



REGIONAL BUREAU FOR AFRICA SERIES OF WEBINARS FOR UNIVERSITIES AND R&D INSTITUTIONS - SESSION 4

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Department for Africa and LDCs

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2020**

TOPIC

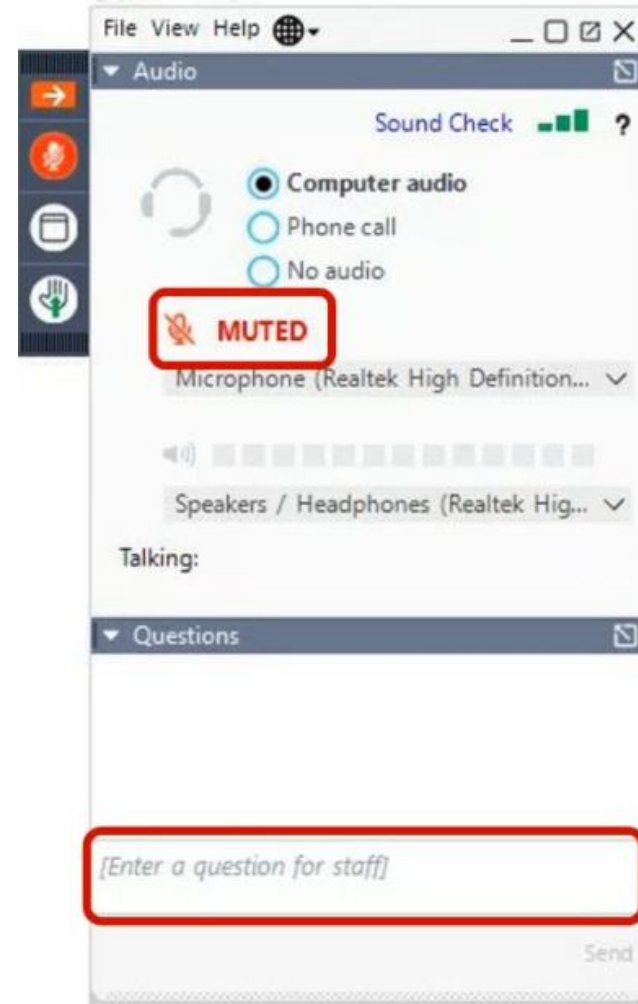
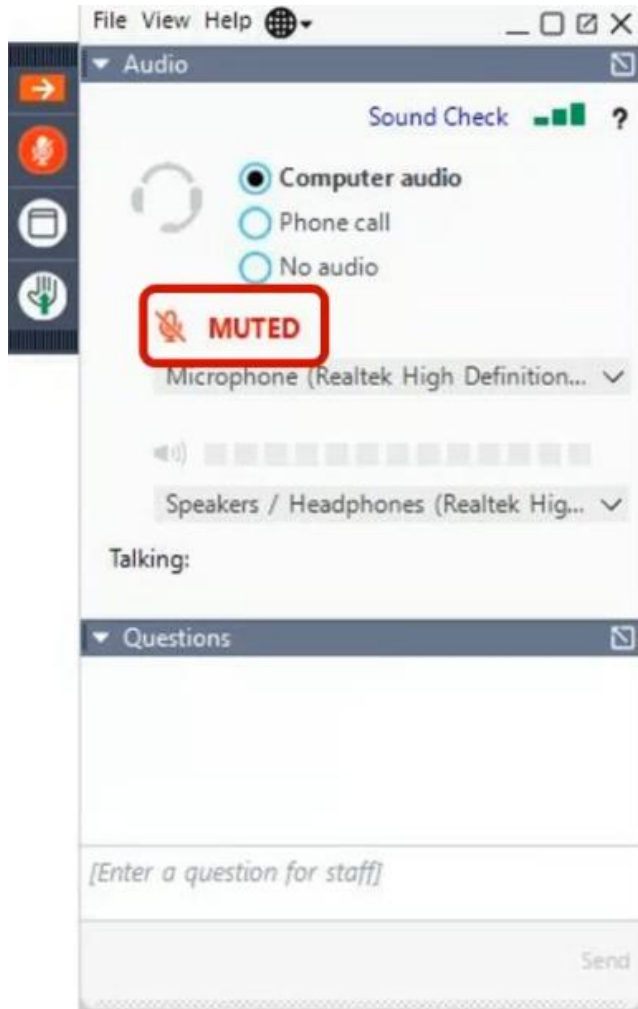
- **Practical examples of IP commercialization by universities and research organizations – pilot projects, technology incubation services, joint ventures, technology licensing**
- Q&A session (20 minute)

