
The role of international partnerships in building the capacity of health professional programs in Kenyan and Tanzanian universities

By


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The logo of the University of the Western Cape, South Africa, is centered behind the text. It features a classical building facade with columns and a pediment, with the text 'UNIVERSITY of the WESTERN CAPE' overlaid in a light blue color.

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15 March 2018

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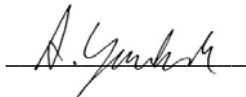


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Declaration

I declare that “The role of international partnerships in building the capacity of health professional programs in Kenyan and Tanzanian universities” is my own work, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

I understand what plagiarism is, and I understand the consequences of plagiarism and academic dishonesty as set out in the UWC SOPH Programme Handbook. This thesis dissertation is my own work, and all sources of information have been acknowledged. I have taken care to cite/reference all sources as set out in the SOPH Academic Handbook.



Aaron Yarmoshuk

Date: 15 March 2018

This thesis is written in monograph format with results (Chapters 5-8) written in the form of four papers which have either been published, have been submitted and accepted for publication or will be submitted to journals for publication as soon as they are formatted as per the journals' guidelines.

All papers are included and reprinted with the copyright holders' permission. This serves to confirm that I am listed in all the manuscripts as the first and main author. Below is the list of papers¹:

Paper 1: YARMOSHUK, A. N., GUANTAI, A. N., MWANGU, M., COLE, D. C. & ZAROWSKY, C. 2016. Mapping International University Partnerships Identified by East African Universities as Strengthening Their Medicine, Nursing, and Public Health Programs. *Annals of Global Health*, 82, 665-677.e2.

Paper 2: YARMOSHUK, A. N., MWANGU, M., GUANTAI, A. N., COLE, D. C. & ZAROWSKY, C. Accepted. What makes international global health university partnerships higher-value? An examination of partnership types and activities favoured at four East African universities. *Annals of Global Health*. (Accepted: 7 November 2017.)

Paper 3: YARMOSHUK, A. N., COLE, D. C., GUANTAI, A. N., MWANGU, M. & ZAROWSKY, C. The international partner universities of East African HPPs: who are they, why do they do it and what do they value? (Submitted to *Globalization and Health*, 7 February 2018)

Paper 4: YARMOSHUK, A. N., COLE, D. C., GUANTAI, A. N., MWANGU, M. & ZAROWSKY, C. Reciprocity in international interuniversity global health partnerships. (To be submitted to *The Journal of Higher Education* once it is formatted as per the journal's guidelines.)

¹ Links to the publications of these and other papers from this study are and will be made available at: <http://hppafrica.org/research/>.

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Dedication

To my father and colleagues with whom I've worked in Africa



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ABSTRACT

Introduction: International interuniversity partnerships are recommended for increasing the capacity of sub-Saharan African universities. Numerous case studies of individual partnerships exist, as do tools for guiding collaborations, but systematic analysis and the science of examining partnerships remain limited. This research mapped the health partnerships in medicine, nursing and public health of four universities in East Africa, examined why representatives of the focus and international universities valued them and considers how the analysis of reciprocity within global health partnerships can be improved.

Methods: The overall design combined concurrent mixed methods design with embedded and emergent elements. Context was analysed through documentary and interview data. Data for 125 distinct partnerships were collected in three phases through interviewing 192 study participants from 29 universities and three government agencies. Individual (n=125) and focus group (n=19) interviews were transcribed and analysed thematically, drawing on theories from higher education, international relations and sociology. Quantitative data were analysed descriptively and through indexes developed for this research.

Findings: Thirty-one (25%) of the partnerships were perceived as higher-value, 41 (33%) medium-value, and 53 (42%) lower-value for building the capacity of the four focus universities. Thirteen (42%) of the higher-value partnerships were over 20 years old, while 8 (26%) were between 3 and 5 years old. The financial and prestige value of partnerships were important for the focus universities but did not supersede fit with strategic needs, the development of enduring results, dependability and reciprocity. North-South partnerships remain dominant but South-South and South-South-North partnerships are gaining in perceived value. International partners, especially universities ranked highest in worldwide rankings, were most often interested in partnerships that supported their universities' research and education, although some international partner representatives valued institutional capacity development of their East African partner first. A range of reciprocal exchanges, including specific, unilateral and diffuse, were observed. Only when intangible benefits consistent with social responsibility were considered was equivalence within reciprocity realised.

Conclusion: Three characteristics were shared by all the higher-value partnerships. *One*, they addressed a priority need of the focus university. *Two*, they supported the

institutionalisation of the benefit addressing this priority need. *Three*, the exchange of benefits was seen as fair. A framework for examining interuniversity global health partnerships is presented to support more robust analysis of international interuniversity health partnerships.

Key words: Capacity Strengthening; International partnerships; Global Health; Human Resources for Health; Higher Education; Kenya; Tanzania; Reciprocity.



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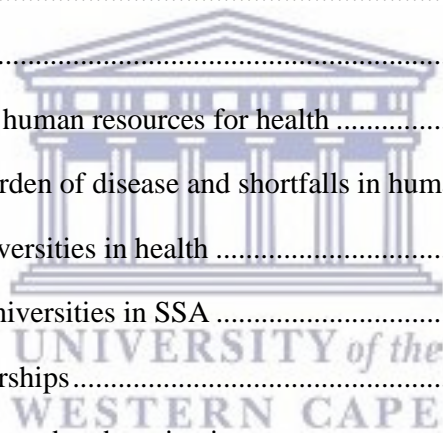
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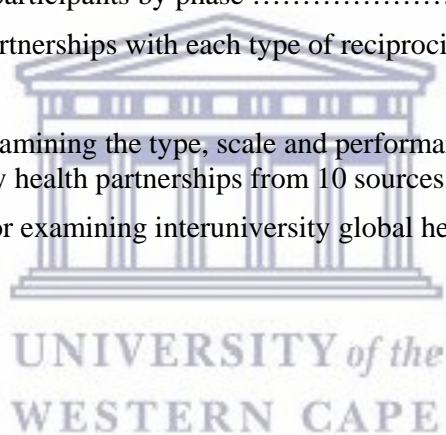


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ACRONYMS

ACE	American Council on Education
AHSC	Academic Health Science Centre
AIDS	<i>acquired immune deficiency syndrome</i>
ALP	Academic Learning Project
AMPATH	Academic Model Providing Access to Healthcare ²
ART	anti-retroviral therapy
CARTA	Consortium for Advanced Research Training in Africa
CCGHR	Canadian Coalitions for Global Health Research
CHIVPR	Centre for HIV Prevention and Research (UoN)
CHS	College of Health Sciences
CIDA	Canadian International Development Agency
CIH	Centre for International Health
COECSA	College of Ophthalmology of Eastern Central and Southern Africa
COHRED	Council on Health Research for Development
CSR	Corporate Social Responsibility
CUGH	Consortium of Universities for Global Health
DAAD	German Academic Exchange Service
DALY	disability-adjusted life year
DeIPHE	British Council Development Partnerships in Higher Education
DfID-UK	Department of International Development
DGHI	Duke Global Health Institute
DLSPH	Dalla Lana School of Public Health
EAC	East African Community
EAHRC	East African Health Research Commission
EAHRJ	East African Health Research Journal

² Before 2008, AMPATH was the “Academic Model for Prevention and Treatment of HIV/AIDS”.

ELCT	Evangelical Lutheran Church in Tanzania
FGD	Focus group discussion
GDP	Gross Domestic Product
GFHR	Global Forum for Health Research
GSF	Good Samaritan Foundation
HEALTH	Higher Education Alliance for Leadership Training for Health
HESLB	Government of Tanzania Higher Education Student Loan Scheme
HIC	Higher Income Country
HIV	Human immunodeficiency virus
HPP	health professional program
HPSR	health policy and systems research
ICTS	Information and Communication Technologies
ISCED	International Standard Classification of Education
I-Step	Inter-professional Team Education Promoting Public Health
IU	Indiana University
IUCEA	Inter-University Council for East Africa
KCMC	Kilimanjaro Christian Medical College
KCMUC	Kilimanjaro Christian Medical University College
KCRI	Kilimanjaro Clinical Research Institute
KI	Key informant
KII	Key informant interview
LIPHEA	Leadership Initiative for Public Health in East Africa
LMIC	low- and middle-income country
LMU	Ludwig-Maximilian University of Munich
LSHTM	London School of Hygiene and Tropical Medicine
MD	Doctor of Medicine

MEPI	Medical Education Partnership Initiative
MHIRT	Minority International Research Training Program
MHO	Medefinansieringsprogramme voor Hoger Onderwysamewerking ³
MDG	Millennium Development Goal
MPH	Master's of Public Health
MOU	memoranda of understandings
MU	Moi University
MUHAS	Muhimbili University of Health and Allied Sciences
NCD	non-communicable disease
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental organisation
NIH	National Institute of Health
NOMA	Norwegian Agency for Development Cooperation Programme for Masters Studies
NORAD	Norwegian Agency for Development Cooperation
OBGYN	Obstetrics and Gynaecology
OECD	Organization for Economic Co-operation and Development
OHCEA	One Health Central and Eastern Africa
PBL	problem based learning
RBM	Results Based Management
SACIDS	Southern African Centre for Infectious Disease Surveillance
SDG	Sustainable Development Goal
SIDA	Swedish International Development Agency
SOPH	School of Public Health
SRCUC	Swedish Red Cross University College
SSA	sub-Saharan Africa

³ English translation: Joint Financing Programme for Higher Education Co-operation

TAAAC	Toronto Addis Ababa Academic Collaboration
TB	Tuberculosis
TCU	Tanzania Commission for Universities
THE	Times Higher Education
THRiVE	Training Health Researchers into Vocational Excellence in East Africa
TUMA	Tumaini University Makumira
UCL	University College of London
UCSF	University of California, San Francisco
UoN	University of Nairobi
U of T	University of Toronto
UK	United Kingdom
UNITID	Institute of Tropical and Infectious Diseases (UoN)
USA	United States of America
USAID	United States Agency for International Development
UWC	University of the Western Cape
WEIGHT	Working Group on Ethics Guidelines for Global Health Training
WFAIGH	World Federation of Academic Institutions for Global Health
WHO	World Health Organization
WHO-AFRO	World Health Organization – Regional Office for Africa

EXTENDED ABSTRACT

Introduction: International university partnerships are recommended for increasing the capacity of sub-Saharan African universities. Many publications describe individual partnerships and projects, and tools are available for guiding collaborations, but systematic mappings of the basic, common characteristics of partnerships are scarce. This research examined the international, interuniversity, health partnerships of four universities in East Africa. It mapped their significant medicine, nursing and public health partnerships in education, research and service. A conceptual framework drawing on multidisciplinary partnership literature guided the research.

Methods: The overall design for this study combined concurrent mixed methods design with embedded and emergent elements. An initial mapping of health professional programmes in sub-Saharan Africa was conducted to better understand the context of higher education health programmes in the region. Four universities in two countries – Kenya and Tanzania - in East Africa were purposefully selected as focus universities. One-hundred and ninety-two study participants, including senior leaders, lecturer and students, participated during three distinct phases. In Phase 1, 42 senior representatives from these focus universities participated in in-depth interviews to identify and assess the value of international partnerships of significance to their schools of medicine, nursing and public health in any or all of the components of the tripartite mission of academic health science centres. In Phase 2, 88 additional representatives – professors, lecturers, librarians and students - from the four focus universities participated in in-depth interviews and focus group discussions. In Phase 3, 59 representatives from 25 international partner universities in Africa, Europe and North America participated in in-depth interviews to understand their perspectives of the partnerships. Three government officials were also interviewed. All interviews and focus group discussions were transcribed and analysed using qualitative thematic analysis and quantitative (descriptive and analytic) methods. Quantitative methods were used to map the partnerships. Qualitative and quantitative methods were used to determine which of the 125 partnerships were perceived to be higher- medium- and lower-value to representatives of the focus universities. Universities' international rankings were compared against the perceived value of the partnerships to the focus universities. Burton Clark's framework of "entrepreneurial" universities was used to interpret the responses of the international partners. Theories from international relations and sociology, by Robert O. Keohane and Linda D.

Molm, respectively, were used to examine how reciprocity was practiced within the partnerships.

Findings: The mapping of health professional programs in sub-Saharan Africa identified 912 universities and non-university institutions offering 1,049 HPP degree programmes in 47 countries. Of the 1,049 HPPs 808 were Nursing, 177 Medical and 64 Public Health. Only 36 institutions offered all three HPPs. One hundred and twenty-five distinct international, interuniversity, health partnerships from 23 countries were identified as significant by the senior representatives of the focus universities. Each university reported between 25 and 36 international university partners. Seventy-four percent of partnerships were with universities in high-income countries, 15% in low- and middle- income countries, and 11% with consortia. Seventy percent included medicine, 37% nursing, and 45% public health; 15% included all 3 programs. Ninety-two percent included an education component, 47% research, and 24% service; 12% included all 3 components.

Thirty-one (25%) of the partnerships were perceived as higher-value, 41 (33%) medium-value, and 53 (42%) lower-value for building the capacity of the four focus universities. Thirteen (42%) of the higher-value partnerships were over 20 years old, while 8 (26%) were between 3 and 5 years old. New international partners were able to leapfrog some of the development phases of partnerships by coordinating with existing international partners and/or by building on the activities of or filling gaps in older partnerships. Higher-valued partnerships supported PhD obtainment, the development of new programmes and pedagogies, international trainee learning experiences, and infrastructure development. The financial and prestige value of partnerships were important but did not supersede other factors such as fit with strategic needs, the development of enduring results, dependability and reciprocity. Support of research and service delivery was also considered valuable but, unless education components were also included, the results were deemed unlikely to last. Higher-valued partnerships were found primarily with universities ranked in the top 500 internationally. Almost half (47%) of the 115 bilateral partnerships were with the top 200 ranked universities; this group represented 62% of the higher-value partnerships but also 58% of the lower-value partnerships. None of the 13 partnerships with the world's top 15-ranked universities were reported as higher-value by the focus universities.

Clark's framework helps explain how and why universities established international partnerships. Partnerships that are of interest to the academic heartland – research and education – were of greatest interest to the majority of international partners, especially

universities ranked highest in worldwide rankings. The development periphery of universities was useful for helping to establish global health partnerships, especially those adhering to social responsibility. Donors facilitated partnerships by setting proposal guidelines that required it and individuals play important mobilizing roles. A range of reciprocal exchanges, including specific, unilateral and diffuse (bilateral and multilateral), were observed within and across the partnerships. Many partnerships violated the principle of equivalence, identified by Keohane to be important in reciprocal interactions, as exchanges were often not roughly equal based on tangible benefits realized. Only when intangible benefits, like values or principles, were considered was equivalence within reciprocity realised. This changed the way the principle of contingency – an action done for benefit received - was observed within the partnerships. The values of individuals, structures of organisation and terms guiding partnerships were observed to guide some representatives more than financial gain. Reciprocity within consortia generated exchange costs but also benefits valued by all parties.

Conclusion: The number of interuniversity, international health partnerships between four universities in Kenya and Tanzania and universities internationally has increased significantly this century, especially with universities from neighbouring countries, Africa's most prolific research countries and from Europe and North America. Consortia partnerships that include multiple Southern partners are increasing, largely due to donors favouring them. Some donors have also started giving funds directly to the Southern partners so they have more control of the funds. Many European and North American universities still favour partnerships that directly support their education and research missions. While social responsibility is formally mentioned by some North American partners for why they partner and examination of these partnerships reveals they do support the East African partners more, examples of social responsibility in international university partnerships are longstanding. The practice of reciprocal exchange does not appear to have greatly increased in the era of Global Health. Three characteristics were shared by all the higher-value partnerships. *One*, they addressed a priority need of the focus university. *Two*, they supported this priority need in a manner that was sustained or could be sustained. In other words, the benefits were institutionalised at the focus university. *Three*, the exchange of benefits was viewed as being fair. Instead of partners declaring their partnerships "successful", university administrators and those seeking to assist them should examine how and why their partnerships are valuable

for strengthening their organisations as institutions. A framework for examining interuniversity global health partnerships is presented to assist them.

Key words: Capacity Strengthening; International partnerships; Global Health; Human Resources for Health; Higher Education; Kenya; Tanzania; Reciprocity.



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CHAPTER 1: INTRODUCTION

1.1 Introduction

Of all regions worldwide, sub-Saharan Africa (SSA) has the greatest burden of disease relative to its health workforce (WHO, 2008, WHO-AFRO, 2010, Anyangwe and Mtonga, 2007). The health systems of many countries in sub-Saharan Africa⁴ (SSA) are weak and have been for decades (WHO-AFRO, 2010, Commission for Africa, 2005, NEPAD, 2003). SSA's disease burden and human resource challenges are caused and compounded by multiple interacting social, cultural, economic, political and environmental challenges (Sanders et al., 2009). African universities' contributions to health and national development include educating the next generation of health professionals able to address both current and emerging priorities, front-line staff, health planners and policymakers, health educators and health researchers. Yet many universities in SSA have limited ongoing capacity to supply graduates to their country's health systems.

International partnerships, particularly between universities in high-income countries and SSA universities, have long been considered one means by which to increase the capacity of SSA universities, particularly in the health professions (Frenk et al., 2010, Collins et al., 2010, Accordia, 2009, Taché et al., 2008, Commission for Health Research and Development, 1990). Internationalization and partnerships, however, bring both opportunities and risks for the host institutions and the countries in which they are housed (Knight, 2008). The interests of all parties in a partnership must be considered, especially when the relative resources of the parties are imbalanced. This is particularly relevant in SSA in light of 500 years of repeated exploitation and extraction by foreigners that continues to this day (Caplan, 2008).

This study examines the characteristics and dynamics of the international university health partnerships of four focus universities in East Africa in order to document and analyse these partnerships and help generalize theoretically (Firestone, 1993) about the types or characteristics of partnerships that are likely to assist universities in SSA to achieving their mandates of training health professionals and provide the human resources for health (HRH)

⁴ For the purpose of this project, sub-Saharan Africa will be defined as all countries in the WHO African Region except Algeria. South Sudan is within this region.

training, research and service delivery. This includes the mandate to train skilled health professionals, including clinicians/practitioners, educators, policymakers, researchers, to help sustain and improve the health systems of their countries. This initial chapter will discuss background on HRH, the burden of disease in SSA, the role of universities in health and the history of universities in SSA in order to frame our later discussion.

1.2 Health systems and human resources for health

Health systems throughout low and middle-income countries (LMICs), especially sub-Saharan Africa, need to be strengthened if health care is to improve and the burden of disease confronted effectively (Travis et al., 2004, WHO, 2007, WHO-AFRO, 2010). Yet debate continues over which components and relationships most need strengthening (Mills, 2012, Sundewall et al., 2011). WHO (2007) states, “A health system consists of all organizations, people and actions whose *primary intent* is to promote, restore or maintain health” [p.2].

What fields of education and, subsequently, occupations are actually included in a health system is contested, not so much in theory but rather in actual practice, including by researchers. Often there is a tacit, if not explicit, focus on health care service providers and a relative de-emphasis on individuals involved in health promotion, management, policy or research and the professional education needed to address these professions (WHO 2007). Referring to the WHO’s *World Health Report 2000*, definition of HRH, *A Joint Learning Initiative* (2004) states that health workers are involved in “improving the health of individuals and populations, with functions ranging from care to prevention and promotion and policy advocacy”.

1.2.1 SSA’s great burden of disease and shortfalls in human resources

Statistics concerning the burden of disease, education, research and service show the challenges facing SSA in health. First, the health systems of countries in World Health Organization’s African Region have the great challenge of having to address 24% of the world’s disease burden with only 3% of the world’s health workforce and less than 1% of the world health expenditure (WHO, 2006, WHO, 2008). Communicable diseases (e.g. tuberculosis, malaria, HIV) account for the greatest burden of disease overall in SSA, 71% of disability-adjusted life years (DALYs). Non-communicable disease burden (e.g. cardiovascular diseases, cancers, diabetes) is increasing relative to the communicable disease burden and accounts for 21% of DALYs in SSA, with injuries accounting for 8% of DALYs (Jamison et al., 2006). Second, the region is part of the 10/90 gap in health research. This

refers to the finding, presented by Commission for Health Research and Development (1990), that less than 10% of “global investment in 1986 ... was devoted specifically to health problems in developing countries”⁵ [p. 29]. Kilama (2009) presents four reasons for the continued weakness of SSA universities in health research: faculty being overburdened with undergraduate teaching; universities being poorly managed; lack of essential research facilities, including poor internet; and, braindrain to HICs. Finally, SSA is signalled out for shortfalls in massification – higher education for a large proportion of a society’s population - of higher education (Knight, 2008), its greatest relative shortage of HRH (WHO, 2016) and for its universities lagging behind other regions in international university rankings (Juma, 2016). Based on WHO health worker and United Nations population estimates even with 63% growth in the number of health workers in the WHO Africa Region between 2013 and 2030, the region will only gain an extra 0.24% of the world’s share of health workers although it will gain 2.31% in share of the world’s population [See: Table 1: Health workers, 2013 and 2030, and total population, 2015 and 2030, by WHO Region (in millions) – next page].



⁵ The report found it to be only 5% for the year 1986. Notably the 10-90 figure is based on research funding for only one year. See: COMMISSION FOR HEALTH RESEARCH AND DEVELOPMENT 1990. Health Research: Essential Link to Equity in Development. Commission for Health Research and Development. See page 29. The Global Forum for Health Research estimated that over 90% of the \$130 billion spent on health research in 2009 was spent on diseases that cause only 10% of the world's mortality. This is the “10/90 Gap” Accessed at www.cohred.org/our-mission/. COHRED, the Council on Health Research for Development, states that it “grew out of the 1990 report by the Commission on Health Research for Development”. See: <http://www.cohred.org/about-us/history-of-cohred/>. (Accessed 11 March 2018). COHRED refers to The Council not The Commission.

Table 1.1: Health workers, 2013 (estimates), 2030 (projections), and total population, 2015 (estimates) and 2030 (projections), by WHO Region (in millions)

WHO Region	Physicians		Nurses/Midwives		All other cadres		Total health workers				Total Population				
	2013	2030	2013	2030	2013	2030	2013	% of Total	2030	% of Total	% Change	2015	% of Total	2030	% of Total
Africa	0.2	0.5	1	1.5	0.6	1	1.9	4%	3.1	5%	63%	989,173	14%	1,311,417	16%
Americas	2	2.4	4.7	8.2	2.6	3.4	9.4	22%	14	21%	50%	986,705	13%	1,098,466	13%
Eastern Mediterranean	0.8	1.3	1.3	1.8	1	2.2	3.1	7%	5.3	8%	72%	643,784	9%	818,795	10%
Europe	2.9	3.5	6.2	8.5	3.6	4.8	12.7	29%	16.8	25%	32%	910,053	12%	930,413	11%
South-East Asia	1.1	1.9	2.9	5.2	2.2	3.7	6.2	14%	10.9	16%	75%	1,928,174	26%	2,205,146	27%
Western Pacific	2.7	4.2	4.6	7	3	6.1	10.3	24%	17.3	26%	68%	1,855,126	25%	1,919,134	23%
TOTAL	9.7	13.8	20.7	32.2	13	21.2	43.6	100%	67.4	100%	55%	7,313,015	100%	8,283,371	100%

Notes: 1) The figures for 2013 and 2015 are estimates. 2) The figures for 2030 are projections. 3) The last digit in the "TOTAL" row for four columns differs from original WHO data due to rounding by WHO.
Sources: population figures (WHO, 2013); health worker figures [(WHO, 2016), p.41].



1.2.2 The role of universities in health

Universities with medicine, nursing and public health programs have as their mandate to educate the next generation of health-care professionals to provide healthcare and public health services and management services and conduct research, including administration, basic health system management, nursing and public health research. They are often linked directly or indirectly to a teaching hospital that provides a site for providing care and clinical training for health professional program (HPP) trainees, as well as a site to do clinical research. The HPPs of universities also often link to other hospitals, health centres, health care and other organisations involved in health prevention and promotion to provide their students with an array of education opportunities, including research. Universities with associated teaching hospitals are often referred to as academic health science centres (AHSCs), which are considered to have a tri-partite mission to provide education, research and service (i.e. patient care) (Kohn, 2004).

Other educational institutions, especially colleges and, sometimes non-governmental organisations (NGOs) also train HPPs. What distinguishes universities is that they are degree granting institutions with the authority, usually given by a government regulated body, to award Bachelors, Master's and Doctorate degrees. The instructors at universities are generally distinguished by being formally trained in research methods either to a Master's level (almost always) and increasingly or ideally to a Doctoral level.

1.3 A brief review of universities in SSA

Except for South Africa, where the process was unique owing to its special historic and resources characteristics, Sawyerr (2004) argues that university development in SSA has generally gone through five broad phases. The first phase, before 1948, saw little to no development – colonial powers generally funded primary, secondary and vocational colleges, but not universities⁶. In the second phase, post-World War Two period until 1960, the “major colonial universities” were established in Nigeria, Ghana (then the Gold Coast), Zimbabwe (then Rhodesia and Nyasaland) and Uganda by the United Kingdom, Senegal and Madagascar by France and the Democratic Republic of Congo (then Zaire) by Belgium. For

⁶ One notable exception was Fourah Bay College, founded in 1827 in Sierra Leone by the Church Missionary Society of London, England. KAMARA (SR), A. K. 2012. *A concise history of Fourah Bay College 1827-2003*, Winnipeg, Manitoba, Art Bookbindery Publishing House.

example, the University of Ibadan was started in 1948 in collaboration with the University of London (Frenk et al., 2010).

By 1960, there were 52 universities in 18 countries of SSA (Sawyer, 2004). These universities were linked to a university of the colonial power with the same curricula, a small number of students and a large number of European faculty (Ajayi et al., 1996, Ashby and Anderson, 1966, The World Bank, 2004).

Newly independent SSA states established universities at a modest, but steady, rate for approximately the first 20 years after independence, resulting in the number of universities increasing to 108 in 1980 (Sawyer, 2004). From the late 1970s to the early 2000's, SSA universities faced declining real investment by their national governments yet the number of universities continued to grow to 251 in 2002. During this period the number of students enrolled in universities grew incredibly quickly. In 1975, approximately 181,000 students were enrolled in SSA universities but by 1995 the number of students had increased by over 10 times to 1,750,000. As a result, the quality of classrooms and residences was low, class sizes were large and the motivation of faculty suffered accordingly as the new century began.

Responding to the demand for tertiary education and decline in public higher education standards was the private sector. From 1990 to 2002, the number of private institutions in SSA increased from 27 to 84 and continues to grow (Ibid).

Since the initial SSA universities were established by or with the support of European universities it is not surprising that the knowledge systems that developed were foreign to SSA. As Ashby (1966) argues, "The modern universities of Africa have their roots not in any indigenous system of education, but in a system brought from the west." Over forty years later, it appears SSA's higher education system remains largely influenced by other regions of the world. According to Teferra (2008) the African higher education system likely remains the least indigenous of the world's higher education systems because of reliance of the *discourse, paradigms* and *parameters* of other regions of the world. This dependency on external knowledge may be particularly great in fields such as medicine and engineering that are grounded in science and evidence-informed.

Consider, for example, *Principles of Medicine in Africa*, now in its 4th Edition (Mabey et al., 2013). This textbook of 79 Chapters divided into 13 Sections, covers infectious and non-communicable diseases and other medical issues by placing them within the context of

Africa. Tedros Adhanom Ghebreyesus (2013), then Minister of Health, Federal Democratic Republic of Ethiopia, in the *Foreword* writes ,

Unlike most medical textbooks, it puts disease and its prevention in the context of society and culture, and is not afraid to address the effects of poverty and inequality on health, as well as the practical issues of how to provide excellent clinical care where resources are limited. [p. xiv.]

However, a majority of the contributors are based at institutions outside of Africa.

How this dependency on external bodies influences SSA universities in the area of health needs to be examined in terms of international partnerships. For example, approaches could be brought from afar that allow SSA HPP to leap-frog outdated approaches to maximize benefits while minimizing resource use. However, they could also stifle independent thinking, reduce empowerment and perpetuate systemic dependence on external institutions and can be considered “semi- or neo-colonialism” in that “indirect control” is maintained from outside SSA (Boshoff, 2009). Or, it could create a sense of dependence in that outside assistance is always better. The latest medical approaches used in other places, even if they are shown to be more effective somewhere else, may not be appropriate in the SSA considering context.

1.4 International partnerships

International partnerships are considered important, if not vital, for achieving objectives and goals today. Millennium Development Goal (MDG) eight was: “Develop a global partnership for development”. Sustainable Development Goal (SDG) 17 is: “Strengthen the means of implementation and revitalize the global partnership for sustainable development.” There are many types of partnerships, however, as implied by the many terms used for relationships between two or more individuals or institutions⁷.

SDG target 17.9 addresses capacity building and calls on countries to “enhance international support for implementing effective and targeted capacity building in developing countries to support national plans to implement all sustainable development goals, including through North-South, South-South, and triangular cooperation.” While believing strongly in the potential value of universities globally to play a significant role in the global health

⁷ International partnerships also referred to as cross-border twinnings, collaborations or linkages.

challenges of the 21st Century, The Academy of Medical Sciences and Royal College of Physicians (2012) reports that evaluation of university partnerships is lacking.

International partnerships are considered a means to improve public health in countries with poorer health indicators. The millennium development goals (MDGs) had three goals focused on health and the last goal was to “develop a global partnership for development” (Travis et al., 2004, Wagstaff and Claeson, 2004). Sustainable development goal (SDG) three is focused strictly on health (UN, 2016).

However, international partnerships are also being forged by universities globally, led by North American and European universities to internationalise the curriculum of universities worldwide to respond to globalisation. Larger, wealthier and more prestigious universities are better able to secure partnerships and provide opportunities for their students thus further strengthening their “core” status, when compared to universities on the periphery. Partnerships can be forged in the name of development or global health but reinforce historical or existing power imbalances and result either in one partner being perceived to be exploited, or in legal action that can be part of the process to improving a country’ research system (Andanda, 2004).

1.5 Professional background and motivation

In addition to the theoretical and public health rationales for this dissertation research, my personal motivation is relevant, in part because of the access that I have been able to secure to certain partnerships and institutions as a result of my previous professional relationships. I have worked in the development field in SSA since 1995, including in eastern, southern and western Africa. From 1995 to 2002 I worked for a Canadian non-governmental organisation (NGO) whose head office was in Canada and had programme offices in Ethiopia, Malawi and Uganda. I served the Malawi programme for four years, first as a Project Officer in Lilongwe (1995-1997) and then as a Programme Manager in Chintheche (1999-2001). I served in the head office in Toronto for three years as Programme Officer (1998-1999) and as a consultant in 2002. Lasting impressions from this work include: the *merry-go-round* of development workers who often spend six, twelve or twenty-four month stints in-country and then move on to their next assignment before their replacement arrived, again from overseas; the asymmetry of resources available to international NGOs and departments of the Government of Malawi for the size of populations they both served; and, the belief by some westerners

that one thing will bring about the “quantum leap” that SSA has been missing to catch-up to the other regions of the world.

