What is Intellectual Property and Why is it important for Universities and R&D Institutions

Tom Ogada

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Content of Presentation

- Making R&D work for development
- Basic requirements to make R&D work for development
- Conclusions
1.1. Mandates of RTOs

Universities

- Teaching
- R&D
- Extension

Capacity Building
New knowledge
Knowledge Transfer

Making Research Work for Development

R&D Institutions

- Extension
- R&D

Technological development
1.2. RESEARCH PRODUCTS

The direct product of research is knowledge. It can be in the form of

- New Technology
- New Product
- New Process
- Improvement in existing product, process or technology
1.3. Link of R&D with intellectual property

- New knowledge (Research Outputs), if legally protected, becomes intellectual property assets.
- Protection means nobody else can use it without owners' Authority or permission.
- Legally protected knowledge is called intellectual property.
1.4. Possible Intellectual Property Rights for universities and R&D organizations

- Copy Rights
- Industrial Property
  - Patent
  - Utility Model
  - Industrial Design
- Plant Breeders Rights
- Trademarks

Making Research Work for Development
1.5. Balancing Teaching, research and dissemination

Making Research Work for Development

Technological stages

- Teaching
- R&D
- Technology Transfer
1.6. Utilization Of Research Products

Publication a traditional R&D output

R&D is only useful if its products can lead to

1. Job creation
2. Poverty Reduction
3. Industrialization
4. Hunger

These economic results can only be realized if can be transferred and taken up by users
1.7. Changing paradigm in the evaluation of performance of research

Outputs
1. No of Publications,
2. Patent applications, IP Assets generated, IP Assets Licensed

Outcomes
1. Income from Technology Licensing
2. No of Companies created
3. Increase in sales, tax revenues, profitability
4. Jobs created

Impacts
1. Contribution to the GDP
1.9. Linking Research Agenda to Development Goals

Making Research work for development

- National Development Goals
- Priority Sectors
- Research/Technology Needs Assessment
- Research Projects
- Results
- Application
1.10. Linking Research Agenda to development agenda

Making Research Work for Development

- National Development Goals
- Priority Sectors
- Research/Technology Needs Assessment
- National Research Priorities
- Research Projects
- Results
1.11. Linking Research Agenda to development agenda

- National Development Goals
- Priority Sectors
- Research/Technology Needs Assessment
- Industry
  - 1. Private sector
  - 2. Public sector
  - 3. NGOs
  - 4. Informal sector
- Research Projects
- Results
2. Basic requirements to make R&D work for development

- Clear understanding of the available options for commercialization of R&D results
- Effective institutional IP policy
- Effective institutional support structure
2.1. Routes for Technology Transfer by Universities and Research Organizations

- Own Exploitation
- Sell of IP rights
- Licensing
- Join Venture

None of these routes will work without involving the private sector
2.1a. Own exploitation

Basic Requirements for effective PPP

University start a company based on its IP rights
- The inventor is willing to be involved in the exploitation
- The university has the required resources to invest
- Can be done as a way of testing the market (piloting)
- Is a strategy to attract high dividend in future

Unfortunately
- Own exploitation is currently based on informal departmental production units, with no intention to grow or to make profit
- Just like most traditional inventors, most departments do not want to let go their IP assets even if they are not making money
2.1b. Sale of IP rights

University does this to:

- Get money back to invest in further R&D or product development
- Minimum risks, minimum returns
- Not preferred route because of lack of capacity to value the worth of the IP assets
- Companies are smarter, can get the technology through back door

Today not aware of a university that has sold its IP rights
Most preferred route by universities, both locally and abroad

University allows an investor to exploit the technology, while it retains the IP rights. In exchange the university is given royalty

Case study to explain more
2.1d. Joint Venture

Basic Requirements for effective PPP

- Second most ideal
- University brings the technology and knowhow
- Private sector brings in finance and management skills
- Both make ideal partners
- Very few cases – perhaps due to mistrust between universities and private sector
- Some success made through pilot projects models
Basic requirements for effective technology transfer

2.2a. Effective Institutional IP Policy

- Provide guidelines on key issues related to creation, protection and commercialization of IP Assets
- Harmonize conflicting interest on various stakeholders particularly on the issue of ownership of IP rights and benefit sharing
- Define obligations and responsibilities of universities, research organizations and the Inventors
Basic requirements for effective technology transfer

2.2b. Effective Institutional IP Policy (key issues)

- Ownership of IP public funded research
- Benefit sharing
- Collaboration with the private sector
- Collaboration with other universities abroad
- Patenting or Publishing
- Promotions based on IP
- Funding of IP
- Tapping innovativeness of the youth
- Mining of the “lost” IP in publication and dissertation
2.3a. Effective support structure for technology transfer
2.3b. What is support structures for TT

Administration Units that supports and facilitates disclosure, protection, technology transfer and commercialization of R&D results
2.3c. Need for support structures for TT

Understands RTO culture, speaks the language of industry and behaves like a private enterprise
2.3d. Examples of support structures

- Technology Transfer Office
- Business Incubation Services
- University Companies
- Industrial/Science Park
Conclusions

3. What we would like to see

- Government recognizes the importance of R&D for economic development and funding it
- Researchers are addressing local problems
- Knowledge generated through R&D activities is transferred to the Industry
- Strong and self sustaining linkages with industries
- Industries are funding R&D activities
- R&D institutions producing new industries
- IP and Innovation are integrated in the research culture of the university and research organization