



**INNOVATION &
INTELLECTUAL
PROPERTY**

COLLABORATIVE DYNAMICS IN AFRICA

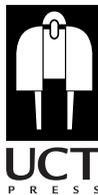
**Editors: Jeremy de Beer, Chris Armstrong,
Chidi Oguamanam & Tobias Schonwetter**

Innovation & Intellectual Property Collaborative Dynamics in Africa

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Preface

This book is among the key outputs of the Open African Innovation Research and Training (Open A.I.R.) Project. Based on case study research in nine African countries, the book examines the recent history and current on-the-ground realities of innovation and intellectual property (IP) in African settings. In doing so, the book reveals complex collaborative dynamics across a range of different countries, sectors and socio-economic contexts, and generates recommendations for how innovation and IP can be married with social and economic development objectives in African settings. This book's sister report, *Knowledge and Innovation in Africa: Scenarios for the Future*, situates the current realities covered in this book within a much longer historical trajectory and multiple potential futures.

Conceived in 2009, established in 2010 and launched in 2011, Open A.I.R. is a pan-African and globally interconnected research and training network, which was established to:

- raise IP awareness in African settings and facilitate critical policy engagement;
- empower a networked, epistemic IP community in Africa;
- identify IP-related innovation bottlenecks and modes of open collaboration; and
- interrogate IP-related innovation metrics, capital and power structures.

Open A.I.R. is financially supported by Canada's International Development Research Centre (IDRC) and Germany's Federal Ministry for Economic Cooperation and Development (BMZ), and collaborates with numerous other organisations and individuals – all of whom are recognised in the Acknowledgements' pages of this book. In addition to the aforementioned case study and foresight research, the Open A.I.R. network engages in a wide range of training, capacity building, outreach and policy engagement activities – both on the African continent and in settings outside the continent where matters of African innovation and IP are engaged. These engagements target external stakeholders capable of changing policies and practices, including:

- innovators, creators and entrepreneurs – individuals and companies;
- business groups such as chambers of commerce and industry associations;
- national, regional and international law-makers and policy-makers;
- issue leaders, such as politicians, judges, professors and practitioners;
- scientific and cultural research and development funding bodies;

- university researchers, administrators and technology transfer officials;
- rights-holders and collective rights management organisations; and
- representatives of indigenous and local communities.

Open A.I.R. is motivated by a vision in which innovation and creativity in Africa are sustainable, properly valued, collaborative, widely accessible and result in benefits that are distributed throughout society. Based on this vision, the network's mission is to better understand how innovation and IP processes work in African settings, how knowledge and technology currently protected by IP can be mobilised, and how IP systems can be harnessed or adapted in a manner that fosters openness-oriented collaborative innovation resulting in just distribution of new knowledge and technology.

This book and the *Scenarios* volume are two parts of a much broader attempt, by Open A.I.R. and other initiatives, to facilitate, in the medium to long term, the emergence of new, pragmatic means of valuing and facilitating innovation and creativity in Africa. Contextually appropriate metrics sensitive to the monitoring of meaningful changes in behaviour around innovation and creativity could be instrumental for promoting African grassroots entrepreneurship, broad-based business development, and a vibrant private sector built on small and medium-sized enterprises (SMEs) with a sustained ability to innovate. And the opportunities for innovation-driven SMEs could also benefit from policy-maker adoption of appropriate metrics when designing the policy and regulatory frameworks necessary to ensure predictable innovation environments for stakeholders.

Open A.I.R.'s core funders, IDRC and BMZ, have provided a framework for Open A.I.R.'s objectives. Open A.I.R. fits within the IDRC's Science and Innovation programme, which supports research and policy engagement in relation to how science, technology and innovation (STI) can be engines of socio-economic development. Within this programme, the Information and Networks (I&N) initiative, which funds the Open A.I.R. Project, aims to better understand the linkages among innovation, creativity, networked collaborations (often enabled via information and communication technologies [ICTs]), and determinants of openness – including IP rights. The IDRC also supported the precursor network to Open A.I.R., the African Copyright and Access to Knowledge (ACA2K) Project, which ran from 2007 to 2011 and generated the nucleus of the expert network now driving Open A.I.R.

BMZ supports Open A.I.R. via Germany's Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), under the GIZ commons@ip – Harnessing the Knowledge Commons for Open Innovation initiative. The commons@ip initiative focuses on how IP rights interact with open innovation, the knowledge commons, open licences and collaborative innovation. It is part of the BMZ-

mandated Train for Trade programme, which aims at strengthening the private sector and its constituent bodies in the Southern African Development Community (SADC) region through training and capacity building in export promotion, quality control and promotion of open innovation – as well as through promotion of local and regional economic development and trade.

Open A.I.R.'s training and capacity building components include:

- building the network's capacity – through online platforms, network-wide workshops, research methodology support, scenario-building meetings and thematic seminars;
- awarding Open A.I.R. Fellowships to emerging IP scholars and potential leaders – from Tanzania, Kenya, Uganda, Ethiopia, Cameroon, Nigeria and Egypt;
- exchanging knowledge through Africa-wide and South–South knowledge networking at seminars, workshops and conferences;
- growing awareness among African creators, innovators, entrepreneurs and policy-makers of openness-oriented approaches to innovation and IP matters in Africa; and
- teaching at African tertiary educational institutions, including development of a replicable, open course curriculum on IP law and development.

Because of the immense geographic size of the African continent, and unique logistical challenges of African intra-continental travel, ICTs have been instrumental in empowering the research network's "community of practice". Open A.I.R. has an offline presence in 14 African countries and in multiple countries outside the continent. Online, the network includes hundreds of individuals and institutions throughout Africa and from all corners of the globe, linked via a suite of online networking and social-media tools. The Open A.I.R. community of practice advances a culture of multidirectional exchange among African innovative and creative communities and external actors – with a view to sustainably empowering local communities and SMEs. Network members promote cross-fertilisation of ideas via original thinking and partnerships with national and international institutions, scholars, funding agencies, civil society organisations and other willing partners. Those wishing to join the community can visit <http://www.openair.org.za/join>.

Acknowledgements

True to its emphasis on “collaborative dynamics”, this book is the product of the collective energy of dozens of people and institutions in many countries, all of whom work within the Open African Innovation Research and Training (Open A.I.R.) network. Open A.I.R. currently has core network members and institutions in 14 African countries, spanning North Africa (Egypt, Tunisia), West Africa (Senegal, Ghana, Nigeria, Cameroon), East Africa (Ethiopia, Uganda, Kenya, Tanzania) and southern Africa (Malawi, Mozambique, Botswana and South Africa). Other network members and institutions are in Canada, the United States, the United Kingdom, Germany and France. These members are, in turn, linked – via online and offline interactions – to a broader Open A.I.R. network of hundreds of individuals and institutions, including people and entities in Brazil, India, Malaysia, Australia, Switzerland and the Netherlands. The network receives generous financial support from Canada’s International Development Research Centre (IDRC) and Germany’s Federal Ministry for Economic Cooperation and Development (BMZ).

Each of the editors and authors of this volume is part of, and collaboratively exchanges knowledge and expertise with, this large network, and we the editors, and each of the contributors, are profiled in “About the Editors” and “About the Contributors” sections of this book and on the Open A.I.R. website’s Team page, <http://www.openair.org.za/content/open-air-team>. On this Team page, one can also find the names and contact details of Open A.I.R. Fellows and other network members and institutions. The network is also accessible via its social media platforms, featured at <http://www.openair.org.za/join>

Open A.I.R.’s administrative hub is the IP Unit in the University of Cape Town Faculty of Law, where Project Manager Nan Warner and Administrator Phyllis Webb are the key operational drivers. Warner and Webb receive management support from two of the editors of this book (and the co-Principal Investigators of the Open A.I.R. Project), UCT IP Unit Director Tobias Schonwetter and Jeremy de Beer of the University of Ottawa Faculty of Law. Also supporting project management are Julie Nadler-Visser of UCT’s Research Contracts and IP Services (RCIPS) unit, members of the UCT Finance Department and Faculty of Law Finance Department, and another editor of this book: Chris Armstrong of the LINK Centre at the University of the Witwatersrand (Wits) in Johannesburg.