From 2004-2014 I worked at Canada’s largest university, the University of Toronto (U of T), managing a number of partnerships between U of T and universities in SSA. The latter included the Universities of Dar es Salaam (Tanzania), Namibia, Port Harcourt (Nigeria) and Zambia, in addition to Moi University (Kenya) through the Academic Model Providing Access to Healthcare (AMPATH) Consortium. It has surprised me at times how difficult it can be to engage some faculty representatives in partnerships and have departments and faculties commit to supporting the development of a sustained partnership. Within North American institutions, senior administrators and decanal representatives appear wary of partnering with SSA universities although a reasonable cohort of representatives at their institutions are keen to become involved in activities, at least on a limited basis. It has also surprised me at times that host institutions do not encourage linking international partners or are not more inclined to help guide, steer or coordinate partnerships. The “real” dynamics and purposes of partnerships do not appear to align readily with mission statements or stated partnership objectives.

Furthermore, I found that representatives from Faculties of Medicine, Nursing and Public Health in the partnerships with whom I had worked did not often work together to achieve seemingly common goals. I wanted to study systematically the nature of international partnerships at selected institutions and to see what the opportunities and hindrances are to interdisciplinary collaboration. Is it the case that individual professions (nursing, medicine, public health) and university leadership represent incompatible interests and cultures, or are there examples and success factors for effective university- or college-wide, interprofessional and interdisciplinary partnership or collaboration?

Finally, representatives whom I approached regarding my proposed research, both at universities in SSA and North America, indicated that it would be valuable research to conduct.

1.6 Rational for the study and problem statement

International partnerships are a commonly cited approach to education and research capacity strengthening of tertiary health institutions (Commission for Health Research and Development, 1990, Taché et al., 2008, Accordia, 2009, Collins et al., 2010, Frenk et al., 2010). Many universities in other regions of the globe are interested in collaborating with

SSA universities for a variety of reasons, including placements for medical students, research opportunities, increased funding and social responsibility (Merson and Page 2009; University of Toronto 2011a). However, comprehensive, critical and contextualized assessments of such partnerships are scarce, especially with regards to how these partnerships support the health professional programs (HPPs) of the SSA colleges of health sciences to provide human capital for service, education and research within the health systems of these countries and how balance is achieved in the partnerships so each partner benefits.

1.7 Outline of the thesis

Before closing the first chapter of this thesis, the remainder of the thesis is outlined below. Chapter 2 reviews literature in the areas of i) capacity building, capacity strengthening and empowerment; ii) organisational performance and universities; iii) institutions; social accountability and social responsibility; iv) partnerships; and, v) context relevant to this study. Chapter 2 concluded by presenting an initial framework of analysis for the study. Chapter 3 presents the overall methodology of the dissertation, including the initial framework of analysis for the study. Chapter 4 provides a brief overview of the context and elements of the four focus East African universities examined in this thesis. Chapter 5, 6, 7, and 8 presents the manuscripts of four papers either, published, accepted for publication or submitted to journals for review. Chapter 5 is: *Mapping International University Partnerships Identified by East African Universities as Strengthening Their Medicine, Nursing, and Public Health Programs*. Chapter 6 is: *What makes international global health university partnerships higher-value?: An examination of partnership types and activities favoured at four East African universities*. Chapter 7 is: *The international partner universities of East African academic health science centres: who are they, why do they do it and what do they value?* Chapter 8 is: *Reciprocity in international interuniversity global health partnerships*. Chapter 9 discusses the findings of relative to the stated objectives of the study and the literature reviewed and the limitations of the study. A final framework of analysis is also presented and discussed. The final chapter, Chapter 10, concludes the work by offering suggestions for how SSA universities may better manage their partnerships and further research to build on this dissertation. Appendixes provide additional detailed information about aspects of the methodology, findings and sources.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature relevant to research addressing international, interuniversity global health partnerships in sub-Saharan Africa (SSA). This includes literature on capacity building, organisational performance and universities, institutions, social accountability and responsibility, partnerships and context. When reviewing partnerships, literature addressing types of partnerships, global health partnerships and factors for successful partnerships will also be reviewed discussed and analysed. This review will explore themes, arguments and gaps within this body of literature before presenting an initial framework of analysis (Initial Framework) for this research project.

2.2 Capacity building, capacity strengthening and empowerment

If capacity is “the ability or power to do something” (COD, 2001), capacity building is the process of developing the ability to do something. This simple definition of capacity building is a useful starting point to begin a discussion on a concept that has been discussed and written about by researchers and practitioners in many fields for over 35 years (de Graaf, 1986), especially with regards to human resources and development in SSA (Jaycox, 1989), and in health research in LMICs since 1990 (Dean et al., 2017). This thesis will generally refer to capacity building although it is appreciated that capacity development (Horton et al., 2003), capacity strengthening (Boyd et al., 2013), continuing education (Trepanier et al., 2012) and institution building (Easterbrook, 2011) are sometimes more appropriate terms to us, depending on the specific circumstances of the issue under examination, and this thesis will sometimes use them. Milèn (2001) raises this distinction concerning terminology and it is important.

Milèn (2001) stated that a common definition of capacity was “an ability of individuals, organisations or systems to perform appropriate functions effectively, efficiently and sustainably” [p. 1]. She then adds, however, that thinking about capacity building had moved from focusing on training individuals to “development of institutions and further to the complex systems thinking of today” [p. 1]. Capacity can therefore be thought of in terms of the capacity of individuals, institutions or an entire system, for example, in terms of capacity of individuals to lead a research project, or the capacity of an institution to train further researchers, PhD candidates (Bates et al., 2011), or a country to have a health research system

sufficiently robust “to improve health systems and attain better health” [(Lansang and Dennis, 2004), p. 764] for its citizens.

In the inaugural issues of *Journal of Social Development in Africa*, de Graaf (1986) identifies capacity building as “the crucial issue in all development” [p. 8]⁸. For him, capacity building means increasing “... the self-sustaining ability of people to recognise, analyse and solve their own problems by more effectively controlling and using their own and external resources” [(Ibid, p. 8)] and could only be achieved if the people for whom development was an issue were fully involved:

Participation as the essential first, last and intermediate step in all approaches towards real development; the involvement of the people concerned in the more precise definition of their needs, the resources as they perceive and control them, their choice regarding their own' development' and the change of their environment. ... because without real, decisive and continued involvement of the people concerned no development programme will ever succeed [(Ibid, p. 8)].

De Graaf identifies control of *political power* as a requirement if a community is to have control over resources. He discusses the characteristics and differences between dependency creating versus empowering development approaches.

As noted in the previous chapter, the Commission for Health Research and Development (1990) brought attention to the large gap in health research between low- and middle-income countries (LMICs) and high-income countries (HICs) and the challenge health inequality presented to development. This Commission made numerous recommendations but they were grouped into four areas. The first recommendation was that each country should focus on *Essential National Health Research*. Essential elements of this recommendation included making its own plans based on its own context. The second recommendation was that *International Partnership* was desirable. “[T]he steady growth of collaborative international research networks” were desirable “to attack common problems” [p. 88]. The third and fourth recommendations were *Mobilising Research Funding* and the creation of a *Forum for*

⁸ Martin de Graaf was the Zimbabwe Director of International Voluntary Services (IVS) and based in Zimbabwe.

Review and Advocacy. The last recommendation led to the development of the Global Forum for Health Research (GFHR) in 1998 (Independent Evaluation Group, 2009).

Within two decades of the release of the Commission for Health Research and Development's report, Bradley (2007) was able to report in a literature review that:

there is a plentiful body of literature of North-South [mainly in health, agriculture and science and technology] research partnerships, which testifies to the central role that research cooperation continues to play in generating knowledge in support of development and poverty reduction. This literature reflects some of the major trends and debates surrounding contemporary North-South research collaboration. Principal debates include effective donor approaches to supporting North-South partnerships; how to measure the success and impact of partnerships; and the evolving role of Southern research leaders, such as Brazil, South Africa, India and China. Much of the literature on North-South research cooperation is highly critical, underlining the persistent political, economic and cultural obstacles to creating mutually beneficial partnerships, and the tensions inherent in this goal [p.34].

Bradley found that the biggest shortfall was that “it is clear that the majority of the literature on North-South research partnerships is produced by Northern scholars and institutions” [p.34]. So while there was greater production it was not only questionable if The Commission's first recommendation was being adequately followed, but whether Graaf's most *crucial* issue of development, *participation*, was being adequately adhered to.

Arnstein (1969) unites *participation* and *power* by discussing *citizen participation* in terms of eight rungs of a ladder. On the lowest rung people whose capacity is to be built are non-participants and are being “manipulated”. At the top rung, *citizen control*, “have-not citizens obtain the majority of decision-making seats, or full managerial power” [(*Ibid*), p. 217]. Arnstein notes that the language of participation and power is often embellished; for example, by people talking about “complete control”. One challenge not sufficiently addressed by Arnstein is how power is to be shared between organisations that need to work together to address challenges when they both have a stake in a matter to ensure that a newly created powerful group does not dominant other groups or fail to accept power-sharing (Labonte, 2012).

Arnstein (1969) states that she does not discuss “the most significant roadblocks to achieving genuine levels of participation” [p. 217] - including racism, paternalism, and resistance to power redistribution by the powerful and inadequate political, socioeconomic infrastructure and knowledge for those lacking power. (Keohane and Nye, 1989), commenting on

international politics, state that *power* is an “elusive concept” and difficult to measure, but can be considered to be having “control over outcomes” [(Keohane and Nye, 1989), p.11]. Since having majority control of decision-making means having control over decisions the concept of *power* is analytically useful when discussing capacity building between LMICs and HICs.

Crisp et al. (2000) identify four approaches to capacity building in health. First, the “top-down organizational approach” is internal and implemented by an organisation. This may begin with “changing agency policies or practices” and using incentives to encourage compliance. The second approach is “a bottom-up organisational approach” that focuses on increasing staff skills, understanding, participation and commitment. Third, they identify a “partnerships approach which involves strengthening the relationships between organizations”. Fourth is “a community organizing approach in which individual community members are drawn into forming new organisations or joining existing ones to improve the health of community members” [p. 100]. The first two approaches suggest that capacity building can be built from within an organisation. The last two approaches require organisations or individuals⁹ to work with other organisations. These four approaches illustrate that in order to achieve or improve health outcomes capacity building does not necessarily require an outside actor. Two of the approaches are internal to an organisation and two are external. The authors conclude that capacity building activities need to go beyond “rhetoric” by being clear on the expected results of a capacity building endeavour, the steps needed to realise the desired results and which of the four types of approaches will be used. They state that the “organizational context” [p. 104] must be considered but do not explicitly state whether or not that includes the environment, or external context, the organisation finds itself. It is worth considering that at times a capacity building objective may warrant both internal and external actions simultaneously or as part of a multistep process.

International development literature often seems to imply that capacity building requires international action or support (Brinkerhoff and Morgan, 2010, Gates, 2010, UN, 2016,

⁹ Crisp *et al* refer to individuals and community members but this research takes the position that characteristics of capacity building and partnership can apply to both individuals and organizations.

Kumar et al., 2016, (IHME), 2016). However in other fields there are examples of local or national capacity building efforts with both the “capacitating” and “capacitated” actors being indigenous (PYFP, 2012, RACGP, 2012, Peirson et al., 2012). In global health, Talib et al. (2015), p.4] argue that a “paradigm shift” occurred in 2010 when four different universities in SSA each decided to form in-country consortia through their respective medical education partnership initiative (MEPI) projects instead of requesting to use all of the grant funds for their specific university. In two cases, Makerere University (Uganda) and the University of Zambia, the projects’ leads and each countries’ oldest medical schools, provided support for newly established medical schools by “helping to establish capacity in medical education” [p. 5], as part of the project. The four MEPI projects that formed national consortia parallels the community approach identified by Crisp et al, where the communities are each of the four countries. What Talib et al. don’t mention is whether or not the international partners, universities from the United States of America (USA), were useful partners or were simply required to secure the “significant funding” from the National Institute of Health (NIH). This raises the question: when and why are international actors useful for capacity building and why?¹⁰

2.3 Organisational performance and universities

For Horton et al. (2003), organisational performance is “... the ability of an organization to meet its goals and achieve its overall mission. Typical indicators for evaluating organisational performance are effectiveness, efficiency, relevance, and (financial) sustainability” [p. 131]. These indicators of organisational performance are built into an organisational assessment framework [pp. 30-31]. Elements are grouped into four main areas that together formulate an holistic approach to assessing an organizing: i) *organizational performance* – the ability of an organisation to meets its goals and achieve its mandate; ii) *organizational capacity* – the resources, knowledge, and processes employed by an organisation; iii) *internal environment* – internal factors that influence the direction of the organisation and the energy displayed in

¹⁰ SSA universities were the “principal grantee” for all MEPI projects except for Coordinating Center grant which George Washington University in Washington, DC (USA) led. The African Center for Global Health and Social Transformation (Uganda). See: COLLINS, F. S., GLASS, R. I., WHITESCARVER, J., WAKEFIELD, M. & GOOSBY, E. P. 2010. Developing Health Workforce Capacity in Africa. *Science*, 330, 1324-1325.[P. 1325].

its activities; and, iv) *external environment* – factors external to the organisation that influence the work of the organisation.

The indicators which Horton *et al.* present for analysing organisational performance (effectiveness, efficiency, relevance and financial sustainability) are useful when assessing the performance of universities in realizing their stated mandates. The elements they present that impact on an organisation's capacity (staffing; infrastructure, technology, and financial resources; strategic leadership; program and process management; networks and linkages with other organisations and groups) are useful when analysing the performance of organisations, including universities. As the *internal* (incentive and rewards systems; the organisational 'climate' or 'culture'; history and traditions of the organisation; leadership and management style; clarity and acceptance of the organisation's mission; extent of shared norms and values promoting teamwork and pursuit of organisational goals; organisational structure) and *external* (administrative and legal systems in which the organisation operates; policies and political environment that influences the organisation; social and cultural milieu; technology available; economic trends) factors presented by Horton *et al.* clearly impact on an organisation's performance, they may also be considered and analysed by universities considering partnering with each other.

Richard et al [(2009), p. 719] state, “[O]rganizational performance is the ultimate dependent variable of interest for researchers concerned with just about any area of management”. They then lament the inability of research to determine “what performance is and how it is measured” and disinterest in paying much “theoretical attention to, or display[ing] methodological rigor” when deciding which indicators to use and how. Numerous university ranking systems¹¹ have been developed to respond to the universities' and their stakeholders' interest in relative performance. The validity of university rankings is open to critical analysis, but governments and university leaders do care about how their universities rank. Governments are concerned with university performance as universities are seen to be a foundation block of the economic development of their countries (Hassan, 2006). In 2012, the Government of Kenya considered its own ranking system for its universities (Nganga,

¹¹ For example: <http://www.timeshighereducation.co.uk/world-university-rankings/>; <http://www.arwu.org/>; <http://www.shanghai ranking.com/ARWU2012.html>.

2012). In 2015 the University of Nairobi (2015) posted an article on its web-site when Webometrics, a global university ranking company, ranked it 7th in Africa and 855 globally of over 25,000 universities. The Government of Ontario in Canada requires all universities to set and monitor performance indicators (OCUFA, 2006). The University of Toronto has a comprehensive list of performance indicators and Faculty and Department specific lists (University of Toronto, 2011b) and these performance indicators and expectations are likely to influence how partnerships are selected, developed, and evaluated.

2.4 Institutions

This study will generally refer to a `university` or `universities`, although sometimes it will use the term `institution` or `institutions` instead, especially with reference to `institution building`. In so doing, it will use refer to institutions as organisations, as does the The Academy of Medical Sciences and Royal College of Physicians (2012) when it refers to universities as “academic institutions” [p. 5], or as international institutions with strong national roots at the centre of the international knowledge system, as Altbach (1998) does. This is important to note because `institution` has another common meaning in development literature.

`Institutions` also refers to the “rules of the game or, more formally, ... the humanly devised constraints that shape human interaction. In consequence, they structure incentives in human exchange, whether political, social, or economic. Institutional change shapes the way societies evolve through time and hence is the key to understanding historical chance.” [(North, 1990), p. 3]. This includes formal and informal “rules”, for example, laws (e.g. property rights) and cultural norms, respectively.

2.5 Social accountability, social responsibility

`Social accountability` and `social responsibility` are two terms used in this study. Readers with a medical background may be most familiar with social accountability. This term appears in literature concerning the medical field (Woollard, 2006, Woollard and Boelen, 2012) and is defined as “the obligation [of physicians] to direct their education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have a mandate to serve” (World Health Organization Division of Development of Human Resources for Health, 1995) Socially accountable individuals and organisations should adhere to four values: relevance, quality, cost-effectiveness and equity (Kwizera and Iputo, 2011).

Social responsibility is referred to in business literature where it is generally termed 'corporate social responsibility', or 'CSR' for short. CSR is "... a commitment to improve community well-being through discretionary business practices and contributions of corporate resources" [(Kotler and Lee, 2005), p.3]. It is important to note that this definition considers these contributions 'discretionary'. The term social responsibility generalises this idea and makes it not discretionary but "an obligation". Kwizera and Iputo (2011) state "Social responsibility' has been variously defined" before quoting Wikipedia's definition: "an ethical ideology or theory that an entity, be it an organisation or individual, has an obligation to act to benefit society at large. This . . . can be passive, by avoiding engagement in socially harmful acts, or active, by performing activities that directly advance social goals", which they state is which they state is "comprehensive" [649]. Social responsibility and social accountability are sometimes used interchangeably within health professions; for example, within the criteria for the "Social Responsibility Award in Postgraduate Medical Education" at the University of Toronto¹². South African authors Kwizera and Iputo (2011) unite the term social responsibility with the African concept "Ubuntu" – 'humanness' –. This is the "the principle of caring for each other's well-being It also acknowledges both the rights and the responsibilities of every citizen in promoting individual and societal well-being" [Kwizera and Iputo (2011) p. 650]¹³. Furthermore, they state that "Social responsibility is 'Ubuntu', and 'Ubuntu' is social responsibility" [(Ibid), p. 649].

2.6 Partnerships

Discussing health partnerships in the United Kingdom (UK), Wildridge et al. (2004) state that "The principles of partnership are generic but how they are used varies based on context" [p. 3] and conduct a literature review to identify features common to definitions of partnership. Partnerships are between at least two entities. Partnerships have "common aim or aims, vision, goals, mission or interests". Partnerships have "joint rights, resources and responsibilities". Partnerships require "new structures and processes". Partnerships are "autonomous, independent". Partnerships "improve and enhance access to services for users and carers". "Equality" is identified as a characteristic of partnerships although they note that

¹² <http://pg.postmd.utoronto.ca>. (Accessed 12 March 2018).

¹³ Here Kwizera and Iputo quote from a Government of South Africa document: RSA. 1997. White paper for social welfare: Principles, guidelines, recommendations, proposed policies and programmes for developmental social welfare in South Africa. Pretoria: Department of Welfare, Government Printer.

Peckham (2003) states that the occurrence of this is rare in practice. Lastly, they quote (Huxham, 1996) for why organisations partner or collaborate; they do so to achieve “... what would be difficult or impossible for an organization to do on its own” [p. 4]

Huxham and Vangen (2005) state that *collaboration* inspires people because it can give them the belief that almost anything can be achieved because they are limited by their “own resources and expertise”. They refer to this as the “collaborative advantage”. However, they caution that partnership is not easy, is time consuming and often does not produce the desired results or meet expectations:

... seeking collaborative advantage is a seriously resource-consuming activity so is only to be considered when the stakes are really worth pursuing. Our message to practitioners and policy makers alike is don't do it unless you have to (italics in the original) [p. 2].

Nevertheless, in resource-limited settings such as SSA, international partnerships are considered almost a panacea, as if they are required and will address inequality gaps in health outcomes and institutional performance.

2.6.1 Types of partnerships

Discussing partnerships in public administration, Kernaghan (1993) is concerned with classifying partnerships in terms of their likelihood to empower individuals or organisations. He classifies partnerships into five groups based on whether or not the characteristics of them are designed to empower or not. For Kernaghan, like Arnstein (1969), empowering partnerships are those which share power. *Collaborative*, or “power-sharing” [(Kernaghan, 1993), p. 62], partnerships share and pool resources. *Operational* partnerships share work but not decision making. Partnerships in this category are distinguished by one partner controlling it, or having the power. *Contributory* partnerships provide support in the form of funding or other resources thereby increasing the ability of an organisation to perform a task but do not support skills development in that training is not a component of them. In *consultative* partnerships one partner offers advice to the other partners. Finally, Kernaghan gives a name to partners that are not empowering at all but are created by one partner to manipulate the other. He refers to these as *phoney* partnerships.

2.6.2 Partnerships in the name of global health

Partnerships between international universities and universities in SSA are formulated and implemented in the name of global health, although there isn't agreement on what the term global health means (Pinto and Upshur, 2013, Birn et al., 2009). Stuckler and McKee (2008)

present five metaphors to examine government policies considered relevant to global health: foreign policy; security; charity; investment; and public health. Kickbusch (2008) argues that they missed two important metaphors to under understanding government global health policy, one at either end of the political spectrum, in the 21st century: i) global health as a market; ii) global health as social justice. Global health as social justice frames global health within an ethical lens and introduces health as a human right and the notion of global health law¹⁴. Silberschmidt (2009) refers to these metaphors when examining the “European Approach to Global Health”, one that recognises the complexity of it, in a hope to find “common ground” with the U.S.

Koplan et al. (2009) call for the adoption of a common definition of global health and contributed the following:

Global health is an area for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide. Global health emphasises transnational health issues, determinants, and solutions; involves many disciplines within and beyond the health sciences and promotes interdisciplinary collaboration; and is a synthesis of population based prevention with individual-level clinical care [p.1995].

Central to their definition is that global health fits with the tripartite mission of academic health science centres (AHSCs) = education, research and service (i.e. care/practice) (Kohn, 2004). Improving health in an equitable manner is also core to their definition, which is consistent with Kickbusch’s view that global health should be examined through a social justice lens. Interestingly for an article that seeks a common definition for global health, no continental Europeans were co-authors on the article nor are any non-Anglo-Saxon sources cited. This is worth noting because if the field is to be global in nature then even for a short *Viewpoint* in the *The Lancet* the exclusion of the perspective of an entire continent and no mention of it seems unusual, although it is not unprecedented in academic writing examining international issues. When examining International Relations Theory 30 years ago, Holsti (1985) showed that of scholars in eight countries it was only the Japanese scholars who considered a diversity of viewpoints and pedagogical themes.

¹⁴ Kickbusch refers readers to: RUGER, J. P. 2008. Normative foundations of global health law. *Georgetown Law Journal*, 96, 423.

Although there is no standard definition for global health, there is much interest in it, especially in higher-income countries, led by universities in North America (Macfarlane et al., 2008). Judging by the range and depth of membership in the World Federation of Academic Institutions for Global Health (WFAIGH) (2015) academic interest in global health is now global. In August 2015 WFAIGH's nine members of alliances, associations, consortia, federations and networks in Africa, Asia, Europe, Latin America and North America had 534 members.

For both Koplan et al. (2009) and (Macfarlane et al., 2008) global health is clearly concerned about the health of all people, although the former speaks of “achieving equity” (p. 1995) and the latter states that addressing the challenges faced must be done on an “equal footing” [p. 384.e]. Finally, it is useful to consider capacity needs in terms of AHSC because it includes the tripartite mission and it is important to consider capacity needs in terms of education, research and service (i.e. care). As Fonn et al. (2016) note, research needs need to be balanced with education needs and with immediate care needs.

2.6.3 Factors for successful, global health partnerships

A wide range of literature is relevant to a study examining the role of international partnerships in strengthening and/or weakening the capacity of health professional programmes in (HPPs) in SSA. Milèn (2001) notes that in the 1990's the lack of “local ownership” and “genuine partnership” [p. 1] were seen as reasons for the failure of development cooperation and thus capacity development. Tools and guidelines for establishing, implementing and monitoring international academic partnerships have been established by numerous institutions and organisations, for example: the Canadian Coalition for Global Health Research (Afsana et al., 2009), Council on Health Research for Development (COHRED) / The Academy for Educational Development (IJsselmuiden et al., 2004), Swiss Commission for Research Partnership with Developing Countries – KFPE (IJsselmuiden et al., 2004), American Council on Education – ACE (Van de Water et al., 2008); University College of London – UCL (UCL, 2010); Karolinska Institute (Brytting et al., 2009). Hatton and Schroeder (2007) argue that “the funding context within which partnerships must exist” [p. 157] forms a significant barrier to building genuine partnerships between northern and southern institutions.

The funding context – the funding is Northern controlled, project-based, insists on partnerships between Northern and Southern partners - creates barriers to equity, mutual

benefits and sustainability. While the context, including the funding, within which a partnership operates, will no doubt influence the partnership for all partners, it is also important to examine the specific details of capacity strengthening interventions. Gross et al (1971) showed how a school that desired to incorporate a promising education innovation failed with an innovation because of the *implementation process* it used. Teachers' lack of clarity about the innovation, their insufficient skills and knowledge to meet the new role requirement, the general lack of instructional materials, failure by the organisation to adapt its structure to fit with the innovations and, in the latter phases of the project, low staff motivation, all were identified as barriers that resulted in the failure to implement the project effectively. This example illustrates that capacity building endeavours can be limited by many things, and that the details need to be examined. .

Gaillard (1994) identified “12 ingredients” for a North-South Partnership Charter to better enable “unequal partners” [p.31] to work collaboratively in research partnerships. In so doing, Gaillard introduced a key characteristic of global health partnerships: inequality often exists between the partners. Since then at least ten other publications have presented their perspectives based on their authors' experiences in the field and what they have read. These articles published in the last 20 plus years identify “principles” (KFPE, 1998, Anderson et al., 2014, KFPE, 2014), “elements” (Horton et al., 2003), “factors” (Casey, 2008) that can assist interuniversity global health initiatives in establishing collaborative partnerships, the type of partnership Kernaghan (1993) considers “purest” because within them power and resources are shared. These eleven publication, Gaillard's and the other ten, recommend that partnerships adhere to anywhere between 4 and 12 principles, elements, habits, factors, attributes or best practices (KFPE, 1998, KFPE, 2014, Horton et al., 2003, IJsselmuiden et al., 2004, Buse and Harmer, 2007, Casey, 2008, Mulvihill and Debas, 2011, Anderson et al., 2014, Gaillard, 1994, Cohen, 2000, Shivnan and Hill, 2011)¹⁵ to achieve the lasting results they desire.

As was noted earlier, however, Wildridge et al. (2004) argue that the principles of successful partnerships are generic. With this in mind, the factors identified in the 11 publications cited

¹⁵ Buse and Harmer (2007) actually identify and discuss seven unhealthy habits of global health partnerships. They have been converted the seven unhealthy habits into seven positive habits.

in the previous paragraph can be examined against the findings of a recent business management publication that used 35 characteristics of high performance organisations to identify the factors and characteristics of high performance partnerships (de Waal et al., 2015). De Waal, (2015) conducted a factor analysis of 35 potential characteristics to identify factors required to create and maintain high performance partnerships. His study identified three high performance partnerships factors and 19 “underlying characteristics” [p. 87]. The three high performance partnership factors were: i) openness; ii) equality and iii) good conflict management. Each factor had either five or six accompanying characteristics. Openness largely refers to there being open, honest, regular and timely communication within the partnerships. Equality refers to the sharing of power and joint decision making on resource allocation and, generally, shared management. Good conflict management refers to partnerships having effective structures and systems to deal with disagreements and the ability to avoid personal conflicts. Many of these factors or characteristics are mentioned in the 11 publications cited earlier.

These factors/characteristics are listed by author in Table 2.1 (Factors for Successful Partnerships), on the next page, and were drawn upon to develop the initial Framework of Analysis [see Figure 2.1]¹⁶. Literature presented in Table 2.1 informed the Initial Framework of Analysis and will be discussed within the chapter presenting the findings of this research (Chapters 4 to 8), before being further developed and discussed in Chapter 9 – Discussion [see: Table 9.1: Factors for examining the type, scale and performance of international interuniversity health partnerships from 11 sources, 1994 to 2015].

¹⁶ Table 2.1 was produced after Figure 2.1. was produced. The latter was presented in the proposal for this study. The former was produced afterwards, once the study has commenced.

Table 2.1: Factors for successful partnerships											
#	(Gaillard, 1994)	(KFPE, 1998)	(Cohen, 2000)	(Horton et al., 2003)	(Jsselmuiden et al., 2004) - COHRED	(Buse and Harmer, 2007)	(Casey, 2008)	(Shivnan and Hill, 2011)	(Mulvihill and Debas, 2011)	(KFPE, 2014)	(Anderson et al., 2014)
1	The collaboration should be based on a strong mutual interest and both parties should have something to gain from it.	Decide on objectives together.	Access to financial resources and facilities	Link to organizations' mission, strategy, and values	Be well defined and have a clear and manageable focus.	Be in sync with local needs	Trust and valuing the partner	Commitment to a shared and significant goal	Long-term, spanning 10-20 years	Set the agenda together	Trust
2	<i>Transparency should be a golden rule between the partners, e.g., both sides have information on the budget allocations to each side and how funds are being spent.</i>	Build mutual trust.	Participation	Clear purpose and intent	Good communication.	Stakeholders are underrepresented – fewer locals than internationals	Leadership and managing change. Balance between 1. power-sharing versus control 2. process versus results 3. continuity versus change (Structure & Innovation) 4. interpersonal trust versus formalized procedures	Mutual respect and trust	Mutually advantageous to both parties. While the benefits to the institution in the developing country is obvious, that to the partnering richer institution should also be explicit, and includes the opportunities for research collaboration, training sites for students, both at the undergraduate and graduate levels, and for learning new approaches and simple solutions to complex problems.	Interact with stakeholders	Accountability
3	Collaborative programs should be evaluated on a regular basis, e.g., after each phase is completed. Monitoring should emphasize project outputs, rather than inputs.	Share information; develop networks;	Transfer of technology	Clear division of roles and responsibilities	Staff development and training of the African partner at the center of activities, and optimize the use of local resources, expertise and budgets to ensure sustainability.	Good Governance: appropriate, regular performance monitoring; management of conflict of interest; transparency in decision-making.	A partnership framework	A transparent structure for managing the collaborative work.	The collaboration should be primarily based on the needs and priorities of the less-resourced party.	Clarify responsibilities	Mutual Respect
4	<i>Both parties should meet regularly to review on going work and plan future activities.</i>	Share responsibility.	Self-reliance	Principled negotiation and joint decision-making	Coordinate donor investments and direct funding to African institutions.	Support public sector	Communication and interaction within the partnership	Resources to support the activities.	The relationship must be among equals and based on trust, and with respect for the customs and cultural and religious values of each party.	Account to beneficiaries	Transparency
5	Communication channels (e.g., fax and E mail) must be available to secure efficient interaction between partners.	Create transparency.	Training opportunities	Openness to learning and change	African institutions should prepare their own internal environments to engage external partnerships and use them strategically.	Finance the true costs of extensive consultation required for partnership.	Equity and involvement in decision making		All financial transactions must be transparent.	Promote mutual learning	Sustainability
6	<i>Scientific papers should be written jointly, with the names of the authors from both sides appearing on the published articles.</i>	Monitor and evaluate the collaboration;	Credit	Continuity and persistence	Monitor routinely and evaluate regularly using appropriate indicators, yet be flexible to take advantage of opportunities.	Harmonise their procedures and practices with one another and with other donors leading to duplication and waste.	Power		From the beginning, there must be clear understanding and agreement on mechanism of handling data, publications, specimens and intellectual property.	Enhance capacities	Communication
7	Project proposals should, whenever possible, be drafted jointly and each partner should be associated as much as possible to the important decisions which need to be taken.	Disseminate results.	Trust – proper use of project (e.g. lab) resources	Flexibility	Support national and regional health strategies and seek to strengthen existing regional organizations and professional associations.	Inadequate incentives to partner with others facing staff	The role of partnership coordinator		The work to be done must be based on previously agreed-upon principles for project development and for monitoring and evaluation	Share data and networks	Leadership
8	<i>Decision on specific instrument purchase should be made jointly and the necessary provision for installation, maintenance and repair should be secured.</i>	Apply results;							Mechanism for conflict resolution should be developed and agreed upon from the beginning	Disseminate results	
9	<i>Each cooperating group should include a substantial number of researchers (at least 3).</i>	Share profits equitably;							Long-term funding needs to be secured.	Pool profits and merits	
10	Salaries should be sufficient. to ensure a full-time commitment, or completed by supplementary means (e.g., honorarium) secured in the budget.	Increase research capacity.								Apply results	
11	<i>Mechanisms should be established so collaboration can continue after the program is terminated to ensure a long lifetime to the partnership.</i>	Build on the achievements.								Secure outcomes	
12	<i>Provision should be made in the budget for a training component and research training should, whenever possible, take place as part of a formal degree program to increase commitment.</i>										

2.7 Context

Issues external to the universities involved in the partnerships will influence and impact on the partnerships. This thesis will refer to them as *contextual issues*. In this way, this study seeks to understand the forces influencing partnerships “as a whole”, consistent with “evaluators using qualitative methods” [(Patton, 1990), p. 49]. What this study refers to as contextual issues, Horton et al. (2003) refers to as the “external operating environment”. They identify the following issues as influencing an organisation (policy, laws, and regulations): i) the administrative and legal systems that govern the organisation; ii) the political environment (i.e. general political stability in a country or political support that exists for the organisation and its mission); iii) the social and cultural context in which the organisation operates (general political stability in a country or political support that exists for the organisation and its mission). In addition, technological issues are identified as potentially being “critically important” to development organisations.