Professor Tom Ogada

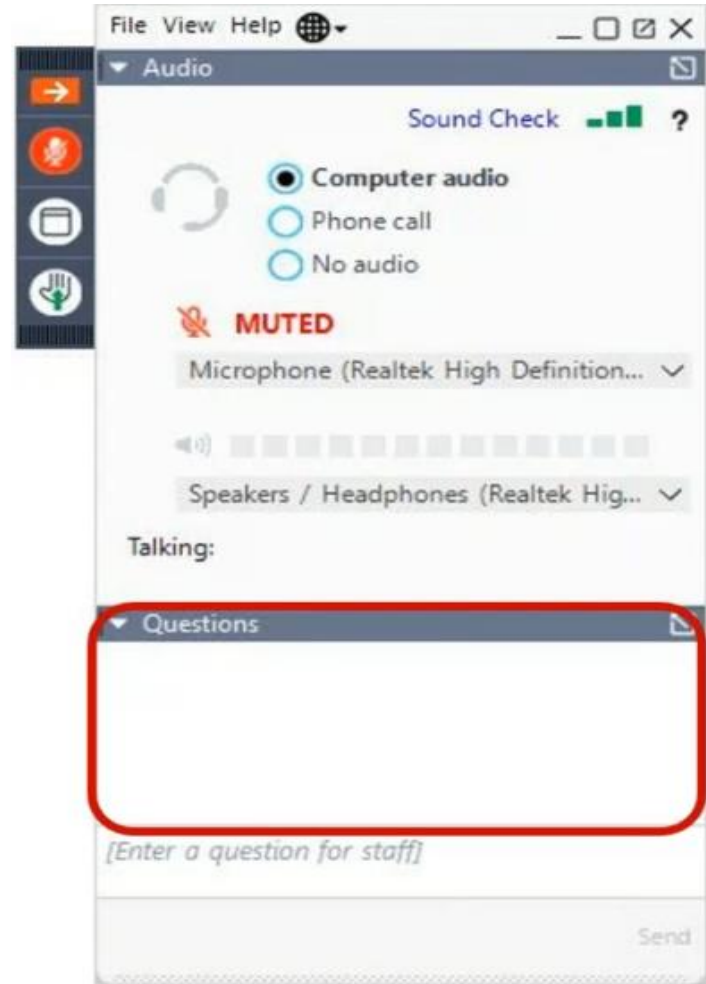
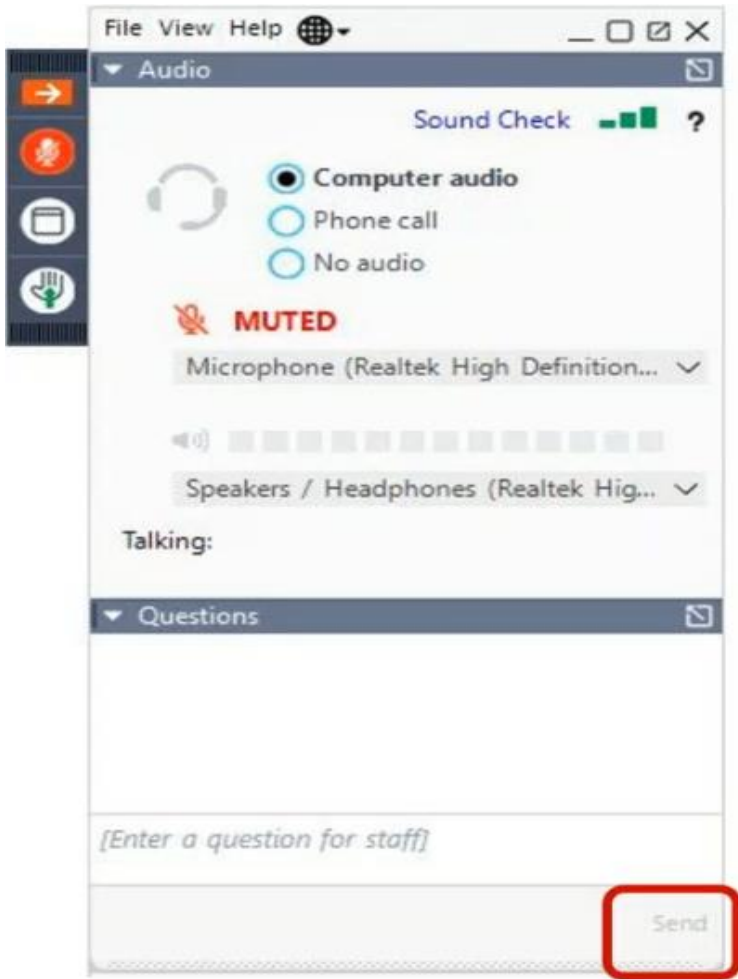


- Associate Professor in Mechanical Engineering.
- Executive Director of the African Centre for Technology Studies (ACTS), which is an STI policy African Think
- Chairman of the Kenyan National Commission for Science, Technology and Innovation (NACOSTI).
- Lecturer in Moi University for 19 years.
- Former Head of Department, Dean of faculty and was the founder Managing Director of Moi University Holdings Limited, a Technology Transfer Office of the University.
- Former Managing Director of the Kenya Industrial Research and Development Institute, where he helped set up a Technology Transfer Office and a Business Incubation Facility. 2009-2012.
- Former Advisor for the British Council on African Knowledge Transfer Partnership, linking universities and industries.
- Consultant for the World Intellectual Property Organization (WIPO) since 2000 in the areas of national IP policies, strategies as well as technology transfer and commercialization of IP assets

How to ask questions?



How to ask questions?



Q&A



- Do not worry if we can't address all your questions in today's session
- You can always reach us at the following email address for further questions or information:

rba@wipo.int

COMMERCIALIZATION OF IP ASSETS



CONTENTS

1

Commercialization Options

2

Own exploitation

3

Joint venture

4

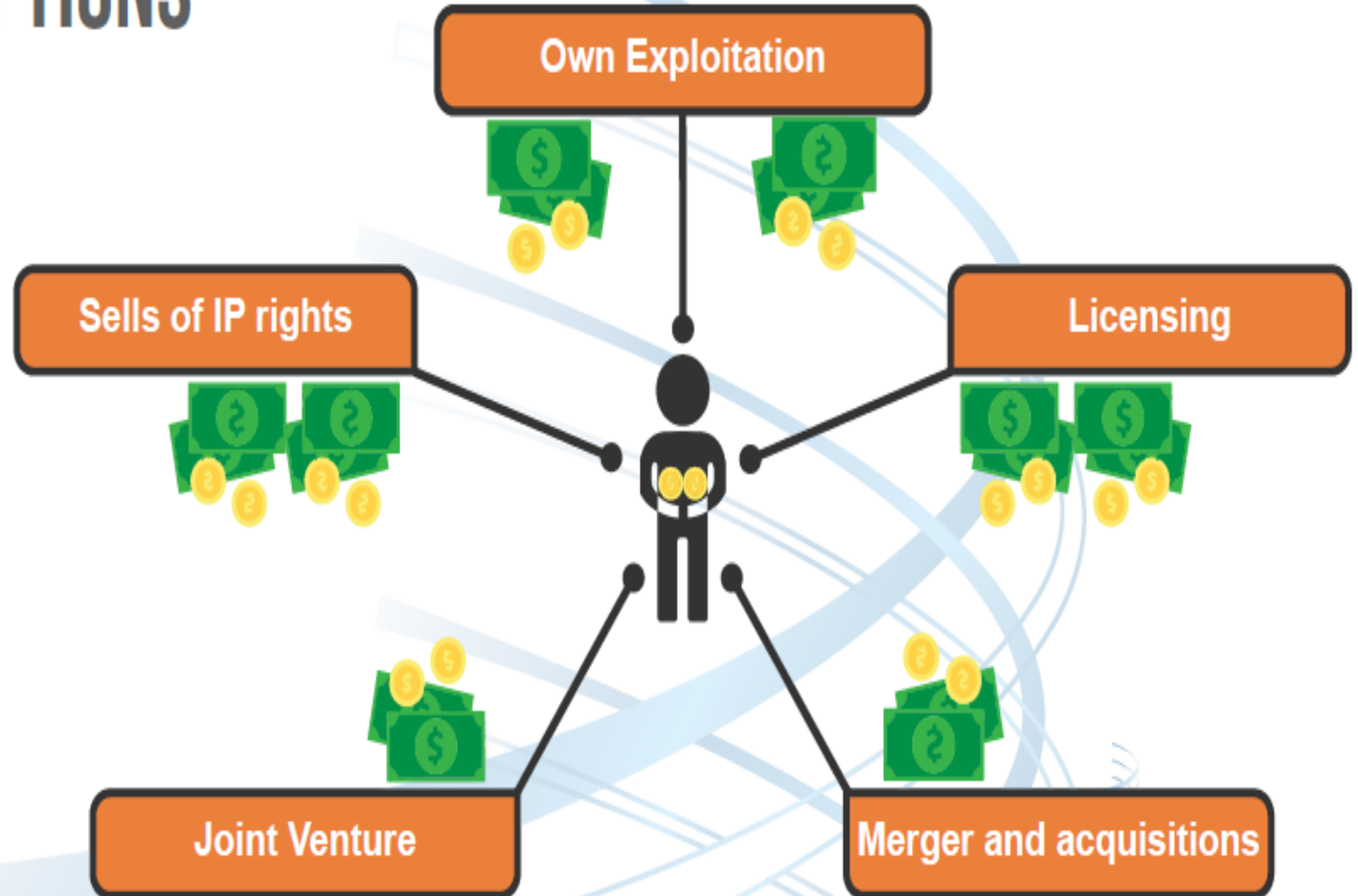
Licensing

5

Unique Commercialization Options

1 COMMERCIALIZATION

OPTIONS



2

OWN
EXPLOITATION

OWN EXPLOITATION

CURRENT STATUS

- » Most widespread in African universities and R&D institutions
- » Exploitation done mainly by departments and production units
- » Products sold to staff and community around
- » Enhances visibility of the institutions particularly during exhibition and shows
- » Brings some income to the universities and people involved
- » Considered most appropriate route for creating local enterprises in Africa



OWN EXPLOITATION

CHALLENGES

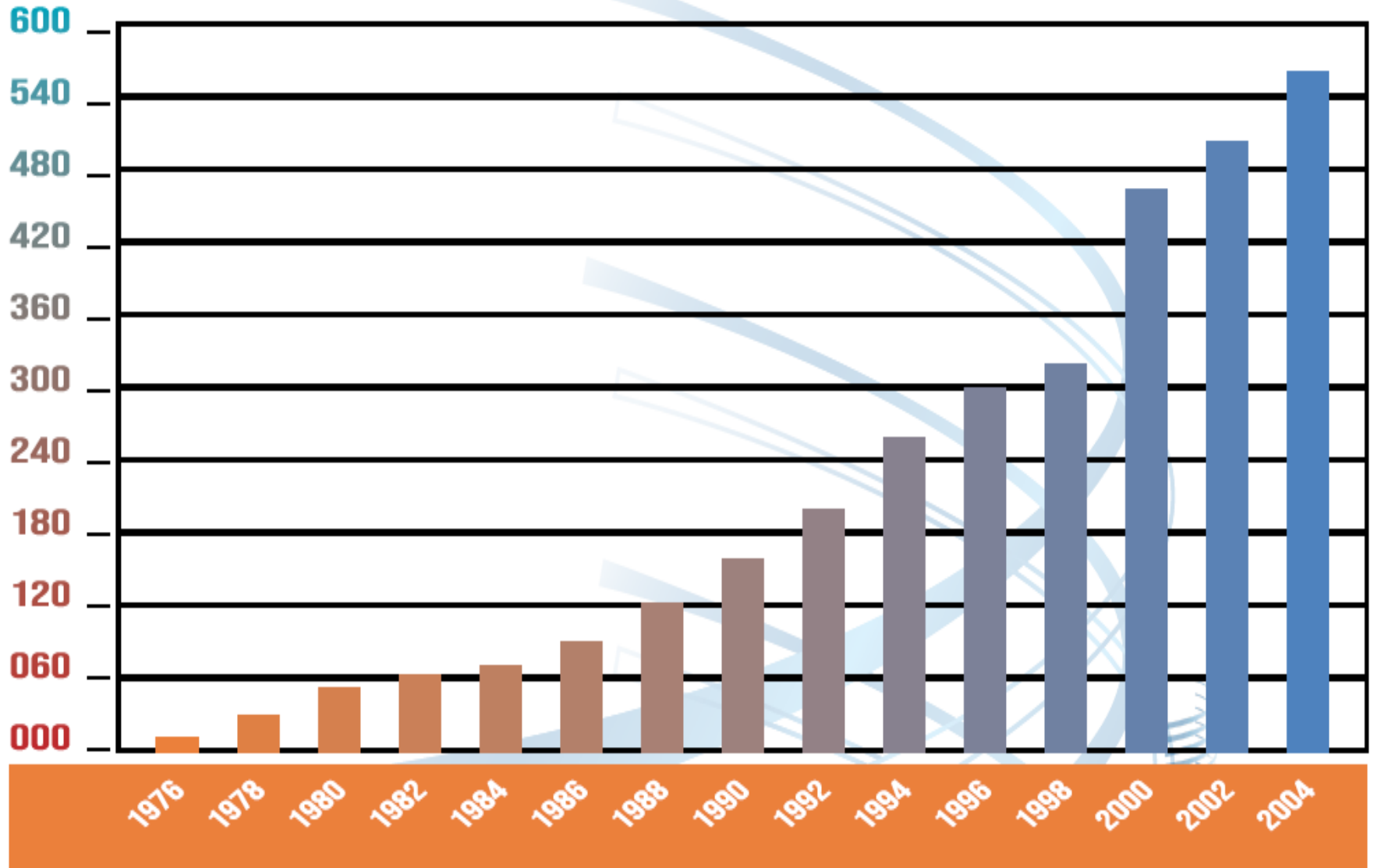
- » Small scale with limited impact
- » Lacks plans for up scaling
- » Problems of accountability and revenue distribution
- » Complains from SMEs that RTOs are competing them instead of supporting their growth
- » Commercialization done in uncoordinated manner each department doing their own things
- » No clear assessment of profitability of the activities