Network strategic guidance is provided by a Steering Committee composed of De Beer, Schonwetter, Warner, Chidi Oguamanam (another of this book’s

editors) of the University of Ottawa Faculty of Law, Nagla Rizk of The American University in Cairo (AUC), Sisule Musungu of IQsensato in Nairobi, Khaled Fourati of the IDRC office in Cairo, and Balthas Seibold of Germany's Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in Bonn. Further strategic support from the IDRC is, or has been, provided by Naser Faruqui, Simon Carter, Laurent Elder, Fernando Perini, Matthew Smith, Heloise Emdon and Phet Sayo; Karim Badran and Rose-Marie Ndiaye Pereira on financial matters; and Michelle Hibler and Nola Haddadian on publications. GIZ's involvement is focused on the capacity-building components of the network, which are carried out in collaboration with the GIZ's commons@ip – Harnessing the Knowledge Commons for Open Innovation initiative. At GIZ, in addition to support from the aforementioned Steering Committee member Balthas Seibold, who advises on matters of international knowledge cooperation and networking, support has also come from Petra Hagemann, Christine de Barros Said, Ursula van Look, Marina Neuendorff, Margrit Brockhaus and the Working Group of German Development Organisations on Promoting Innovation Systems. At UCT, as well as those already mentioned, key supporters and collaborators have been the Dean of Law, PJ Schwikkard, Lee-Ann Tong in the Faculty of Law, and, in the IP Unit, the Unit's founder Julian Kinderlerer, its Deputy Director Caroline Ncube and its Senior Research Fellow Bernard Maister. At the University of Ottawa, in addition to those already mentioned, support has been provided by the Dean of the Faculty of Law, Common Law Section, Nathalie Des Rosiers, and Former Dean Bruce Feldthusen.

For this book, key network participants were the team of JD candidates in the University of Ottawa Faculty of Law – Lukas Frey, Will Sapp, Phil Holdsworth, Maya Boorah, Kristen Holman and Saara Punjani – who provided long hours of diligent editorial assistance. In addition, because the research case studies presented in this book all required collection of data from human subjects – via interviews and/or focus group discussions and/or written surveys – this book would not have been possible without the cooperation of dozens of respondents across the countries of study. For reasons of confidentiality, most survey and interview respondents are not named in this book, but we are sincerely grateful for their contributions. Also contributing to the research outlined in this book was Donna Podems of OtherWISE in Cape Town, who advised on research methodologies and supported a methodology workshop for several of the authors featured in this volume, in addition to her support of Open A.I.R.'s monitoring and evaluation (M&E) framework. At this book's publisher, UCT Press, the key drivers have been Publisher Sandy Shepherd and Project Manager Glenda Younge. The cover design for this volume is by Elsabe Gelderblom of Farm Design in Cape Town, who does all of Open A.I.R.'s design work for its website, social media tools, PR materials,

Briefing Notes and the network's other substantial publication output, the Open A.I.R. *Scenarios* compendium – which is available in hard-copy, and on the Open A.I.R. website, as a separate published output and companion to this book.

Network headquarters at the UCT IP Unit serves as Open A.I.R.'s Southern Africa Hub, coordinated by Project Manager Warner. There are also four other Hubs: the North Africa Hub at the Access to Knowledge for Development Center (A2K4D) of the School of Business at The American University in Cairo (AUC), coordinated by Nagham El Houssamy under the direction of Nagla Rizk; the West Africa Hub at the Nigerian Institute of Advanced Legal Studies (NIALS) in Lagos, coordinated by Helen Chuma-Okoro under the direction of Adebambo Adewopo; the East Africa Hub at the Centre for IP and IT Law (CIPIT) of Strathmore University, Nairobi, coordinated by CIPIT Director Isaac Rutenberg; and the Canada Hub at the University of Ottawa Faculty of Law, coordinated by De Beer and Oguamanam. Contact can be made with these Hubs and Hub Coordinators via the aforementioned Open A.I.R. website Team page.

Also integral to the success of the network are its nine Fellows, each of whom has spent time at the UCT IP Unit in Cape Town. The Fellows have contributed to Open A.I.R.'s case study and foresight research, to outreach and training work, and to building the network. The nine Fellows are: Esther Ngom of the Ngo Nyemeck law firm in Yaoundé; Seble Baraki of the Justice and Legal System Research Institute (JLSRI) in Addis Ababa; Moses Mulumba of the Centre for Health, Human Rights and Development (CEHURD) in Kampala; Douglas Gichuki of CIPIT in Nairobi; Milton Lore of Bridgeworks Africa in Nairobi; Eliamani Laltaika of the Tanzania Intellectual Property Rights Network (TIP-Net) in Dar es Salaam; Alexandra Mogyoros, a student in the Faculty of Law at the University of Ottawa; West Africa Hub Coordinator Helen Chuma-Okoro of NIALS in Lagos; and North Africa Hub Coordinator Nagham El Houssamy of A2K4D in Cairo.

Other collaborating institutions are the Program on Information Justice and Intellectual Property (PIJIP) at the Washington College of Law at American University in Washington, DC; the Centre for Technology and Society (CTS) in Brazil; the Centre for Internet and Society (CIS) in India; and the Open Society Foundations, where Open A.I.R.'s key partner is Vera Franz. The Open A.I.R. network has also benefited from interaction with staff at the World Intellectual Property Organisation (WIPO) headquarters in Geneva. In London, Shirin Elahi of Scenarios Architecture is the driver of Open A.I.R. foresight research work, as featured in the aforementioned *Scenarios* compendium that provides an important forward-looking complement to the current picture offered by this volume. Jo Higgs of Go Trolley Films in Cape Town did post-production on the videos available on the Open A.I.R. YouTube channel – videos which show how the network came into being and how the research was conceptualised.

All the people and institutions mentioned here have in one way or another played a role, by collaborating within the Open A.I.R. network, in the conceptualisation, planning, data collection, data analysis, writing, editing, design and production processes that resulted in successful research and the completion of this book. It is hoped that this volume's free availability online, under a Creative Commons (CC) licence, will ensure that the book's collaborative dynamics do not end here at the moment of publication, and continue long into the future in the work of the still-growing Open A.I.R. community.

*Jeremy de Beer, Chris Armstrong, Chidi Oguamanam, Tobias Schonwetter
September 2013*

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Acronyms and Abbreviations

A2K	access to knowledge
A2K4D	Access to Knowledge for Development Center (The American University in Cairo, Egypt)
AAU	Addis Ababa University
ABS	access and benefit-sharing
ACA2K	African Copyright and Access to Knowledge Project
ACP	African, Caribbean and Pacific Group of States
ACTS	African Centre for Technology Studies (Kenya)
ADPP	Ajuda de Desenvolvimento de Povo para Povo (Mozambique)
AERC	African Economic Research Consortium
AFTE	Association for the Freedom of Thought and Expression (Egypt)
AGOA	African Growth and Opportunity Act
AIM	Agência de Informação de Moçambique
AmCham	American Chamber of Commerce (Egypt)
ARC	Aquaculture Research Centre (Egypt)
ARIPO	African Regional Intellectual Property Organisation
ASSAf	Academy of Sciences of South Africa
ASTII	African Science, Technology and Innovation Indicators
ATO	alternative trading organisation
ATPC	African Trade Policy Centre
ATPS	African Technology Policy Studies Network
AU	African Union
AUC	The American University in Cairo
B-BBEE Act	Broad-Based Black Economic Empowerment Act 53 of 2003 (South Africa)
BCP	bio-cultural community protocol
BIH	Botswana Innovation Hub
BMZ	Federal Ministry for Economic Cooperation and Development (Germany)
BoI	Bank of Industry (Nigeria)
BOTEC	Botswana Technology Centre
BPR	business process re-engineering
CAA	Cocoa Abrabopa Association (Ghana)
CARICOM	Caribbean Community
CBD	Convention on Biological Diversity
CBN	Central Bank of Nigeria