A statement quoted in Horton et al. (2003) illustrates the importance of context in a research project examining capacity building, development and strengthening. Albina Maestrey Boza states: “Capacity development is an emerging property. It comes from a process of interaction to decide what it means in our context” [*Ibid*, p. 36]. The idea that capacity development is an emerging property implies it is a process that occurs over time and may have phases.

A research study that is international in nature, must also mention the nature of the international system. Lamenting the progress being made in the explanatory power of international relations research in the 1970s, Waltz (1979) discusses the strengths and limitations of analytic approaches, reductionist theories, and systemic approaches. He states:

The analytic method, preeminently the method of classical physics and because of its immense success often thought of as the method of science, requires reducing the entity to its discrete parts and examining the properties and connections. The whole is understood by studying the elements in their relative simplicity and by observing the relations between them. By controlled experiments, the relation between each pair of variables is separately examined. [p. 39]

He notes that the analytic approach is “simpler” and, therefore, preferred to a systems approach. It only works though when the relations between the variables are the only thing being examined and “other things are held equal”. When that isn’t possible, the usefulness of the analytic approach will be limited or fail and a systems approach is required. As Waltz states, “If the organization of units affects their behaviour and their interactions, then one

cannot predict outcomes or understand them merely by knowing the characteristics, purposes, and interactions of the system's units." [p. 39].

Waltz's theory of international politics, a *neo-realist* perspective, argues that the international system has three characteristics: i) is it *anarchical* in that there is no overall formal governing body or regulator of the system; ii) it is a *self-help* system whose actors seek to maximize their capabilities; and, iii) the principal actors or units within the international system are *states*.

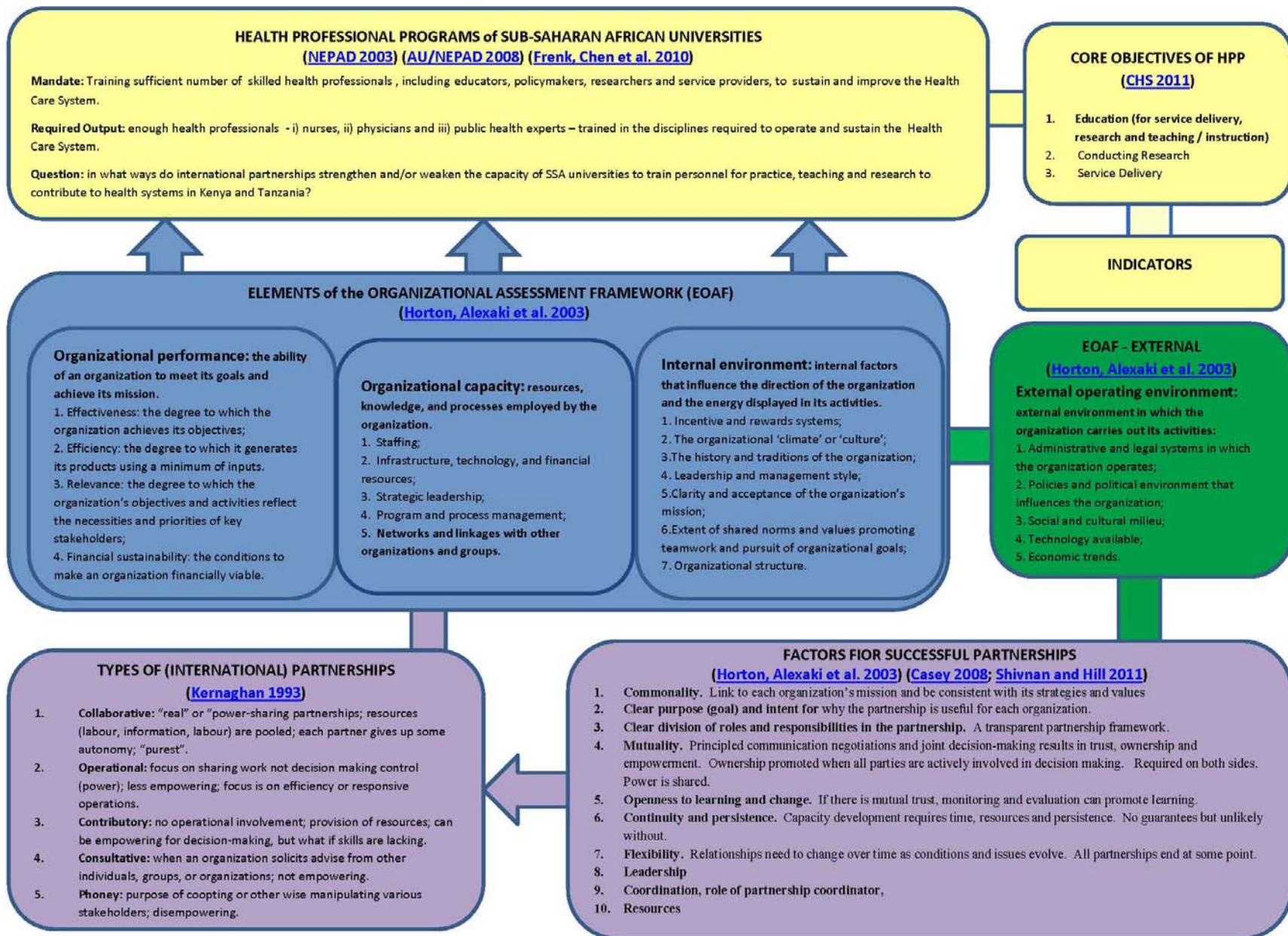
Keohane and Nye (1989) dispute Waltz's perspective and argue that the nature of international relations has changed and "We live in an era of interdependence" in which power is more diffused, in particular military power is both less effective and costly to use. For them, "*interdependence*" means "*mutual* dependence" and "refers to situations characterized by reciprocal effects among countries or among actors in different countries" [p. 8].

2.8 Initial framework

The above literature informed the initial framework for analysis for this study [see: Figure 2.1: Initial Framework of Analysis]. It begins by identifying 10 factors for successful partnerships identified by three authors (Horton et al., 2003, Casey, 2008, Shivnan and Hill, 2011). These factors are considered to determine the type of partnership based on the work of Kernaghan (1993). The type of partnership will impact on the elements of the organisation of interest, in this study, universities with health professional programmes (HPPs) in sub-Saharan Africa (SSA). The degree to which the partnerships assist in strengthening the HPPs of the universities will determine to what extent the universities achieve their mandate of supporting the health systems of their country. The influence of the external environment, context, on the partnerships and the universities is presented in the green box. The core objectives of HPPs are listed in a separate box is the idea that indicators are needed to monitor and assess performance.

This initial framework of analysis was modified during the course of this study, based on the findings of the research. The final framework is presented and discussed in Chapter 9, see Figure 9.1: Framework for Examining Interuniversity Global Health Partnerships.

Figure 2.1 Initial Framework of Analysis



2.9 Conclusion

This chapter presented a wide range of literature in a variety of fields relevant to a research project examining interuniversity, global health partnerships that seek to assist SSA universities in building the capacity and strengthening health professional programmes in sub-Saharan African universities. This allows us to move to Chapter 3 to discuss the methodology used to implement this study. However, it should be noted that much more literature is relevant to the research that will be undertaken. Additional literature will be presented and discussed in Chapters 4 to 8.



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CHAPTER 3: METHODODOLOGY

3.1 Introduction

This chapter presents the objectives, study design and methods used in this study. The overall design for this study was a concurrent transformative combined with concurrent triangulation mixed methods design (Creswell, 2003) with emergent elements, guided by and seeking to further develop the study's initial conceptual framework – presented at the end of the previous chapter (See Chapter 2: Literature Review). The study, conducted in three distinct, but partially concurrent phases, used a variety of methods. The chapter will begin by discussing the objectives of the study and introducing the study setting, focusing on how the study sites were selected. It will then discuss the overall design and comment on the specific methods used to collect data during each of the three phases. It will move on to the study population and then data collection and analysis. This will be followed by a discussion of rigour, ethics, and, finally, the limitations of the study.

3.2 Study aim and objectives

The aim of this study was to examine international partnerships identified as important by selected universities in Kenya and Tanzania in relation to the capacity of the universities to train health workers (service providers and/or practitioners), educators, researchers in three key health professions (medicine, nursing, and public health) for health systems. The overall research question to which this study sought to contribute was: how do international partnerships contribute to strengthening and/or weakening the ability of SSA universities to train personnel for practice, training and research to improve the health systems in their country? Data collection and analysis was oriented to determining the characteristics and dynamics of international partnerships that are likely to best strengthen the capacity of SSA universities to meet their mandate of training professionals for service delivery, education and research in medicine, nursing and public health while also satisfying the needs of the international partners.

3.2.1 Objectives

This study has five objectives. They are:

1. To document the current policy frameworks within which four colleges of health sciences of universities in Kenya and Tanzania operate.
2. To identify and document the international partnerships that four colleges of health sciences in Kenya and Tanzania consider most significant for increasing their education, research and service capacity in medicine, nursing and public health and to understand why they are considered the most significant.
3. To critically examine the history, dynamics, characteristics and outcomes of significant international partnerships in order to determine how and why they contribute to the capacity development of universities in Kenya and Tanzania to produce qualified health professionals able to deliver education, conduct research and perform service needed to improve health in their countries.
4. To identify and critically appraise the reasons why the universities from other countries are involved in these partnerships with universities in SSA.
5. To analyse how and if partnerships are mutually beneficial to the focus and international universities partnering.

See Table 3.1 (Study objectives and analysis to be done) for the questions to be answered for each objective.

3.3 Study setting and site selection

The study was conducted principally at four universities in Kenya and Tanzania in East Africa – two universities in each country. The two Kenyan universities were Moi University (MU) in Eldoret and University of Nairobi (UoN). The two Tanzanian universities were Kilimanjaro Christian Medical University College (KCMUCo) in Moshi and Muhimbili University of Health and Allied Sciences (MUHAS) in Dar es Salaam, Tanzania [see: Map 3.1: Location of Focus Universities].

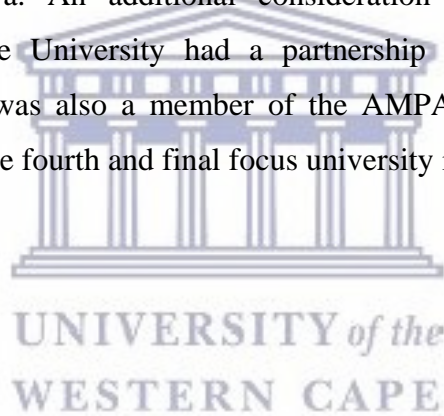
The four sites were chosen purposively. Multiple sites in two countries within one distinct region of SSA were sought in order to increase the theoretical generalizability of the findings – and thus the strength of the analytical conclusions of the study – by allowing both variations across universities and partnerships while having the focus universities sharing the same overall context and having shared university partners across the four sites. The identification of these study sites began with Moi University and its partnerships resulting from my experience with MU working with U of T through the AMPATH Consortium.

MU was considered a desirable site for the study because the partnership between Indiana University (IU) and MU was identified as a successful interuniversity partnership model (Frenk et al., 2010, Crane, 2011). The success of the partnership was due in large part to the anti-retroviral therapy (ART) program the two universities established in western Kenya approximately 18 months before the U.S. Congress passed the Act that required President Bush to develop a strategy that addressed the HIV/AIDS pandemic globally (IOM, 2007). WHO published a case study on the IU-MU ART program (Mamlin et al., 2004). Moi University – as did the other three universities selected - also satisfied the intent to include and compare three of the major health professional programs in the study, as it offers degrees in medicine, nursing and public health.

However, it likely would have been difficult to draw even analytically generalizable conclusions from a case study from one partnership given the importance of context in the conceptual framework, especially between a university in western Kenya and one in the Midwest United States, neither of which would necessarily be considered “typical” of major interuniversity partnerships. Guided by case study method which posits that the subjects being compared be similar in nature to achieve more rigour in the study design (Yin, 2009), a more robust methodology would include a second university in a second, but similar country. Neighbouring Tanzania and Uganda were considered. Uganda was considered less desirable because its largest and oldest medical school, Makerere University, had a much longer history than MU. The oldest and largest medical schools in both Kenya and Tanzania, at University of Nairobi (UoN) and Muhimbili University of Health and Allied Sciences (MUHAS) were formed within five years of each other. MUHAS was also desirable because my lead PhD Supervisor had a contact there, as my school of public health (SOPH) had a link with MUHAS SOPH, and allowed me to take advantage of an existing relationship to enter the site.

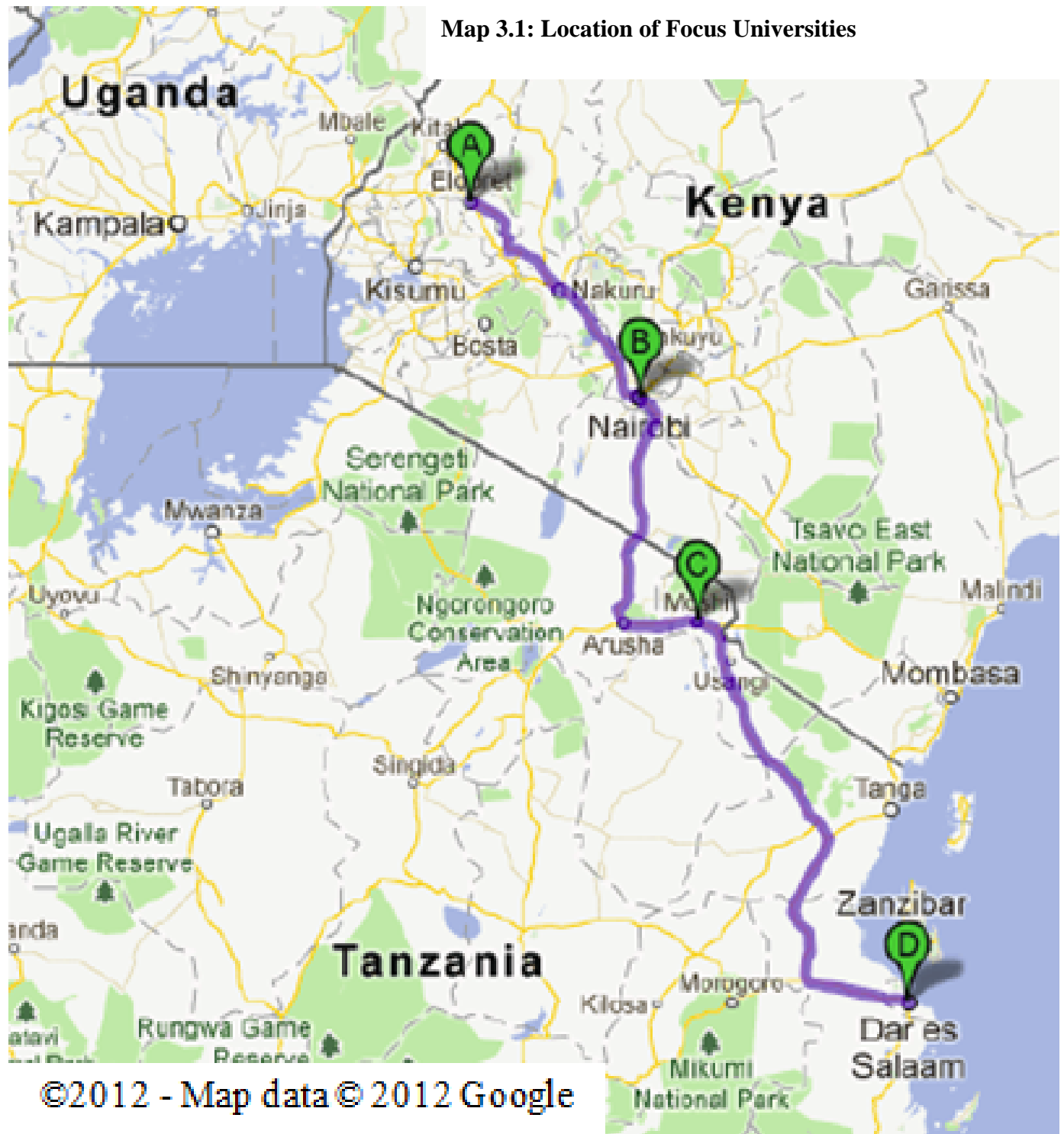
Including only one university from each country seemed questionable, however, since the two universities did not share basic characteristics; specifically, one was the first and largest medical school in the country's principal city, so one could be considered in the centre and the other in the periphery of their higher education systems (Altbach, 2004)¹⁷. For this reason it was decided to include the University of Nairobi (UoN) in the study too. It was chosen to parallel MUHAS. However, this would have left an unbalanced study design however with two universities in Kenya and one in Tanzania. A fourth and final focus university was therefore desired.

Including a private university was relevant because of the growth of private institutions in SSA over the last 25 years (Yarmoshuk et al., 2012, Yarmoshuk et al., 2011). A private university in Tanzania, outside the Dar es Salaam or the capital, Dodoma, would mirror the selection of MU in Kenya. An additional consideration in this purposive sample construction was that Duke University had a partnership with KCMUCo in Moshi, Tanzania, and since Duke was also a member of the AMPATH Consortium with MU, KCMUCo was selected as the fourth and final focus university in the study.



¹⁷ Altbach refers to centres and peripheries in terms of globalisation, but the same characteristics are observed within countries.

Map 3.1: Location of Focus Universities



Legend

A: Moi University (MU), Eldoret, Kenya

B: University of Nairobi (UoN), Nairobi, Kenya

C: Kilimanjaro Christian Medical University College (KCMUCo), Moshi, Tanzania

D: *Muhimbili* University of *Health and Allied Sciences* (MUHAS), Dar es Salaam, Tanzania

3.4 Overall design

The overall design for this study combined concurrent mixed methods design (Creswell, 2003) with transformative, embedded, and emergent elements (Creswell and Plano Clark, 2011). It was concurrent in that data was collected using both qualitative and quantitative methods during the same phases in order to triangulate findings. It was emergent in that the methods used for the third and final phase were modified after the findings were analysed from the first and second phases and new methods were introduced so additional insights could be garnered from the data. The embedded aspect of the design was placing priority on the focus universities such that the examples from the international partners are embedded within them. It was transformative in that it emphasised the perspective and needs of the LMIC universities, the “underrepresented or marginalized populations” [(Creswell and Plano Clark, 2011), p.96] first. It was guided by and sought to further develop the study’s initial conceptual framework – presented at the end of the previous chapter.



3.5 Preparatory phase: documentation of contextual issues

While this study focused on data collection and analysis at the levels of the schools, faculties or departments of medicine, nursing and public health, and the universities, the actions and policies of both the focus and international partner universities were influenced by the context external to them. In other words, the external context impacted on the units of analysis. For the focus universities the university, sub-national, national, regional, continental and global levels were documented. For the international partners only general trends were considered. The findings for this phase are presented in Chapter 4: Context and Profiles of the Focus Universities. This is referred to as the preparatory phase although these issues were followed throughout the study. Context is presented in Chapter 4 derived from the in-depth interviews and FGDs, during participant observation and the review of grey and published literature.

3.6 Phase 1: Mapping significant partnerships of the four focus universities and identifying their perceived value

Phase one was conducted at each of the four focus universities between July 2013 and July 2014. During this phase of the study, senior representatives of each of the four focus universities were interviewed to identify what international interuniversity partnerships

they perceived to be significant for helping to strengthen the capacity of their university in medicine, nursing and/or public health in education, research and/or service since 1991 and why they perceived them to be valuable to their institutions.

3.7 Phase 2: Gaining additional perspectives on the value of international partnerships of the four focus universities

Phase two was conducted at each of the four focus universities between Nov 2013 and July 2014. During this phase of the study semi-structured interviews and focus group discussions (FGDs) were conducted with professors, lecturers, staff and students in and active with the medicine, nursing and public health programmes at each of the four focus universities to explore their understanding of the partnerships and understand their perspectives of the partnerships.

3.8 Phase 3: Understanding the perspectives of the international partners and what they value

Phase three of the study was conducted with representatives of 25 of the international partners of the focus universities between March 2014 and November 2015. In this phase of the study, individual in-depth interviews were conducted with key informants from the international partners of the four focus universities to explore their understanding perspectives of the partnerships.

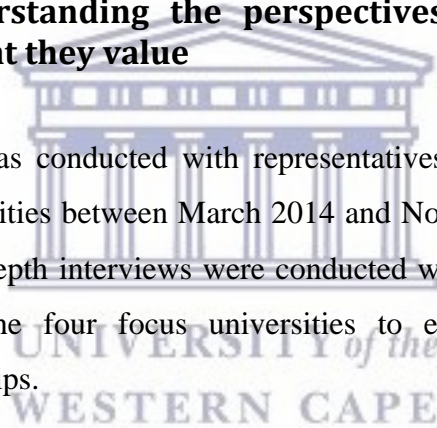


Table 3.1: Study objectives and analysis to be done	
Preparatory phase : Documentation of policy framework	
<i>Objective 1:</i> To document the context within which the four focus universities are situated.	How does the local, national, regional and global context affect the four focus universities? What are the major changes in the last 10 years? What is the mission and vision of the colleges of health sciences?
Phase 2: Mapping and typology of international partnerships with health programs of four universities in Kenya and Tanzania	
Objective 2: To identify and document the international partnerships that four colleges of health sciences in Kenya and Tanzania consider most significant for increasing their education, research and service capacity in medicine, nursing and public health and to understand why they are considered the most significant.	What is the contextual background (history of country and institution, economic, social and cultural issues) of each university? What is the general history of partnering internationally for each university? What are the specific capacity building priorities of the MD, BScN and MPH programs of the four universities? Are they most concerned with increasing their capacity in education, research and/or service? How does their view of capacity building differ from the current dominant capacity building paradigms? To what extent are the international partnerships focusing on the priority capacity building needs of each university? What allows for the extent of the support provided? What are the goals and objectives for all parties for each of the partnerships at the four selected universities in Kenya and Tanzania? Do they focus on education, research and service equally? What do the lead representatives of each of the Schools at each of the universities consider to be there three leading partnerships? Based on what criteria?
Phase 3: The international partners' perspectives	
<i>Objective 3:</i> To critically examine the history, dynamics, characteristics and outcomes of significant international partnerships in order to determine how and why they contribute to the capacity development of universities in Kenya and Tanzania to produce qualified health professionals able to deliver education, conduct research and perform service needed to improve health in their countries.	To critically analyse six of the leading partnerships identified in Phase 1 of the study, specifically including at least one with service component. Who leads the various activities for securing funding for partnership activities? Who manages the projects? What systems are in place at each of the partner institutions for managing and administering funds? To what extent does self-interest define the goals and objectives of each partner in each partnership? To what extent does social responsibility define the goals and objectives of the international partner(s) in each partnership? To what extent do each of the partnerships address the principal burdens of disease in the respective countries? To what extent do the education, research and service activities of each partnership address the leading burdens of disease for the respective countries? What do the international partners of the four universities in Kenya and Tanzania consider to be the education, research and service capacity building needs of the host institution? Do the capacity building priorities of each institution vary between the administration, faculty, staff and students of the institutions? What explains the different opinions between the groups?
<i>Objective 4:</i> To identify and critically appraise the reasons why the universities from other countries are involved in these partnerships with universities in SSA.	Who within the universities initiate the partnerships with SSA universities? What are the motivating factors for these individuals? Are the partnerships with SSA based at an individual, department, faculty or university-wide level? How does this contribute to the success of partnerships? How much resources (e.g. human and financial) are international partners willing to invest in partnerships in SSA to launch and sustain them? How does these levels of investment compare to investments in partnerships elsewhere? What benefits do international partners realize from partnering with SSA universities? How do these benefits (results) contribute to the mission of international partners?
Phase 2 & 3: Theory development	
<i>Objective 5:</i> To analyse how and if partnerships are mutually beneficial to the focus and international universities partnering.	How is reciprocity achieved within the partnerships?

3.9 Study population and sampling

The study population consisted of 192 individuals. The majority participated through KIIs (n=125), while 67 participated in 19 FGDs during three distant phases. There were also three general sets of respondents. The first set of respondents comprised representatives of the four focus universities. This set included senior administrators, professors at the decanal level, other professors, lecturers, staff and students. The second set of respondents included representatives of the international partners of the four focus universities. This set consisted of professors, associate professors, assistant professors, lecturers and staff members involved directly or indirectly in the partnerships. The final set of respondents was government representatives in the countries of the focus universities or international partners. In most cases, I contacted study participants myself. Contact persons, faculty members identified at MUHAS and one assigned at KCMUC, sometimes assisted me in facilitated links.

3.9.1 Phase 1

The study participants for the in-depth interviews in Phase 1 were purposively selected. A total of 42 senior representatives (see Box 3.1) were interviewed, between 9 and 12 representatives per university (MU n=10, UoN n= 9, KCMUCo n=12, MUHAS n=11). In a number of instances, representatives held more than 1 senior post at the institution during his or her career, but he or she was counted for only 1 post.

Box 3.1: Study participants interviewed in Phase 1

Vice-Chancellor, or equivalent representative
Principal, College of Health Sciences
Dean/Head, School of Medicine
Dean/Head, School of Nursing
Dean/Head, School of Public Health
Director of Research
International Relations Officer
Director, teaching Hospital
Former Vice-Chancellor, or equivalent representative
Former-Dean/School of Medicine
Former Past-Dean/School of Nursing
Former Past-Dean/School of Public Health
Former Past-Director, Teaching Hospital

3.9.2 Phase 2

The participants in Phase 2 were selected purposively or opportunistically. Some respondents, specifically professors, were sought out because they were the lead of specific partnership of interest identified in Phase 1. In the case of students, students who had been placed with international partners were sought out, although some students who had not

participated in exchanges were interviewed too for their perspectives on the partnerships. In some cases the current deans assisted me in contacting faculty members (professors and lecturers) and students. In other cases they contacted them directly to introduce me and my study and set up the KIIs or FGDs. A few times they requested their administrative assistants or a current student to assist me. Other times I was provided with their contact information and I contacted the faculty members or students myself.

Between 15 and 28 respondents participated per university (MU n=28, UoN n=23, KCMUCo n=15, MUHAS n=28, Total = 88). Trainees included medicine, nursing and public health students at various levels (Undergraduate, Masters, PhD, Residents, Fellows)¹⁸. At least one respondent from each of the universities' health library was interviewed. At least one clinical medicine, basic science, nursing and public health lecturer and/or professor participated at all universities except for public health faculty at KCMUCo and basic science at UoN and MUHAS [see: Table 3.2: Summary Total of Phase 2]. [See Table 3.3: Format by which Study Participants Participated for the number of study participants who participated in KIIs compared to FGDs].

Table 3.2: Summary totals of Phase 2 respondents

Institution	Academic	Librarians	Staff	Students	TOTALS
UoN	13	1	0	9	23
Moi	11	2	0	15	28
MUHAS	12	1	1	8	22
KCMUCo	7	1	0	7	15
TOTALS	43	5	1	39	88

¹⁸ Trainees at some level participated from all three disciplines at all four universities, except for public health trainees at KCMUCo.

Phase	KIIs	FGDs	Total
One	42	0	42
Two	21	67	88
Three	62	0	62
Total	125	67	192

3.9.3 Phase 3

In a 3rd phase (March 2014 to Nov 2015), a total of 62 KIIs were conducted with representatives of the partner universities of the four focus universities. The vast majority of the university respondents, 57 of 59, were current or past representatives from 24 partner universities (African n=3, European n=9, North American n=12) in nine countries (Canada n=4, Egypt n=1, Germany n=1, Netherlands n=2, South Africa n=1, Sweden n=5, Uganda n=1, United Kingdom n=1, United States n=9) identified in Phase 1 of the study. The other two university KIIs in Phase 3 were purposively and opportunistically selected because they participated in new partnerships with one of the four focus universities. One of these additional representatives was from one of the universities mentioned in Phase 1 but working with a different focus university than the partnership identified for that university in that phase. The other additional university representative was from a university not mentioned in Phase 1 but by another international partner university in Phase 3. Therefore the 59 university-based study participants in Phase 3 came from 25 universities. The final three study participants in Phase 3 were from government agencies (African n=1, European n=2). All interviews were conducted either in-person or by phone/Skype. All of the KIIs were currently or had been directly involved in the partnerships to some extent (either as researchers, educators, or administrators for their universities) with one of the four focus universities in East Africa. Some of the respondents lived in Kenya or Tanzania and were interviewed there, while the remainder interviewed at their home institutions or at conferences. [See Table 3.4: Number of Participants by Phase and Group.]