OWN EXPLOITATION

BENCHMARKING

- » Universities abroad create spin - off companies based on their technologies grow them and then sell
- » This is done by TTOs or university based companies
- » Universities allow researchers to invest in spin - off companies
- » Universities allow researchers to take time off to work in such companies
- » Universities have special programs to convert innovative ideas of students into enterprises

GROWTH OF SPIN-OFF COMPANIES GENERATED BY UNIVERSITY OF TWENTE, THE NETHERLANDS (1980-2005)



3

EXPLOITATION THROUGH JOINT VENTURE

Where

- » RTO invites investor to jointly exploit IP
- » A joint venture company is established
- » The IP is valued and converted into equity
- » Investor brings money
- » RTO brings technology and know-how



EXPLOITATION THROUGH INCUBATION

- » RTO transfer technology to SMEs
- » Provides capacity building
- » SMEs runs the business
- » Services supported by government or by SMEs through payment of rents and services



EXPLOITATION THROUGH INCUBATION

TYPES

- » Incubators for exploitation of technologies owned by universities
- » Incubators for exploitation of technologies owned by other entrepreneurs

NB Incubation is becoming common in Africa

EXPLOITATION THROUGH INCUBATION

EXAMPLES

- » The Technipole sup valor - university of Yaounde, Cameroon
- » AUC Venture labs - America University Cairo, Egypt
- » IceAddis - Addis Ababa, Ethiopia
- » CD4Lab - University of Nairobi, Kenya
- » iBiz Africa - Strathmore University Nairobi, Kenya
- » Chandaria Business Innovation and Incubation Center Nairobi, Kenya
- » Al Akhawayn University incubator, Morocco
- » Namibia Business Innovation Institute (NBII), Namibia
- » Roar Hub - University of Nigeria, Nigeria
- » Hebron Startup Lab - Covenant University, Nigeria
- » UGB Incubator - Gaston Berger University, Senegal
- » FabLab - CSIR, South Africa
- » University of Pretoria Business Incubator (UPBI), South Africa

