



United Nations Conference on Trade and Development

Report of the Expert Consultations: Promoting Trade through Diversification and Industrialization under the African Continental Free Trade Area

Introduction

UNCTAD organised a two-day expert consultation, on 14 and 15 of February 2019, in Geneva to review the legal, economic and practical challenges faced by developing country research and development (R&D) institutions and private sector in participating in intellectual property (IP) and know-how exchanges to increase trade in technology goods. The consultation was organized at the outset of a 25-month project funded by Germany's Federal Ministry for Economic Cooperation and Development (BMZ), i.e. the "African Continental Free Trade Area (AfCFTA) support programme to eliminate non-tariff barriers, increase regulatory transparency and promote industrial diversification". Under this project, UNCTAD *inter alia* agreed to design a capacity building course on IP and technology arrangements for African private sector firms, African universities and R&D institutions and government officials, and to deliver two national training workshops on IP and technology arrangements. The objective of the consultation was for UNCTAD to receive feedback on how to design its capacity building programme to achieve the greatest possible impact. This project is embedded within broader efforts by UNCTAD to facilitate linkages between technology originators and developing country institutions and enterprises through partnership for R&D, IP and technology transfer.

The expert consultation was attended by two business association leaders from the Eastern and Western African regions, two experts from technology providers and facilitators from Europe and the United States, two education and training providers from Europe, one global public-private partnership expert and three private practitioners of transactions in the field of IP licensing, technology transfer and arrangements for R&D collaboration (two from Africa and one from Latin America). The first day of the expert consultation focused on exploring priority needs, challenges and lessons learned to enable technology and R&D partnership in Africa. The second day focused on the design and the issues that a capacity building programme should address in the context of Africa (see Annex II to this report for details).

Result of the discussion

Experts agreed that capacity building in Africa on technology transfer and R&D collaboration to enhance the role of AfCFTA for industrial diversification needs to comprise the essential elements of the entire process of technology transfer, i.e. from the policy level to the level of technology transactions. The guiding question should be: "What needs to be in place to make technology transactions happen?" This should involve policy makers, on the one hand, and the institutions and enterprises involved in technology transfer, on the other hand, for each

beneficiary country. UNCTAD was advised to determine whether there is a need to focus on a specific sector, and if so on what sector, based on the realities in the selected beneficiary countries. Participants strongly recommended working with domestic training institutions (training of trainers) to ensure sustainability of UNCTAD's capacity building.

Summary of the discussions

Systemic issues and priority fields

Although there is no one path that countries could follow, participants underscored that facilitating technology transfer, R&D and related collaboration for industrial diversification require (i) skilled personnel, tools and processes; (ii) a stable and appropriate IP system and framework for investment in order to minimise risks and promote local creativity; (iii) a general culture that supports innovation; and (iv) a stable economic and political environment. This is without prejudice to developing countries' challenges arising from brain-drain; variations on how specific sectors respond to various incentives and the role of specific laws and regulations, such as whether a country follows a strict liability regime for technological products or limits liability only to cases of negligence, or if it allows hiring of expats. It is noted that some countries and regions in Africa are advancing local content requirements, preferences in government procurement and regulation of technology transfer agreements alongside with investment facilitation, tertiary education, skills development and R&D financing.

Participants shared their assessment of potential capacity building on technology transfer and R&D collaboration by looking at both the inter-sectoral level and the particular need within a specific sector. According to the participants the priority sectors for Africa's industrial diversification appear to correspond to the technological fields that are also considered dynamic on the global stage, namely information and communication technologies (ICT), or digital technology in general. In the case of ICTs, participants highlighted the importance of developing the infrastructure involved in the deployment of the technologies, such as fibre optics and satellites, the manufacturing of devices and the use and deployment of various applications of ICT, such as for smart cities, e-government, e-education, e-commerce etc. The importance of ICT in Africa is often associated with the success of mobile money transfer technology in Kenya that facilitated small transactions giving a boost to small and medium enterprises (SMEs).

Participants, however, also identified other sectors that are particularly important for the region, including health, agriculture, and the green economy. Outside sectoral issues, participants underscored the special role of technology transfer issues in strategic investments, such as mining and big government contracts for infrastructure development. Although governments are keen to advance technology transfer and local capacity building in investments considered strategic or in big government contracts or government procurement, the extent to which their efforts resulted in achieving their objectives and how to improve them remains an outstanding issue.

Moreover, the result of a separate consultation undertaken in December 2018 with African pharmaceutical companies that was discussed during the expert consultation reveal that technology transfer and collaboration for R&D is a priority for some firms. Those firms that are seeking competitive advantage over imports emphasize the need for partnership to develop

the next line of products, such as new dosage forms and formulations or new processes for manufacturing and a better framework for licensing of related technologies. Other firms, however, prefer to focus on existing technologies and wish to see the domestic investment incentives improved for the benefit of local products over imports.