Table 3.4: Number of participants by phases and groupings			
Summary totals - Phases 1 & 2			
Focus university	Phase 1	Phase 2	Total
MU	10	28	38
UoN	9	23	32
KCMUCo	12	15	27
MUHAS	11	22	33
Total	42	88	130
Summary totals for Phase 3			
Region	Number of Universities	Number of Representatives	Total
Africa	3	5	-
Europe	9	19	-
North America	13	35	-
Total	25	59	59
Additional			
Government Representatives	Number		
Africa	1	-	-
Europe	2	-	-
North America	0	-	-
Total	3	-	3
GRAND TOTAL			192

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3.10 Respondents disaggregated by sex

Respondents were not asked to identify their sex nor did they identify with which sex, female or male, they affiliated. However based on common, observable traits (voice, appearance, given name) of the respondents, I disaggregated the respondents by sex. The summary totals for each phase are presented in Table 3.5: Sex of Respondents by Phase, Table 3.6: Phase 1 Respondents by Sex, Table 3.7: Phase 2 Respondents by Sex, Table 3.8: Phase 3 Respondents by Sex

Table 3.5: Sex of study respondents by phase			
Phase of Research Project	Female	Male	Total
Phase One - Senior Representatives at Focus Universities	12	30	42
Percentage of all respondents in Phase One	29%	71%	100%
Phase Two - Professors, Lecturers, Students at Focus Universities	43	45	88
Percentage of all respondents in Phase Two	49%	51%	100%
Phase Three - Representatives of Partner International Partners	26	33	59
Percentage of all respondents in Phase Three	44%	56%	100%
Government Representatives	2	1	3
Percentage of all government respondents interviewed	67%	33%	5%
TOTAL	83	109	192
Percentage of all respondents in research project	43%	57%	100%

Table 3.6: Respondents by sex, Phase 1			
Institution	Female	Male	Total
Moi	3	7	10
UoN	2	7	9
MUHAS	4	7	11
KCMUCo	3	9	12
TOTALS	12	30	42

Table 3.7: Respondents by sex, Phase 2			
Institution	Female	Male	Total
UoN	15	8	23
Moi	12	16	28
MUHAS	9	13	22
KCMUCo	7	8	15
TOTALS	43	45	88

Table 3.8: Respondents by sex, Phase 3			
Region	Female	Male	Total
Africa	0	6	6
Europe	12	9	21
North America	16	19	35
TOTAL	28	34	62
%	45	55	100

3.11 Data collection, management and analysis

3.11.1 Data collection

We used a semi-structured interview guide for all the individual in-depth interviews and FGDs. KIs were typically asked additional questions specific to their partnerships. Generic interview guides for each of the three phases are in Appendix 2. Supplemental questions were asked in most interviews. These supplemental questions are not presented in the study instruments [see Appendix 2: Instruments] since they were specific to each interview and FGD.

As noted above, Phase 1 interviews were conducted between July 2013 and July 2014, Phase 2 interviews and FGDs were conducted between November 2013 and July 2014 and Phase 3 interviews were conducted between March 2014 and November 2015. Follow-up interviews were conducted and emails exchanged to gather additional details and clarify issues until this dissertation was submitted. I conducted all interviews in-person or by phone/Skype. All interviews were transcribed and analysed. I transcribed the audio recordings from Phases 1 and 2, using transcribe - <https://transcribe.wreally.com>. VANAN Online Service - <https://vananservices.com> – transcribed the audio recordings of Phase 3; I then verified them. I analysed all transcripts. The interviews lasted between 32 and 145 minutes, with most lasting between 60 and 90 minutes.

The data collected during the KIIs and FGDs were triangulated with published literature about the universities and the partnerships, grey literature from each of the focus universities and most of partner universities mentioned in Phase 1. Grey literature included annual reports, published reports, and the websites of the focus, partner universities, consortia, projects, programmes and donors. One hundred and thirty four (134) websites were visited [see Appendix 5: Websites visited] and 348 documents [Appendix 6: Additional Sources Accessed during Research] were identified simply for the partnering institutions. They served to clarify or confirm details about the partnerships when findings differed between KIIs for the same partnership.

3.11.2 Participant observation

In addition to the interviews, participant observation contributed to the data and informed the interpretation of findings, particularly in relation to the MU-AMPATH Consortium partnership. At the time of proposal development and in the early phases of the study (until 31 July 2014), I was directly involved in the University of Toronto contribution to the MU-AMPATH partnership. I became the Program Manager for the U of T Department of Obstetrics and Gynaecology (OBGYN) in the partnership in 2007, while still a Research Associate in the Centre for International Health (CIH) and later the Centre for Global Health, in the Dalla Lana School of Public Health (DLSPH), when the department secured its initial multi-year (3-years) grant to fund activities between MU and U of T. I was also involved directly or indirectly in most aspects of the partnership, including the writing of most grants, the memorandum of understanding, the placements of faculty and students. As the Program Manager for U of T's partnership with MU, I reported directly to the Chair of OBGYN. Participant observation consisted of participating in meetings, meeting with faculty and students and donor representatives and interacting with representatives of MU and other MU partners, especially from the AMPATH Consortium. Careful consideration was given to my role as an employee of the University of Toronto and my role as a researcher. I was privy to certain information that would be considered internal and not for public disclosure. When I was concerned I may be overstepping that line I consulted with my supervisors and/or contacted the current lead for the University of Toronto partnership with MU and the AMPATH Consortium.

3.11.3 Data management

All but two of the interviews were recorded. I transcribed the audio recordings from Phase 1 and 2. An external company transcribed most of the audio recordings from Phase 3, although I transcribed a few of them. How the data was then managed varied for the three phases. Details of this are reported in each of the papers. For example, in Phase 1, data from the transcriptions were used to complete Microsoft Excel tables for each of the international partnerships identified by each respondent, in keeping with initial framework of analysis for the study. Summary tables of all the partnerships for each of the focus universities were then produced. For each partnership the following were identified: the name of partner institution; the country in which the partner was based; the duration of

partnership in years; number of KIs who identified partnership; whether the partnership was active or inactive; HPPs (medicine, nursing, and/or public health) involved; components (education, research, and/or service) of AHSCs included in partnership; and key activities and outputs of the partnership.

3.11.4 Quantitative data analysis

Quantitative data analysis was conducted on the data collected Phase 1. The final summary table of all partnerships identified at each of the four focus universities was analysed using SPSS. Specific details on the general mapping of the partnerships are presented in Chapter 5: *How International Partnerships Strengthen and Weaken Health Professional Programmes in East African Universities*. How the value of the partnerships was calculated and analysed is presented in Chapter 6: *What makes international global health university partnerships higher-value? An examination of partnership types and activities favoured at four East African universities*.

Quantitative data analysis was also used to rank the universities identified in this study base on worldwide university rankings and analysis whether worldwide ranking was associated with the perceived value of the partnerships by the focus university representatives. Again SPSS was used for the calculations. Details about this analysis are presented in Chapter 7: *The international partner universities of East African Academic Health Science Centres: who are they, why do they do it and what do they value*.

3.11.5 Qualitative data analysis

Thematic content analysis was conducted (Schreier, 2013) of all the transcriptions using Atlas.ti 7. Qualitative analysis was done to produce every paper arising from this dissertation. How the specific analyses were conducted is presented in each of Chapters 5 to 8.

3.11.6 Rigour

Although this study did not conduct in-depth case studies, elements of the case study approach were followed and it is useful to reflect on them at various stages, including with regards to rigour. Yin (2009) presents four critical conditions that case study researchers must address in their design to best ensure validity and reliability of results. One, *construct*

validity, requires identifying correct operational measures for concepts being studied. Terms were identified in the *Framework of Analysis* presented at the end of Chapter 2 that were used when examining all HPPs and universities and partnerships. Two, *internal validity*, seeks to ensure that a causal relationship between x and y isn't concluded to exist when it doesn't. There was some risk to internal invalidity by doing in-depth case studies if key individuals or information were not available. For this reason, I decided, in consultation with my supervisors, to include respondents from many international partners of the focus universities instead of doing a few case studies as originally proposed. By going for breadth instead of depth it was assessed that the opportunity to generalise from this study would be greater. In addition, with regards to internal validity, external factors outside of the partnerships may have accounted for positive or negative results, and social desirability bias may influence results in a study where participant observation is one method. These issues are assessed and discussed in Chapter 4 in terms of context and Chapter 6 and 9 when *competing interest bias* is discussed. Three, *external validity*, relates to defining the domain in which a study's findings can be generalized, whether statistically or analytically. The context in which a specific college of health science is situated will likely play a significant role in the degree to which it is able to achieve its stated mandate, goals and objectives. Generalizing the findings to other universities in East Africa or SSA will have to be done with caution. Presenting accurately the contexts of Moi, Nairobi, MUHAS and KCMUC was an important consideration. Four, reliability, or demonstrating that the operations of a study – such as the data collection procedures – can be repeated, with the same results is the final risk to validity presented by Yin. The preparation of interview protocols and paying careful attention to using a standardized process for the interview and adhering to the Framework of Analysis addressed this challenge. This was a broad study that involved many universities and partnerships and complex analysis. It required that an iterative approach be followed that considered many viewpoints.

Newton *et al.* argue that "... the issue of quality appraisal in qualitative research is full of tension and ambiguity" (p. 867). This challenge was addressed by my adopting a "critical attitude" towards the data I collected and, crucially, by reflexivity – awareness and critical

analysis of my role within it (Brewer, 2003), Moll (2012). This was particularly important in light of the sensitive nature of partnerships and the political nature of institutions, including universities.

One of the concerns with qualitative research is “cherry-picking” findings from transcripts [(Barbour, 2014), p. 501]. Use of a specific, especially forceful or colourful quotation can skew reader impressions and thus the findings. In all cases, I sought to include the range of responses and present analysis that considered the perspective of all parties even if the findings turned out to be somewhat contentious.

3.12 Limitations

There are a number of limitations to the methods used and thus the findings arising from this study. They are presented below.

One, centrally produced lists of historic or current international projects or partnerships, for example from a research services unit such as RSPO at MU or the Directorate of Research and Publications at MUHAS were not requested and, therefore, not used. This may have improved the rigour of the study. It is not known if they exist as they were not requested from any of the universities. They were not requested for two related reasons. I was not known to representatives at three of the four focus universities before this study started and was sensitive to the fact that I was an outsider imposing not only on their time but also their good will. After inquiring for certain details about a partnership once at one of the focus universities, and being strongly rebuffed, I did not seek such details again and was very cautious about what details I did request so as not to jeopardize the entire study. Perhaps, I could have requested additional details from MU since I had history with them but I did not wish to abuse my position with representatives of the university and desired that the data collected at all four focus universities be generally balanced. However, as is noted in the discussion of Chapter 5, this study identifies most of the interuniversity partnerships at the focus universities presented in documents produced by the focus universities and includes mention of some that aren't mentioned.

This study includes only four universities in two countries in one region of SSA. In 2012 there were 36 institutions in SSA that offered medical and nursing and MPHs (or

equivalent) in 2012 (Yarmoshuk et al., 2012). Limiting the number of focus universities was necessitated by the limited resources, including time and finances, and the desire to adhere to the principles of good case study methods, but may limit that generalizability of the study's findings.

A number of key personnel at both the focus and international partner universities were not interviewed. Either they weren't contacted or a convenient interview could not be identified or time constraints prevented an interview. In some cases, this means that important characteristics about certain partnerships are not presented. However, since this study is not a case study about any one partnership this is not a serious limitation.

Robust gender analysis was not conducted.

Finally, not all relevant findings could be presented while observing the ethical guidelines for this research. As designed, this was an ambitious study and required a significant amount of time and resources to collect and analyse the data. I did not sense that my role as participant observer limited the free expression of negative views about partnerships in which I was involved. In fact, I found respondents from MU and the AMPATH Consortium very open with me. I was asked by a number of respondents at both the focus universities and the international partners to keep certain comments confidential or to rephrase them. This was done and prevented certain perspectives from being presented. This limitation was addressed in part, however, by including more respondents from many universities in Phase 3, instead of doing in-depth case studies. It was also addressed to some extent by including over 100 respondents from the focus universities.

Attribution of the benefits and/or negative externalities to the partnerships proved a challenge in some cases. This challenge was addressed, and the limitation minimized, through triangulation. The study addressed this by using systematic procedures at each stage and rigorously documenting all findings, so that it may make a significant contribution to the field by informing meso-level theory (through attempting to integrate and test a range of models in an overall study) and yield sound empirical findings.

3.13 Ethics, including approvals and forms

Ethics approval was obtained for the entire study (Phases 1, 2, and 3) from: the Senate Research Committee of the University of the Western Cape (13/5/15); Institutional Research and Ethics Committee Secretariat of Moi Teaching and Referral Hospital / Moi University School of Medicine; Ethics and Research Committee, Kenyatta National Hospital / University of Nairobi; and, National Institute for Medical Research in Tanzania. Research Clearance was received from the Tanzanian Commission for Science and Technology.

The most critical ethical issue was preventing attribution of specific comments to specific individuals. This issue was addressed in two ways.

First, the population of both respondents and universities was increased for the study. At the focus universities a large number of respondents (130) participated. Two, a large number of study participants, 59, from 25 international partners universities participated.

Nevertheless, some findings were important and I felt they could be considered attributable to a specific individual. In these few circumstances I contacted the individual to determine if they wished to include a clarifying statement or rebuttal.

Lastly, only when a KI specifically stated that something was “off the record” was it not included. In some cases, I asked the respondent specifically if a statement was “on or off the record”.

CHAPTER 4: CONTEXT AND PROFILES OF THE FOCUS UNIVERSITIES

4.1. Introduction

This chapter will provide some background information on each of the four focus universities and present context identified while implementing this research project. As this study focuses on the international, interuniversity partnerships of the four focus universities and how the partnerships affect their health professional programmes (HPPs), it is neither an organisational management nor a health systems study. Rather than provide comprehensive profiles of the universities, this chapter will provide brief overviews of the institutions and context discussed. It draws upon the in-depth interviews and FGDs with study participants and material identified in the grey and peer-reviewed literatures in order to give the reader a sense of the forces at work upon the partners that likely influenced their partnerships. It begins by introducing the two dimensions of the general setting of this study: Health Professional Programmes in sub-Saharan Africa, and the region of East Africa.

4.2. Health professional programmes in sub-Saharan Africa

Comprehensive information about health professional programmes in SSA does not appear to be readily accessible for researchers and academics. Although Mullan et al. (2010b) present systematic information about the coverage of medical schools in the region it only covered medical schools. Uys et al. (2006) present comprehensive information about nursing programs in many Anglophone African countries, but Francophone and Lusophone countries are largely not covered. (COHRED, 2011) maintained a database of public health programmes in the SSA but appears to have stopped in 2007.

While the thesis proposal for this research was being prepared, a small study was undertaken to determine the distribution of university-based medical, nursing, and public health training programs in sub-Saharan Africa. It identified:

- Three hundred and fifty-three (353) universities and non-university training institutions in 47 countries of sub-Saharan Africa offer 468 HPPs.
- 227 of the 353 institutions are public, 94 private, 9 public/private and 23 unknown.

- Of the 468 HPPs, 141 are medical programmes, 272 are nursing programmes (113 university and 159 non-university) and 55 are public health programmes.
- HPPs are concentrated in countries with the highest populations, but roughly in proportion to the populations of countries: the five countries accounting for ~50% of SSA's population have ~42% of the HPPs.
- Wealthier countries have more programmes.
- Anglophone countries have more HPPs - they account for 65% of SSA's population but have 77% of HPPs; Francophone countries represent 28% of SSA's population but only 18% of HPPs; Lusophone countries represent 5% of SSA's population but have 3% of HPPs.
- 5 countries have no medical program, 7 countries no nursing programme, 24 countries no Master's level public health programme and 3 countries have no HPPs at all.
- At least 54 new institutions offering HPPs have been opened in SSA since 2000.

A summary of the findings was presented at *Learning About Capacity Strengthening* in Cape Town in April 2012 (see: Appendix 3: Mapping of Health Professional Programs in sub-Saharan Africa) and the full mapping is available online (HPPAfrica, 2017).

4.3. East Africa

The four focus universities in this research project are situated in two countries in one region of SSA: East Africa. While it is difficult to define a region precisely when there are no natural geographical boundaries for it and its political composition can change, East Africa includes what are today the countries of Kenya, Tanzania and Uganda. All three countries were under British rule during Africa's colonial period¹⁹ and during this time institutional links were forged between them. For example, from 1919 until the 1970s, the territories shared a common currency board and common currency, East African shilling, (Drummond et al., 2015).

From 1967 to 1977 Kenya, Tanzania and Uganda formed an initial East African Community (EAC). It was disbanded in 1997. It was re-established in 2000 following the

¹⁹ Kenya as the East Africa Protectorate (1895-1920) and then the Colony and Protectorate of Kenya (1920-1963) ; Uganda as the Uganda Protectorate (1894-1962); Tanzania as Tanganyika (1919-1961). Before 1919, what is today Tanzania was called German East Africa and ruled by Germany. See: <https://en.wikipedia.org> (Accessed 5 December 2017).

signing of the Treaty for the Establishment of the EAC by the leaders of the three countries on 30 November 1999. Rwanda and Burundi joined the EAC in 2007. South Sudan joined in 2016.²⁰ In 2016 The Economist referred to the EAC as Africa's "most successful economic bloc" noting its members "... keep good data, and a public scorecard holds them accountable for non-tariff barriers."

Three institutions that have brought individuals and/or organisations working in education and health from within the EAC member countries together are particularly relevant to this thesis. One is historic. The other two are active, semi-autonomous institutions of the EAC.

4.3.1. University of East Africa (U.E.A.)

The University of East Africa (U.E.A.) existed from 1963-70²¹. It was a federal university that linked three "university colleges" in Kenya, Tanzania and Uganda, one each (Southall, 1972). Each "university college" had its own Arts and Science faculties, since they were less expensive, but they divided up the more expensive faculties. In Uganda, Makerere University, founded in 1922²² and the region's only university until 1961, housed medicine and agriculture. In Kenya, the Royal College, Nairobi, founded in 1961, housed engineering, veterinary science and architecture²³. In Tanzania, University College - Dar es Salaam, founded in 1961 as an affiliate college of the University of London, housed law²⁴. Southall (1972) states this approach was followed because:

For each East African country to have its own University was judged to be ludicrously expensive, yet throughout Africa, one of the most potent symbols of national independence was a national university on equal terms with other universities throughout the world. The U.E.A. was an attempt to moderate the pace of higher educational expansion to a level consonant with economic needs.

²⁰ <https://www.eac.int/>

²¹ Dates of independence: Tanzania, 9 Dec 1961; Uganda, 9 October, 1962; Kenya, 12 Dec 1963.

²² <https://90.mak.ac.ug/political-history>. (Accessed 6 December 2017).

²³ The Royal College, Nairobi became the University College, Nairobi on 20 May 1964. See: [(Southall, 1972.), footnote, 39].

²⁴ <https://www.udsm.ac.tz>. (Accessed 6 December 2017).

Improving “health services” was also a requirement for the new governments and there was a shortage of physicians. The Kenya Government was particularly interested in launching its own medical school instead of depending on Makerere University to produce a sufficient number of physicians for the entire region. Southall describes how the Government of Kenya by-passed the U.E.A. University Council and its Development Committee to establish its own medical school in Nairobi in 1967. Southall concludes that the Kenyan government’s decision to disregard the planning principles meant there was no reason for the “University’s continued existence” [p. 413]²⁵.

4.3.2. Inter-University Council for East Africa (IUCEA)²⁶

After the U.E.A. was disbanded in 1970 the Inter-University Committee (IUC) was established to “maintain coordination” between the three East African universities: University of Dar es Salaam, Makerere University and the University of Nairobi. Even after the initial EAC dissolved in 1977, which resulted in the IUC’s budget declining, coordination work continued but at a much smaller scale. In 1980, Inter-university Council for East Africa (IUCEA) was established by the Vice-Chancellors of the three universities. This worked well until 1992 when financial support from the three national governments declined. In 2009, the IUCEA was integrated into the new EAC operational framework.

4.3.3. East African Health Research Commission (EAHRC)²⁷

The member states of the EAC established the East African Health Research Commission (EAHRC) in 2008. EAHRC’s vision is:

... high quality health research for improvement of health and wellbeing of the people of East Africa. The mission of EAHRC is to coordinate, conduct, and

²⁵ It is worth noting that Southall does not mention the Dar es Salaam School of Medicine in his paper, although it was founded in 1963 and MUHAS notes it started from it <https://www.muhas.ac.tz>. Accessed 1 November 2015. The School was “established by the Ministry of Health with the primary aim of training clinical health staff”. See: <https://en.wikipedia.org/>. (Accessed 6 December 2017).

²⁶ See: <http://iucea.org>. (Accessed 6 December 2017).

²⁷ <https://www.eac.int/institutions/eahrc>. (Accessed 6 December 2017).

*promote the conduct of health research in the region, and source, gather and disseminate findings from research for policy formulation and practice*²⁸.

EAHRC publishes the *East African Health Research Journal* (EAHRJ), a no-fee, open-access, peer-reviewed journal.

Professor Gibson Kibiki is the Executive Secretary of EAHRC and the Editor-in-Chief of EAHRJ. Professor Kibiki was the Director of KCMUCo's Kilimanjaro Clinical Research Institute (KCRI) until 2015 when he joined the EAC to lead the EAHRC. Five of the 10 (50%) EAHRJ Editorial Board members from universities outside the EAC were identified as significant interuniversity partners in Phase 1 of this study (see Chapter 5).

4.4 Profiles of the focus universities

4.4.1 Moi University (MU)

Moi University (MU) is located in Uasin Gishu county, western Kenya. The College of Health Sciences (CHS) is located in Eldoret, 33km from the main campus in Kesses. The CHS, founded in 2011, is located next to and within Moi Teaching and Referral Hospital (MTRH) and has four schools: Medicine, Nursing, Public Health and Dentistry. The CHS started as a Faculty of Health Sciences in 1989. The first programme was medicine which began with a class of 40 medical students in Kenya's second medical school in 1990. The first class graduated in 1997. Public health courses commenced in 1996 with a BSc. in Environmental Health. The BSc. Nursing programme started in 1998. The MPH programme started in 1999. Two pedagogical features are distinctive to MU's education programmes; 1) problem based learning (PBL) has always been used; and 2) interdisciplinary, community-based learning has been a fundamental component of MU's health professional training (Mining, 2014).

²⁸<https://www.eac.int/integration-pillars/17-basic-page/560-975-548-east-african-health-research-commission-eahrc>. (Accessed 6 December 2017)

In 2012, MU's College of Health Sciences had an enrolment of approximately 2,000 with approximately 170 academic staff [(Moi University, 2012), p. 35]. Therefore, the student to faculty ratio was approximately 12 to 1.

While data was collected for this research project, MU was guided by a 10 year strategic plan, *Strategic Plan 2015-2015*. Five years into its implementation it was revised. In the Foreward of the revised edition, the Chancellor of the university stated a number of factors "necessitated" that it be revised (Moi University, undated)²⁹. These factors included: i) the Constitution of Kenya; ii) challenges related to the knowledge-based economy of the 21st Century; iii) "inadequate" provision of funding per student by the Government of Kenya (the Chancellor notes that the student enrolment increased from 14,855 in 2005 to 23,221 in 2010, a 56% increase); iv) establishment of constituent colleges and satellite campuses with limited infrastructure; v) "liberalized, dynamic and highly competitive market forces in higher education that compel universities ... to be innovative and responsive ..."; and, vi) a desire to align with Kenya Vision 2030 (Moi University, undated). All of these are contextual, except perhaps the establishment of constituent colleges and satellite campus, although even this was likely a response to the need to respond to Kenya's growing youth population.

4.4.2 University of Nairobi (UoN)

University of Nairobi (UoN) is located in Kenya's capital city, Nairobi. Nairobi is its own county. Like MU's CHS the UoN's CHS is its own campus. The CHS is composed of five Schools - Medicine, Pharmacy, Dental Sciences, Nursing Sciences and Public Health – and the Institute of Tropical and Infectious Diseases (UNITID) and the Centre for HIV Prevention and Research (CHIVPR). Medicine was the first programme

²⁹ The electronic version received is undated. OBAMBA, M. O., KIMBWARATA, J. & RIECHI, A. R. 2013. Development Impacts of International Partnerships: A Kenyan Case Study In: SEHOOLE, C. & KNIGHT, J. (eds.) *Internationalisation of African Higher Education: Towards Achieving the MDGs*. Rotterdam, The Netherlands: Sense Publishers., MU's *Strategic plan 2005–2015* was revised in 2009. It is not listed in their references however.

and started in 1967. The School of Nursing Sciences was established in 2006. The School of Public Health officially opened in 2011.

In the 2012 University of Nairobi Annual Report, the School of Medicine does not list every programme offered. Therefore the general types of programmes offered is presented [see Table: 4.1: Number of Degrees Offered by UoN Schools of Medicine, Nursing and Public Health].

Types of Courses Offered	Medicine	Nursing	Public Health
Diploma & Higher Diploma	5	0	0
Bachelor's degree	6	1	2
Master's degree	2	1	2
PhD	1	1	0
Total	14	3	4
Note: UoN's School of Public Health provides two courses to the MCChB programme: Community Health (2nd year) and service course (4th year).			

In total, 3,428 students were enrolled in the Schools of Medicine, Nursing and Public Health in 2012 [Tables 4.2: UoN School of Medicine enrolment and graduates, 2012; 4.3: UoN School of Nursing enrolment and graduates, 2012, and 4.4: UoN School of Public Health enrolment and graduates, 2012]. There were 307 academic staff [see Table 4.5: Academic rank of academic staff in three Schools in UoN College of Health Sciences, 2012]. Therefore, the student to academic staff ratio at UoN in 2012 was approximately 11 to 1.

Qualification	Total	% of Total	Graduates	% of Graduates
MB.CH.B	1,937	68%	229	53%
BSc. Biochemistry	161	6%	65	15%
BSc. Human Anatomy	4	0%	4	1%
BSc Medical Physiology	3	0%	0	0%
BSc. Medical Lab Sciences Technology	48	2%	0	0%
Higher Diploma in Diagnostic Medical Ultrasound	4	0%	0	0%
M.Med.	557	20%	120	28%
M.Sc.	114	4%	15	3%
PhD	20	1%	2	0%
TOTAL	2,848	100%	435	100%
Source: (University of Nairobi, 2012)				

Qualification	Total	Graduates
BSc Nursing	462	73
MSc Nursing	41	14
PhD Nursing	4	0
Total	507	87
Source: (University of Nairobi, 2012)		

Qualification	Total	Graduated
MPH	73	14
MSc Health Systems Management	0	0
PhD in Public Health	0	2
Total	73	16
Source: (University of Nairobi, 2012)		

Category	Medicine	Nursing	Public Health	Total	% of Total
Professors	26	0	1	27	8.8%
Associate Professors	51	1	4	56	18.2%
Senior Lecturers	44	3	3	50	16.3%
Lecturers	114	14	8	136	44.3%
Assistant Lecturers	1	0	0	1	0.3%
Tutorial Fellows	35	0	1	36	11.7%
Technologist	0	0	1	1	0.3%
TOTAL	271	18	18	307	100%

Source: (University of Nairobi, 2012)

Although UoN is a research-focused university, the six senior medical students who participated in the FGD during this research study stated that they received no research training in UoN MB.CH.B programme. This was added to the curriculum during the medical education partnership initiative (MEPI) project that UoN secured in 2010.

UoN's CHS is guided by its own strategic plan³⁰. *College Strategic Plan 2008-2013*, was ending as data collection started for this study. As in the case of MU, the plan was revised at its mid-point to adjust the plan to a changing context. In the Foreword of *Revised Strategic Plan 2008 – 2013* (2011), the Principal of the CHS, stated review of the Plan was “was necessitated by the critical changes that have occurred within the College, University and the country in line with global trends” [p. 2]. The changes mentioned included the need to accommodate a revised UoN strategic plan, Vision 2030 and the new Kenyan Constitution. Furthermore, the strategic plan had to “... accommodate new trends in training of healthcare personnel, staff development and research activities” [p. 2]. Specifically, training had to promote competency based curricula and interdisciplinary

³⁰ Administration at UoN was decentralized to the College level, each led by Principals, in 1983. The six colleges are: i) Architecture and Engineering; ii) Health Sciences; iii) Biological and Physical Sciences; iv) Humanities and Social Sciences; v) Agriculture and Veterinary Sciences; vi) Education and External Studies.

training in addition to courses on “leadership, management and social skills” [p. 9]. Based on the reference to the College being founded to focus on medicine, dentistry and pharmacy, it might be presumed that the UoN CHS leadership believed it needed to be more population based and people focused rather than clinical in nature.

4.4.3 Kilimanjaro Christian Medical University College (KCMUCo)

Kilimanjaro Christian Medical University College (KCMUCo) is a “private university college”, under Tumaini University Makumira (TUMA) ((TCU), 2016), located in Moshi, Kilimanjaro Region, Tanzania³¹. The College is owned by Evangelical Lutheran Church in Tanzania (ELCT)³². KCMUCo³³ is the academic arm of Kilimanjaro Christian Medical Centre (KCMC) and is said to be “situated” within it (College, 2009). KCMC was established by the Good Samaritan Foundation (GSF) which itself was established by the Lutheran, Anglican and Moravian Churches. KCMC was opened in March 1971 and was “immediately taken over by the Government of Tanzania” [*Ibid*] p. 1]. It was given back to the “owners” in 1992³⁴.

The ELCT had always intended to start a university as part of KCMC but was unable to establish the academic arm of it until the 1990s when the Government of Tanzania permitted private organisations to establish universities in the country. What is today known as KCMUCo opened in 1997 starting with a medical class of 16, 15 of whom would become the first privately trained Tanzanian physicians in 2002 (Mallya et al., 2013). The Faculty of Nursing was established in 1999. The MPH programme was offered through

³¹ Tumaini University Makumira (TUMA) is a private university based in Arusha. See: <http://www.makumira.ac.tz/>. (Accessed 14 March 2018).

³² ELCT has a Board of Trustees who are the ultimate administrators of the institution.

³³ This paper refers to KCMUCo only. KCMUCo was known as the Kilimanjaro Christian Medical College prior to 2010. See: <http://kcmuco.ac.tz>. (Accessed 6 December 2017).

³⁴ This was part of Tanzania’s central planning development strategy in the 1960s and 1970s. See: LOFCHIE, M. F. 2014. *The political economy of Tanzania: decline and recovery*, Philadelphia, PENN/University of Pennsylvania Press.

Department of Community Medicine in the Faculty of Medicine until recently when KCMUCo opened its Institute of Public Health³⁵.

KCMUCo offered 32 academic programmes in 2012/13 (3 diploma, 5 Bachelor's, 23 Master's, 1 PhD). Total student enrolment in 2012 was 1,346 [*Ibid*, p.37)]. Approximately 28% (398 of 1,421) of the students enrolled that year [see: Table 4.6 Number of incoming students at KCMUCo, 2012/2013]. Eleven, or 2.8%, of the newly enrolled students were from outside Tanzania [(Mallya et al., 2013), pp 16-17].

	Male	Female	TOTAL	%
Diplomas	45	30	75	19%
Bachelor's	174	80	254	64%
Postgraduate	41	28	69	17%
TOTAL	260	138	398	100%
%	65%	35%	100%	

Source: [(Mallya et al, 2013), p.17]

There were a total of 185 staff at KCMUCo in December 2012, 120 academic and 65 administrative and support. Therefore the student to faculty at KCMUCo was approximately 11 to 1. However, less than 50% of the academic staff had PhDs or M.Meds and approximately a quarter (26%) of academic staff had only a first degree or diploma of some type [see Table 4.7: Academic Staff by highest qualification, as of Dec 2012]. As a result, only 25% of the academic staff were classified as Professors, Associate Professors or Senior Lecturers [see Table 4.8: Academic staff by classification, Dec 2012]. The Self-Assessment noted that 12 academic staff were PhD candidates and 20 were in Master's programmes. It is also important to note that, as the Self-Assessment reported, in addition

³⁵ Precisely when the Institute of Public Health opened is not clear. One web-site gives the date as October 2013 <http://iph.ac.tz> (Accessed 6 December 2017), although the official KCMUCo website does not provide a date. When I was last at KCMUCo in July 2014 a Director had been named for the Institute but it had not been formally established.

to formal academic qualifications a staff member's "publication record" is a criterion for promotion based on Tanzania Commission for Universities (TCU) regulations.