CC	Creative Commons
CCIA	Computer and Communications Industry Association
CEDAT	College of Engineering, Design, Art and Technology (Makerere University, Uganda)
CEHURD	Centre for Health, Human Rights and Development (Uganda)
CEPIL	Centre for Public Interest Law (Ghana)
CIGI	Centre for International Governance Innovation
CIPC	Companies and Intellectual Property Commission (South Africa)
CIPIT	Centre for IP and IT Law (Strathmore University, Kenya)
CIPO	Canadian Intellectual Property Office
CIPR	Commission on Intellectual Property Rights (UK)
CMO	collective management organisation
COCOBOD	Ghana Cocoa Board
CPD	Centre for Policy Dialogue (Nigeria)
CRTT	Centre for Research in Transportation Technologies (Makerere University, Uganda)
CSIR	Council of Scientific and Industrial Research (India)
CTEA	Copyright Term Extension Act (US)
CVCP	Committee of Vice-Chancellors and Principals (UK)
DACST	Department of Arts, Culture, Science and Technology (South Africa)
DEST	Department of Education, Science and Training (Australia)
DFID	Department for International Development (UK)
DHET	Department of Higher Education and Training (South Africa)
DNS	domain name system
DRC	Democratic Republic of Congo
DRM	digital rights management
DRST	Department of Research, Science and Technology (Botswana)
DST	Department of Science and Technology (South Africa)
DTI	Department of Trade and Industry (South Africa)
EAEP	East African Educational Publishers (Kenya)
EC	European Commission
ECBP	Engineering Capacity Building Program (Ethiopia)
ECOWAS	Economic Community of West African States
ECX	Ethiopia Commodity Exchange
EEAA	Egyptian Environmental Affairs Agency
EIPO	Ethiopian Intellectual Property Office
EIPRL	Egyptian Intellectual Property Rights Law
EPA	Environmental Protection Authority (Ethiopia)
EPO	European Patent Office
EST	environmentally sound technology

EU	European Union
EUEI	EU Energy Initiative
Eurostat	Statistical Office of the European Communities
FAO	UN Food and Agriculture Organisation
FCN	Friendship, Commerce and Navigation (Kenya)
FDI	foreign direct investment
FDRE	Federal Democratic Republic of Ethiopia
FDSE	Free Day Secondary Education (Kenya)
FES	Friedrich Ebert Stiftung (Germany)
FLO	Fairtrade Labelling Organisations International
FOSS	free and open source software
FPE	Free Primary Education (Kenya)
FTA	free trade agreement
GDP	gross domestic product
GEM	Global Entrepreneurship Monitor
GERD	gross expenditure on research and development
GI	geographical indication
GIPC	Global Intellectual Property Center
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (Germany)
GM	genetically modified
GOAN	Ghana Organic Agriculture Network
GOK	Government of Kenya
GR	genetic resources
GTZ	German Technical Cooperation
HSRC	Human Sciences Research Council (South Africa)
ICANN	Internet Corporation for Assigned Names and Numbers
ICIDSS	International Creativity and Innovation Development Support Services (Ethiopia)
ICJ	International Commission of Jurists
ICLS	International Conference of Labour Statisticians
ICPSK	Institute of Chartered Public Secretaries of Kenya
ICT	information and communication technology
ICT4D	ICT for development
ICTSD	International Centre for Trade and Sustainable Development
IDC	Industrial Development Corporation (South Africa)
IDLO	International Development Law Organisation
IDRC	International Development Research Centre (Canada)
IDS	Institute of Development Studies (Kenya)
IE	informal economy

IFC	International Finance Corporation
IICA	Inter-American Institute for Cooperation on Agriculture
IIDMM	Institute of Infectious Disease and Molecular Medicine (South Africa)
IIED	International Institute for Environment and Development
IIPA	International Intellectual Property Alliance
IISD	International Institute for Sustainable Development
ILC	indigenous and local community
ILO	International Labour Organisation
INAO	Institut national des appellations d'origine (France)
IP	intellectual property
IPA	Industrial Property Act (Botswana)
IPC	International Patent Classification
IPI	Industrial Property Institute (Mozambique)
IPR-PFRD Act	Intellectual Property Rights from Publicly Financed Research and Development Act (South Africa)
IRB	Institutional Review Board (Botswana)
IRENA	International Renewable Energy Agency
ISAS	integrated seawater agriculture system
ISCTEM	Instituto Superior de Ciências e Tecnologia de Moçambique
ISI	Institute for Scientific Information
ISO	International Organisation for Standardisation
ISP	Information Society Project (Yale University, US)
ITC	International Trade Centre
JBEDC	Japan Bio-Energy Development Corporation
JITAP	Joint Integrated Technical Assistance Programme
JLSRI	Justice and Legal System Research Institute (Ethiopia)
K2C Biosphere	Kruger to Canyons Biosphere (South Africa)
KE	knowledge economy
KECOBO	Kenya Copyright Board
KENFAA	Kenya Nonfiction and Academic Authors' Association
KES	Kenyan Shilling
KHA	Kenya Historical Association
KICD	Kenya Institute of Curriculum Development
KIPI	Kenya Industrial Property Institute
KIPRA	Kenya Institute for Public Policy Research and Analysis
KNAS	Kenya National Academy of Sciences
KOLA	Kenya Oral Literature Association
KTO	knowledge transfer office
LBC	Licensed Buying Company (Ghana)
LDC	least developed country

LE	Egyptian Pound
LINK Centre	Learning Information Networking Knowledge Centre (Wits University, South Africa)
LSK	Law Society of Kenya
MAN	Manufacturers Association of Nigeria
MANCAP	Mandatory Conformity Assessment Programme (Nigeria)
MCH	Maasai Cultural Heritage Organisation (Kenya)
MCST	Ministry of Communications, Science and Technology (Botswana)
MCT	Ministério da Ciência e Tecnologia (Mozambique)
MDCA	Malindi District Cultural Association (Kenya)
MDG	Millennium Development Goal
MEA	Multilateral Environmental Agreement
MIST	Ministry of Infrastructure, Science and Technology (Botswana)
MIT	Massachusetts Institute of Technology
MOA	Ministry of Agriculture (Ethiopia)
MOE	Ministry of Education (Ethiopia)
MOFA	Ministry of Food and Agriculture (Ghana)
MoFED	Ministry of Finance and Economic Development (Ethiopia)
MOST	Ministry of Science and Technology (Ethiopia)
MoU	memorandum of understanding
MRC	Medical Research Council (South Africa)
Natoil	Natural Oil Company (Egypt)
NACI	National Advisory Council on Innovation (South Africa)
NCC	Nigerian Copyright Commission
NDA	non-disclosure agreement
NEP	National Enquiry Point (Botswana)
NEPAD	New Partnership for Africa's Development
NESC	National Economic and Social Council (Kenya)
NESTI	National Experts on Science and Technology Indicators
NIALS	Nigerian Institute of Advanced Legal Studies
NRF	National Research Foundation (South Africa)
NGO	non-governmental organisation
NIALS	Nigerian Institute of Advanced Legal Studies
NIPMO	National Intellectual Property Management Office (South Africa)
NIS	national innovation system
NMIMS	Narsee Monjee Institute of Management Studies (India)
NPR	National Public Radio (US)
NPSB	National Policy and Strategy on Biofuels (Mozambique)
NRC	National Research Centre (Egypt)