Lessons learned from implementation of technology transfer and R&D collaboration programmes

Responding to the capacity building needs, technology developers, donor agencies, such as Germany's *Gesellschaft für Internationale Zusammenarbeit (GIZ)*, the United States Pharmacopeia, national IP offices and training centres, such as the Center for International Intellectual Property Studies (CEIPI) of the University of Strasbourg, have been implementing various initiatives and programmes.

Technology providers that are engaged both in R&D collaboration and transfer of technology emphasize the role of political stability and a functioning regulatory environment. Potential local partners require support to upgrade their capacity to engage in the development and deployment of technologies. Since the commercial interests of recipients and providers may not match, the process to select partners and complete a project may take some time. In addition, political commitment and international initiatives must exist to enable the deployment of technologies that are lacking in the African continent, such as vaccines, despite the continent having unmet demand. The commitment is also necessary for other products, where government procurement of the final product developed under technology transfer is vital for the success of any partnership in the field.

Technology partnerships are a significant business and technical undertaking. Engaging in technology partnerships is complex, hence, identifying suitable partners is important and should be done tactfully. In this context, participants highlighted that as the motivation of partners to technology transfer and R&D collaboration vary, the incentives should also vary.

Furthermore, experts stressed the importance of neutral third parties (for instance those that are interested in the delivery of quality products to consumers, or donor agencies) in technology transactions such as R&D cooperation contracts, IP licensing agreements, etc. Third parties can mediate and support the successful conclusion of the transactions where there are differences in commercial interests and technological capacity among potential partners. A neutral third party that is interested in the success of the technology transfer and R&D collaboration or the provision of quality products, such as medicines for those in need, may also be vital for various other reasons, including match making and overcoming the limitations of the parties, especially those of universities, who do not specialise in negotiations for technology transfer and R&D collaboration. A number of participants were sceptical about the true impact of technology transfer offices in developing country universities, citing lack of practical applications and successful examples.

Developed country firms may not be aware of the local conditions in developing countries due to their cultural and situational differences. Third parties can acquire access to a technology to facilitate its transfer to potential producers. For example, the U.S. Pharmacopeial Convention – Promoting the Quality of Medicines Program (USP-PQM) acquired access to GlaxoSmithKline's (GSK) *Umbipro* technology (know-how and data) so that it transferred it

to interested pharmaceutical manufacturers in developing countries at no cost, with the necessary support for quality assurances. This model overcomes the challenge of technology providers to select potential recipients and negotiate technology transfer. Medicines Patent Pool (MPP) is another global initiative that acquires licenses from technology originators and grants sub-licenses to developing country manufacturers.

The role of IP offices in some countries has evolved to include the diffusion of information to facilitate technology transfer and enable better access to IP information in the public domain. In this context IP offices help local companies assess their R&D results to identify potential inventions for IP protection, assist in the appraisal of technological information, and facilitate university and industry linkages. IP offices also advance technology transfer policies within the IP rights system itself, such as by developing incentive systems for university patenting and dissemination of resulting technologies.

Regarding existing training courses on technology transfer, a joint programme by the Center for International Intellectual Property Studies (CEIPI), the World Intellectual Property Organization (WIPO) and the National Industrial Property Office of France (INPI)¹ brings together stakeholders from different parts of the world and professional backgrounds². Through an integrated, interactive and practical approach, the programme touches upon the policy, legal and economic aspects of technology transfer and licensing and helps foster the growth of expert networks which persist after the training course is completed. The curriculum is structured through a coherent set of lectures, seminars, workshops and conferences distributed in two weeks. It begins with the essentials of technology transfer from a theoretical perspective progressively evolving towards the application of the knowledge acquired through a guided negotiation exercise which allows participants and facilitators to share their insights, experiences and best practices.

Finally, participants underscored that a major problem consists in bringing stakeholders from different sectors together to engage in a continued dialogue on the different uses of IP and the exploitation of IP rights via licensing and collaboration. Public-private partnerships (PPPs) can be useful tools for bringing together different stakeholders.

Reflections on targets, essential elements and design of a capacity building programme by UNCTAD

In the context of AfCFTA, participants underscored the overall need to improve digital literacy, modernisation of ICT infrastructure, digitisation of government services, applying technological solutions to ease trading and doing business in Africa. These would require awareness raising among policy makers and regional organisations.