Qualification	# of Staff	%
PhD	13	11%
M.Med	41	34%
MSc/MPH	36	30%
BSc, MD, Advanced Diploma	28	23%
Diploma	2	2%
TOTAL	120	100%
Source: [Mallya et al. 2012), p.38]		

Category	Number	%
Professors	12	10%
Associate professors	6	5%
Senior lecturers	12	10%
Lectures	36	30%
Assistant lectures	27	23%
Tutorial assistants	27	23%
TOTAL	120	100%
Source: [(Mallya et al, p. 36)]		

When data for this research was being collected, KCMUCo was a constituent college of Tumaini University Makumira but had commenced the process of becoming an independent university. It had completed and submitted its Institutional Self-Assessment Report for the Period 2008-2012 to the TCU, the regulatory body for higher education in Tanzania since 2005³⁶. This report identified a number of challenges KCMUCo was facing, including: i) expediting the establishment of Basic Science departments; ii)

³⁶ With the passing of the Universities Act (Chapter 346 of the Laws of Tanzania) on 1 July 2005. See: <http://www.tcu.go.tz>. (Accessed: 6 December 2017).

addressing tension between KCMUCo and KCMC over the latter providing sufficient clinical training to KCMUCo trainees; ii) declining or unstable enrolment in a number of important but unpopular programmes (MSc Urology, MSc Clinical Pharmacology, MSc Biochemistry, MSc Anatomy, MMed ENT; MMed Anaesthesia).

The Self-Assessment also reported that over 90% of KCMUCo budget came from student fees and that the many students depended on the Government of Tanzania Higher Education Student Loan Scheme (HESLB). HESLB provides loans to students who qualify for university admission but are in financial need. It is to be a revolving fund but the loan repayment system is not strong and repayment has been slow leading Ishengoma (2013) to state that it is “not practically sustainable” [p. 230]. Alternative sources of funding, such as research grants, are therefore an important alternative sources of revenue. However, the 2008-2012 Institutional Assessment found that although the MEPI project enabled academic staff and students to access research grants between USD25,000-USD50,000, “overhead costs are paid to KCMC Hospital, as a result the College benefits very little from research grants” [(Mallya et al., 2013), p. 30]. This quote illustrates a little of the tension between the leadership of KCMC, KCMUCo and KCRI observed during the study and in discussion with study participants and yet the importance of the various units of the same organisation, GSF, to work as one as a developing academic health science (AHSC).

4.4.4 Muhimbili University of Health and Allied Sciences (MUHAS)

At the time this research was undertaken, Muhimbili University of Health and Allied Sciences (MUHAS) was the only institution that was a fully independent university and only trained health professionals. MUHAS became a stand-alone institution in 2007. Prior to then it was a constituent college of the University of Dar es Salaam. MUHAS includes five Schools – Medicine, Pharmacy, Dentistry, Nursing, Public Health and Social Sciences - and two Institutes - Allied Health Sciences and Traditional Medicine. All degree

programmes were offered at only one campus when this study was undertaken³⁷. Muhimbili National Hospital (MNH) serves as MUHAS's teaching hospital. A second campus, Mloganzila Campus, was being planned, funded by a soft-loan from the Government of South Korea, when data for this research was collected. This research did not include an examination of partnerships related to the development of Mloganzila Campus since it was determined to be a government-to-government partnership during Phase 1 of the study.

MUHAS offered 87 academic programmes in 2012/13 (10 diploma, 14 Bachelor's, 63 Postgraduate. Total student enrolment in 2012/13 was 3,214 and approximately one-third of the students were new that year [see Table 4.9: Student enrolment, 2012/2013].

Qualification	New	Total	% of Total
Diplomas	348	950	30%
Bachelor's	482	1,771	55%
Postgraduate	205	493	15%
TOTAL	1,035	3,214	100%
% of Total	32%	100%	

Source: MUHAS (2014b), p.3-5.

There were a total of 267 academic staff at MUHAS in August 2014. Therefore the student to faculty at MUHAS was approximately 12 to 1. Almost all of them (94.3%) had either a PhD (40%) or M.Med and/or Masters (54.3%), leading MUHAS to state in a "Concept Paper" to SIDA that it had "built significant capacity for conducting research" [(MUHAS, 2014c), p. 5]. Earlier in the same document, however, the university noted: "The current number of research projects at MUHAS stands at a total of 104, most of which are being implemented in collaboration with international partners [*Ibid*, p. 4]. The MUHAS authors

³⁷ Diploma programmes were also offered at three other campus; namely, Kilimanjaro Christian Medical College (KCMC) in Moshi, Mpwapwa and Tanga. Diploma programmes weren't discussed by study participants. It is speculated that this was because international universities would generally not be natural partners for them. [See: MUHAS (2014b), p. 3.]

in the same concept paper also state that “none” of the other seven universities in Tanzania that train health human resources “has adequate academic staff, thus necessitating sharing of the teaching staff with MUHAS” [MUHAS (2014b), p. 2].

In its *Five Year Rolling Strategic Plan 2014/2015 to 2018/2019* (MUHAS, 2014a), the university identifies challenges by each component within the tripartite mission of academic health science centres (AHSCs); specifically, i) teaching and learning; ii) research and consultancy; and, iii) service provision to the public. Within the education component the challenges identified are: i) inadequate government funding; ii) loss of staff resulting from low remuneration and poor retirement benefits³⁸; iii) competition from new institutions offer education in health and allied science. Within research, iv) inadequate government funding, v) competition from new research institutions and vi) heavy dependency on donor funding is identified. Finally, within service, again vii) competition from other institutions is identified, as is viii) the “low purchasing power of clientele” [p. 5].

4.5 Sex and gender targets

As illustrated by the various tables of student and staff number, both KCMUCo and MUHAS disaggregated the sex of their staff and students in reports. MUHAS set a target of 40% for female enrolment in undergraduate programmes, but only 31.2% of its students in 2012/13 were female [(MUHAS, 2014b), p.4] . KCMUCo noted in its Self-Assessment [p. 37] that it had no female at the rank of professor. KCMUCo reported that 38.5% of its student body was female and stated this was “commendable as it shows appropriate sensitivity to global gender equity issues” [(Mallya et al., 2013)p.19]. Sex disaggregated staff or student data for the two Kenya universities was not publicly accessible. A request for the data was not made by this study. In light of the enrolment levels by sex, it is somewhat surprising that 49% of study participants in Phase 2 were female.

³⁸ Although “staff retention” was stated to be “good” when it stood at 97.4% in 2012/2013. [See: MUHAS (2014b), p. 15]

4.6 Examples of context mentioned during in-depth interviews

Socialism in Tanzania in the 1960s and 1970s and the resulting nationalisation of KCMC in 1971 represented the impact of context most dramatically. When the administrative or legal system within which the organisation operates restricts operations outright the impact is immediate and stark. It is therefore not surprising that a KCMUCo representative mentioned how government policy delayed the ELCT from implementing its vision to establish the university by two or three decades.

TCU required Tanzanian universities to modernize their curriculum by introducing competency-based curriculum in the second half of the 2000s. MUHAS responded by partnering with the University of California, San Francisco to address this requirement through the Academic Learning Project (ALP) funded by the Bill and Melinda Gates Foundation (Pallangyo et al., 2012). A senior representative from MUHAS who was a study participant commented, TCU “directed all universities to ensure that they transform their curricula to competency based. ... no other universities were able to do so but we were able to with support, a grant, from the Gates Foundation”.

It was noted that some funding agencies are insisting on South-South collaboration within a North-South collaboration, so that it becomes a North-South-South collaboration. This was considered good by one respondent of a focus university although they stated their own government’s support for research was needed. A senior representative from one of the Tanzanian universities commented:

Also the funding agencies are dictating the changes. For instance, the Wellcome Trust is coming up ... and they are coming up with their own instructions on how you should collaborate. They are encouraging more South-South collaborations than [or as part of] South-North collaborations so in some of their programmes you must have a Southern partner in addition to the Northern partner. And this is to encourage Southerners to collaborate more which I think is good and this is what we have been fighting for a very long time. [Who] has not been very supporting is our governments. Tanzania is trying now to support local research Collaborations should happen at the country-level too. We started well but since the economic upheavals this has gone down.

The Government of Tanzania first announced in June 2005 that it would invest one percent (1%) of GDP in research and development. By 2010 Tanzania was investing 0.48% of its

GDP on research and development (AU-NEPAD, 2010). There is no indication that it has met the target. In 2010, Kenya was also at 0.48% of its GDP on research and development.

From the international partners' side, safety mattered in terms of context. One international partner whose university had a partnership in Kenya mentioned that other universities may have lost interest in working in Kenya following the bombing of the US Embassy in Nairobi in 1998. A respondent from another international partner in the US mentioned that they did not feel that the attack on Garissa University³⁹ was an indication that their university's representatives working partnership in partnership with UoN were at greater risk because although it was an attack on a university, which raised concern, it was Garissa in a region near the Somali border that the US State Department and other western governments had been advising their citizens to avoid for a number of years⁴⁰.

4.7 Summary

This chapter provided some detail about the four focus universities of this research and the context in which these universities, their international partners and the partnerships are embedded. Examples at the national and international levels were highlighted. The effect of national, regional and international contexts on the four universities was observed. For example, in Kenya, MU and UoN revised their 10 and five strategic plans, respectively to adjust them to the new constitution, Vision 2030 as well as the need to adjust to the knowledge-based economy of the 21st Century.

Funding is a major challenge for all four institutions. For the three public institutions there were insufficient funds to invest in instructors and other staff and infrastructure to accommodate increased enrollment. KCMUCo was found to be largely dependent on

³⁹ On 2 April 2015, Al-Shabaab combatants attacked Garissa University College in the town of Garissa in North Eastern Province, Kenya. One-hundred and forty-eight people were killed. See: https://en.wikipedia.org/wiki/Garissa_University_College_attack. (Accessed 16 February 2018). Garissa is about 200km from the Somali-Kenya Border and 370km from Nairobi according to Google Maps.

⁴⁰ For example, the Australian Government advised its citizens "... not to travel to border regions with Somalia, Ethiopia and South Sudan, because of the extremely dangerous security. <http://www.smartraveller.gov.au/zw-cgi/view/Advice/Kenya>. (Accessed: 24 October 2013).

tuition fees from students, although it was found that a considerable proportion of this funding is ultimately dependent on HESLB, a government initiative.

Ironically, even as the four universities deal with the challenges of adjusting to the need to provide more with less, they are also confronting increased competition for students, faculty, grants and, potentially, international partners from within their countries, regionally and, likely, internationally.

The need to adjust to new pedagogies and new technologies while serving more students with less financial resources per student is the reality all four universities must confront.

I will return to discuss the importance of context in the Chapter 9: Discussion.



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Introduction to the Four Manuscripts

Chapter 5 aims to map the significant partnerships of the four focus universities to identify where the universities they partner with are based and a variety of characteristics about the partnerships, including the duration of them, whether or not they were then active, what health professional programmes were involved and the nature of the activities and outcomes. This chapter also helps to answer the question asked for Objectives 1 (to document the context within which the four focus universities are situated) and begins to answer Objective 2 (to identify and document the international partnerships that four colleges of health sciences in Kenya and Tanzania consider most significant for increasing their education, research and service capacity in medicine, nursing and public health and to understand why they are considered the most significant).

Chapter 6 examines the partnerships mapped in Chapter 4 in more detail to understand their value in helping to strengthen the health professional programmes of the university. This chapter answers the second half of Objective 2 and answers Objective 3 (to critically examine the history, dynamics, characteristics and outcomes of significant international partnerships in order to determine how and why they contribute to the capacity development of universities in Kenya and Tanzania to produce qualified health professionals able to deliver education, conduct research and perform service needed to improve health in their countries).

Chapter 7 examines what the international partners seek from the partnerships. It answers the questions posed within Objective 4 (to identify and critically appraise the reasons why the universities from other countries are involved in these partnerships with universities in SSA) and contributes to addressing Objective 5 (to analyse how and if partnerships are mutually beneficial to the focus and international universities partnering) as well.

Chapter 8 integrates the perspectives presented in the previous chapters. In so doing it addresses Objective 5 directly.

CHAPTER 5: PAPER 1 - MAPPING INTERNATIONAL UNIVERSITY PARTNERSHIPS IDENTIFIED BY EAST AFRICAN UNIVERSITIES AS STRENGTHENING THEIR MEDICINE, NURSING, AND PUBLIC HEALTH PROGRAMS

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ABSTRACT

BACKGROUND: International university partnerships are recommended for increasing the capacity of sub-Saharan African universities. Many publications describe individual partnerships and projects, and tools are available for guiding collaborations, but systematic mappings of the basic, common characteristics of partnerships are scarce.

OBJECTIVE: To document and categorize the international interuniversity partnerships deemed significant to building the capacity of medicine, nursing, and public health programs of 4 East African universities.

⁴¹ See Appendix 8 for a copy of the publication.

METHODS: Two universities in Kenya and 2 in Tanzania were purposefully selected. Key informant interviews, conducted with 42 senior representatives of the 4 universities, identified partnerships they considered significant for increasing the capacity of their institutions' medicine, nursing, and public health programs in education, research, or service. Interviews were transcribed and analysed. Partners were classified by country of origin and corresponding international groupings, duration, programs, and academic health science components.

FINDINGS: One hundred twenty-nine university-to-university partnerships from 23 countries were identified. Each university reported between 25 and 36 international university partners. Seventy-four percent of partnerships were with universities in high-income countries, 15% in low- and middle- income countries, and 11% with consortia. Seventy percent included medicine, 37% nursing, and 45% public health; 15% included all 3 programs. Ninety-two percent included an education component, 47% research, and 24% service; 12% included all 3 components.

CONCLUSIONS: This study confirms the rapid growth of interuniversity cross-border health partnerships this century. It also finds, however, that there is a pool of established international partnerships from numerous countries at each university. Most partnerships that seek to strengthen universities in East Africa should likely ensure they have a significant education component. Universities should make more systematic information about past and existing partnerships available publicly.

5.1 Introduction

International partnerships between universities are identified as a means of building the capacity of health professional programs (HPPs) of universities in sub-Saharan Africa (SSA) (WHO, 2006, Frenk et al., 2010, Mulvihill and Debas, 2011). The New Partnership for Africa's Development (NEPAD, 2003) identified such partnerships as an "essential" step for addressing the critical shortage of skilled human resources for health in SSA - the region of the world with the greatest burden of disease relative to its health workforce (WHO, 2008).

The Sub-Saharan African Medical School Study (Mullan et al., 2010b) characterizes international partnerships as "important assets" for their support of education, research, and service mandates through a variety of activities, including student and faculty exchanges, research, and curriculum development. Existing literature identifies numerous examples of university-to-university partnerships with SSA universities. Categorizing them by general discipline is sometimes straightforward; for example, by medicine (Einterz et al., 2007, Collins et al., 2010), nursing (Swan et al., 2003, Astle, 2008, Kohi et al., 2010), or public health (Ezeh et al., 2010), but sometimes they bridge disciplines (Binanay et al., 2015). Clear examples of partnership activities focusing on education (Oman et al., 2007, Pallangyo et al., 2012, Amde et al., 2014), research (Zumla et al., 2010, de-Graft Aikins et al., 2012), or service (Inui et al., 2007) also exist. Sometimes partnerships are clearly multidisciplinary, by including at least 2 health professions, and more than 1 component of education, research, or service (Binanay et al., 2015). North-South partnerships are identified by the Academy of Medical Sciences and Royal College of Physicians (The Academy of Medical Sciences and Royal College of Physicians, 2012) as the "traditional model" of academic partnerships before stating that South-South partnerships, networks, and consortia have increased in number this century.

However, after identifying the type of activities partner universities engage in and noting that medical schools have "an array" of international university partners, the Sub-Saharan African Medical School Study (p. 95) concludes that "an area for future research is how to improve and measure these collaborations to maximize efficacy and provide evidence for

success.” An initial step toward achieving this need is identifying systematically the number and types of international university partnerships at specific universities in SSA.

5.1.1 Objective

The objective of the present study was to document and categorize the range of international university-to-university partnerships deemed significant for building the capacity of medicine, nursing, and public health professional programs at 4 East African universities.

5.2 Methods

This study used a concurrent mixed methods design. We conducted key informant interviews and reviewed grey literature and published reports. Quantitative analysis has dominant status (Leech and Onwuegbuzie, 2010) in this paper. Qualitative viewpoints are included to emphasize key issues and provide prospective

5.2.1 University Selection

We sought a total of 4 universities in 2 countries (Kenya and Tanzania), within 1 distinct region of SSA, to explore diversity within broadly similar political, economic, and social contexts. All universities had to have medicine, nursing, and public health programs. Using purposeful selection, we included the oldest medical schools in each country and a private university, because the number of private universities in SSA has increased significantly in the past 2 decades (Thaver, 2008). The 4 universities chosen each had a teaching or affiliated hospital. Moi University (MU), Eldoret, Kenya, was selected because its partnership with Indiana University has been referred to as successful (Obamba et al., 2013) and has been used as a case study more than once (Obamba et al., 2013, Park et al., 2011, Mamlin et al., 2004). The University of Nairobi (UoN), the second Kenyan site, is the country’s oldest and largest medical school. Tanzania has close cultural and economic

ties with Kenya, and its first medical school, Muhimbili University of Health and Allied Sciences (MUHAS) in Dar es Salaam, was founded within 5 years of UoN's⁴² in the 1960s.

Kilimanjaro Christian Medical University College (KCMUCo) in Moshi is a private university and shares commonality with UoN and MU in 2 important ways for this study. First, both KCMUCo and UoN have National Institute of Health Medical Education Partnership Initiative grants - KCMUCo with Duke University and UoN with the University of Maryland and the University of Washington (Collins et al., 2010). Second, KCMUCo and MU have a common partner in Duke University, because it is also a member of the Academic Model Providing Access to Healthcare (AMPATH) Consortium led by Indiana University.

5.2.2. Key Terms: Academic Health Science, Partnership, Capacity Building

We begin by defining key terms used in this study: *academic health science*, *partners* and *partnership*, and *capacity building*. The present study focused on *academic health science* at universities. This includes health education, research, and service – the first 2 components within medicine, nursing, and public health programs at 4 universities, the third component at their affiliated teaching hospitals. These institutions are often referred to as academic health science centres (AHSCs) (Smith and Whitchurch, 2002), or academic health centres (Kohn, 2004). Although there is no standard definition for AHSCs, they generally include a medical school or program, another health professional school or program, and an affiliated teaching hospital. AHSCs are characterized as having tripartite missions that include education, research, and service. However, because *academic health science centre* is not a term used widely in SSA and this study did not explore the political and structural relationship issues between the 4 universities and their teaching hospitals in

⁴² The first medical school in East Africa, Makerere University Medical School, was found in Kampala, Uganda in 1924. It is today housed within Makerere University College of Health Sciences. (See: <http://90.mak.ac.ug/>) Makerere produced physicians for Kenya and Tanzania before, what are today, the schools of medicine of UoN and MUHAS, were founded, in 1967 and 1963, respectively (see: <http://med-school.uonbi.ac.ke/> and <http://som.muhas.ac.tz/>).

detail – although challenges were observed – the study usually refers to universities instead of AHSCs.

The next terms are *partner* and *partnership*. A *partner* in this study is a university or a consortium of universities that engages in an education, research, or service activity with 1 or more of the focus universities of this study – MU, UoN, KCMUCo, or MUHAS – in medicine, nursing, or public health. Partners generally share risks and benefits (COD, 2001). For this paper, a *partnership* is the association between 1 of the focus universities and a partner university or a consortium.

Capacity is “it is the ability of individuals, organisations or societies to set and implement development objectives on a sustainable basis.” [(Milèn, 2001), p.4]. *Capacity building* is the process of developing this ability. Once an institution is established, it may be more appropriate to use the term *capacity strengthening* instead of *capacity building*, to recognize the existing capacity.

5.2.3 Sampling and Data Collection

We interviewed all current lead health representatives (e.g., provost, principal, vice-chancellor⁴³) of each university and all current deans (or equivalent) of medicine, nursing, and public health. We interviewed at least 1 current lead representative for research and 1 current or past lead representative of each university’s teaching hospital. We also interviewed past deans, research heads, and other senior representatives of each institution as appropriate. Between July 2013 and July 2014, we interviewed between 9 and 12 representatives per university (MU n=10, UoN n= 9, KCMUCo n=12, MUHAS n=11) for a total of 42 representatives. In a number of instances, representatives held more than 1 senior post at the institution during his or her career, but he or she was counted for only 1

⁴³ MU and UoN are clearly part of larger institutions. KCMUCo is a constituent college of Tumbaini University but is in the process of becoming independent. MUHAS is an independent institution.

post. The interviews lasted between 32 and 133 minutes, with most lasting between 60 and 90 minutes.

The overall question we asked each key informant (KI) was: What in your opinion have been or are the 10 most significant international partnerships since 1991 for strengthening the medicine, nursing, and/or public health programs of your institution? The word significant was not defined. We are confident it was understood by all KIs to mean “important enough to merit attention” (COD, 2001). We stressed that the partnerships could be in any combination of the 3 health professional programs; focus on education, research, and/or service; be ongoing or have concluded; but needed to be with an university or a consortium of universities outside the focus university’s country in Africa, Asia, Europe, Oceania, or the Americas [see Appendix 2.1: Phase 1 Key Informant Interview Guide]. In a number of instances additional information or clarification was sought in follow-up interviews, via e-mail, telephone, or SMS.

We triangulated data gathered from the key informant interviews with grey literature from MU, UoN, KCMUCo, and MUHAS (e.g., annual reports, websites), published reports, and the websites of partners identified and donors who funded the partnerships. More than 450 websites and documents were referred to (see Appendix 5: Websites visited and Appendix 6: Additional sources accessed during research). They served to clarify or confirm details about the partnerships when findings differed between key informant interviews for the same partnership or when additional details were needed.

5.2.4 Ethics Approvals

Ethics approval was sought and obtained from the Senate Research Committee of the University of the Western Cape (13/5/15); Institutional Research and Ethics Committee Secretariat of Moi Teaching and Referral Hospital/ Moi University School of Medicine; Ethics and Research Committee, Kenyatta National Hospital/ University of Nairobi; and National Institute for Medical Research in Tanzania. Research clearance was received from the Tanzanian Commission for Science and Technology.

5.2.5 Data Management and Analysis

We transcribed the interviews. Data from the transcriptions were then used to complete Microsoft Excel tables of international partnerships identified by each respondent, in keeping with framework analysis approaches (Boyd et al., 2013). We produced a summary table of all the partnerships. For each partnership we identified (1) the name of partner institution; (2) the country in which partner was based; (3) the duration of partnership in years; (4) number of KIs who identified partnership; (5) whether the partnership was active or inactive; (6) HPPs (medicine, nursing, and/or public health) involved; (7) components (education, research, and/or service) of AHSCs included in partnership; and (8) key activities and outputs of the partnership.

Fifteen non-university partnerships and non-health sciences university-to-university partnerships mentioned were not included in the analysis because they did not fit the criteria of being primarily university-to-university partnerships, including affiliated teaching hospitals, with at least 1 of the 3 HPPs included in this study. These included partnerships with nongovernmental organisations, bilateral donor agencies, foundations, pharmaceutical companies, consortia that were not principally between universities, and university-to-university partnerships not including the health sciences. In some cases, however, these organisations were considered a significant partnership for some HPPs; for example, Pacific Institute for Research and Evaluation (PIRE), a non-university, not-for-profit organisation in Chapel Hill, North Carolina, was considered one of the most significant partnerships by a MU nursing representative.

The final summary table of all partnerships identified was then analysed using SPSS. Frequencies and crosstabs were produced. A description of each of the fields analysed using SPSS appear in Appendix 5.1, Data Fields for Each International Partnership. This paper maps the general characteristics of the partnerships identified. It does not report on the value or ranking of the partnerships. This was reported in a subsequent paper, *What makes international global health university partnerships higher-value? An examination of partnership types and activities favoured at four East African universities*. [see Chapter 6].

5.3 Findings

5.3.1 Number of Partners Identified

A total of 129 international, university partners were identified: 33 by MU representatives; 36 by UoN; 25 by KCMUCo; and 35 by MUHAS.

5.3.2 Regions and Countries of Partners

The 129 partners were from 23 countries, not including the countries of the consortia members because they were listed simply as “consortium.” All World Health Organization (WHO) regions had at least 1 partner, although all of the partners from the Americas were from North America⁴⁴. The majority of partners were from high-income countries from the Global North, specifically North America and Western Europe, as shown in Figure 5.1: Distribution of all partners identified by three international groupings. The most partners, 41 (31.8%), were from the United States, followed by the United Kingdom, 11 (8.5%); South Africa and Sweden, 8 (6.2%) each; Norway, 7 (5.4%); Canada, 6 (4.7%); and Japan and the Netherlands, 4 (3.1%) each. The remaining 26 (20.2%) partners were from 15 countries; 11 of these countries had 2 partners and 4 countries had 1.

Twelve percent of partners (15 of 129) were from the WHO African Region, although from only 5 countries, and the majority, 8 of the 15 (53%), were South African universities. Ten partners (8%) were Asian or Oceanic universities: 4 from Japan, 2 each from Australia and South Korea, and 1 each from India and Singapore. In addition, India was mentioned twice as a secondary partner in a number of bilateral partnerships with universities in high-income countries. Only UoN and MUHAS identified partners from Asia. No partner from China was identified, although it was noted that the government of

⁴⁴ There was one example of a Moi University medical student doing a placement in Mexico City through its partnership with Indiana University. Cuba and Brazil appear to be the two principal countries in the Americas outside of North America partnering with SSA countries. Cuba does not focus on building the capacity of SSA universities but has a long history of training African students in Cuba to become physicians and placing Cuban physicians with government health facilities in Africa. See: COOPER, R. S., KENNELLY, J. F. & ORDUÑEZ-GARCIA, P. 2006. Health in Cuba. *International Journal of Epidemiology*, 35, 817-824.. Recently, Brazil has become engaged quite significantly in SSA, especially with Lusophone countries. See: GHSI 2012. Shifting Paradigm: How the BRICS are Reshaping Global Health and Development. New York: Global Health Strategies initiatives.

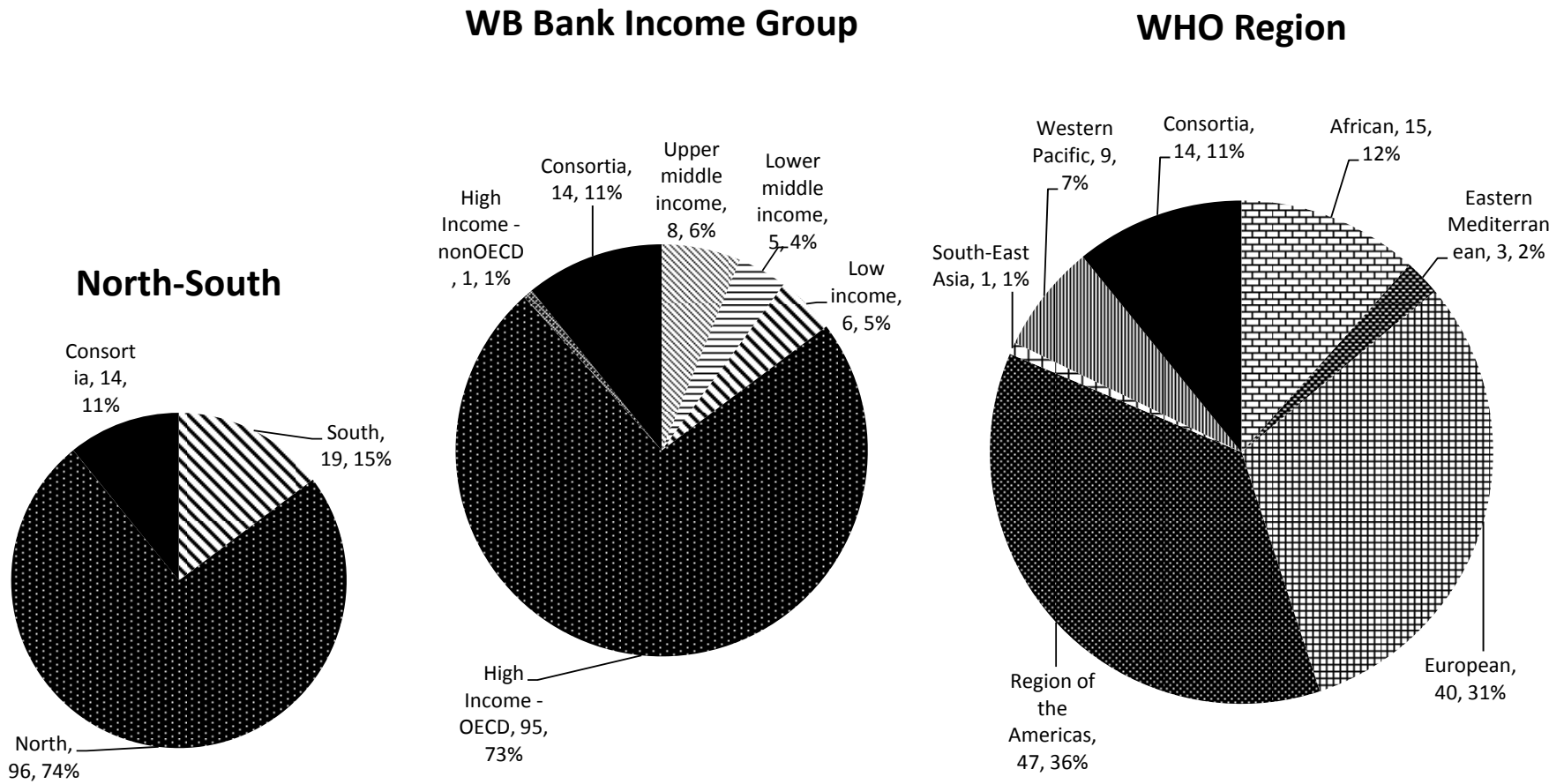
Kenya had approached China to upgrade the Moi Teaching and Referral Hospital facilities but the funding would be government-to-government, likely a soft loan.

Grouping the partnerships into North and South equates perfectly with high-income Organization for Economic Co-operation and Development (OECD) countries and lower middle-income countries, with the exception of partnership between UoN and the National University of Singapore, because Singapore is a high-income country but not an OECD member.

Of the 19 southern partners, 13 were from middle-income countries – South Africa (8), Egypt (2), India (1), Nigeria (1), Sudan (1); and 6 partnerships with universities in low-income countries in Kenya⁴⁵ (2), Malawi (2), and Uganda (2) – were identified. All the low-income partnerships were with universities in neighbouring countries. India was the only non- African lower middle-income country housing a partner. The only non-consortium partnership identified with a university from Central or West African countries was between KCMUCo and the University of Ibadan in Nigeria, although it was project-based and included a northern partner, Newcastle University, United Kingdom. A representative from the University of Ibadan was the project's principal investigator. Twenty countries were represented in the consortia: Botswana, Canada, Democratic Republic of the Congo, Ethiopia, Finland, Kenya, Malawi, Mozambique, Namibia, Nigeria, Norway, Rwanda, South Africa, Sweden, Switzerland, Tanzania, Uganda, the United Kingdom, the United States, and Zambia. Half (10/20) of these countries also had bilateral partnerships with at least 1 of the 4 focus universities.