CHANDARIA BUSINESS INNOVATION AND INCUBATION CENTER - KENYATTA UNIVERSITY

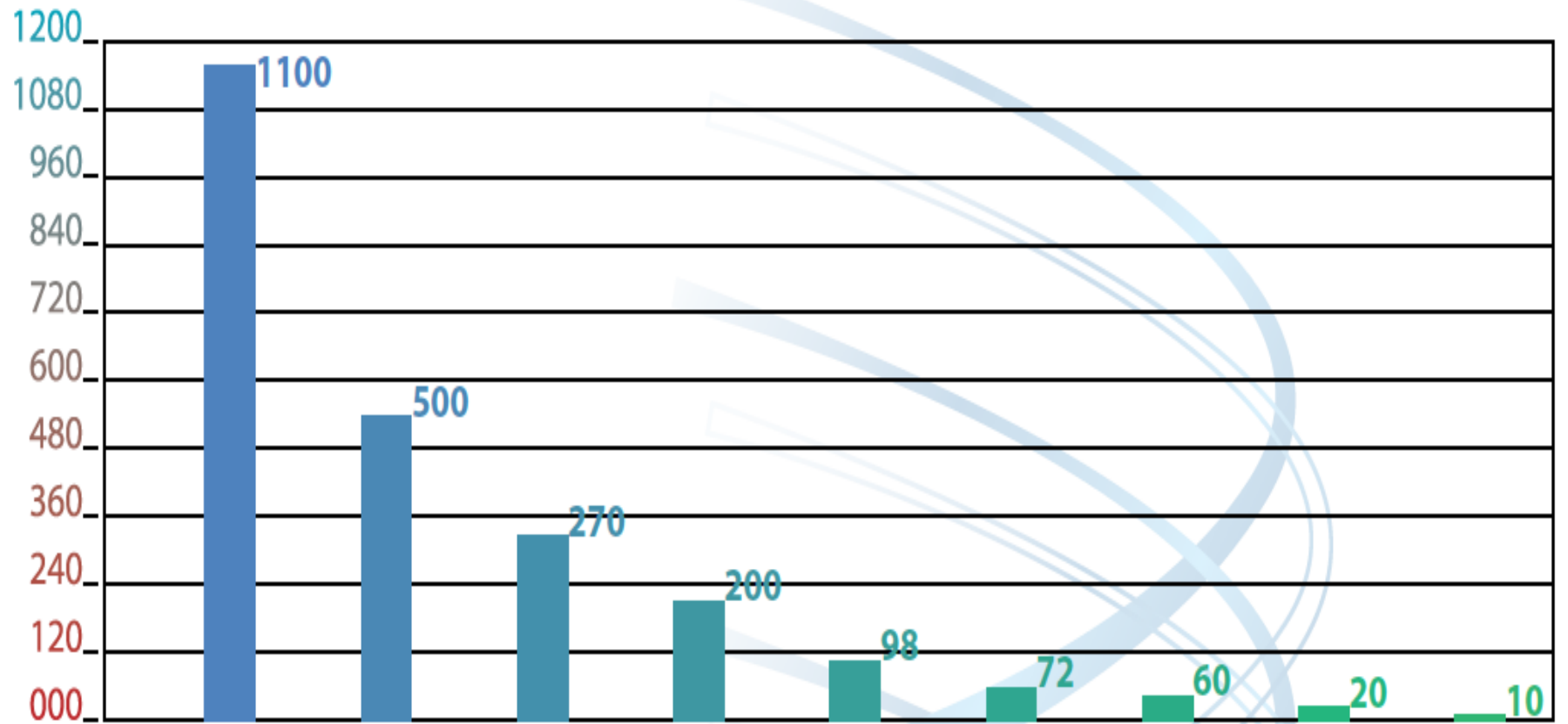
CHANDARIA BUSINESS INNOVATION
AND INCUBATION CENTRE

KENYATTA UNIVERSITY
CHANDARIA BUSINESS INNOVATION & INCUBATION CENTRE

- » Launched in 2011
- » Aims at supporting 100 innovations per year
- » Blends academic research and innovation through establishment of companies
- » Partners include government and private sector



NUMBER OF BUSINESS/ TECHNOLOGY INCUBATORS IN SELECTED COUNTRIES



USA/Canada
China
South Korea
Japan
Taiwan
Malaysia
India
Uzbekistan
Indonesia

LICENSING OF

IP ASSETS

IP LICENSING

Licensing is permission granted by the owner of the IP rights (**Licensor**) to another entity (**Licensee**) to use the IP rights on