NREA	New and Renewable Energy Authority (Egypt)
NWLR	Nigerian Weekly Law Report
OA	open access
OAPI	Organisation africaine de la propriété intellectuelle
OCEES	Oxford Centre for the Environment, Ethics and Society
OCFCU	Oromia Coffee Farmers Cooperative Union (Ethiopia)
ODEL	open, distance and electronic learning
ODI	Overseas Development Institute (UK)
OECD	Organisation for Economic Co-operation and Development
OER	open educational resource
Open A.I.R.	Open African Innovation Research and Training Project
ORD	Office of Research and Development (Botswana)
PBIP	place-based intellectual property
PCT	Patent Cooperation Treaty
Petromoc	Petróleos de Mozambique
PIIPA	Public Interest Intellectual Property Advisors (US)
PIJIP	Program on Information Justice and Intellectual Property (American University, US)
PPS	probability proportional to size
PRO	public research organisation
ProBEC	Programme for Basic Energy and Conservation in Southern Africa
R&D	research and development
RCIPS	Research Contracts and IP Services unit (UCT, South Africa)
RIPCO (B)	Rural Industrial Promotion Company (Botswana)
RMI	rights management information
SADC	Southern African Development Community
SARUA	Southern African Regional Universities Association
SCE	Society for Critical Exchange (Kenya)
SID	Society for International Development (Kenya)
SINER-GI	Strengthening International Research on Geographical Indications
SME	small and medium enterprise
SMIEIS	Small and Medium Industries Equity Investments Scheme (Nigeria)
SMME	small, micro and medium enterprise
SNA	social network analysis
SON	Standards Organisation of Nigeria
SPS	sanitary and phytosanitary measures
STCI	Science and Technology Capacity Index
STEP	Science Technology and Economic Policy (US)
STI	science, technology and innovation
STS	Society for Technology Studies (Ethiopia)

SVKM	Shri Vile Parle Kalamani Mandal (India)
TBT	technical barriers to trade
TCE	traditional cultural expression
TGE	Transitional Government of Ethiopia
THE	Times Higher Education (UK)
THRIP	Technology and Human Resources Programme (South Africa)
TIA	Technology Innovation Agency (South Africa)
TIP-Net	Tanzania Intellectual Property Rights Network
TISC	Technology and Innovation Support Center
TK	traditional knowledge
TKDL	Traditional Knowledge Digital Library (India)
TPMs	technological protection measures
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
TTO	technology transfer office
TVET	Technical and Vocational Education and Training (Ethiopia)
UB	University of Botswana
UCC	Universal Copyright Convention
UCITA	Uniform Computer Information Transactions Act (US)
UCT	University of Cape Town (South Africa)
UEM	Eduardo Mondlane University (Mozambique)
UGT	Uganda Gatsby Trust
UK	United Kingdom
UM	utility model
UNCST	Uganda National Council for Science and Technology
UNCTAD	UN Commission on Trade and Development
UNDESA	UN Department of Economic and Social Affairs
UNDP	UN Development Programme
UNECA	UN Economic Commission for Africa
UNEP	UN Environment Programme
UNESCAP	UN Economic and Social Commission for Asia and the Pacific
UNESCO	UN Educational, Scientific and Cultural Organisation
UNFCCC	UN Framework Convention on Climate Change
UNICAMP	University of Campinas (Brazil)
UNIDO	UN Industrial Development Organisation
Unilag	University of Lagos
US	United States
USAID	US Agency for International Development
USPTO	US Patent and Trademark Office
WAK	Writers Association of Kenya
WATH	West Africa Trade Hub

WBCSD	World Business Council for Sustainable Development
WCT	WIPO Copyright Treaty
WEF	World Economic Forum
WEP	World Employment Programme
WHO	World Health Organisation
WIPO	World Intellectual Property Organisation
Wits	University of the Witwatersrand (South Africa)
WPIS	WIPO Patent Information Service
WPPT	WIPO Performances and Phonograms Treaty
WTO	World Trade Organisation
ZAR	South African Rand

Chapter 7

Consideration of a Legal “Trust” Model for the Kukula Healers’ TK Commons in South Africa

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Abstract

In this chapter, the authors outline their research findings from examination of the evolution and current dynamics of the traditional knowledge (TK) commons of a large grouping of traditional healers – the Kukula Traditional Health Practitioners’ Association – in the Bushbuckridge area of northeastern South Africa. The authors argue that one potential way forward for the healers towards securing improved protection, sharing and benefit from the intellectual property (IP) represented by their TK could be the setting up of a legal “trust” with the healers serving as the trust’s beneficiaries. While such a trust would not solve all the problems related to IP protection, it would permit the healers to manage their commons more effectively and govern aspects of IP management such as “access and benefit-sharing” and “prior informed consent”.

1. Introduction

The Kukula Traditional Health Practitioners’ Association (the “Kukula Healers”) is a group of traditional medicine practitioners who live in the Bushbuckridge area in northeastern South Africa. Spread across parts of two provinces (Mpumalanga and Limpopo), Bushbuckridge lies within the Kruger to Canyons (K2C) area, which the UN Educational, Scientific and Cultural Organisation (UNESCO) has registered as a Biosphere Reserve. The K2C Biosphere Region is managed by the K2C Management Committee comprising six individual stakeholders working in the tourism and political/government sectors in the region (K2C, n.d.). The K2C area contains an exceptionally wide array of animal and plant biodiversity. Moreover, there are various ethnic groups in the area, as reflected in members of the Kukula Healers’ collective, who come from the Tsonga/Shangaan, Swazi,

Tswana, Bapedi (North Sotho) and Basotho (South Sotho) ethnic groupings. The K2C region is thus both socio-culturally multi-faceted and extremely biodiverse.

The K2C area is also one of the poorest regions of South Africa, with persistent rural poverty, high unemployment and high levels of HIV infection (Nyaka, 2013). Traditional healers provide primary health care services and counselling in the communities of Bushbuckridge. At the same time, the healers hold rich bio-cultural knowledge in relation to the landscape, the environment and the socio-cultural life of their communities. The healers are thus the custodians of a unique repository of physical, socio-cultural, medicinal and biological knowledge that finds expression in a bio-cultural way of being. This way of being is expressed in a variety of customary laws. To ensure the provision of health care service for their communities, the traditional healers require access to the surrounding landscapes so as to be able to collect medicinal plants. However, community access to medicinal plants is often restricted by access rights to the land (Du Plessis, 2012). Private and public nature and game reserves limit access to land that is far richer in biodiversity than the overgrazed and over-harvested communal areas controlled by local chiefs. The communal land is more easily accessible, but more difficult to control and maintain sustainably. For example, plant diversity in these areas is diminished due to grazing cattle and over-harvesting of trees and vegetation by local firewood collectors and *muti* (traditional medicine) hunters.¹ The *muti* hunters are organised collectors of medicinal plants who supply the large *muti* markets in the South African cities of Johannesburg and Durban.

With diminished access to land and, in turn, to medicinal plants, traditional healers' daily interactions with important biodiversity is minimised in the Bushbuckridge area, and these declining interactions could eventually lead to the loss of important traditional knowledge (TK). This situation poses a threat to the livelihoods of the area's traditional healers, and to their customary and culturally significant roles as custodians of TK. The potential loss of TK also threatens to further undermine traditional medicinal practitioners' already unstable position in communities increasingly exposed to modernising strands of South African society, to non-traditional health services, and to negative commentary from Western-oriented churches. The Bushbuckridge area's traditional healers have witnessed a steady decline in patient numbers, leading to reduced income and economic security (interviews with Kukula Healers, 2011–12).

The Bushbuckridge healers have in recent years given increasing consideration to means of protecting their already-diluting TK. As well as the aforementioned threats to the healers' TK, another threat is biopiracy: the unrewarded use of biological resources and TK. Biopiracy was largely a neglected issue until the

1 Spelled "muti" in isiZulu and "muthi" in isiXhosa, with both spellings found in the literature.

early 1990s and the drafting of the UN Convention on Biological Diversity (CBD) of 1992. The CBD, ratified in 1993, was the first binding international legal instrument to provide for the conservation, sustainable use and fair and equitable sharing of benefits arising from the use of biological resources and related knowledge. Prior to the CBD, natural resources and knowledge were treated as commonly held goods, to which broad rights of access for a wide variety of uses, including commercial uses, were taken for granted.