⁴⁵ At the time the data were collected, Kenya was a low-income country. Kenya became classified as a lower middle-income country by the World Bank in July 2015.

Figure 5.1: Distribution of all partners identified by three international groupings



5.3.3 Consortia

Ten distinct consortia were mentioned a total of 14 times⁴⁶, as 3 consortia were mentioned by representatives at more than 1 of the 4 universities. Because perspectives of the consortia varied between the KIs, each incidence is counted in the findings. The 10 consortia were Afya Bora; College of Ophthalmology of Eastern Central and Southern Africa (COECSA); Consortium for Advanced Research Training in Africa (CARTA); Inter-professional Team Education Promoting Public Health (I-Step); Higher Education Alliance for Leadership Training for Health (HEALTH Alliance); Leadership Initiative for Public Health in East Africa (LIPHEA); the Norwegian Agency for Development Cooperation's Programme for Master Studies (NOMA); One Health Central and Eastern Africa (OHCEA); Southern African Centre for Infectious Disease Surveillance (SACIDS); and Training Health Researchers into Vocational Excellence in East Africa (THRiVE). Four of the 10 – CARTA, COECSA, HEALTH Alliance and SACIDS – have only southern members, although they are all linked to northern organisations to some degree; for example, although CARTA's members are all SSA universities, it has northern partners. Of the 7 consortia with northern partners, only 1, CARTA, has northern partners from more than 1 country.⁴⁷

5.3.4 Coordinated Partners

In 2 separate cases, partners were sometimes mentioned individually and sometimes within a consortium. This was true of Indiana University, Brown University, Duke University, University of Toronto, University of Utah with MU and Karolinska Institute, Umea University, University of Gothenburg, and Uppsala University with MUHAS. In both cases, the KIs referred to the individual universities more often than the consortia they form. In the case of the North American universities, the AMPATH Consortium was usually referred to as the Indiana-led consortium in recognition that Indiana was the first of these universities to partner with MU; the other universities started working with MU by linking with Indiana University, and Indiana leads the AMPATH Consortium. In the case of the Swedish universities working with MUHAS, either the Karolinska Institute was mentioned as the lead

⁴⁶ KCMUCo is involved in a number of consortia projects and partnerships in addition to COECSA and THRiVE: for example, Building Stronger Universities; the European and Developing Countries Clinical Trials Partnership; Gates Malaria Partnership; and Malaria Capacity Development Consortium. These were sometimes mentioned, although usually after the lead university partner. For this reason, the lead university is noted, not the consortia.

⁴⁷ THRiVE's 2 northern partners are from the United Kingdom, although its advisory board had a Swedish member (THRiVE, 2014).

or the partnership was referred to as the MUHAS-SIDA partnership. SIDA is the Swedish International Development Agency. It is the official bilateral development agency of the Government of Sweden.

MUHAS' partnerships with universities funded by the Norwegian Agency for Development Cooperation were sometimes mentioned by the project (e.g., NUFU, NOMA) or by the donor or by mentioning the partner universities. These partnerships sometimes involved multiple universities, but because the KIs focused on the role of individual universities – University of Bergen and University of Oslo – they were listed individually. The consortium nature of MUHAS' NOMA nursing project was emphasized by KIs, so it was identified as a consortium. Boston University and University of Ibadan were treated individually, although their partnerships with MUHAS and KCMUCo, respectively, also included another international partner.

5.3.5 How Old Is the Partnership? Still Alive? Or Taking a Break?

Determining the length of some partnerships was difficult because responses varied for representatives of the same institution. Some partnerships were active for a period with 1 HPP, then added another HPP to the partnership. At other times an individual who was involved with a partner from the beginning would provide a significantly earlier start date for the partnership than another representative of the same university. Consider, for example, the duration of MUHAS's partnership with the University of Bergen in Norway. Nine representatives identified it as a significant partnership but only 6 stated its duration, and the time frame ranged from 6-25 years. Respondents generally gave the number of years their HPP or they themselves had been involved, not the university overall, although some respondents did acknowledge that the university had been partnered with an institution for some time but only recently began partnering with their HPP. Finally, dating a partnership can also discount what may have come before it, as in the case of COECSA. Although it was only 2 years old when this study was conducted, the 2 consortia that merged to form it in 2012 – the Eastern Africa College of Ophthalmologists and the Ophthalmological Society of Eastern Africa – were 7 and more than 40 years old, respectively (Kagame, undated, Nsibirwa, 2012, COECSA, 2012).

The length of the partnership is shown in Table 5.1 (Duration of partnerships by three international groupings of countries) for the 109 of 129 partnerships whose duration was determined. Fifty partnerships, 39% of all partnerships, started in the last 5 years and were

active. Twenty-four of the partnerships lasted 15 years or more, and 79% (19 of 24) of these were still active. One hundred and three (103) of the 129 partnerships (80%) were considered active. Sixty-eight percent (68%), 15 of 22, of the inactive partnerships (when the duration was known) lasted 5 years or less. Of the 26 partnerships considered inactive, 11 had been project specific; 4 were considered to be dependent on 1 individual, and when that individual switched universities, the partnerships either moved with them or ended; 4 did not have current activities but may restart (i.e., hiatus); 3 had been short, contributory or advisory relationships; 2 faded over time; 1 consortium project transitioned into another consortium; and 1 partnership proved not to be a good match and ended within the first year. More than one-third, 9 of 26 (35%), of all partnerships considered inactive were at KCMUCo. Thus, more than one-third, 9 of 25, of KCMUCo's partnerships were considered inactive; 6 (18%) of MU's, 6 (17%) of MUHAS's, and 5 (14%) of UoN's partnerships were considered inactive. Two UoN partnerships started more than 30 years ago and were still ongoing.

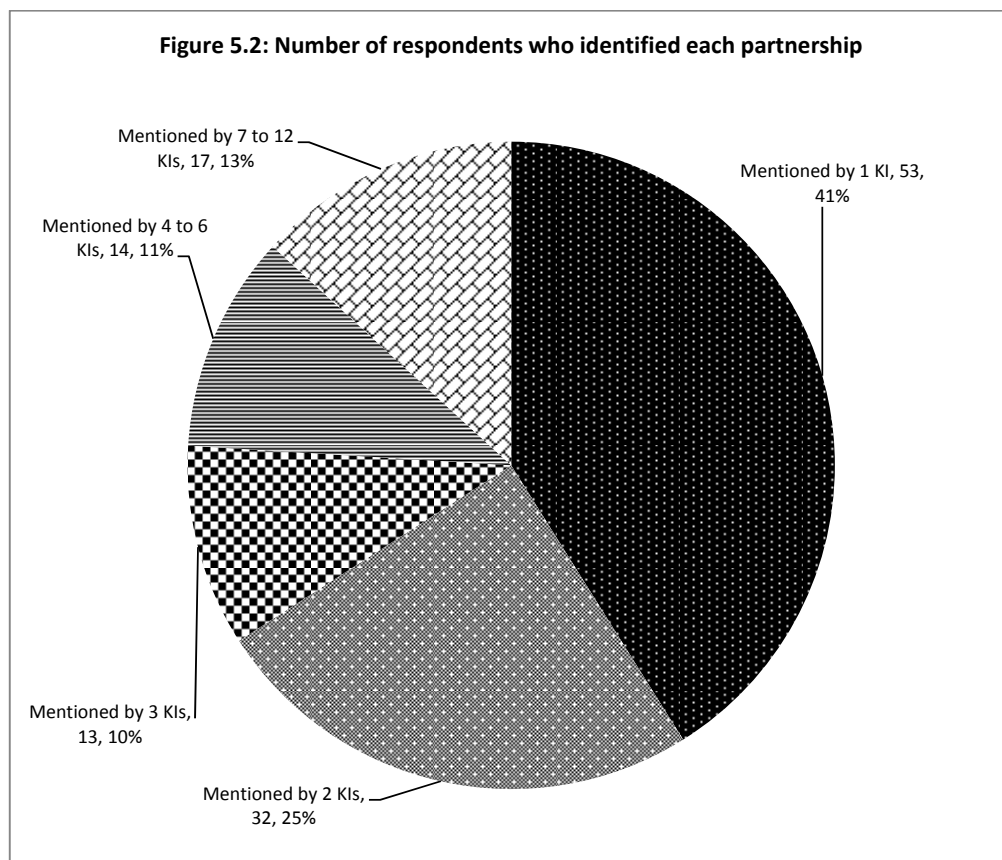


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Income Level and Region of Partners	Duration of Partnerships, in years (n=109)						
	5 or less	6 to 10	11 to 15	16 to 20	21 to 25	26+	sub-total
High Income – Americas	26	4	1	6	3	1	41
High Income – Europe	11	4	7	2	3	4	31
High Income – Other	6	0	0	1	0	0	7
Lower Middle	3	0	1	0	2	0	6
Upper Middle	3	1	0	0	0	0	4
Low Income	4	2	0	0	0	0	6
Consortia	12	2	0	0	0	0	14
TOTALS	65	13	9	9	8	5	109
% of Total	60%	12%	8%	8%	7%	5%	100%
Cumulative %	60%	72%	80%	88%	95%	100%	

5.3.6 Who Knows Who?

Approximately two-thirds, 85 of 129 (66%), of the partnerships were mentioned by 1 or 2 representatives [see: Figure 5.2: Number of respondents who identified each partnership]. Only 2 consortia, NOMA and THRiVE, were named by more than 2 representatives. Almost a quarter, 31 of 129 (24%), of partnerships were identified by between 4 and 12 representatives. The only 2 partner universities identified by all KIs of the respective focus universities were Duke University at KCMUCo and Indiana University at MU, although at least 1 Swedish university was mentioned by each MUHAS representative. KIs often mentioned partners with which they had direct contact; for example, if they earned their PhD linked to a partner, if a student or students they were supervising were involved in a partnership, if they were the principal investigator for a project involving a partner, or if they coordinated some aspect of a partnership. Only 9 of the medicine-only partnerships were identified by 3 or more representatives, leaving 37 of 46 (80%) medicine-only partnerships identified by only 1 or 2 representatives. More than half of the partnerships, 48 of 83 (58%), involving nursing or public health were mentioned by only 1 or 2 representatives. The partnership between UoN and Ludwig Maximilian University of Munich, Germany, was mentioned by 3 of the 9 UoN KIs, although it has only involved ophthalmology and none of the UoN representatives interviewed were ophthalmologists.



5.3.7 Medicine, Nursing, or Public Health?

As shown in Table 5.2 (HPPs by World Bank Income Groups), 81 of 129 (63%), of all partnerships include only 1 HPP, with medicine-only partnerships being the most common. Seventy percent of all partnerships, 90 of 129, included medicine to some extent. Thirty-seven percent of partnerships, 48 of 129, included nursing to some extent. Forty-five percent of partnerships, 58 of 129, included public health to some extent. However, it was not the case that the level of activity or outputs realized for each HPP was necessarily equal or that the respective HPPs were involved in the partnership simultaneously in partnerships including more than 1 HPP. Consider MUHAS's partnership with Dalhousie University in Canada. The partnership began in the late 1980s when the Canadian university helped Muhimbili establish its bachelor of science in nursing degree. After the nursing program was established, there was a hiatus until the mid-2000s when activities recommenced between the 2 universities, but this time between their medical schools.

Another example is the partnership between Indiana University and MU. Although there have been some activities with the Schools of Public Health and Nursing, the bulk of activities have been with the School of Medicine, leading 1 representative to conclude that Indiana's

“level of support in Medicine is so, so high you can’t compare [it] to these others [i.e. schools] that are spread out.”

Income Level & Region of Partners	# of Partners Identified	HPPs Involved n=129						
		Med	NUR	PH	Med/Nur	Med/PH	Nur/PH	ALL
High Income - Americas	47	13	3	8	4	8	3	8
High Income - Europe	38	15	9	3	2	3	0	6
High Income - Other	11	9	1	1	0	0	0	0
Lower Middle	5	3	0	0	1	1	0	0
Upper Middle	8	3	0	2	2	0	1	0
Low Income	6	1	2	0	0	1	0	2
Consortia	14	2	1	5	0	3	0	3
TOTALS	129	46	16	19	9	16	4	19
% of Total	100%	36%	12%	15%	7%	12%	3%	15%
Cumulative %		36%	48%	63%	70%	82%	85%	100%

5.3.8 Supporting the tripartite mission?

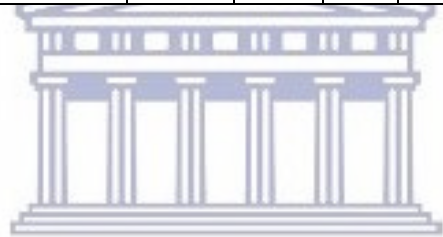
Almost all partnerships (119 of 129, or 92%) included an education component, with almost half being education only [see Table 5.3: AHSCs Components in Partnerships by World Bank income group]. Almost half of all partnerships (47%, or 60 of 129) included a research component. Approximately one-quarter (31 of 129 [24%]) included a service component.

Seven of the 10 partnerships that did not include an education component were with North American partners. One partnership each from a European, high-income other, and lower middle-income country did not include an education component. More than one-third of the North American partnerships (17 of 47 [36%]) included service components. This compares to only 9 of the 68 (13%) from other regions. The consortia partnerships including all components were OHCEA (3) and LIPHEA (1), funded by the US Agency for International Development, and the HEALTH Alliance that was formed by the Eastern and Central African LIPHEA partners.

The specific type of activities, or results achieved, within the components were usually specified. A wide variety of education, research, and service outputs were produced through the partnerships [see: Box 5.1: Types of activities and outputs mentioned by component]. Some of the outputs realized were only possible after other outputs were achieved or realized currently; for example, PhD research after education and highly cited research after service delivery. Although representatives were not asked about partnerships that supported

infrastructure development (e.g., construction of a building), some KIs identified such activities as valuable.

Income Level & Region of Partners	# of Partnerships Identified	Components (n=129)						
		Edu	Res	Ser	Edu/Res	Edu/Ser	Res/Ser	ALL
High Income - Americas	47	17	3	0	10	3	4	10
High Income - Europe	38	18	0	0	14	4	1	1
High Income - Other	11	6	1	0	2	1	0	1
Lower Middle	5	4	0	0	0	0	1	0
Upper Middle	8	5	0	0	3	0	0	0
Low Income	6	4	0	0	2	0	0	0
Consortia	14	6	0	0	3	1	0	4
TOTALS	129	60	4	0	34	9	6	16
% of Total	100%	47%	3%	0%	26%	7%	5%	12%
Cumulative %		47%	50%	50%	76%	83%	88%	100%



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Box 5.1: Types of activities and outputs mentioned by component

[Note: i) underlined sub-components stated to be particularly significant by some key informants for achieving capacity development of their institution; ii) not necessary distinct (e.g. 2.3 can also be 2.3)]

1 Education

1.1 Examination (external examiners) – not considered capacity building by all representatives

1.2 Curriculum development

1.2.1 Pedagogy

1.2.2 Diplomas

1.2.3 Short courses

1.2.4 Undergraduate Degrees

1.2.5 Master's Degrees

1.2.6 PhD degrees

1.2.7 Fellowships

1.3 Student Exchanges

1.3.1 One-way

1.3.2 One-way - but partnering students

1.3.3 Two-way - unbalanced

1.3.4 Two-way - reciprocal

2 Research

2.1 Highly cited

2.2 Publishable

2.3 Within a PhD

3 Service Delivery

3.1 Care within a Teaching Hospital

3.2 Care within the urban area of a University

3.3 Care in rural area

3.4 Prevention – health promotion

4 Infrastructure Development & Equipment & Supplies

4.1 Provision of equipment & supplies - ICTs, library, laboratory - common

4.2 Construction of facilities - learnings centres, research facilities, hospitals.

5.4 Discussion

5.4.1 A multitude of partners at each university

Our mapping of international partnerships significant for capacity building at MU, UoN, KCMUCo, and MUHAS identified that each of the 4 universities has had a multitude of partners since 1991 (1997 in the case of KCMUCo⁴⁸). Ease of identifying partners from publicly available sources for the 4 universities vary significantly between the 4 institutions, generating challenges in obtaining precise estimates of partnerships. MUHAS's "Research Links and Collaboration" menu item on its website⁴⁹ and similar sections in its annual reports are the most comprehensive, and report on current activities (see <http://www.muhas.ac.tz/index.php/annual-reports>) (MUHAS, 2011, MUHAS, 2014b, MUHAS, 2009b). The 2012-2013 annual report [(MUHAS, 2014b), p. 31] noted 78 research partnerships with foreign institutions. The report also identifies collaborations by the various schools, the names and principal investigators of the 19 new projects and 9 projects that ended that year and provides a summary progress report for each of the 103 current research projects, although research projects don't always identify partners [(MUHAS, 2014b), pp.108-145]. Student exchange activities are reported separately. UoN's annual reports provide names of partners but few details (see <http://www.uonbi.ac.ke/uon-reports>) (University of Nairobi, University of Nairobi, 2012, University of Nairobi, 2011, University of Nairobi, 2010). Moreover, it is difficult to get a sense of the arrangements; for example, in the 2012 annual report each university involved in OHCEA is mentioned individually but no mention of OHCEA is made [(University of Nairobi, 2012), p72]). Both KCMUCo and MU provide limited partnership information online. The former has focused on the Medical Education Partnership Initiative project with Duke and THRiVE. KCMUCo annual reports do not appear to be available online, although some information on interuniversity partnerships is provided in the annual reports of the affiliated teaching hospital (KCMC, 2011) and hard and soft-copy profiles of the research institute, Kilimanjaro Clinical Research Institute (KCMC, 2011, KCRI, 2012, Kilimanjaro Clinical Research Institute (KCRI), updated) One of clearest summaries of partnerships is KCMUCo's 2013 internal self-assessment [(Mallya

⁴⁸ What is today known as KCMUCo was founded in 1997. However, some of its partners predate the establishment of the university. They started with KCMC. KCMC was founded in 1971.

⁴⁹ MUHAS's website is <http://www.muhas.ac.tz/>. MU College of Health Sciences' website is <http://chstest.mu.ac.ke/>. UoN College of Health Sciences' website is <http://chs.uonbi.ac.ke/>. KCMUC's website is <http://www.kcmuco.ac.tz/>.

et al., 2013), p.54]. Twenty-four non-donor international linkages are listed, 14 of which are international universities and 4 of which are consortia involving universities. MU's website provides a link to AMPATH Kenya (www.ampathkenya.org). Online access to MU's annual reports and strategic plans does not appear to be available, and its 2009-2015 strategic plan only identifies 3 partners, only 2 of which work with the College of Health Sciences (Moi University, undated).

Another MU document identifies a total of 6 partnerships for the Schools of Nursing and Public Health, but Medicine's partnerships are not mentioned (Moi University, 2012). In many cases, the 4 universities identify international university partners in documents when identifying other collaborators such as local, industry, and donor partners. Hence, substantial challenges remain in precisely determining information on international partnerships.

5.4.2 Geographic/income group distribution

The geographic distribution of partnerships is consistent with previous findings that report that historically capacity building partnerships with SSA universities have been North-South in nature, especially with North American and European universities (The Academy of Medical Sciences and Royal College of Physicians, 2012). There were some partnerships with high-income countries in Asia, but they remain limited in number and scope of activities. Our findings bring clarification to the type of South-South and African-African partnerships in existence. Except for the 1 specified and the 2 unspecified Indian partners, all of the lower middle-income country partners were in Africa. Furthermore, the only partnerships with low-income country universities were with those in neighbouring countries, and the only other non- consortium partners were from Egypt, Nigeria, and South Africa, the 3 dominant science countries in SSA.⁴⁷ The findings of our study also support Brautigam's (2009) analysis that, in health, the Chinese government is focusing on hospital-to-hospital partnerships and not university-to-university.

5.4.3 Duration and status of partnerships

Although subject to the recall bias of KIs, this study provides a rare examination of the duration and status of university- to-university partnerships. By asking the representatives of the 4 focus universities to identify partnerships that have existed "since 1991," we permitted respondents to consider international partners with whom they have been partnered for more than 20 years in addition to younger partnerships. That 31 of the 109 partnerships (28%) of the partnerships whose duration were identified were more than 10 years old supports the

published reports indicating that capacity-building partnerships often take time to develop (Casey, 2008, Shivnan and Hill, 2011, Horton et al., 2003). However, that more than half of this set of partnerships was 20 years or older leads to questions about whether interactions that are 10-15 years long should be considered “long-term” partnerships, as commentators do (Daibes and Sridharan, 2014). That 57% of the partnerships were established over the past 5 years and were still active roughly parallels the findings of indicating the growth of university global health partnerships of North American universities⁵⁰.

5.4.4 Types of HPPs and number of representatives who identified a Partner

The overall research question for this study sought to implement the recommendation of the Commission on Medical Education for the 21st Century to look beyond “the silos of individual professions” (Frenk et al., 2010) and included 3 health professional programs. Unsurprisingly, considering the leading role of medicine and historically siloed nature of the health professions, 70% of all partnerships included medicine and almost two-thirds (63%) of partnerships included only 1 of the 3 HPPs. Nevertheless, that does mean that 37% of partnerships included at least 2 of the HPPs. Fifteen percent included all 3 HPPs to some extent, although the activities within these partnerships were not necessarily integrated, nor was the level of activity necessarily equal between the HPPs. That 66% of partners were identified by only 1 or 2 representatives may indicate that many partnerships include only a few representatives at an institution and reflects the focused nature of academic work, existing disciplinary boundaries, and the siloed nature of HPPs.

5.4.5 Components involved

For 2 reasons, it is unsurprising that almost all partnerships included an education component to some degree. One, addressing capacity building often implies an educational component, because this term is developmental in nature, and Kenya and Tanzania are well known to have a shortage of health professionals working in country (Kwesigabo et al., 2012, Wakaba et al., 2014). Two, the shortage of health researchers in SSA and the need to include training in research are well documented (Jentsch and Pilley, 2003, Chu et al., 2014, Chandiwana and

⁵⁰ Interestingly, Matheson et al sent surveys to 120 North American institutions, but only 35 responded. Of these 140 institutions sent surveys, 26 were identified as partner by Moi, UoN, KCMUCo, and MUHAS representatives in our study. Only 7 of these 26 universities responded to the survey sent by Matheson et al.

Ornbjerg, 2003, Ijsselmuiden et al., 2012). Therefore, it is unsurprising that only 15 partnerships were identified that were research or research or service only.

5.4.6 Limitations and directions for further research and analysis

This study took place in 2 countries in 1 distinct region: East Africa of SSA. Both countries were former British colonies, Anglophone, members of the Commonwealth, and large in terms of population and recipients of foreign aid in 2013, Tanzania and Kenya ranked fifth and sixth in terms of human population (World Bank, 2015) and second and third in terms of overseas development assistance (OECD, 2015). These facts are important when considering the generalizability of this study's findings to the WHO African Region, which includes 47 countries with varied colonial, linguistic, and academic histories.

We could not obtain centrally produced lists of historical or current international projects or partnerships at any of the institutions over time, precluding more rigorous cohort analyses. It was not possible to determine the statistical significance of associations because of the small counts (<5 and many 0s) in many cells. In addition, data were based on the reflections of individuals during, in most cases, 1 interview, rather than being extracted from institutional databases on partnerships. Individuals were not, in most cases, offered an opportunity to review or reconsider their answers at a later date. On the other hand, representatives gave their initial, unedited impressions.

This study makes a methodologic contribution by bringing clarification to the terminology of duration, status, and activities of partnerships. It would be helpful for international partnership research if authors included general characteristics about the partnerships when reporting findings in which working in partnership was required for conducting the study.

5.5 Conclusions

This study took a global view of significant international health partnerships at 4 East African universities by identifying the range of the international partners at four universities in three HPPs that helped to fulfill the tripartite mission of AHSCs. It confirms the rapid growth of interuniversity health partnerships in the last 10 years, especially with high-income countries and consortia, and also to some degree South-South partnerships. Innovative approaches within these new partnerships should be identified. As importantly, however, it shows that there is a pool of long-term partnerships at each university from which lessons can be learned.

With a majority of the partnerships not well-known among senior health representatives of the universities and confined to specific faculties, departments, or even, perhaps, individuals, it raises the question to what degree lessons and innovations are learned between partnerships and whether or when individual partnerships should work together to some degree. Universities could better publicize information about their partnerships by presenting basic information about them systematically on their websites and in their annual reports.



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CHAPTER 6: Paper 2 - What makes international global health university partnerships higher-value? An examination of partnership types and activities favoured at four East African universities

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ABSTRACT

Background: There are many interuniversity Global Health partnerships with African universities. Representatives of these partnerships often claim partnership success in published works, yet critical, contextualised, and comparative assessments of international, cross-border partnerships are few.

Objective: The objectives of this paper are to describe partnerships characterized by these universities as as higher-value for building the capacity of four East African universities and identify why they are considered to be higher value.

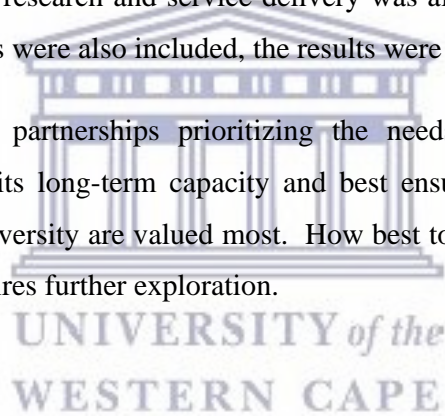
Methods: Forty-two senior representatives of four universities in East Africa described the value of their partnerships. A rating system was developed to classify the value of the 125 international partnerships they identified, as the perceived value of some partnerships varied significantly between representatives within the same university. An additional 88 respondents from the four universities and 59 respondents from 25 of the international partner

⁵¹ A link to the publication will be provided at: <http://hppafrica.org/research/>.

universities provided further perspectives on the partnerships identified. All interviews were transcribed and analysed in relation to the classification and emergent themes.

Findings: Thirty-one (25%) of the partnerships were perceived as higher-value, 41 (33%) medium-value, and 53 (42%) lower-value for building the capacity of the four focus universities. Thirteen (42%) of the higher-value partnerships were over 20 years old, while 8 (26%) were between 3 and 5 years old. New international partners were able to leapfrog some of the development phases of partnerships by coordinating with existing international partners and/or by building on the activities of or filling gaps in older partnerships. Higher-valued partnerships supported PhD obtainment, the development of new programmes and pedagogies, international trainee learning experiences, and infrastructure development. The financial and prestige value of partnerships were important but did not supersede other factors such as fit with strategic needs, the development of enduring results, dependability and reciprocity. Support of research and service delivery was also considered valuable but, unless education components were also included, the results were deemed unlikely to last.

Conclusion: International partnerships prioritizing the needs of the focus university, supporting it in increasing its long-term capacity and best ensuring that capacity benefits realised favour the focus university are valued most. How best to achieve this so all partners still benefit sufficiently requires further exploration.



6.1 Introduction

International, interuniversity partnerships, particularly North-South partnerships between universities in high-income countries (HICs) and sub-Saharan African (SSA) universities, have long been considered one means by which to increase the capacity of health professional programs (HPPs) of African universities (Whitworth et al., 2008, Accordia, 2009, Taché et al., 2008, Collins et al., 2010, Frenk et al., 2010, IOM, 2009). The international partnership mix of SSA universities has become increasingly complex in recent years, with the development of partnerships between universities in low- and middle-income countries (LMICs) [i.e. South-South partnerships], North-South-South partnerships and consortium partnerships or networks (Boshoff, 2010, The Academy of Medical Sciences and Royal College of Physicians, 2012).

The Sub-Saharan African Medical School Study (Mullan et al., 2011) suggested future research was needed on how to measure and improve partnerships with a view to improving efficacy and providing “evidence for success” [p.95]. Mulvihill and Debas (2011) identified four “successful long-term academic partnerships” [p. 512], including one in which their university (University of San Francisco, USA) is involved and one between Indiana University in the USA and Moi University (MU) in Kenya. Frenk et al. (2010) also cited the Indiana-MU University partnership as a positive example, as did Crane (2011). For Crane, the partnership is successful because the research and training outputs are reciprocal and it is improving patient care at MU’s teaching hospital.

While asserting the potential value of universities globally in helping to address global health challenges, the Academy of Medical Sciences and Royal College of Physicians (2012) noted that adequate evaluation of university partnerships is lacking. Analysis of partnerships themselves, and their limitations, is often lacking in detail. Mulvihill and Debas (2011) cite only one or two references for each of their four examples of partnership success. All but one reference was authored by representatives of the partnerships and the source for the fourth one was in a report that included but one paragraph on the partnership (IOM, 2009)⁵².

⁵² Notably, the second paragraph of the section - Invest in People, Institutions, and Capacity Building – of the IOM report begins: “Although there has been little rigorous evaluation to parse the most promising aspects of the institutional partnership model” (See pages 113-117).

Of further concern is the interested nature of reports - Crane's (2011) only reference is a book written by an Indiana University representative⁵³. After lamenting the low historic impact of many capacity building initiatives in low-income countries, Cancedda et al. (2015) mention a partnership between the University of Oulu in Finland and the University of Namibia and Lurio University in Mozambique as innovative, citing only the University of Oulu's web-site, before detailing four "innovative" projects that the authors "played a critical role" in developing and implementing. Having implementers writing about their own partnerships may be scientifically defensible, given the difficulties associated with an outsider obtaining a sufficient understanding of multi-year partnerships as complex interventions (Cole et al., 2014). However, it does raise the question of *competing interest bias* (Smith et al., 2009) in scientific inquiry, even if authors identify their competing interests, especially in an era when the use of positive adjectives such as "innovative" in academic papers has increased significantly, likely in response to the pressure to publish and need to sell results (Vinkers et al., 2015)⁵⁴.

In a recent paper, we identified and mapped 129 international university partnerships from 23 countries that senior representatives⁵⁵ of four East African universities – Moi University (MU), University of Nairobi (UoN), Kilimanjaro Christian Medical University College (KCMUCo), Muhimbili University of Health and Allied Sciences (MUHAS) - considered significant for strengthening their medicine, nursing and/or public health programs in education, research and/or service (Yarmoshuk et al.). In addition to the usual descriptive characteristics (duration, partners involved, activities, etc.), how might we examine these through a more evaluative lens?

6.1.2 Types of partnerships

Kernaghan (1993), writing in the field of public sector management, classified partnerships into five broad categories or types, based on the degree to which power is shared within a

⁵³ See: QUIGLEY, F. 2009. *Walking together, walking far: how a U.S. and African medical school partnership is winning the fight against HIV/AIDS*, Bloomington, Indiana (USA), Indiana University Press.

⁵⁴ Vinkers et al found that the use of positive words in publications increased by 880% between 1974 and 2014s. They found that the use of the word *innovative*, specifically, increased by over 2000%. However, it should be noted they found that the frequency rate of positive and negative words in titles and abstracts by authors affiliated with four English-speaking countries declined during the last 10 years of the research period.