¹ CEIPI/WIPO/INPI Advanced Training Course on Intellectual Property, Technology Transfer and Licensing, available at: <http://www.ceipi.edu/en/training-seminars/ceipiwipo-trainings/ceipiwipoinpi-advanced-training-course-on-intellectual-property-technology-transfer-and-licensing/>

² Facilitators include specialists from international organizations, prestigious research institutes and universities, renowned practitioners and company staff while, in turn, attendees encompass personnel from university technology transfer offices, national and regional intellectual property offices, science and technology ministries, lawyers and economists, among others.

At the same time, technology transfer and R&D collaborations as a major business decision and a complex transaction would require hands-on training for those involved in the transactions. The success of such transactions depends on a multitude of conditions agreed upon in a contract, such as defining the nature and scope of the technology transfer agreement and the know-how involved, the contractual obligations of confidentiality, the status of improvements and modifications, the implications of non-performance of obligation and rules governing dispute settlement. Outside the legal questions, there is a need to build the technology recipients' capacity to understand elements of sound technology partnerships, including feasibility studies, project management plans, establishing transfer protocols (including activities, stages, roles and responsibilities, change control, and completion criteria) and reporting and monitoring mechanisms. Some participants emphasized the successes of third party mediated technology transfer mechanisms and suggested UNCTAD also consider initiating and babysitting technology transfer projects.

The following are the elements that were advanced by participants at various degrees of consensus on the design of an UNCTAD capacity building programme on technology transfer and R&D collaboration to enhance the role of AfCFTA for industrial diversification:

- There was consensus that capacity building needs to target the policy makers, on the one hand, and the institutions and enterprises involved in technology transfer, on the other hand.
- Although the benefits of focusing on specific sectors was highlighted by many participants, the suggestions on priority sectors varied. African business association leaders emphasised the potential of digital technology whereas others highlighted pharmaceuticals, agriculture (seeds) and the green economy. There were, however, participants that did not suggest a sectoral approach. UNCTAD was advised to determine the approaches based on the realities in the selected beneficiary countries.
- The experts strongly felt the need to ensure impact by tailoring the capacity building to course participants' job profiles, thus increasing the relevance of the training.
- Another consideration to ensure project impact and sustainability is to enable domestic training institutes to integrate UNCTAD's capacity building course within their curricula.
- The experts differed on the usefulness of involving technology transfer offices of universities in Africa in the capacity building.
- Most experts agreed on the usefulness of involving technology providers from outside of Africa in technology partnerships, as most of the existing technologies the domestic private sector needs are available from enterprises in developed countries.

Follow-up by UNCTAD

UNCTAD will reflect the feedback from experts in the design of its capacity building course on IP and technology arrangements under the AfCFTA. UNCTAD will keep the participants of the expert consultation informed about future developments and welcomes further cooperation.

Annex I: List of Participants

1.	Ms. Nefissa Chakroun	Senior International Intellectual Property Rights Consultant, Tunisia
2.	Mr. Oyekale Waliu Oyeniran	Nigerian Business Council, CEO, Commit Technology Nigeria Limited
3.	Ms. Teresa Calixto Lopez	Researcher, Center for International Intellectual Property Studies, University of Strasbourg
4.	Mr. Maximiliano Santa Cruz	IP Consultant, Chile
5.	Mr. Ali Amrani	Technology Transfer Expert, Morocco
6.	Ms. Jutta Reinhard-Rupp	Head, Merck Global Health Institute
7.	Mr. Jacques de Werra	Professor, Intellectual Property Law, University of Geneva
8.	Mr. Chan Park	Legal Counsel, Medicines Patent Pool (MPP)
9.	Mr. Abdulsamad Abdulrahim	Board Director East Africa Business Council, Tanzania
10	Ms. Irene Calboli	Professor of Law at Texas A&M University School of Law
11	Mr. Paul Nkansah	Deputy Director – Technical, U.S. Pharmacopeial Convention -Promoting the Quality of Medicines Program
12	Ms. Sotiria Kechagia	Scientific Collaborator, Centre for Digital Trust (C4DT), EPFL and Department of Law, University of Geneva
13	Mr. Michael Kock	Dr. Kock Consulting, Switzerland
14	Mr. Christoph Spennemann	Officer-in-Charge, Intellectual Property (IP) Unit, UNCTAD
15	Mr. Kiyoshi Adachi	Legal Officer, IP Unit, UNCTAD
16	Mr. Ermias Biadgleng	Legal Officer, IP Unit, UNCTAD
17	Mr. Melchior Jordan Kuo	Intern, IP Unit, UNCTAD

Annex II: Agenda and Concept Note



United Nations Conference on Trade and Development
**Expert Consultations: Promoting Trade through Diversification and
Industrialization under the African Continental Free Trade Area**

14 & 15 February 2019
Room S4, Palais des Nations
Geneva, Switzerland

With the support of Germany's Federal Ministry for Economic Cooperation and Development (BMZ), UNCTAD will in 2019 and 2020 assist in the implementation of the African Continental Free Trade Area (AfCFTA). An important AfCFTA objective refers to "Enhanced socio-economic development, diversification and industrialization across Africa".³ The creation of technological absorption capacities through voluntary transfers of technology and know-how plays an essential role in this context. At the outset of the project, UNCTAD intends to seek advice from experts on how to design its intervention to generate the best possible impact.