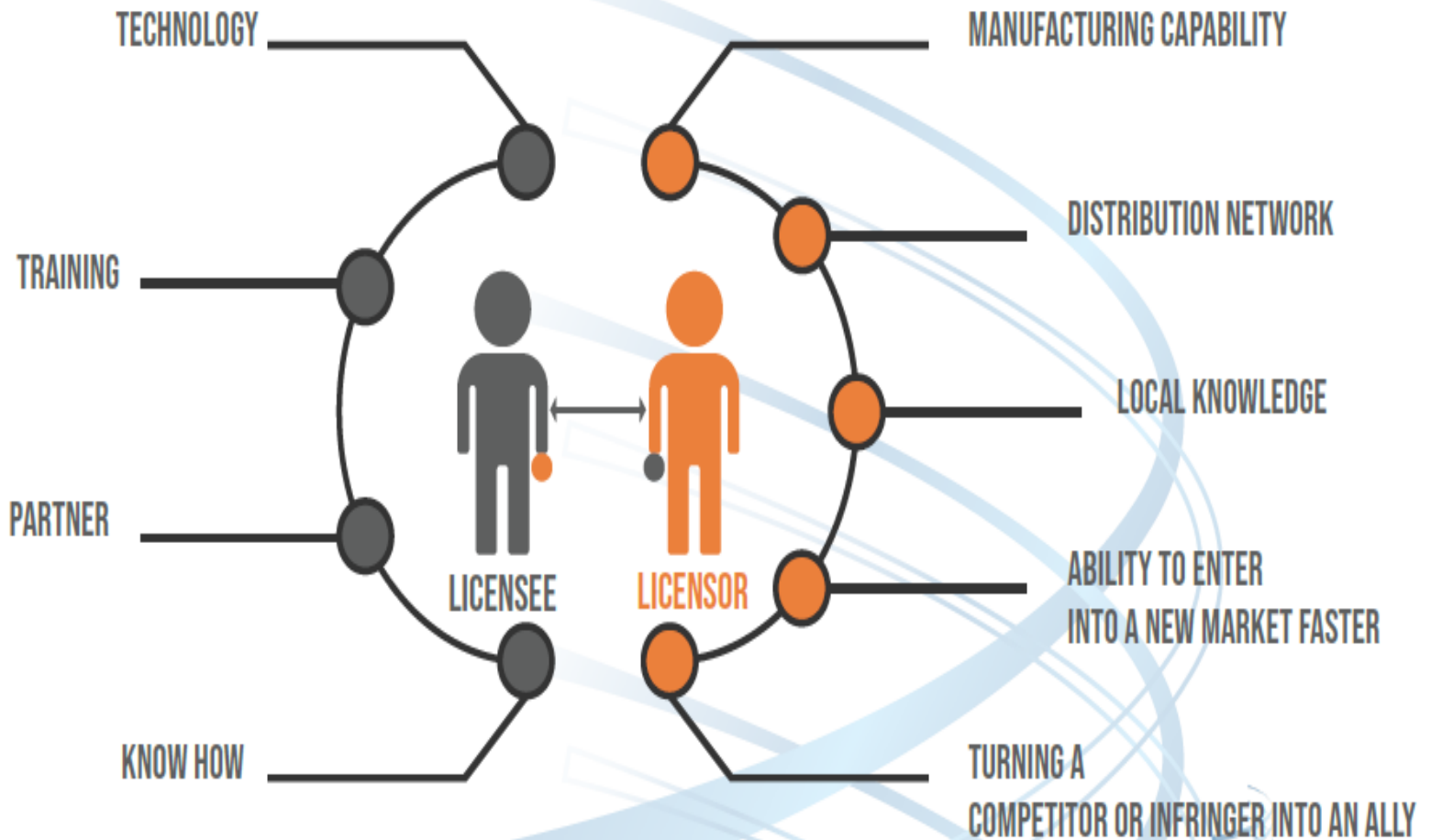
Agreed terms and conditions

Defined purpose

Defined territory

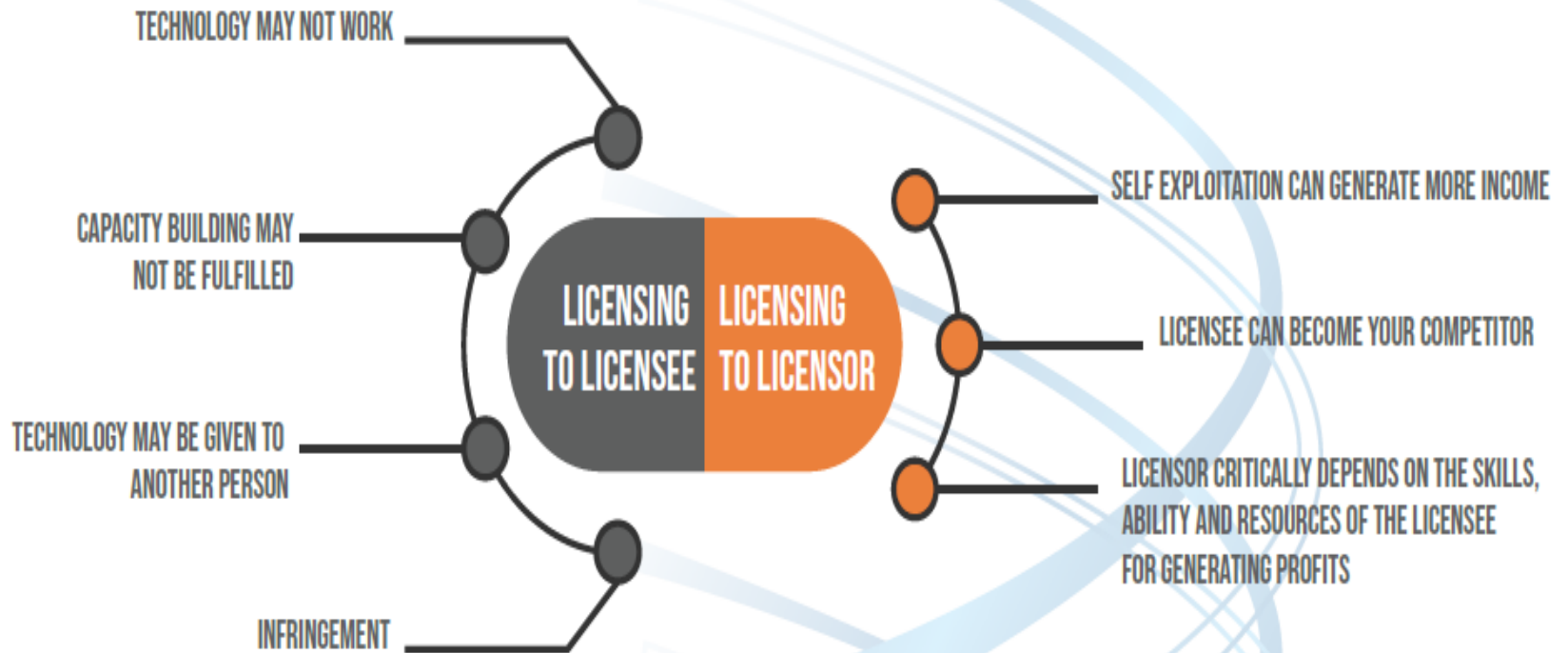
Agreed period

BENEFITS GAINED IN LICENSING



WIPO

POSSIBLE RISKS IN LICENSING





WHAT TO DO BEFORE LICENSING

- » Technology search: *What is in public domain. What is protected.*
- » Potential technologies.
- » Potential Licensors/ Licensees.
- » Market transactions.
- » Legal and business environment.

SCOPE (TECHNICAL) OF TECHNOLOGY LICENSING



- » Patent
- » Accompanying trademark
- » Accompanying trade secret
- » Accompanying copyright
- » Improvement
- » Training and capacity building

PITFALLS IN TECHNOLOGY LICENSING



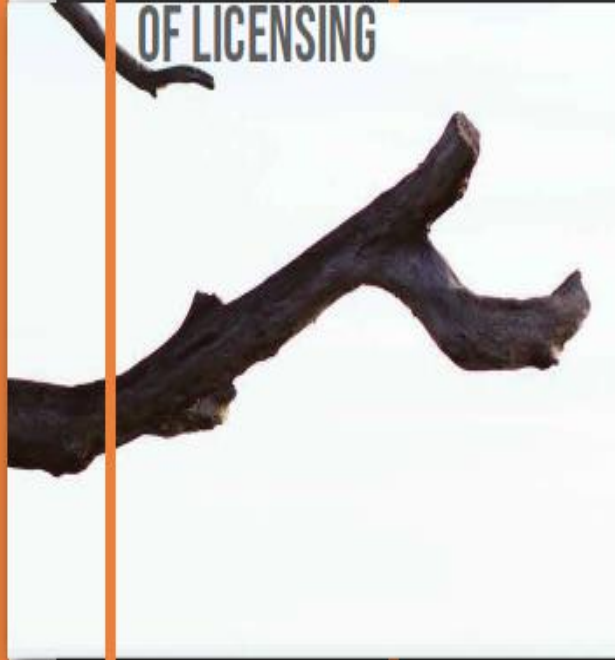
- » Licensee not obtaining all the rights that are required to utilize the technology.
- » Not properly defining the subject matter.
- » Not Addressing issues of confidentiality.