⁵⁵ These included current and immediate-past deans of medicine, nursing, public health and heads of the college or university (i.e. vice-chancellors, provosts and principals).

partnership and, ultimately, the degree to which a partnership is empowering. In *collaborative*, or “power-sharing”, partnerships power is shared and resources pooled. *Operational* partnerships are those that share work but not decision making. Power, or a sense of control, is retained by one partner. *Contributory* partnerships provide support (e.g. funding, resources), potentially increasing the ability of an organisation to perform a task. *Consultative* partnerships are interactions during which advice is provided from one partner to another. Kernaghan’s fifth type of partnership is a *phoney* partnership, established with the intent to manipulate a partner and thus ultimately disempowering.

Although referring to the field of public sector management, Kernaghan’s model of five categories of partnership is a useful starting point for categorising global health partnerships. In both fields, empowerment of at least one party is generally a goal. International university global health partnerships are often argued to be among “unequals” (Gaillard, 1994, Jentsch and Pilley, 2003) and power is a concern when studying partnerships (Hastings, 1999, Schilke et al., 2015, Morse and McNamara, 2006). Moreover, the characteristics of Kernaghan’s top category of partnership, “collaborative”, are consistent with what is referred to in global health literature as “true partnership” (Matee et al., 2009), “real collaboration” (Rosenberg et al., 2010), or “genuine collaboration” (Zarowsky, 2011). Collaborative partnerships are considered to be the gold-standard when it comes to two or more organisations working together in global health, a field many agree is concerned with addressing inequity within and/or between societies (Koplan et al., 2009).

The objectives of this paper were to describe partnerships characterized as higher-value for building the capacity of four EA universities and identify why they are so considered by these universities.

6.2 Methods

This study used a concurrent mixed methods design. Quantitative analysis was used to categorize the 125⁵⁶ distinct partnerships identified and mapped previously into higher-, medium- and lower-value partnerships. Qualitative analysis was then used to determine the characteristics that contributed to the partnerships’ value, hence its dominant status (Lech

⁵⁶ 129 partnerships were identified at the four focus universities. Three consortia were mentioned by at least two of the universities. Thus, there were 125 distinct partnerships.

and Onwuegbuzie, 2010) in this paper. For the 129⁵⁷ international university partnerships identified by 42 senior representatives of four SSA universities in our earlier work (Yarmoshuk et al., 2016), we focused on the last two questions asked of the senior representatives: i) *How valuable (high, medium, low) was/is the partnership to your college or school (medicine, nursing and/or public health)?*; and, ii) *Please rank the partnerships in order of significance.*

In a 2nd phase (November 2013 to July 2014), we conducted additional key informant interviews (KIIs) and focus-group discussions (FGDs) with lecturers, professors, staff and trainees from the four focus universities. Between 15 and 28 respondents participated per university (MU n=28, UoN n=23, KCMUCo n=15, MUHAS n=28, Total = 88). Trainees included medicine, nursing and public health students at various levels (Undergraduate, Masters, PhD, Residents, Fellows)⁵⁸. At least one respondent from each of the universities' health library was interviewed. At least one clinical medicine, basic science, nursing and public health lecturer and/or professor participated at all universities except for public health faculty at KCMUCo and basic science at UoN and MUHAS.

We used semi-structured interview guides for both the KIIs and FGDs to elicit representatives' experiences within international partnerships and their perspectives on the benefits and challenges of the partnerships [see Appendix 2.2: Interview Guide for Phase 2 - FGDs with Senior Lecturers and Lecturers; Appendix 2.3: FGD Guide for Phase 2 - Students].

In a 3rd phase (March 2014 to Nov 2015), we conducted KIIs with 59 current or past representatives from 25 partner universities [see Table 6.1: Number of universities represented in Phase 3 by continent & country] in-person or by phone/Skype.

⁵⁷ As noted previously, 129 partnerships were identified at the four focus universities. Three consortia were mentioned by at least two of the universities. Thus, there were 125 distinct partnerships.

⁵⁸ Trainees at some level participated from all three disciplines at all four universities, except for public health trainees at KCMUCo.

Table 6.1: Number of universities represented in Phase 3 by continent & country		
Continent/Country	Number by Continent	Number by Country
Africa	3	
Egypt		1
South Africa		1
Uganda		1
Europe	9	
Germany		1
Netherlands		2
Sweden		5
United Kingdom		1
North America	13	
Canada		4
USA		9
TOTAL	25	25

The vast majority of these KIs were currently or had been directly involved in the partnerships with one of the four focus universities in East Africa. Some of the respondents lived in Kenya or Tanzania and thus were interviewed there, with the remainder interviewed at their home institutions or at conferences. We adapted the earlier KI semi-structured interview guide for these international partners. We asked both general questions and questions specific to the partnerships in which they were involved [See Appendix 2.4: Generic Interview Questions for International Partners – Phase 3]. Additional information or clarification was sought from some KIs in follow-up interviews, via E-mail, telephone and/or SMS until the time this paper was submitted for publication.

Throughout the paper we have attempted to prevent attribution of specific comments to specific individuals. In those few circumstances where we felt this standard might not be met we contacted the individual(s) to determine if they wished to include a clarifying statement or rebuttal. In addition, we have not named specific international partners in partnerships not considered to be of higher-value, except when the partnership was viewed very positively but was mentioned by only one representative. We have named international partners in partnerships who were considered to be higher-value to illustrate perspectives on partnerships that do not appear to exist in the literature and to present limitations to “successful” partnerships missing in the literature.

6.2.1 Ethics Approvals

Ethics approval was obtained for the entire study (Phases 1, 2, and 3) from the Senate Research Committee of the University of the Western Cape (13/5/15); Institutional Research and Ethics Committee Secretariat of Moi Teaching and Referral Hospital / Moi University School of Medicine; Ethics and Research Committee, Kenyatta National Hospital / University of Nairobi; and, National Institute for Medical Research in Tanzania. Research clearance was received from the Tanzanian Commission for Science and Technology.

6.2.2 Data Management and Analysis

From the Phase 1 data (Yarmoshuk et al., 2016) we added findings about the value of the partnership. We calculated the value of each partnership by weighting the responses of the senior representatives. A response of *high* received a score of 5, a response of *medium* 3 and a response of *low* 1. Respondents who did not give a value for partners they identified were not included in the calculations for value, but their comments were included in the qualitative analysis. Partnerships that were mentioned by only one respondent were deducted 1 point so as not to inflate the number of *higher-* and *medium-value* partnerships, although their comments were included in the qualitative analysis. The scores for all respondents for the same partnerships were added and divided by the number of respondents who valued the partnerships to determine an average score. Partnerships receiving an average score greater than 4, and the top three most mentioned partners receiving no negative comments, were classified as *higher-value* partners⁵⁹. Partnerships receiving an average score greater than 2 to 4 were classified as *medium-value*. Partnerships receiving an average score of 2 or less were classified as *lower-value*. We calculated the value of the three consortia identified by respondents at more than one of the universities using the same approach but included the responses of respondents from all the universities.

Thematic content analysis was conducted (Schreier, 2013) for all the interviews from Phase 1 to determine the characteristics associated with value in partnerships and to explore the perspectives on the dynamics of partnership development and producing value. Content analysis was also conducted of the interviews from Phases 2 and 3 to add additional

⁵⁹ When partners of Public Health and Nursing programs were considered *high value* by the senior representatives respondents of these schools but not the other senior representative(s) of the focus university these partners were classified as *higher-value* too, unless another representative(s) of the faculty or university stated strongly why the partnership should not be considered higher-value.

perspectives from representative outside the decanal level of the focus universities and the international partners, respectively.

6.3 Findings

6.3.1 Partnership value

Overall, respondents were willing and able to classify partnership value: 31 (25%), were determined to be of higher-value, 41 (33%) medium-value, and 53 (42%) lower-value for building the capacity of the programmes [see Table 6.2: Partnerships by Perceived Value for each Focus University].

Nevertheless, four of the 42 (9.5%) KIs in Phase 1 when asked to state the value of each partnership as “high”, “medium” or “low” value found this request too difficult or too arbitrary to answer without having precise parameters. As one said, “I think it is very difficult because each one has had its

	MU	UoN	KCMUCo	MUHAS	Consortia Mentioned at more than 1 University
Higher-Valued	7	4	6	13	1
Medium-Valued	9	12	10	8	2
Lower-Valued	15	18	8	12	0
TOTAL	31	34	24	33	3

own contribution, which is unique.” One KI considered all the partnerships that they identified as “high” value while another stated, “No partnership can be low value.” When asked about the value of one partner’s contribution, one KI asked rhetorically, “Through one (research) project, is that helpful?” Some interviewees stated the “potential” of a partnership was medium or high value - e.g. “I’m looking at the others ... and the tangible benefits” and then stated, “You cannot yet have tangible outcomes” in a new partnership. Only two representatives were willing to rank all of the partnerships they identified, although most KIs openly compared the approaches and results of partners when assigning value to each partnership.

6.3.2 Where are higher-value partners from?

Twenty-six (26) of the higher-value partners were from the high-income countries (HICs), 13 from North America and 13 from Europe [see: Table 6.3: Higher-value partners identified & analysed].

Three (3) of the partners were from low-and-middle-income countries (LMICs), all within SSA - two were universities from low-income neighbouring countries⁶¹ and one from South Africa. (Detailed findings of the higher-value partnerships of the four focus universities are provided in Supplement 1: Detailed findings of Higher-Valued Partners of each Focus University. The value of partnerships by country is provided in Appendix 4 [see Table A4.6: Table of Partners by Country and Value of Partnership].

The two consortia determined to be higher-value included universities from Europe or the USA, although the majority of partners in each consortium

were from SSA [see: Appendix 4 - Table A4.5: Higher-Value Consortia Partnerships Identified by Senior Representatives of the Four Focus Universities].

6.3.3 Value by duration

Thirteen (42%) of the 31 higher-value partnerships were older than 20 years, while 10 of 31 (32%) were 10 years or younger and eight (26%) were between 3 and 5 years old. Over 70%

Country	World Bank Income Group⁶⁰	# of Higher-Value Partners	Total # of Partnerships Identified	% of All Partnerships Higher-Valued
USA	High	9	41	22%
Sweden	High	6	8	75%
Canada	High	4	6	67%
Germany	High	2	2	100%
Netherlands	High	2	4	50%
Consortium	Not applicable	2	10	20%
Denmark	High	1	2	50%
Kenya	Low	1	2	50%
Norway	High	1	7	14%
South Africa	Upper-Middle	1	8	13%
Uganda	Low	1	2	50%
UK	High	1	11	9%
Other Countries	Not applicable	0	22	0%
TOTAL		31	125	25%

⁶⁰ The World Bank's 2014 classification of countries by income group was used. www.worldbank.org.

⁶¹ Kenya was classified by the World Bank as a low-income country when the data was collected.

of both lower- and medium-value partnerships were 5 years or younger, 26 of 37 (70.3%) and 27 of 37 (73%), respectively. Examples of lower-, medium- and higher-value partnerships can be found in every five year duration range below 20 years [See Figure 6.1: Area Graph of Partnerships by Value and Duration].

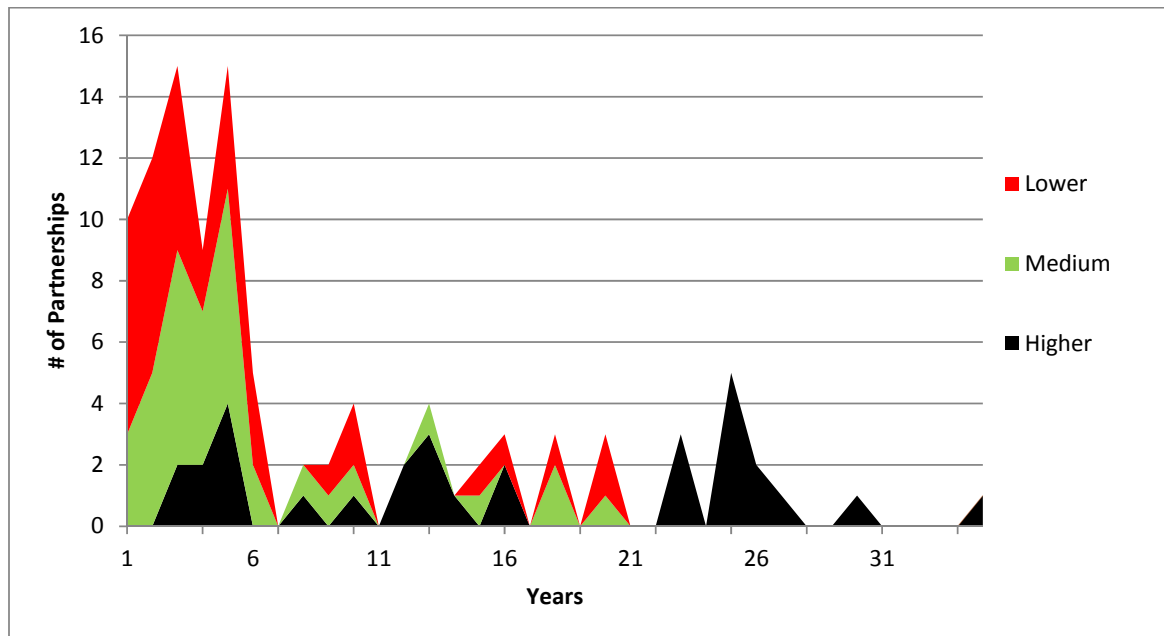


Figure 6.1: Area graph of partnerships by value and duration

6.3.4 The role of funding

Funding levels of a partnership influenced the perceived value of the partnership to some degree. One representative began bluntly, “The higher the funding, the higher the impact for the university”, but then qualified the statement by adding, “there are partnerships (with smaller budgets) that are important for capacity building.” A second KI stated that it was not the dollar value that mattered, but rather, “It’s what you get out of it.” A third KI noted: “If you don’t have funds the collaboration doesn’t survive.” Finally, a fourth KI responded: “It (i.e. money) is important but not the most important. The most important is really: what do you want to cooperate in ... (and having) a common purpose.” This KI then concluded: “Of course, money becomes an issue. There needs to be a budget.” Lack of funding was often mentioned as challenge or weakness of a project. In many cases, KIs knew that a partnership was very active at their university but did not know how it was funded.

Salary compensation received by those participating in international partnerships was found to influence the perceived value to some extent. One KI stated, about a well-funded project, “If you don’t [provide] compensation for people when they are working on projects, they go

to look somewhere else. The issue of salary compensation is [important] because of the low level of salaries paid by the government.” The same need for salary support was expressed by an international partner who had 7.5% of their salary covered by a project.

6.3.5 Trainee-focused partnerships

In many partnerships involving only trainees, the international partner covered the cost of all beneficiary trainees (international and focus university) involved. Representatives often expressed the outputs in terms of simple ratios. Examples of the exchange ratio of trainees involved varied from approximately 1:1 (one international student to one focus university student exchanged) to 15:0 (15 international students to zero focus university students exchanged). Many of the senior SSA representatives did not expect 1 to 1 reciprocity. Others still valued unidirectional exchanges (e.g. HIC students travelling to East Africa, but not vice-versa) if the HIC students worked directly with their students, citing involvement in research projects as one example. In addition to conducting research, the interaction with international students was considered valuable by senior representatives. One partnership had international students travel to a focus university to be taught by its faculty. This was considered valuable for the opportunity to lecture another type of student and for the additional income faculty earned.

6.3.6 Heterogeneity in perceptions of value

Nursing and Public Health representatives considered a number of partnerships very valuable for their institution’s School of Medicine, and thus the institution overall, but of little value to their schools. Many of the higher-value partnerships for Nursing and Public Health were mentioned only by representatives of these programmes, with the general exception being the current or past overall head of the CHS and/or the respective teaching hospital who sometimes also mentioned them.

The value of some partnerships changed over time depending on the level of activities, often in line with external funding. A MU representative perceived the value of the partnership with Maastricht University, Netherlands, from having decreased from high to low after

MHO⁶² funding ended, although all MU representatives who rated this partnership rated it “high value”. A UoN representative stated that over the long-term, the partnership with the University of Maryland was medium-value but “at the level of current engagement [i.e. combination of activities and funding] you can actually call it high.” University of Maryland was a partner, along with the University of Washington, in UoN’s Medical Education Partnership Initiative (MEPI) project, PRIME-K, starting in 2010.

For some partnerships, perceptions of value varied significantly between senior representatives within the same HPP. For example, at MUHAS, one representative described the construction of and service provided through care and treatment clinics at health centres in partnership with an USA university and the city council of Dar es Salaam as “... important to MUHAS because we were providing care to people with AIDS, our profile went up since we were involved in the construction of the clinics”. Another representative also rated the partnership as “high-value”, but concluded, “... they [the HIC partner] could have done more.” A third representative rated it “medium-value” because of the high research output, but was “very disappointed” there wasn’t more capacity building in research, especially since the American university was training many of its own PhD students directly through the partnership, yet only supported one MUHAS PhD student. The same representative contrasted this with the PhD capacity building results Scandinavian partnerships helped MUHAS achieve. Other representatives also lamented the lack of capacity building for MUHAS through the project with the American university, this time contrasting it to the capacity building outputs gained through partnerships with Norwegian (University of Bergen, especially) and Swedish universities that combine research and PhD obtainment.

The approach of the USA partner mentioned above at MUHAS contrasts with MU’s partnerships with IU and other of the AMPATH Consortium members. IU has led the partnership with a “lead by care” model that prioritises healthcare service delivery and includes education, research and infrastructure development too, leading one MU representative to answer if there was an overall objective to the partnership: “Yes, to improve the region. To assist the Ministry of Health in developing a comprehensive care model in

⁶² MHO stands for Medefinansieringsprograme voor Hoger Onderwyssamewerking (Dutch). In English it means: the Joint Financing Programme for Higher Education Co-operation. See: Capacity Building Initiatives for High Education, CHET, 2002. Accessed at www.compress.co.za on 23 August 2015.

western Kenya.”⁶³ However, another MU KI credited Linkoping University more for overall support to the College of Health Science for sponsoring Master's and PhDs for faculty and exchanges of nursing students.

6.4 Interpretation of findings

6.4.1. General characteristics of higher-value partnerships

All higher-value partnerships shared three general characteristics.

One, the outputs and outcomes were a priority need for the representative(s), their School(s), and CHS, or they provided an important service to the community or society, such as responding to the HIV epidemic.

Two, the long-term capacity of the focus university to fulfill its mandate was increased. The stated mandates of the universities are to provide education, research and service. A partnership can focus on any or all of these components, and at any level; for example, education includes undergraduate or post-graduate work. Nuance was expressed by many KIs. Supporting long-term capacity development is fairly clearly realised when faculty members earned their PhDs at a partner university; a plaque is seen on a laboratory, library or ward of a hospital thanking a partner, or reads that a degree programme was started with the support of faculty from a partner university. The Swedish Red Cross University College (SRCUC) was considered to be providing long-term capacity support to KCMUCo although its main support was sending two Nursing students on exchange each semester while sending six Swedish students and faculty mentors to KCMUCo. Although the student exchange ratio was 3:1, SRCUC was a dependable long-term partner in providing the exchanges and securing the funding for them. By maintaining the exchange for over 10 years, year after year, the exchange was *de facto* institutionalised such that it was part of KCMUC's nursing programme and easy to do, thereby minimizing transaction costs.

Three, the overall capacity building benefits realized by the focus university were perceived to be fair when compared to the benefits realized by the international partner(s). The exchange did not adhere to 1 to 1 reciprocity, but the partnership had to be perceived to be

⁶³ See: <http://www.ampathkenya.org/our-model>. (Accessed 16 February 2017).

providing sufficient benefits to the focus university such that the international partner is not felt to be benefiting significantly more.

6.4.2 General characteristics of lower- and medium-valued partnerships

6.4.2.1 Insufficient reciprocity

Partnerships with extremely unbalanced representation in activities and, therefore, outputs (e.g. significantly fewer PhDs earned; student participating in a bi-directional exchange at a ratio of 15 to 1) were considered lower- or medium-value. Imbalances were most commonly observed in many partnerships that focused mainly on trainee placements for undergraduate and Master's students. Nineteen (19) partnerships focused principally on trainee exchanges. Twelve (63%) were calculated to be lower-value and the remaining 7 (37%) medium-value. The majority of the direct trainee beneficiaries were trainees from HIC-based universities. In multiple cases, groups of trainees came from European and North American universities to some of the focus countries multiple years in a row without any, or only one, trainee from the East African universities going the other way.

6.4.2.2 Imbalance between Southern Partners

Three representatives of a focus university identified insufficient reciprocity within one consortia partnership led by a Southern university. They expressed strong opinions about the lack of benefits (PhD students supported by the project) their university received through the partnership. One KI stated, "instead of being considered a colleague we are being seen as a competitor ... it should have been our brother university." A project representative, based at another African university, however, noted that the selection criteria for candidates - strictly merit-based - was established and agreed to by all parties in advance. The best candidates were selected using a transparent process.

Examples of power imbalances detrimental to the perceived benefits of partnerships were found to exist within both North-South and South-South partnerships. One KI from a focus university stated that representatives from an African partner university who were supporting the development of an academic programme wrote to them stating they needed to own the outputs of the programme, a course being established at the focus university so the focus university terminated the partnership. A publication, not including the focus university representative as a co-author however, tells a different perspective. This situation is either an example of power imbalance within a partnership or different perspectives of an event. In either case it is another example showing that power dynamics and/or communication are

important to consider in South-South partnerships too. In fact, when resources are scarce, it is possible that the politics of resource allocation could be more intense between partners. Discussing partnerships between African universities, another KI at the same focus university concluded, “we are all struggling to develop as it were.”

6.4.2.3 Limited Scale of Participation

Two partnerships with only one representative involved from the international partner were perceived to be lower- or medium-value. The individual in the medium-value case resided at the focus university for long periods within a three-year placement. In the lower-value case, the partner did short placements over a number of years. In both cases, the representatives of the international partner were unable to attract colleagues from their country to participate in the partnership.

CARTA⁶⁴ was mentioned by Schools at both MU and UoN. Each School, Public Health and Nursing, respectively, had one PhD student supported by the Consortium. In addition to the student, CARTA was valued for the mentoring it provided for PhD supervisors. However, the scale of the partnership is limited so capacity will be increased slowly.

6.4.3 Categorizing Partnership Types

Applying Kernaghan’s five types of partnerships, 121 of 125 (97%), could be classified as either collaborative or operational. We categorized the 4 (3%) outliers as contributory (1), consultative (2) and phoney (1). The one partnership considered to be contributory was stated to be “very high” value by the representative who mentioned it because the contributory partner was able to secure a grant that would be implemented by another international partner at one of the focus universities. The first international partner in question was registered in the country but the second partner was not. This allowed funds to pass through the contributory partner to the international partner that was not registered. Both consultative partnerships were one-time visits to another university by a KI who was a member of a team establishing a new university. The phoney partnership had physicians from a HIC trying to establish a research partnership with a nursing program. However, we

⁶⁴CARTA is the Consortium for Advanced Research & Training in Africa. It was not determined to be a higher-value partnership by this study because at most 1 representative at an institution mentioned it. This is likely due to its scale. The structure and processes used by CARTA appear to be respected by its participants and members however.

think it may be more appropriate and useful to describe this partnership as “neo-colonial” instead of phoney since it is questionable if the international partner was trying to manipulate the East African university representative and neo-colonialism is often discussed in the partnership literature (Jentsch and Pilley, 2003). In this case, it appears that the physicians may have been trying to simply partner with the focus university to pursue their specific research interests. We also found that certain operational partnerships could be considered neo-colonial if one considers the power imbalances and control of project resources. One-way trainee partnerships that only placed HIC students at focus universities could also be considered neo-colonial.

In numerous, but not all, of the higher-value partnerships, faculty from the international partner resided in the city of the East African partner university and worked at the focus university. Examples included Indiana University, Duke University and University of Toronto at MU, LMU and University of Manitoba at UoN and LSHTM and Nijmegen at KCMUCo. There was no example of a Swedish university having long-term residential faculty placements at any of the four institutions, although a total of 6 Swedish universities at 3 of the 4 focus universities were calculated as being higher-value.

6.5 Discussion

6.5.1 Many Types of Partnerships are Valued Highly

Using Kernaghan’s framework, we found most partnerships to be collaborative or operational, although many clearly mixed the two depending on the activity. Some of the higher-value partnerships had core characteristics of operational partnerships; namely, when decision-making is not shared and power largely remains with one partner. The MU-Maastricht partnership is one example where, in the long-run, the durable outputs (the LRC - library, PBL pedagogy, faculty earning PhDs) were stressed by representatives as being of considerable value.

In general, the literature about international university partnerships puts forward normative guidelines of mutuality, shared resources, and long durations amongst the array of success factors of partnerships (KFPE, 1998, KFPE, 2014, Buse and Harmer, 2007, Horton et al., 2003, Casey, 2008, Shivnan and Hill, 2011, Mulvihill and Debas, 2011). On the surface, much of this partnership literature does not clearly allow for sufficient nuance when providing guidance about how to manage partnerships (KFPE, 1998, KFPE, 2014, Shivnan and Hill, 2011, Mulvihill and Debas, 2011, Anderson et al., 2014) based on the specific

context of the partnership. For example, neither efficiency nor, at times, maintaining control are clearly identified as being of fundamental importance, although as Buse and Harmer (2007) argue, they could be consistent with local needs or realities at a given time and thus potentially adhering to “best practice” guidelines. Casey (2008) mentions the need for balance between power-sharing and control when discussing leadership and managing change.

Other frameworks for examining global health partnerships complement Kernaghan’s; for instance, one presented by Brinkerhoff and Morgan (2010) who characterize capacity development activities in terms of: 1) being treated as a project or program; 2) using a strategy of incrementalism, or; 3) being characterized as emergent – an undirected process of collective action. Both partnerships involving German universities started with 10-years of DAAD funding. Heidelberg’s with MUHAS ended after 10 years and was only ever project-based. LMU’s partnership with UoN started as a project and continues in this format. It appears to be an important foundation block for the many ophthalmology activities in East Africa, including the development of ophthalmology programmes at KCMUC and Makerere and the establishment of College of Ophthalmology of Eastern Central and Southern Africa (COECSA), headquartered in Nairobi. Although starting as a project, the collaborative nature of the LMU-UoN partnership was evident from the beginning of the project, as evidenced by the joint-paper titled –*The Role of Traditional Medicine in Ophthalmology in Kenya* (Kimani and Klauss, 1983) – published only five years into the partnership.

It is also useful to consider the utility of The Eight Rungs of Arnstein’s (1969) *Ladder of Participation* for examining typologies of global health international partnerships. The eight rungs are divided up into three levels: 1) Lower – non-participation, which consists of manipulation and therapy; 2) Middle – tokenism, which consists of informing, consultation and placation tokenism; and 3) Upper - Decision-Making, which consists of partnership, delegated power and citizen control. A partnership or a project can commence when a focus university, or programme or school within it, is at various stages of development or maturity. How partners interact will correspond to the experience and knowledge of each representative in the partnership, the level at which each partner university can engage, and the type of partnership it is. While the approach used within a partnership should always be respectful, it may not be appropriate for it to be collaborative at a given stage of an intervention or a specific project.

6.5.2 Too appreciative of partnership results?

The comprehensiveness of some partnerships is overstated in the literature. For example, Mulvihill and Debas (2011) report that one of the success factors of the MU-IU relationships is "collaboration among virtually all major disciplines at both schools". While it is true that there have been interactions between representatives of Medicine, Nursing and Public Health from the two universities, the intensity and scope of the interactions between the three faculties were uneven. Extrapolating the results of one particular component of the programme – such as HIV/AIDS prevention and care (Einterz et al., 2007) – to all activities of a partnership and seemingly the entire College of Health Sciences, as Mulvihill and Debas do, overstates the breadth of partnership benefits for each HPP and all three components (education, research and service) of an academic health sciences centre. This is especially a risk when an Appreciative Inquiry (AI) approach (Cooperrider and Srivastva, 1987) is used by those writing about their partnerships, since the “positivity” of AI’s action-research approach for organisational development is often emphasised by its users instead of its “generativity” (Cooperrider and Srivastva, 2014), resulting in limitations being downplayed (Inui et al., 2007). An IU KI comment that they have done the “best job” in care, a “commendable” job in research and were “weakest” in education supports this. The KI continued by stating that the MU-IU MEPI grant was designed to address education weaknesses, but unfortunately the grant wasn’t secured.⁶⁵ In addition, in the case of MU, the contributions of other partners in supporting the development of its College of Health Sciences are also valuable, both those within the AMPATH Consortium – such as Brown University in tuberculosis (Carter, 2013), Duke University in cardiology (Binanay et al., 2015) and the University of Toronto in Reproductive Health (Spitzer et al., 2014)⁶⁶ – and others partnering with MU outside the AMPATH Consortium – such as Linköping (Student Exchanges, Nursing) and Maastricht Universities (LRC, PBL and PhDs).

⁶⁵ This is somewhat ironic since Frenk et al (2010) identify the MU-AMPATH Consortium model, led by IU, as one of the partnership models that “sparked” the launch of MEPI.

⁶⁶ The fields appearing in parenthesis were stated by KIs of MU. Examples of corresponding publications are presented. MU representatives emphasised Internal Medicine, Paediatrics and Surgery as the Departments where Indiana University supported capacity building in the College of Health Sciences the most, in addition to HIV/AIDS prevention and treatment and establishment and support of RSPO. It is important to note that the activities of the universities in the AMPATH Consortium are not limited to the Department that they support. Representatives from Brown, Duke and Indiana have all been involved in Reproductive Health activities and while MU representatives identified Toronto as the lead North American university Indiana University has been a co-lead within the Consortium and has had long-term faculty placements in Eldoret.

By interviewing a range of representatives from the focus universities, nuance insight was gained into many of the partnerships lacking in the literature, as some published surveys on Global Health partnerships seek the perspective of only one representative from an institution in a partnership . Whether the individual is directly involved in the partnerships or from Medicine, Nursing or Public Health will influence what is reported and the overall perspective of the benefit of the partnership. Furthermore, it is likely that nuance is often not reported in published work about partnerships. An interviewee in this study noted that it was decided that they would not report their “dirty laundry” in an article about a component of their partnership⁶⁷.

6.5.3 Perception of value is relative and education needs remain a priority

Comparing the value of partnerships across disciplines, duration, and changing contexts – not to mention the differences in the scale and resources involved in each partnership – is not easy. KIs perceived the value of specific partnerships relative to the actual tangible benefits that their school, or institution, gained from the partnership and the perceived value of other partnerships in which they were or are involved. Small-scale partnerships of short-durations (e.g. three years) that focused on clear needs of representatives of the focus university were highly-valued. In contrast, there are examples of larger-scale, longer-term partnerships at the same institutions that were not considered higher-value by some representatives because the partnerships were seen to benefit the international partner more. This supports the normative statement by Mulvihill and Debas (2011) that successful academic global health partnerships “should be primarily based on the needs and priorities of the less-resourced party.”

While many of the global health partnership toolkits focus on research partnerships (Afsana et al., 2009, KFPE, 2014, KFPE, 1998), partnerships that emphasised education activities including support for pedagogy, post-graduate training, and international exposure for undergraduates first were considered to be of more value for strengthening the capacity of the focus universities. A tool introduced here for measuring the relative value of partnerships is

67 The on-line Merriam-Webster dictionary defines *dirty laundry* as, “The private matters whose public exposure brings distress and embarrassment —called also *dirty linen*.” www.merriam-webster.com. (Accessed 13February 2017). However, it appears likely that significant challenges, not only private matters, partnerships experience are unlikely to be reported in publications.

the *exchange ratio of trainees*, which is used to keep track of the actual number of trainees involved in partnerships each year and compare the outputs between partners.