With the extension of the CBD through its Nagoya Protocol on Access and Benefit-Sharing (ABS) of 2010, community protocols, also known as bio-cultural community protocols (BCPs), have become a promising tool for indigenous and local communities (ILCs) to control their natural resources and TK. The Nagoya Protocol states that parties shall “take into consideration indigenous and local communities’ customary law, community protocols and procedures” (Art. 12, Sect. 1), and support the development by ILCs of

[c]ommunity protocols in relation to access to traditional knowledge associated with genetic resources and the fair and equitable sharing of benefits arising out of the utilization of such knowledge. (Art. 12, Sect. 3(a))

Responding to the threats to its TK, the Kukula Healers collaborated with the K2C Management Committee and the Natural Justice non-governmental organisation (NGO) in the development of a BCP aimed at strengthening their rights of access and protection (Kukula Healers, 2010).² BCPs are designed to assist communities in articulating the importance of self-governance and stewardship of their resources and associated TK; affirming their responsibilities to ensure the preservation of their communities’ knowledge, lands and resources; and communicating their rights under customary, national and international law. According to Bavikatte (2011),

[t]he value of community protocols lies in their ability to act as the glue that holds together the total mosaic of a community life that is fragmented under different laws and policies, with the understanding that the conservation of nature is a result of a holistic way of life. (Bavikatte, 2011, p. 23)

The Kukula Healers’ BCP outlines their commitment to maintain the health of their communities – not only the physical, cultural and spiritual wellbeing of each community member, but also the protection of the biodiversity in their physical surroundings (Kukula Healers, 2010). The importance of the Kukula BCP lies in the fact that the communities it covers have, with some external support, now been

2 Natural Justice: Lawyers for Communities and the Environment is an international NGO comprised of lawyers working with ILCs on conservation, environmental sustainability and biodiversity. See Natural Justice (n.d.).

empowered to negotiate their rights (in the context of complex local, national and international policies) and to strengthen their capacity for self-governance. An important step in the development of the Kukula BCP was the traditional healers' agreement on the notion of a TK "commons", in which they would collectively pool their knowledge and share it with researchers or business partners. In 2011, in line with the provisions of the BCP, the Kukula Healers negotiated a non-disclosure agreement and agreed to share plant material with the South African cosmetics and bedding company Godding and Godding. In terms of the agreement, a transfer of plants with potential commercial value was completed between the healers and Godding and Godding in December 2011, with the support of members of the K2C Management Committee.

The purpose of this chapter is to give an account of the results of a research study, conducted in 2011–12, which examined the evolution and current functioning of the Kukula Healers' TK commons and sought to determine whether there were additional legal mechanisms for the healers to consider. We arrived at the conclusion that the setting up of a legal "trust" could potentially benefit the Kukula Healers. Section 2 of this chapter outlines the notion of the "commons" and provides an overview of the research study on which this chapter is based. Section 3 gives an account of the history, dynamics and current status of the Kukula Healers' TK commons. Section 4 outlines how a legal trust model could conceivably benefit the healers, and Section 5, the concluding section, summarises the potential efficacy of the trust model for the Kukula Healers.

2. Conceptual framework and methodology

The concept of a "commons"

The term "commons" refers to a resource shared by a group of people (Hess and Ostrom, 2007). In most cases, a commons is governed by the regulated right to access, use and control of resources (Ostrom, 1990). Benkler (2006) describes a commons as "a particular institutional form of structuring the right to access, use and control of resources". Abrell *et al.* (2009) refer to it as a resource that is controlled by a community through systematic rules that govern use of the resources. According to Hardin (1968), the commons model poses challenges for communities because "[f]reedom in a commons brings ruin to all" (Hardin, 1968, p. 1244), i.e. individual interests override community interests, resulting in the unsustainable use of resources. For example, common use of a pasture may lead to overgrazing. According to Hardin, publicly accessible resources tend to be misused and ultimately extinguished (Hardin, 1968).

We, however, support the argument that the TK commons model is not one that must of necessity result in "ruin for all" because, as Ostrom (1990) has argued,

under certain conditions, conservation of TK and biodiversity is best ensured when decisions regarding communally managed resources are in the hands of the very communities who have historically been stewards of such knowledge and resources. These conditions are what Ostrom terms the eight “design principles” for effective common pool resource management, which are:

1. Define clear group boundaries.
2. Match rules governing use of common goods to local needs and conditions.
3. Ensure that those affected by the rules can participate in modifying the rules.
4. Make sure the rulemaking rights of community members are respected by outside authorities.
5. Develop a system, carried out by community members, for monitoring members’ behaviour.
6. Use graduated sanctions for rule violators.
7. Provide accessible, low-cost means for dispute resolution.
8. Build responsibility for governing the common resource in nested tiers from the lowest level up to the entire interconnected system (Ostrom, 1990, p. 90). (See Chapter 6 in this volume for discussion of the potential for realisation of a TK commons in Kenya.)

The Kukula Healers’ commons

The TK commons of the Kukula Healers is a commons created at the community level that aims to govern the healers’ tangible and intangible resources, namely, traditional medicinal plants and TK, which, as described earlier, are both under threat due, on one hand, to biopiracy, and on the other hand, to shifting local social and economic dynamics. To address these challenges, the healers set up a commons to protect their resources and control access, through establishment of systematic rules to govern the use of the communally held resources. The rules allow healers to determine who is entitled to use the common resources (exclusion) and to what degree (subtractability). The Kukula Healers’ knowledge commons is thus a common pool resource, whereby “a subtractable resource is managed under a property regime in which a legally defined user pool cannot be efficiently excluded from their resource domain” (Buck, 1998, p. 5). The TK commons of the Kukula Healers is based on a system of pooling and sharing elements of their bio-cultural knowledge and customary laws. It attempts to balance competing interests: disclosure versus secrecy, individual knowledge versus common knowledge. Formalised knowledge-sharing is relatively new to the healers,

but it is at the same time grounded in their tradition. However, the Kukula Healers' knowledge commons does not at present carry the "legitimate" status that would be conferred if some form of property rights regime were to be adopted by the healers. Rather, the Kukula commons is a resource-based system, with knowledge constituting the resource of a specific group. We are of the view that using the legal model of a trust could – by generating a form of intellectual property (IP)-based property rights for the healers – serve to better govern the commons, while at the same time continuing to permit participants in the commons to use and share their resources on the basis of the existing rules of their established commons.

The research

To better understand the TK commons of the Kukula Healers, one of the authors of this chapter (Rutert, an anthropologist) conducted five months of participant observation, coupled with interviewing, in Bushbuckridge. Participant observation, a qualitative research method, requires the researcher to gather data through participation in the everyday lives of the people in the context being studied. For this study, Rutert lived in the home of the executive director of the Kukula Healers. The executive director supported the researcher's efforts by connecting her with other healers in the Association, so that she could conduct interviews and participate in their day-to-day activities. The participant observation process included: (1) involvement in traditional healers' everyday work, such as collecting plant material, consulting with patients and participating in ceremonies; and (2) participation in the Association's monthly meetings, at which current and future objectives and activities were discussed. In addition to participating in these activities, the researcher was able to conduct semi-structured interviews with 40 members of the Kukula Healers' Association. The interviews, conducted from December 2011 to May 2012, probed the healers on their knowledge commons, their knowledge protection and environmental protection, and their past and present socio-cultural, economic and political circumstances. The interviewees consisted of 12 male healers and 28 female healers. The interviewees were selected with the help of the executive director and with consideration of availability and accessibility. All interviewees were members of the Kukula Healers. Additional conversations with other healers, local authorities and residents of the area also contributed to the results.

3. Evolution of the Kukula TK commons

The Kukula Healers grouping started with 80 healers in 2009 and had grown to 300 members by the time of this research study in 2011–12. As mentioned above,

the healers live in the Bushbuckridge municipality, an extensive area including parts of two South African provinces and bordering on the Kruger National Park. Because the members of the Kukula Association are spread across such a wide area, transportation between the villages is difficult and expensive, hindering regular gatherings of all 300 healers. Therefore, the Association formed a management sub-group, consisting of 26 healers, headed by an executive management committee of six healers (three female, three male) appointed in 2009. The executive management committee consists of the Association's CEO, three chairpersons, a treasurer and a secretary. This management committee meets on a regular basis to make important decisions and establish processes. It also convenes for joint meetings with the management sub-group to develop policies, such as the Kukula Healers' Code of Ethics (Kukula Healers, 2012).