EXTENT OF RIGHTS IN LICENSING AGREEMENT



- » Exclusive rights
- » Non-Exclusive rights
- » Sole licensing
- » Sub Licensing

SCOPE (COVERAGE) OF LICENSING



- » Duration
- » Geographical Territory
- » Improvement
- » Technical Assistance



COMMERCIAL AND FINANCIAL CONSIDERATION

Lump sum payment;

- » Single lump sum
- » Multiple lump sum payments;
 1. *Time based*
 2. *Performance based*

Royalty payment;

- » Royalty base;
 1. *Number of products*
 2. *Sales*
- » Royalty Rates;
 1. *Constant*
 2. *Variable*

FINANCIAL

ADMINISTRATION

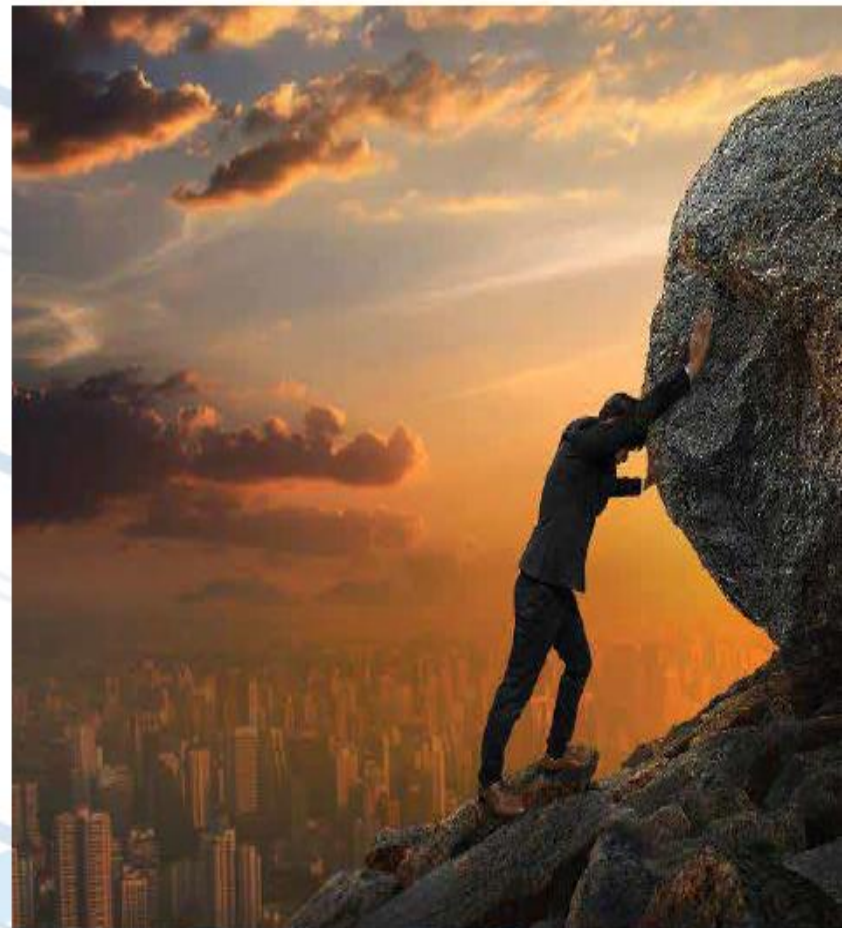
- » Keep proper accounts and records.
- » Report the results on a quarterly basis and pay the subsequent royalty.
- » Rights of the licensor to inspect books of account.
- » Penalty on discrepancies in reporting.

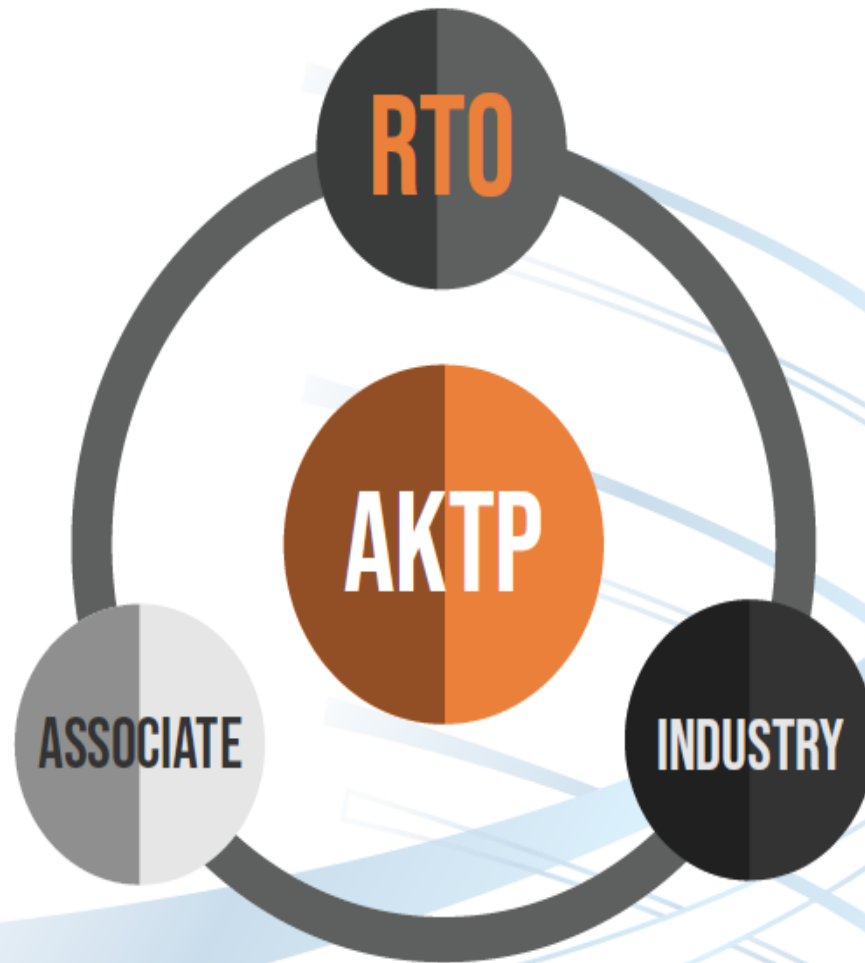


SUCCESS STORY

THE AFRICAN KNOWLEDGE
TRANSFER PARTNERSHIP

LICENSING OF **BIOFIX**







**AKTP
PILOTED
IN 2008-2012 IN**

**KENYA, UGANDA, SOUTH AFRICA, GHANA AND
NIGERIA**



THE PRODUCT

- » BIOFIX is a nitrogen fixing organic product
- » BIOFIX was developed by University of Nairobi in the 1970s
- » UoN engaged in small scale production of BIOFIX (sales: 2000 kg per year)



THE COMPANY

- » MEA Limited a private company established in 1997
- » A leading provider of fertilizer in the country
- » Had sales outlets throughout the country and in Tanzania, Uganda and Rwanda
- » In 1996 the company decided to diversify to organic fertilizer in line with increased global demand for organic product



THE LICENSING

» KTP brokered a partnership agreement that led to the licensing of the BIOFIX to MEA for mass production



LATER...