This meeting will examine the most important avenues of voluntary technology transfer including intellectual property (IP) licensing and know-how transfer in research and development (R&D) collaboration agreements and in commercial contracts and other voluntary arrangements. The discussion will first seek to identify what are the main emerging technologies for AfCFTA Members. Experts will then review the legal, economic and practical challenges faced by developing country R&D institutions and private sector in setting up institutional IP policies and negotiating IP and know-how arrangements. This will inform UNCTAD's technical cooperation activities in the context of the AfCFTA

Thursday, 14 February 2019

09:00 **Welcome remarks and introduction to the UNCTAD-BMZ AfCFTA project**
Christoph Spennemann, Officer-in-Charge, Intellectual Property Unit, Division on Investment and Enterprise, UNCTAD.

³ See Article 3(f) of the AfCFTA Protocol on Trade in Goods.

- 09:30 **What are the main incentives and obstacles for foreign technology providers to engage in technology partnerships in Africa?** Michael Kock, Dr. Kock Consulting, Swiss and European Patent Attorney (remote online participation)
- 10:00 **Which areas of technology provide the best opportunities for economic diversification in Africa? Who are the potential African business partners / technology recipients for technology providers, and in which African countries?**
Abdulsamad Abdulrahim, Board Director, East African Business Council.
- 10:30 **Coffee/tea break**
- 11:00 **What are the typical challenges for developing country R&D collaborations?**
(1) Nefissa Chakroun, Senior International Intellectual Property Rights Consultant
(2) Ali Amrani, Technology Transfer Expert, Morocco
- 12:00 **Discussion**
- 12:30 **Lunch break**
- 14:00 **Creating dynamic public-private research and technology partnerships – what is the role of IP and the government?**
(1) Maximiliano Santa Cruz, IP Consultant, Chile
(2) Teresa Calixto Lopez, Researcher, Center for International Intellectual Property Studies, University of Strasbourg
- 15:00 **Discussion**
- 15:30 **Coffee/tea break**
- 15:45 **The role of the private sector in public-private research and technology partnerships**
Jutta Reinhard-Rupp, Head, Merck Global Health Institute
- 16:10 **Incentives and challenges for technology partnerships in Africa: lessons from USP-PQM support to pharmaceutical manufacturers**
Paul O. Nkansah, Deputy Director – Technical, United States Pharmacopoeia (remote online participation)
- 16:40 **Discussion**
- 17:10 **What are expectations of technology recipients in developing countries?**
(1) Abdulsamad Abdulrahim, Board Director, East African Business Council
(2) Oyekale Waliu Oyeniran, CEO, Commit Technology Nigeria Limited
- 17:30 **Discussion**

17:45 End of Day 1.

Friday, 15 February 2019

09:15 **Summary overview of Day 1 discussions**

Kiyoshi Adachi, Legal Officer, Intellectual Property Unit, Division on Investment and Enterprise, UNCTAD

09:30 **Assessing the training needs of African pharmaceutical producers in technology transfer negotiations and transactions – evaluation of feedback collected in December 2018**

Ermias Biadgleng, Legal Officer, Intellectual Property Unit, Division on Investment and Enterprise, UNCTAD

09:50 **Discussion**

10:05 **Coffee/tea break**

10:20 **Overview of the main IP and contract law issues in technology transfer agreements**

Jacques de Werra, Professor, Intellectual Property Law, University of Geneva

10:50 **Discussion**

11:05 **What should be the essential elements of a capacity building course on collaborative R&D and technology transfer arrangements for the private sector and R&D institutions**

Christoph Spennemann, UNCTAD

First commentator: Nefissa Chakroun, Senior International Intellectual Property Rights Consultant

Second commentator: Ali Amrani, Tech Transfer Expert, Morocco

Third commentator: Teresa Calixto Lopez, Researcher, Center for International Intellectual Property Studies, University of Strasbourg

Fourth commentator: Maximiliano Santa Cruz, IP Consultant, Chile

Fifth commentator: Chan Park, Legal Counsel, Medicines Patent Pool (MPP)

13:00 **General discussion**

13:30 **Conclusions**

Christoph Spennemann, UNCTAD