In ILCs in South Africa, TK is intangible property held by actors embedded in a network of relationships. Traditional medicinal knowledge is typically regarded as belonging to the ancestors, and is transferred from generation to generation – either within family lines or in training schools – from a healer (*sangoma*) to an apprentice (*thwasa*). The ancestors are regarded as deceased members of an ongoing lineage. The healer evokes communication with the ancestors by using particular techniques, such as breathing, drumming or dancing. Communication with ancestors also occurs via (waking and sleeping) dreams, and through recital of particular prayers. This interplay between healers and ancestors connects the past with the present, the dead with the living. TK is thus a system of continuous connections and relations, or, according to Weiner (1985), an inalienable "object" that "acts as a vehicle for bringing past time into the present [...] To lose this claim to the past is to lose part of who one is in the present" (Weiner, 1985, p. 210).

According to the Kukula Healers, their traditional medicinal knowledge system originated from two ancestors, the brothers Nkomo le Lwandle and Dlamini. The healers recount that, hundreds of years ago, these two brothers split into separate, conflicting healing schools, in which slightly different forms of knowledge played significant roles. Each of these two healing traditions is characterised by, *inter alia*, specific knowledge of certain medicinal plants or healing performances. These schools, also called *imphande*, have a hierarchical structure, with the eldest healers serving as leaders (called *magobela*). The elders must be respected and obeyed by younger healers and former trainees, and respect is often expressed by kneeling down in front of the elder and offering gifts. The knowledge transferred in the *imphande* encompasses knowledge of medicinal plants and healing practices as well as ethical and moral norms of behaviour, referred to as customary laws. According to Abrell *et al.* (2009), "[c]ustomary laws are the principles, values, rules, codes of conduct, or established practices that guide the social practices of indigenous

communities, including the use and management of natural resources” (Abrell *et al.*, 2009, p. 7). For the IIED (2009), customary laws “are locally recognized, orally held, adaptable and evolving”, although they are often not recognised by state governments or courts, especially when they conflict with state laws (IIED, 2009, p. 5).

The Kukula Healers practise a holistic approach to knowledge-sharing that includes not only a transfer of knowledge but also a network of relationships ranging from past to present and interacting with both natural and cultural elements. Some knowledge may also be owned by one individual healer who, through the guidance of his or her ancestors, specialises in the treatment of particular diseases and ailments, using specific *muti* mixtures. Such specific healing capabilities typically lie in the family lineage, and are passed down from a grandfather or grandmother to a grandchild, skipping one generation. Accordingly, the transfer and collection of traditional medicinal knowledge in South Africa can be divided into three systems: (1) knowledge gained through training in a particular *imphande*; (2) knowledge gained through “private” ancestors in a family ancestral lineage; and (3) individually held knowledge gained through experience and the sharing of knowledge with other healers. All three systems are related to each other and simultaneously integrated in a complex set of relationships with ancestors, other healers, the environment and the plants with which the healers live and work. TK can thus be seen as a network of relationships among nature, the ancestors, the community and the individual.

The knowledge held by indigenous peoples has generally been acquired and refined over centuries.³ Broadly, such knowledge may encompass topics such as those involving medicinal plants and animals and including such information as

[...] where to find the medicinal [...] plant, animal or fungus [...] the cultural value; the specific collection practice; the exact part of the specimen that contains the active compound; the procedure for extracting the compound; and the different ways and timings to administer (or consume) the medicine (or food). (Bastida-Munoz and Patrick, 2006)

IP law, as it has developed in the context of industrialised nations, is incapable of dealing with TK. For example, one requirement of patentability requires that an invention be *novel*, whereas the knowledge that constitutes TK often will date back many generations. Copyright protection, with its requirements of “originality” and protection limited to that which is actually recorded, is not appropriate for the traditional songs and melodies of indigenous peoples, which often exist in

3 The nature of TK, who owns it, and what it involves, has been extensively covered in the literature. Some useful sources relating to TK and the difficulties encountered with current IP law protection include Bastida-Munoz and Patrick (2006), Correa (2004) and Drahos and Frenkel (2012).

oral form only. In the case of both patent and copyright protection, there has to be an identified inventor or author in whose name protection is sought. Clearly, in the case of multi-generational TK, identifying a single author or inventor is impossible. IP rights are usually granted to a single inventor or creator, or group of inventors or creators, and thereafter assigned to a single business entity such as a corporation.⁴ As a consequence, secrecy is the primary means of knowledge protection.

According to the healers, knowledge cannot be shared with people outside the healers' community because knowledge is perceived as "sacred". If this knowledge were to leave the defined group, it would lose its power. Until recently, another factor mitigating against sharing the knowledge outside training schools was fear of persecution. In the pre-democratic era, before 1994, traditional healing practices were widely viewed as "witchcraft" and rendered illegal through the Witchcraft Suppression Act 3 of 1957. (See also the Mpumalanga Province draft Witchcraft Suppression Bill of 2007, and Niehaus [2005]).

During the research interviews with members of the Kukula Healers grouping, several claimed that they had been accused of witchcraft and some had been persecuted and received death threats, often within their own communities. This situation had, however, largely changed since the advent of democracy in 1994 and the development of government policy on traditional medicinal practices (i.e. the Biodiversity Act 10 of 2004, the Traditional Health Practitioners Act 35 of 2004 and the Indigenous Knowledge Systems Policy of 2004). The healers' reputation has improved in the democratic era, and they are able to perform their services in a less secretive and cautious way. The fact that healers can now provide their services more openly contributed to their decisions to set up the BCP and adopt a TK commons.

The system of sharing and transferring knowledge within the training schools and through ancestral communication could possibly already be regarded as a knowledge commons, or a knowledge commons pool, that is protected through customary law. Customary law is an intrinsic part of knowledge and, at the same time, an extrinsic regulatory system that protects the sensitive balance of all knowledge relations. It is a normative system that regulates moral and ethical behaviour in communities in general and in the healer community in particular. For the healers, customary law most often regulates sexual behaviour (e.g. no sexual intercourse while in training) and customs with regard to death and food.

4 It must, however, be noted that another key objection to granting patents as currently constituted in the context of TK is the issue of "prior art". Given the (usually) extensive prior knowledge of the subject matter (often a significant component of its power), TK is usually rejected by patent law as failing the "novelty" requirement.

All major aspects of the healers' practice are in danger of losing their purity, and hence power, when not guarded closely (Douglas, 1966). Customary law also regulates access and exposure to nature and the environment, and enforces the relational aspect of traditional healing. For example, customary law requires that the people seek permission from the ancestors to harvest plants and that they cover a plant's roots with soil after harvesting it.

The Kukula Healers' BCP was developed through a highly consultative process that allowed traditional health practitioners to define the essential elements of their practice and the core values that guide them. Notably, this process included detailing relevant customary laws and defining codes for knowledge-sharing with different parties, governance structures, ethics of conservation and commitments to holistic community wellbeing. The BCP was supplemented with direct references to relevant national and international law protecting this structure, and laid the foundation for the TK commons.

The TK commons of the Kukula Healers is based on a democratic group agreement that has evolved beyond their traditional methods of knowledge protection. The Kukula Healers agreed on a "TK commons pool" – a pool of knowledge that is shared among members of the Association, incorporating their conservation and "sustainable use" goals. Further, the members do not have to belong to the same healing tradition or *imphande*. The uniqueness of the TK commons pool lies in the very fact that the commons is based on a process of self-governance (although the contents of the TK commons pool might be similar to those of other area healers in terms of their medicinal knowledge). The TK commons, through its innovative combination of knowledge-sharing and protection, supports the Kukula Healers' ability to govern and further develop their knowledge while at the same time offering opportunities to form a coherent group identity.