TEN YEARS LATER
(2008-2018)

A: Production increased 10 times:

- » Production increased 10 times to 21000 kg per year from 2000 per year IN 2008

B: Market expanded

- » Biofix product is currently used in Kenya, Malawi, Zambia, Rwanda, Uganda, Nigeria and Ghana
- » Due to its high performance and effectiveness, it has attracted international clients such as Clinton Foundation, USAID, N2Africa

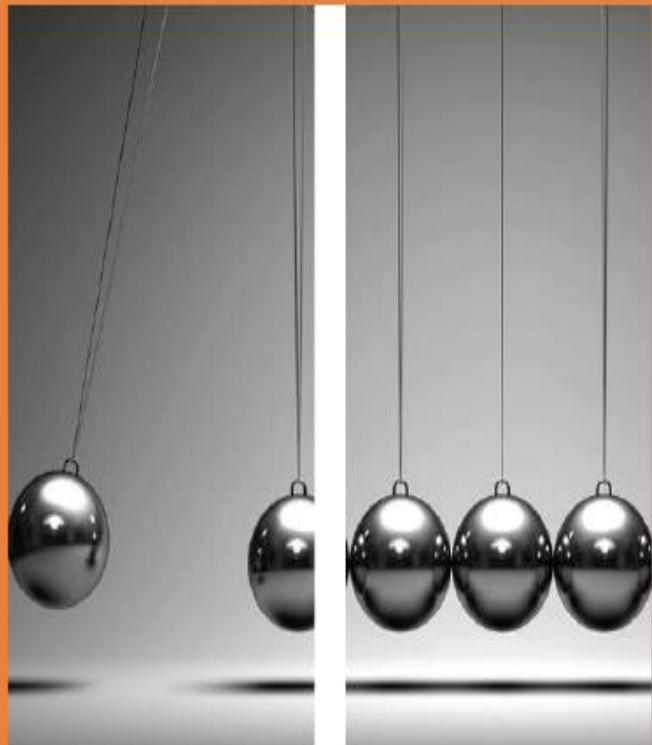


STRENGTHENED

COLLABORATION



- » UoN and MEA recently developed a new packaging material that increases the shelf life of the product from 3 to 8 months
- » UoN and MEA have managed to reduce contamination of the inoculants to zero
- » To date some 200 UoN students have been attached at MEA



IMPACT ON THE
ECONOMY



- » 225,000 household farmers in Africa have benefited
- » Soybean production increases from 600kg/ha to 1200kg/ha. This is more income to the farmers

5

**UNIQUE
COMMERCIALIZATION
OPTIONS**

TECHNOLOGY TRANSFER THROUGH REVERSE ENGINEERING



- » Quiet alot of innovation is taking place in the informal sectors
- » SMEs are producing products that are marketed locally and regionaly
- » These products are not competitive enough to access international market
- » Universities and R&Ds are not working with the informal sector to provide them with technology know how and skills to upgrade their products

TECHNOLOGY TRANSFER THROUGH REVERSE ENGINEERING



- » Ugly, inefficient, dangerous, not standardized, no name **BUT WORKING**
- » 50% - 60% of fabrication activities in Africa use this kind of welding machine
- » Require technology, branding and standard
- » Challenges addressed by three organizations (technology, IP and branding)

TECHNOLOGY TRANSFER THROUGH REVERSE ENGINEERING



- » Technology upgrading done through reverse engineering
- » Improvement protected as utility model
- » Standards developed by organization responsible for standards
- » Assembly done by the artisans

RTOs SUPPORTING REVIVAL OF COLLAPSED ENTERPRISES

- » Several companies in Africa collapsed during structural adjustments programs
- » A number are struggling today to survive due to lack of technologies knowledge and skills
- » African universities and research institutions are challenged to come out and support the revival of such

MOI UNIVERSITY'S TEXTILE COMPANY



- » Established in 1976 by Kenya Government and a consortium of foreign investors. The company operated profitably until 1990, when it collapsed and stopped operations in 2000
- » In 2007, Moi University acquired Rivatex for research, training and manufacturing purposes
- » The company has tapped into expertise of MU and oi University to develop textile dyes that are commercially viable in order to reduce costs.
- » These products are protect at KIPI

TECHNOLOGY TRANSFER THROUGH PILOT PROJECTS

This involves

- » Packaging own technologies into business plans
- » Selecting private partner (registered women and youth groups) through competitive bidding
- » Entering a joint venture agreement
- » Establishing a joint venture company
- » Mobilizing resources to operate the company
- » Hand holding the private partner through training and mentoring
- » Existing the partnership when the private sector is strong enough to be on its own
- » Examples; honey processing, banana processing, pineapple pilot plant

TECHNOLOGY TRANSFER THROUGH COMMON MANUFACTURING FACILITIES

This involves

- » Universities develop products
- » Invest in facilities for producing the products
- » Allows several entrepreneurs to use the facilities at a fee to produce and market the product on their own
- » Support the entrepreneurs in knowledge transfer, quality assurance, packaging and access to markets



\$1.5 MILLION BANANA FACTORY TO BE CONSTRUCTED IN KISII



Q&A



WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

Thank for your attention!