability

- Novelty
- Inventive Step
- Industrial applicability

## Duration of Protection and Limitation of Rights

- Fifteen years with possibility of renewal for additional five years
- Working requirement( the patented product has to be manufactured in Ethiopia or the process has to be applied in the country.
- Fair use exception (acts done for non-commercial purposes and the use of the patented invention solely for the purposes of scientific research and experimentation)

## Compulsory Licensing

- To correct abuses of the patentee's exclusive rights
  - Failure to work for three years
- To enable the working of related invention
  - Prior inventions or inventions patented after the invention on which a compulsory license is requested

## **Patents and University-Industry Linkage**

- Twenty two public Universities and 51 private institutions of higher learning
- Different level of involvement in research
- Research findings with potential to be patented
- Weak use of the patent system by universities
- disclosure of research mainly through publication

## Patents and University Cont'd

- Researchers and academics are rewarded in accordance with the frequency and quality of publishing
- The opportunity for obtaining a patent can be lost by publication of the underlying research
- Lost opportunity to get back investment in research

## Patents and University Cont'd

- On going efforts to make many of the universities in Ethiopia research oriented
- Emphasis to application oriented research activities based on the needs of industry
- Strengthening university-industry linkage is a priority of the government
- Patents have a key role in university industry relationship

## **Patents and University Cont'd**

Benefits of University industry Linkage:

- Industry provides a new source of money for university
- Industrially sponsored research provides student with exposure to real world research problems
- Industrially sponsored research provides university researchers a chance to work on an intellectually challenging research programs;

## **Patents and University Cont'd**

Various activities by Ethiopian Intellectual Property Office to promote use the patent system in universities (mostly through BIO-EARN program)

- The Office developed guidelines for the formulation of institutional IP policies
- Conducted various IP awareness creation programs
- Some change of attitude towards the patent system observed
- So far none of the universities have IP policies

## Patents and University Cont'd

Universities need IP policies which answer questions like

- When does the researcher own IP
- What is considered to be within the scope of employment of the researcher as far as IP is concerned?
- How is the benefit from commercialization of research results protected by patents distributed among the different parties?
- Who is owner of IP generated during contract research?
- What are rights of visiting researchers over their findings

## IP in Government Research Organizations

- Government financed research in Ethiopia has a history of many decades
- Only the Agriculture and Health sectors have well organized research institutes
- Agriculture
  - Ethiopian Institute of Agricultural Research
  - Seven regional Agricultural Institutesvery few patent applications for inventions in the fields of livestock research and agricultural machinery

## IP in Government Cont'd

- Health
  - Ethiopian Health and Nutrition Institute
    - Health and nutrition
    - Medicinal plants
  - Armaur Hansen Research Institute
    - Leprosy

The researchers in the health institutes have failed to make use of patents to get protection for their research findings.

## IP in Government Cont'd

- Business process reengineering studies identified the challenges to the research system in the country
- Lack of institutional IP policies and absence of units for the management of the intangible assets of the institutes identified as a challenge.

## IP in Government Cont'd

- IP management unit established by EIAR
- Challenges to be solved by the institute in implementing an institutional IP policy
  - eg.the balance in public research between commercialization of products and serving the needs of the poor farmers
- Differing views in Ethiopia on the issue of IPR protection of technical findings generated through research funded by public money.

## Towards a Development Oriented National Intellectual property system

- Remarkable achievements through implementation of IP strategic plan mainly in popularization of IP
- The second IP strategic plan which has been operational since 2006 is also producing some results in such areas as:
  - the use of IP to enhance export revenue and (eg. Coffee trademarking)
  - promotion of IP information services. (a national IP center created with the assistance of WIPO and the World Bank)



## Towards a Development Oriented Cont'd

- The government of Ethiopia has recently adopted a systemic approach to the promotion of innovative activities
- Fluidity of knowledge flows among enterprises, universities and research institutions
- Patents have a key role in creating a favorable condition for the networking of the different actors in the national system of innovation

## Towards a Development Oriented Cont'd

Identified Strategic areas include:

– Institutional capacity building

Human resource development

Access to information

Automation (patent administration automated with the assistance of WIPO)

-Protection of TK and genetic resources

Rich genetic diversity

Revision of the patent law to require disclosure of origin

- Technology transfer

Technological information contained in patent documents

Thank You!