The particularly multi-ethnic nature of the Bushbuckridge TK commons arises from the presence of different ethnic groups, predominantly the Shangaan and the Sotho peoples, in the region. The Bushbuckridge area is amongst the most ethnically heterogeneous areas of South Africa. Through diverse migration movements the area became a melting pot of different ethnic groups and consequently a region of many inter-ethnic traditions and customary laws, e.g. Shangaan men initiated under Sotho initiation rules (Niehaus, 2002). The different healing traditions continuously mingle and create a conglomerate of techniques and knowledge among the healers who have regular contact and tend to share their knowledge during ceremonial or informal meetings. This knowledge-sharing is largely based on the trust relationship between healers regardless of their ethnic affiliations or levels of experience. Notably, however, members of the group do not share all knowledge because of concerns that it could lead to the weakening of their individual healing specialisations.

When the TK commons system was established, Kukula members agreed that all knowledge that helps healers to improve their service to their communities and helps them to enter into negotiations with outside stakeholders can be shared according to strict rules. From their perspective, if knowledge is shared without limits, it loses its power. In their BCP, the Kukula Healers call for:

- increased access to conservation areas and reduction of over-harvesting of medicinal plants by others in communal areas;
- government recognition of their contribution to and benefits from the region’s biodiversity;
- the establishment of a medicinal plants conservation and development area; and
- engagement with other local stakeholders to discuss the role of the traditional health practitioners in the communities (Kukula Healers, 2010).

The TK commons system adopted by the Kukula Healers currently permits them to pool and share their knowledge within their collective while, in general terms, keeping the knowledge secret from outsiders. One key question, however, remains: how is the knowledge to be best protected when the Kukula Healers engage with outside entities? Based on research evidence gathered on the functioning of the Kukula TK commons and BCP, one potentially beneficial legal model is that of a “trust”.

4. Potential benefits of a legal “trust” for the Kukula Healers

As mentioned above, in 2011 the Kukula Healers entered into a non-disclosure agreement with a South African company, Godding and Godding, in terms of which the healers agreed to the transfer of certain types of knowledge to the company. This knowledge was to be used exclusively for lab testing in order to explore its efficacy and stability for cosmetics product development. The knowledge transfer was completed in a manner consistent with the customary laws of the Kukula Healers, including an acknowledgement that ownership of all knowledge they provided vests in their Association. Should the tests prove successful, a benefit-sharing arrangement will be required in order for Godding and Godding to commercialise any resulting products.

The agreement between the Kukula Healers and Godding and Godding is in line with, and reflects, international and national environmental legislation to protect TK. Specifically, Article 8(j) of the aforementioned CBD and the Nagoya Protocol grant ILCs, as custodians of TK, the right to consent to the use of their

knowledge and to share in the benefits from its use. Parties are required to uphold the customary laws and community protocols of ILCs that regulate the use of their TK. In South Africa, protection of TK is governed by the Biodiversity Act 10 of 2004 and by the Bio-prospecting, Access and Benefit-Sharing Regulations of South Africa of 2008 which, *inter alia*, require ILCs to be identified and rewarded, and require signing of benefit-sharing agreements and securing of permits for bio-prospecting. However, these South African legal instruments fail to address certain questions, including: who provides consent for the use of TK that is communally held, how are the benefits to be communally shared, and what happens when communally held knowledge is privatised through the acquisition of IP rights by trading partners who ignore the original knowledge-holders? Thus far, the Kukula Healers have sought to address these matters through their BCP and their TK commons system. However, in order to give greater legal force to the TK commons, we propose that the Kukula Healers consider setting up a legal trust. The trust model is a legal mechanism with a long history in Western legal regimes, and in South Africa it is recognised and governed by the Trust Property Control Act 57 of 1988. This Act defines a trust as “the arrangement through which the ownership in property of one person” is placed under the control of another, the trustee, who then must administer such property “for the benefit of the person or class of persons designated in the trust instrument” (Trust Property Control Act 57 of 1988, Sect. 1).

The formation of a trust would not solve some of the problems created by trying to protect TK with existing IP law. Nevertheless, a trust would allow the Kukula Healers to manage their TK and any related products and facilitate the free sharing of TK at the local level, while at the same time ensuring (through imposing specific usage requirements) that any non-traditional uses of such knowledge comply with the norms and values of the community providing the knowledge – and ensuring that the community benefits from any commercial exploitation of its TK. The trust would also contribute to overcoming the problem of identifying the TK-holding community and the problem of deciding how to pay out benefits in a fair manner. With the passage of the CBD, mechanisms involving procedures such as “access and benefit-sharing” and “prior informed consent” have become integral to the management of TK. The structure of a trust would facilitate implementation of these mechanisms of TK management. For example, negotiating prior informed consent would be via the trustee whose fiduciary obligations would ensure that the best decision is made for the beneficiaries.

A single entity such as a trust would also more easily permit management of the TK as the trust’s property (see below) since it provides a reliable mechanism for obtaining prior informed consent, the equitable sharing of benefits and enforcing the rights against infringement.

Setting up a trust would also have the benefit of requiring the Kukula Healers to precisely define and characterise their TK in order to determine the actual trust “property”, a trust requirement discussed in more detail below. This would help in providing outsiders with information regarding the precise scope of TK controlled by the Kukula Healers. A further benefit of forming a trust, for the TK to be managed by it, would be that it permits the placing of conditions on the TK’s use and exploitation consistent with the traditions of the healers. An arrangement of the sort described above, involving the non-disclosure agreement with the Godding and Godding cosmetics company, would, if a trust were in place, be entered into between the company and the trust rather than with the Kukula Healers. The conditions under which such an agreement would be reached – including how the knowledge is to be used, and who benefits should it be commercialised – would already be part of the conditions under which the trust functioned.

In the following subsections, the key elements of a trust are described.

Components of a legal trust

The “trust” as a legal entity is found in many legal systems. As discussed below, trust components are similar in different countries. As a result, it is a legal form that is familiar to, and readily accepted by, participants in international trade. South African law regarding the features of a trust follows the Hague Convention on the Law applicable to Trusts and their Recognition,⁵ even though South Africa has not ratified or acceded to the Convention.⁶

The key components of a trust are: (1) the trustee, who is responsible for managing the actual definable property of the trust according to the terms of the trust, essentially one who is entrusted with the affairs of another; (2) the actual property comprising the trust; (3) the settlor (or “donor” or “creator”) who creates the trust and establishes the conditions for its management (the “terms” of the trust); and (4) the beneficiaries to whom the benefits of the trust accrue and who may be considered the trust’s ultimate purpose. The beneficiaries must be “definite”, i.e. ascertainable at the time of creation of the trust or in the future. The “benefits and advantages” received by the beneficiaries, and the conditions under which these are made available, would be determined when the trust is created by its settlor. In cases of a “contingent entitlement”, the beneficiaries might have to satisfy some requirement (e.g. attain a specific age) before being able to receive the benefit of

5 See the Hague Convention on the Law Applicable to Trusts and their Recognition (1985), and South Africa’s Trust Property Control Act 57 of 1988, as amended by the Justice Laws Rationalisation Act 18 of 1996.

6 For a detailed discussion of this topic, see Cameron *et al.* (2002).

the trust. While the settlor has great freedom to determine the purpose of a trust, the trust must serve a lawful goal and cannot be used to achieve an invalid or illegal purpose.

The administrative and non-dispositive trust terms must relate to the purpose. While the wording of a written trust instrument is almost always the most important determinant of a trust's terms, the definition is not so limited. Oral statements, the situation of the beneficiaries, the purposes of the trust, the circumstances under which the trust is to be administered and, to the extent the settlor was otherwise silent, rules of construction, all may have a bearing on determining a trust's meaning.⁷

Trust “property”

A trust is created around designated “property” which must be definitely ascertainable at the time of trust creation. “Property” means anything that may be the subject of ownership, whether real or personal, legal or equitable, or any interest therein (US Uniform Trust Code, last reviewed or amended in 2005). In the South African Act, “trust property” means “movable or immovable property” that is managed by the trustee “in accordance with the provisions of a trust instrument” (Trust Property Control Act 57 of 1988, Sect. 1). “Knowledge” itself, of course, is not protected by statutory IP law – patents protect actual inventions (which incorporate the knowledge) – and, as noted above, only “secrecy” can protect this. Nevertheless, the actual products, or components, of such knowledge (such as an actual plant in its natural or processed state) or its active components (such as a plant's leaves, roots, etc.) could constitute the trust property and therefore be protected from outsiders. Other protectable property might include any medicinal preparations made from the plant or its products, provided these are manufactured in a reproducible manner, i.e. a consistent recipe. The land on which the plants grow, and its products (the plants), could be placed into a trust as well, managed by the trustee, with benefits accruing to the designated beneficiaries.

Determination of the nature of trust property and the specific ways in which it can be utilised or exploited are determined by the trust settlor. In the case of the Kukula Healers, there already exists *property* in the form of the products of TK (specific plants) made available to the Godding and Godding laboratories for testing with the goal of producing cosmetics. In order to clearly define the trust property, not only the exact plants but also the precise components of the plants should be defined (e.g. leaves, roots, stems). Various conditions, consistent with

⁷ See Restatement (Third) of Trusts Section 4 cmt. a (Tentative Draft No. 1, approved 1996); Restatement (Second) of Trusts Section 4 cmt. a (1959).

the healers’ customary laws, could be included in the trust property description (e.g. time of harvesting, plant size). This of course presupposes that the Kukula Healers are able to claim ownership of the relevant plants and, ideally, the land on which they grow in order to maximise the benefits of the trust. For purposes of this report, we have assumed that such ownership, or at least control, of the land and the subject plants is within the power of the Healers’ trust. Property can also include the land on which the plants grow provided the settlor (see below) is empowered to dispose of this land.

Important is the fact that the creation of a trust to manage the TK does not preclude the use of other legal mechanisms to protect the knowledge or, more specifically, any commercial products created. The trust would be able to avail itself of standard IP rights such as patents, trademarks, geographical indications and trade secrets, to mention a few examples.

The “settlor”

The trust settlor is the person or group of persons contributing property to the trust. In the case of the Kukula Healers, as noted above, the Association currently consists of 300 members with an overall management group of 26 people and an executive management committee of six individuals. The settlor could thus conceivably be the entire group of Kukula Healers, its executive committee, the K2C Management Committee, or specifically identified members of these groups such as the CEO of the Kukula Healers. However, it could be presumed that the Healers would want to follow their established practice, as per their Association, of using the management group to create and determine the conditions of the trust and the duties of the trustee(s). The Healers’ Association has specific “Rules of Association” that determine how the association and executive are constituted and managed. Such rules would continue to exist independently of how a trust would be created and function, and are not the subject of this proposal.

“Terms”

The “terms” of a trust are a manifestation of the settlor’s intent regarding a trust’s provisions (US Uniform Trust Code). The provisions of the trust determine how the trust property, in this case the plants, may be used. Presumably the ultimate goal would be to commercialise the product for the benefit of the trust beneficiaries, by permitting a manufacturer to collect, process and sell to outsiders. The terms of the trust would determine, for example, how such a manufacturer would be chosen, whether products could be patented, how the beneficiaries would be remunerated etc. Conditions of particular significance to the Healers could be

included as part of the trust instrument. For example, if the TK requires it, only members of the Association would be permitted to harvest the plants or the components required by the manufacturer.

Rules regarding the administration of the trust would be set out at the date of trust creation. Examples include such details as what constitutes a quorum of trustees for decision-making purposes, how often trustees should meet and whether any particular trustee has a deciding vote. The Healers' traditional decision-making rules could be incorporated into these. In addition, rules regarding how the product can be used or sold (e.g. only for cosmetic purposes and not as a poison) could be expressed in the terms of the trust but would additionally need to be outlined in any contract or licence with the manufacturer. The Kukula Healers would be able to add their customary norms for use of their TK as the terms of the trust.

The "trustee"

The term "trustee" means any person (including the founder of a trust) who acts as trustee by virtue of an authorisation under Section 6 of the Trust Property Control Act 57 of 1988. The essential duty of the trustee, who at all times is expected to act in good faith with reasonable care and with prudence, is to follow the terms and purpose of the trust and administer the trust solely in the interest of the beneficiaries. The duties of the trustee may be varied and include activities such as arranging to collect trust property, resolving any disputes concerning the trust or its administration and arranging contracts or licences with outside manufacturers and distributors. In South Africa, beneficiaries can also be trustees – provided, however, that the trustees include an unrelated individual qualified to act as a trustee, such as an accountant or lawyer.⁸

A major decision for the settlor would, in the case of a Kukula Healers' trust, be identification of a trustee or trustees. The trustee could be an outside entity – such as an independent lawyer or Natural Justice or the K2C Management Committee – or a group of individuals selected from among the members of the Kukula Healers. Essentially, the trustee can be a legal "person" with the legal capacity to administer the trust property. Ideally, this would be an individual, or group of individuals, respected by the Kukula Healers and having both the moral and legal authority to enforce the terms of the trust.

The "beneficiary"

The trust must have a designated beneficiary consisting of a legal "person" who is capable of holding legal title to property. Such a "person" may include partnerships

8 See *Land and Agricultural Bank of South Africa v Parker and others* 2005 (2) SA 77 (SCA).

or associations (incorporated or unincorporated), a requirement particularly relevant here given the existence of the Kukula Healers. In this regard, a class of persons could be named as the beneficiary of the trust, so long as the class is definitely ascertainable. The beneficiaries could be individual healers, children of the healers and/or the wider community. It is possible that the Kukula Healers Association's by-laws could define different groups in the Association, with only some constituting trust beneficiaries, e.g. all qualified traditional healers who are registered members of the Kukula Healers' Association, or those who have been members for more than five years. It must be noted that if the settlor's designation of beneficiaries was indefinite and made their identification difficult, the trust would fail as a legal entity.

5. Conclusions

Faced with uncompensated bio-prospecting, overharvesting of medicinal plants and continued marginalisation, the Kukula Healers have made efforts in recent years to protect their culture and identity, as well as to strengthen their livelihoods as traditional healers, through the development of their BCP and their TK commons. Their BCP and TK commons are attempts to preserve and utilise the values and norms intrinsic to the Kukula Healers' development and use, for several generations, of medicinal knowledge.

The Kukula Healers' pre-existing commons was one where sharing and transfer of knowledge were conducted through training schools and ancestral communication. The knowledge is often considered sacred and therefore has strict rules associated with its dissemination. A continuing challenge is the matter of how knowledge can flow through the TK commons system of the Kukula Healers in a manner ensuring its protection but not diluting the sanctity of the knowledge and values.

In their dealings with outsiders, the Kukula Healers have recently used their BCP and TK commons to engage with a local company. A non-disclosure agreement between the Kukula Healers and the company acknowledges the Healers' ownership of the knowledge and the necessity of a benefit-sharing agreement should the company's research result in a commercially viable product.

For the future, however, a trust model is a legal mechanism that could be useful to the Kukula Healers in order to more effectively manage their TK commons. It is important to recognise that the actual knowledge could not constitute the "property" for the purposes of a trust (as opposed to the property represented by the actual biological resource). The legal mechanism of a trust potentially offers a dynamic system, a system in which the products or manifestations of

their knowledge could be protected and shared among the community of healers under certain clear terms, with benefits flowing back to the beneficiaries. Not only would it be useful to the commons but it is also a legal mechanism utilised by many national legal systems.

The options for protecting TK in established international or national IP law are limited, as this body of law was developed to suit innovation and development in countries that were already highly industrialised. As a consequence, TK-holders must consider other means of protecting their knowledge. As we demonstrate here, such protection may have to be indirect, utilising other well-established legal mechanisms such as the trust.

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