6.5.4 Power dynamics exist within all partnerships: South-South partnerships should not be idealized

There are many examples in the literature of power-imbalances existing within partnerships between HICs and LMICs (Shivnan and Hill, 2011, Odora Hoppers, 2001, Jentsch and Pilley, 2003), but South-South partnerships are not exempt from this trend. Several focus university representatives were disappointed with the approach followed by international partners from SSA or the limited benefits they gained from the South-South partnerships.

In one example, one respondent perceived that an international partner wanted to continue to own the curriculum once it was established. In another example, it was felt that the benefits of the partnerships were not spread equally, as the lead partner received more trainees. Even if the selection process and terms are agreed to by all parties in advance, if a partner does not feel it is benefiting sufficiently relative to other partners, the sense of partnership will may be questioned. In both cases, these partnerships linked more established southern universities with younger universities. A more established Southern partner can appear to dominate a South-South partnership in a similar way to established Northern partners in North-South partnerships. There are and will be differences of perspectives among actors and institutions. There are interests at stake among Southern universities just as there are among Northern universities (which are often in direct competition with one another, implicitly and sometimes explicitly) and therefore power and interest dynamics are at play in South-South partnerships just as they are in North-South and North-North partnerships. This is the case even when there are agreed-upon MOUs between parties - such MOUs do not guarantee that the interests, perspectives, and interpretations of each partner will always align. That there continues to be some kind of comforting myth that South-South relationships are necessarily and intrinsically non-competitive and even without any differences of interest or perspective, is what is surprising.

6.5.5 Strengths of partnerships maintaining focus on core objective and coordinating with others

Some KIs reported that the narrowness of partnerships was a weakness. Our findings suggest however that maintaining focus on specific, narrower objectives may be crucial to ensuring that results can be realised and sustained over many years. Indiana University has maintained its focus on supporting the School of Medicines Departments of Internal Medicine,

Paediatrics and Surgery while encouraging other universities interested in joining the AMPATH Consortium to lead in supporting MU in other disciplines. Similarly, Karolinska Institute is the overall lead for the Swedish universities partnering with MUHAS and has principally supported the School of Medicine, whereas Uppsala has supported Reproductive Health and Umea Nursing and Public Health. In the case of the AMPATH Consortium, the coordination of partners has been done by Indiana University. By working through Indiana University, both Duke and Toronto were likely able to partner with MU more quickly and produce results faster than would have been possible without coordinating with Indiana University. MU representations considered both of these to be higher-value partners approximately five years after the start of these partnerships.

6.5.6 The significance of some lower- and medium-value partnerships should not be minimized

Partnerships determined to be lower- or medium-value should not be considered unimportant. The importance of them is greater than simply future potential. Sometimes they provide opportunities that were stated to be very important to the focus university, although on a limited basis. Consider MUHAS' partnership with St. John's in Mzuzu, Malawi. St. John's provides MUHAS's nursing school with placements focusing on mental health without appearing to ask for anything, in return.

6.6 Conclusions

One-quarter of global health partnerships at four East African universities are considered higher-value by their representatives for building their HPPs' capacity. The partners come from within Africa, Europe and North America. In some cases, the perspectives of the same partnership vary significantly among representatives. Overall, representatives of the focus universities placed greatest value on partnership that supported post-graduate training, especially PhDs; support of new pedagogy and disciplines; infrastructure development, and; international learning experiences for their students. Collaborative partnerships may be the ideal type of partnership in theory, but sometimes an operational, contributory or consultative partnership may be as or more appropriate within a given context. A collaborative approach may not be justified for all activities or in a certain context, although as capacity increases at an institution this is less likely to be the case. Overall, international partners who prioritize the needs of the focus university, support it in increasing its long-term capacity, and best ensure that the capacity benefits realised favour the focus university will be considered the most valuable. Representatives of universities interested in forming new partnerships should

explore coordinating with existing partners or filling gaps in past partnerships to achieve higher-value status more quickly. There are administration and transaction costs associated with coordination but the inefficiency of not coordinating partnerships should be considered too. Ultimately, the role of coordinating global health university partnerships at each university rests with each university. International partners and donors should support the coordination efforts of LMIC universities.



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CHAPTER 7: PAPER 3 - THE INTERNATIONAL PARTNER UNIVERSITIES OF EAST AFRICAN UNIVERSITIES IN GLOBAL HEALTH: WHO ARE THEY, WHY DO THEY DO IT AND WHAT DO THEY VALUE?

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ABSTRACT

BACKGROUND: Globalisation and funding imperatives drive many universities to internationalise. In writing about university partnerships in Global Health, many scholars classify the partners as “North” or “South” and characterise the representatives of the international partners as uniform actors. Given the diversity within and among universities worldwide, partnerships are likely more complex.

OBJECTIVE: to analyse whether four East African universities especially value partnerships with the highest-ranking universities; and to evaluate who in the international partner universities partners with these East African universities and why.

METHODS: Fifty-nine key informants from 25 international universities partnering with four East African universities in medicine, nursing and public health participated in

⁶⁸ A link to the publication will be provided at: <http://hppafrica.org/research/>.

individual in-depth interviews. Transcripts were analysed thematically for why universities entered the partnerships and what they gained from them. Universities' international rankings were compared against the perceived value of the partnerships to the focus universities. We applied Burton Clark's framework of "entrepreneurial" universities, developed to examine how European universities respond to the forces of globalisation, to interpret the interviews.

RESULTS: Higher-valued partnerships were found primarily with universities ranked in the top 500 internationally. Almost half (47%) of the 115 bilateral partnerships were with the top 200 ranked universities; this group represented 62% of the higher-value partnerships but also 58% of the lower-value partnerships. None of the 13 partnerships with the world's top 15-ranked universities were reported as higher-value by the focus universities. Clark's framework helps explain how and why universities established international partnerships. Partnerships that are of interest to the *academic heartland* – research and education – were of greatest interest to the majority of international partners, especially universities ranked highest in worldwide rankings. The *development periphery* of universities was useful for helping to establish global health partnerships, especially those adhering to social responsibility. Donors facilitated partnerships by setting proposal guidelines that required it and individuals play important mobilizing roles.

CONCLUSION: Universities from across the cadres of worldwide university rankings are involved in global health partnerships. Universities are complex entities themselves and the various elements of them should be examined to determine why a specific university entered a specific international partnership and what benefits it accrues.

7.1 Introduction

Structural inequality arising from the wealth and resource disparities between universities in the global North and global South results in inherent power imbalances in interuniversity partnerships. It has been argued that this in turn results in the university partners from the less wealthy countries being dominated in the partnerships by the representatives from the wealthier or more powerful countries (Costello and Zumla, 2000, Chandiwana and Ornbjerg, 2003, Jentsch and Pilley, 2003). Conversely, in a context of globalisation, which is itself a driver of the adoption by many universities in the North and in the South of internationalisation policies and practices (Altbach and Knight, 2007, Knight, 2008), universities in the global South may be expected to prioritise partnerships with the highest-possible ranked international universities in order to secure greater access to resources, including intangible benefits such as prestige (Dean et al., 2015). In two previous papers, we mapped 125 distinct international university partnerships considered significant for increasing the capacity health professional programmes (HPPs) of four universities in East Africa (Yarmoshuk et al., 2016) and identified which of the partnerships were considered higher-value by their senior representatives (Yarmoshuk et al., Accepted) and why. In this paper we examine whether in fact higher-value partnerships from the perspective of these African universities map readily against university rankings, then shift our attention to the international partners and explore responses to three questions: Who are the international partners? Why do they enter into partnerships? What do they perceive to be the benefits of the partnerships?

7.1.1 Interrogating university rankings

International university partnerships often represent arrangements between unequals (Gaillard, 1994). The disparate characteristics of partners are rooted to a large extent in the respective level of development and wealth of the countries in which the universities are embedded: industrialized vs developing countries, higher-income countries (HICs) vs lower- or middle- income countries (LMICs) or North vs South, respectively.

Yet, in an increasingly fragmented world in which power is becoming more dispersed among countries (Keohane and Nye, 1989, Nye, 2002) and wealth is concentrated within individuals (Piketty, 2015, Piketty et al., 2014), inequality is a concern not only between countries but within them. Grouping universities simply by whether they are in a high-income or low- or middle-income country or a country in the Global North or South is inadequate. It does not provide sufficient contextual or institutional evidence for analysis of interuniversity

partnerships to group Harvard University (USA), with over 300 years of history and an endowment of over US\$30 billion, or University of Oxford (UK), with over 800 years of history and over US\$6 billion endowed, and Radboud University (Netherlands), with less than 100 years of history, or Linköping University (Sweden), which will turn 50 in 2025, especially since continental European universities don't have a history of endowments (Popham, 2006). A specialised (Nursing) university like the Swedish Red Cross University College that doesn't offer PhD programmes is a very different type of university again. Similarly, within sub-Saharan Africa (SSA) what analytic value results from grouping the Faculty of Health Sciences at University of Cape Town, whose roots date to 1912, with the College of Medicine at University of Malawi founded in 1991 or Saint John of God College of Health Sciences (Malawi) founded in 2003? Or, where does the Northern Ontario School of Medicine⁶⁹, a medical school formed by a partnership between two Canadian universities that serves diverse, often isolated, communities and identifies Aboriginal and Francophone communities as key stakeholders, fit in an aggregate ranking based on the overall income of the host country? A more granular understanding of the characteristics of each institution and the context in which it is situated is necessary to complement the high-, middle- and low-income classification.

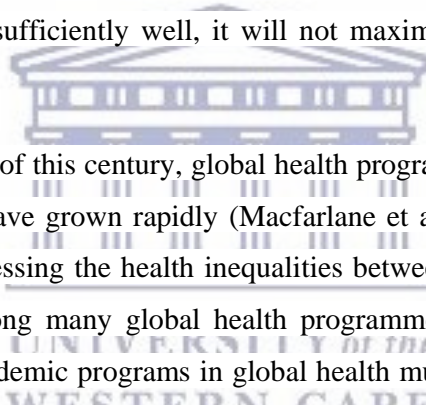
7.1.2 Who is involved in internationalising “a university”?

Just as it is not obvious that we should simply classify universities as simply being from the North or South, it is not obvious that “a university” is a singular entity speaking or acting with a single voice. Universities are complex organisations not simply because they are composed of multiple faculties or schools, that usually contain multiple departments themselves, but the principal professionals working in them are professors who strongly desire “autonomy and freedom” (Sporn, 1996). Administration units and centres are also within universities. The importance of the “human factor” and “paying attention to individuals” in international university partnerships was documented over twenty years ago (Neufeld and Alger, 1995).

Examining the development of entrepreneurial universities in recent decades, sociologist of higher education Burton Clark argues that most universities need to diversify funding as core

⁶⁹ www.nosm.ca. (Accessed 30 October 2017).

government support has been reduced at the same time as demand for higher education has increased with massification – “mass demand for higher education” (Altbach, 2004) - an explicit goal in most countries even while knowledge obtainment has become more expensive (Clark, 2003, Clark, 2001, Clark, 1998). He focused on four elements of an “entrepreneurial university” (Clark 1998): i) “the steering core”, which includes a university’s central administration, deans and chairs; ii) “the academic heartland”, the academic departments whose representatives lead and conduct education and conduct research; iii) “the development periphery” which includes centres and outreach offices engaging stakeholders locally, nationally, regionally and globally; and, iv) a “diversified funding base”, meaning that funding is from a variety of sources in addition to core funding from central government, whether federal or state/provincial. Because these elements tend to diverge in priorities and modes of operating, their coordination (or lack thereof) is also important: Clark’s fifth element is the “successful integration” of the first four elements. If a university fails to integrate the four elements sufficiently well, it will not maximize its ability to become an entrepreneurial university.



During the first fifteen years of this century, global health programmes in HICs, especially in United States universities, have grown rapidly (Macfarlane et al., 2008, Muir et al., 2016b, Merson, 2014). While addressing the health inequalities between HICs and LMICs appears to be a key motivation among many global health programmes, Macfarlane et al. (2008) caution that “... the new academic programs in global health must be set within the growing trend towards the “internationalization of higher education” [p. 391]. Examining Clark’s four elements may, therefore, also be useful when analysing how and why universities establish partnerships with universities in East Africa, in the name of global health.

This paper will explore what motivated international partners to partner with East African universities generally, who was involved in starting the partnerships, and what were the motivational factors for starting the specific partnerships. It will examine what led the international partners into the partnerships and what benefits they report to have realized from them.

7.2 Methodology

This study used a concurrent mixed methods design. Qualitative analysis was used to analyse key informant interviews (KIIs). Quantitative analysis was used to rank the universities and analyse the rankings in relation to the perceived value of the partnerships.

7.2.1 Participants

Fifty-nine (59) representatives from 25 universities on three continents (African n=3, European n=9, North American n=13) were identified as key informants (KIs) and individually interviewed for this study. The KIs represented 30 of the 125 (24%) distinct partnerships, including some of the 10 consortia identified, of four focus universities - Moi University (MU), University of Nairobi (UoN), Kilimanjaro Christian Medical University College (KCMUCo) and Muhimbili University of Health and Allied Sciences (MUHAS) - identified during Phase 1 of this study (Yarmoshuk et al., 2016). Approximately three-quarters, 23 of 31 (74%) of the higher-value partnerships were represented by the KIs. Over 60 percent (19 of 30, 63%) of the partnerships represented included a KI who helped to found the partnership in which they were involved.

Fifty-seven (57) of the KIs were current or past representatives of 24 partner universities in nine countries (Canada n=4, Egypt n=1, Germany n=1, Netherlands n=2, South Africa n=1, Sweden n=5, Uganda n=1, United Kingdom n=1, United States n=9). In addition, two representatives from two universities newly partnered with one of the four focus universities, but not mentioned by their representatives in Phase 1, were opportunistically identified and interviewed⁷⁰. This was done to gain additional perspective of newer international partners.

7.2.2 Data collection and analysis

We used a semi-structured interview guide for the individual in-depth interviews. KIs were typically asked additional questions specific to their partnerships. These questions are not presented in the interview guides to better ensure confidentiality.

Initial interviews were conducted between March 2014 and November 2015. Follow-up interviews were conducted and emails exchanged into 2017 to gather additional details and clarify issues. Interviews were conducted in-person or by phone/Skype by the first author (AY). All interviews were transcribed and analysed.

⁷⁰ One of these two KIs was from one of the 24 partner universities identified by the KIs interviewed in Phase 1 of the study. The other KI was from a university not identified by any KI in Phase 1. Therefore KIs in Phase 3 were from a total of 25 partner universities. However, some of the KIs interviewed in Phase 3 were from the same universities but involved in partnerships at different focus universities.

Thematic content analysis was conducted (Schreier, 2013) on all the transcriptions. One of us (AY) reviewed each transcript and coded them using Atlas.ti 7. The analysis focused on KI responses coded as “Start of Partnership”, “HIC Benefit”, “LMIC Benefit⁷¹”, “Funding” and “Central Admin Support” for responses from representatives from the 22 European and North and 3 African partner universities. Themes were then related to Clark’s five elements.

7.2.3 Ranking the universities

We identified how each of the international partner universities and the four focus universities ranked internationally. We did this by averaging their respective scores in the 2014 and 2017 Times Higher Education (THE) and the January 2017 Webometrics World Rankings of Universities (Webometrics) where possible. THE was used because it is one of the three main university rankings (Soh, 2015) and makes specific reference to Africa. Webometrics was used because it appears to be the most inclusive ranking system with over 20,000 universities listed.

In a previous paper (Yarmoshuk et al., Accepted), we reported how the 125 partnerships were determined to be “higher-value”, “medium-value” and “lower-value” from the perspective of senior representatives of the four focus universities. Ten of these partnerships were formal consortia. We did not include data from the consortia members in this particular analysis, leaving 115 distinct partnerships. Eighteen (18) of the international partner universities had bilateral partnerships with two, three or all four focus universities. Therefore, the 115 distinct partnerships were with 88 universities.

We did a chi-square test for independence between the categorical variables of *perceived value* (dependent) and *world university ranking* (independent)⁷². These calculations were done using the Crosstabs function in SPSS 24. The association between perceived value and university ranking was assessed through Cramer’s V value.

⁷¹ In the coding “LMIC” was used for specific benefits for perceived benefits for the international partners from Egypt, South Africa and Uganda. “LIC” was the code reserved for perceived benefits for the focus universities.

⁷² As noted earlier how the perceived value of each partnership was determined was reported in an earlier paper. See: YARMOSHUK, A. N., MWANGU, M., GUANTAI, A. N., COLE, D. C. & ZAROWSKY, C. Accepted. What makes international global health university partnerships higher-value? An examination of partnership types and activities favoured at four East African universities. *Annals of Global Health*.

7.2.4 Ethics approvals

Ethics approval was obtained for the entire study (Phases 1, 2, and 3) from: the Senate Research Committee of the University of the Western Cape (13/5/15); Institutional Research and Ethics Committee Secretariat of Moi Teaching and Referral Hospital / Moi University School of Medicine; Ethics and Research Committee, Kenyatta National Hospital / University of Nairobi; and, National Institute for Medical Research in Tanzania. Research Clearance was received from the Tanzanian Commission for Science and Technology.

The most critical ethical issue was preventing attribution of specific comments to specific individuals since the study included relatively few universities, partnerships and representatives. In this phase of this study, we sought to minimize this risk by increasing the number of partner universities and representatives from them interviewed. In those few circumstances when we felt this standard might not be met we contacted the individual(s) to determine if they wished to include a clarifying statement or rebuttal. Only when a KI specifically stated that something was “off the record” was it not included. In some cases, the interviewer (AY) specifically asked if a statement was “on record”.

7.3 Findings

7.3.1 Partnerships are often among “unequals”

To begin to answer the first question – Who are the international partners relative to the focus universities? – and to test the common hypothesis that “lower ranking” universities simply value partnerships with as high a “higher ranking” university as possible – we will report how all of the universities in the study compared to each other based on a number of world university rankings. We will assess the extent to which the partnerships are between extreme unequals and how relative university rankings are associated with how the partnerships are valued by the “focus” East African universities.

The topped ranked focus university, UoN, ranked 788⁷³. The majority (72.2%) of the 115 bilateral partnerships of the four focus universities were with universities ranking in the top 500 universities in the worldwide rankings [see: Table 7.1 Ranking Groups of International

⁷³ This was calculated based on rankings of 801 and 775 by THE 2017 and Webometrics January 2017, respectively.

Partners by Perceived Value of Partnership, Cross-tabulation]. Over half (53.9%) the partner universities were ranked in the top 200.



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Table 7.1: Ranking groups of international partners by perceived value of partnership, cross-tabulation						
			Perceived Value of Partnership			Total
			1 -Lower	2 -Medium	3 -Higher	
Ranking Groups	1 - 1 to 200	Count	29	15	18	62
		% within Ranking Group	46.8%	24.2%	29.0%	100.0%
		% within Value Group	58.0%	41.7%	62.1%	53.9%
		% of Total	25.2%	13.0%	15.7%	53.9%
	2 -201 to 500	Count	5	9	7	21
		% within Ranking Group	23.8%	42.9%	33.3%	100.0%
		% within Value Group	10.0%	25.0%	24.1%	18.3%
		% of Total	4.3%	7.8%	6.1%	18.3%
	3 - 501+ and not ranked	Count	16	12	4	32
		% within Ranking Group	50.0%	37.5%	12.5%	100.0%
		% within Value Group	32.0%	33.3%	13.8%	27.8%
		% of Total	13.9%	10.4%	3.5%	27.8%
Total	Count	50	36	29	115	
	% within Ranking Groups	43.5%	31.3%	25.2%	100.0%	
	% within Value Groups	100.0%	100.0%	100.0%	100.0%	
	% of Total	43.5%	31.3%	25.2%	100.0%	

Over 85% (86.2%) of the higher-value partnerships were with partners ranked in the top 500. However, almost half, 29 of 62 (47%) of all the partnerships with the world’s top 200 universities were considered “lower-value” by the senior representatives of the focus universities. In addition, although there were 13 partnerships with universities ranked in the top 15 of universities worldwide, none of the partnerships with these universities were considered higher-value by the focus universities – as discussed in the previous chapter (6), three characteristics (addressing a priority need, institutionalization of results, reciprocity) superceded funding and prestige and were shared by all higher-valued partnerships (see: Yarmoshuk et al., Accepted). Four universities involved in higher-valued partnerships with

the four focus universities ranked lower than 500 worldwide (3) or not ranked at all (1). The Cramer's V value for the association between the perceived value of the partnerships and the worldwide ranking of the international partners was calculated to be 0.182, a weak relationship, with marginal significance using relaxed criteria (p-value =0.108) (Cohen, 1992).

7.3.2 Initiating a partnership and essential contextual conditions

In some cases, a representative or representatives of the international partner approached representatives of the focus university directly to propose partnering. In other partnerships, a representative of the focus university approached a representative of the international partner. In still other cases, there was an intermediary; for example, a representative of the World Health Organization (WHO), a donor agency, a colleague or a relative who made introductions or encouraged a meeting. Other times, as in the case of Dalhousie University and MUHAS, a director of a nursing programme in an HIC met a former student now based at an LMIC university at a conference and they agreed to address a need through a joint project partnership (Twohig, 1998). Each partnership had its unique history that includes a variety of actors, motivations and serendipitous events. Often the stories are long and rich (Quigley, 2009, Krotz, 2014).

Depending on the specific type of partnership (Kernaghan, 1993, Yarmoshuk et al., Accepted), the importance of the contextual issues to partners varied for the international partner. For example, the stability of the country and resulting security for visiting representatives were important in all cases, although the degree of importance varied to some degree depending on whether or not students, especially undergraduate students, were likely to participate in addition to faculty. The ease of obtaining student visas, working visas/permits and/or medical licenses was important depending on the nature of the activities conducted. Some international partners that planned to have their representatives reside on-site for many months or years mentioned that the level of development of the specific locale of the university needed to be of a sufficient level to make it desirable for family members. Other representatives within the same partnerships considered the quality of primary and

secondary schooling available if they had children of school age⁷⁴. A hospital climate was mentioned by some study participants. Some international partners were interested in a specific area of medicine; for example, ophthalmology, internal medicine, or cardiology. These points are important for understanding how partnerships start and develop but do not address the core motivations for partnering internationally.

7.3.3 Motivations for partnering with the focus universities

Five primary themes, two of them with two categories each, emerged from our thematic analysis for why partnerships started. All of them fit within the first four of Clark's elements for examining entrepreneurial universities [see Table 7.2 Themes for Partnering Organised by Clark's Elements]. Illustrative examples of the themes are presented and discussed in the narrative following Table 7.2. A number of the themes or all of the themes can often be observed within the same partnership.



⁷⁴ Locations with primary and secondary schools with International Baccalaureate® (IB) programmes – see <http://ibo.org/>. (Accessed 30 October 2017) would likely be better able to attract some long-term placements

Theme Explaining an Interest in Partnering	Relevant Clark Element	Types of Activities
1. Internationalisation	Steering Core – Central Administration	1.1 Seed funding 1.2 Establish policies 1.3 Memorandum of Understandings (MOUs)
2. Conduct research 2.1. Access to expertise (knowledge) or an opportunity that their institution or country lacks. 2.2. Essential to mandate 3. Education – Trainee Interest	Academic Heartland – research & training	2.1 Towards post-graduate degrees (Master's & PhDs), publications, expanded research network 2.2 Novel research in tropical medicine (e.g. LSHTM and LSTM) 3. Secure sites for trainee placements (undergraduate and Master's) for service placements, exposure to research methods, electives, practicums).
4. Social responsibility	Development Periphery – centres and programmes engaged in outreach	4. Capacity building and/or strengthening in education, research and/or service
5. Funding 4.1. 2 nd Stream – soft money 4.2. 3 rd Stream – soft money or discretionary funds	Diversified Funding Base – additional to traditional government sources	5.1 Grants and contracts from research councils 5.2 Local government, philanthropic, foundations, student fees

Many international partners were motivated to establish and sustain partnerships with the East African universities by their desire to provide members of their academic heartland, faculty and students, with opportunities to conduct research and to provide trainees with educational opportunities of interest to them. Somewhat less common but still an important theme, however, was the desire expressed by several representatives to be socially responsible. The need to form partnerships to secure grants was also found to be a motivating factor for establishing new international partnerships. Often two or more motives were observed in the same partnerships, either simultaneously or during different stages of the same partnerships. The examples below illustrate how these themes were articulated by respondents in recounting the histories and importance of the partnerships to their institutions, units, or programs of work.

Research motivated many universities, especially research focused universities, to partner internationally. Representatives, faculty, post-docs and *trainees* (PhD students) from Harvard University all conducted research at MUHAS. Harvard representatives indicated that

the university tends to lead with research when it comes to partnering internationally, although training and education activities and public health practice (i.e. knowledge translation) for MUHAS, were also part of the partnership, as was service by way of HIV/AIDS treatment in partnership with MUHAS and the city of Dar es Salaam.

The London School of Hygiene and Tropical Medicine (LSHTM) is upfront when discussing the need for partnerships in LMICs in order to do its work. In its 2014 submission to the Research Excellence Framework, the LSHTM stated, “Partnerships in low- and middle-income countries are also essential for our research aims” (p. 20) before noting that KCMUCo was one of its five principal partnerships globally (REF, 2014). This comment was also made by LSHTM representatives in Moshi. Although LSHTM may be principally concerned with achieving research aims through partnerships with universities in LMICs, it was also involved in capacity building activities with KCMUCo such as supporting and training Master’s and PhD students.

Duke University’s partnership with KCMUCo began when a professor at MUHAS moved to KCMUCo and asked some Duke representatives if they were interested in partnering with the new medical school. Some Duke representatives ceased or curtailed their activities at MUHAS and started activities with KCMUCo. Duke’s initial focus was largely on experiences for US *trainees*; specifically providing clinical rotations for US medical residents through the National Institutes of Health NIMHD Minority Health International Research Training Program (MHIRT)⁷⁵, although research links were also established with the teaching hospital, Kilimanjaro Christian Medical Centre (KCMC).

Some partnerships were driven principally by the desire to be *socially responsible*. This was the case of the partnership between UoN and Ludwig-Maximilian University of Munich (LMU) in Germany:

The starting point of the initiative of the training relationship between the university and hospitals was basically the relationship between Kenyatta Hospital and University of Nairobi and Munich, and it is down to personal initiative of ... [one individual – a German

⁷⁵ For details about MHIRT, see: <https://www.nimhd.nih.gov/programs/extramural/international-research-training.html>

ophthalmologist] who spent time in Africa and started with the idea that it could be a good idea to join the two together.

The German ophthalmologist had spent two years in Mbarara (Uganda) at an upcountry hospital between completing his medical degree and the specialising in ophthalmology at LMU. During his M.Med, he expressed to the head of his department that he wished to return to Africa and “teach so that we can multiply the number of specialists.” With the assistance of the German foreign office, LMU sent letters outlining a proposal idea to German Academic Exchange Service (DAAD) in many countries. Only DAAD representatives in Ethiopia, Kenya and Tanzania replied stating they were interested. The economy of Tanzania was in a miserable state and he and his wife (who is also an ophthalmologist) were told by other expatriate physicians “Don’t come here” because promises made could not be kept. In Ethiopia, the *Derg* was in power following the overthrow of Haile Selassie I. As a result of the adverse contexts elsewhere, Kenya and the UoN were selected. The German ophthalmologist and his family lived in Kenya from 1978 to 1985 to help establish UoN’s MMed in Ophthalmology. As the partnership matured, trainees from LMU also benefited by means of clinical placements and research.

The desire to be socially responsible by supporting the focus universities in *building their capacity* was also observed at the start of other partnerships, including: Dalhousie University (Canada) and MUHAS; Indiana University and MU; University of Toronto and MU; and Radboud University and KCMUCo. In the first case, the partnership implemented a \$1.2M project funded by the Canadian International Development Agency (CIDA) between 1988 and 1993. The Tanzania Nursing Education Program’s principal outputs were nine Tanzanian graduates from Dalhousie University School of Nursing - 6 with bachelors’ degrees and 3 with masters’) - and establishment of a bachelor of science in nursing program at Muhimbili (Twohig, 1998).

Representatives of Indiana University desired to focus on building the capacity of a specific type of LMIC institution. One member of the team commented:

Though I could have partnered anywhere, or (at least) in many different places. [Another member of the team] said, "No, we need to focus on partnering with another academic health centre.

Almost 20 years later, the same IU representative would restate his conviction that North American medical schools are best placed to support the improvement of health services in

SSA by partnering with academic health science centres (AHSCs). He persuaded a University of Toronto visiting representative to Eldoret (Kenya) to return to their university and convince their Department of Obstetrics and Gynaecology to partner with MU in Reproductive Health through the AMPATH Consortium, instead of partnering with a district hospital near Lake Victoria.

Other international partner study participants either stated directly or tacitly that it was important to support the development of the focus university and their teaching hospitals as AHSCs, and the tripartite mission of education, research and service that AHSCs embody (Kohn, 2004). A representative of Radboud University in Nijmegen (Netherlands) mentioned how KCMC (the hospital), KCMUCo (the university) and KCRI (the research centre) are now becoming a “university medical center”. As the new millennium commenced, Duke representatives hinted at the advantages of combining two aspects of AHSCs, research and service, to a KCMUCo representative by stating that HIV/AIDS research could bring with it that free anti-retroviral therapy (ART) but the KCMUCo representative, who already appreciated the value of AHSCs, considered the prospect of free ARTs unrealistic. It was only after KCMUCo and Duke secured securing the US\$10million, five year MEPI grant in 2010 that this partnered address the institutional capacity building needs of KCMUCo on a large scale and it led with the education component of the tripartite mission.

Frequently *more than one motivating factor* was at play simultaneously; for example, trainee interest at a university may drive a university to secure international placements at the same time faculty members want to conduct research and a global health leader is concerned with the whole process being socially responsible. One respondent from a US university expressed this opinion:

[These partnerships]... are really responding to demands first of students. ... Overseas engagement ... is led one part by researchers but the larger part ... [is] student interest. It was really for us a question of how to ethically support an engagement but also how do you ethically provide and ensure that you're just not passing your students off overseas - charging them tuition and making them somebody else's responsibility and relying on their hospitality to do so.

Some donors are beginning to encourage, require and/or support SSA universities to develop the project concepts or have them initiate the partnerships; for example, SIDA had MUHAS write the *Concept Note* for a five year research programme (MUHAS, 2014c). This is true for both bilateral and consortium partnerships, whether South-South, South-South-North or

South-North. A Makerere University representative outlined how USAID used this approach to first bring Makerere and MUHAS together and then other Schools of Public Health in East Africa through Leadership Initiatives for Public Health in East Africa (LIPHEA):

The model by which requests for proposals are structured, in such a way that the South to South universities get together to put together a proposal in capacity building that you can then offer to a funder in the North is the creme de la creme of capacity building. Take the case of LIPHEA, but I had to link up other universities. I brought all deans together. We all have gaps. We sat together to build a proposal. Makerere is strong in Epidemiology. MUHAS is strong in Social Scientists.

The SSA universities were the leads for The US National Institute of Health (NIH) Medical Education Partnership Initiative (MEPI) (Collins et al., 2010). The Fourth Round of the British Council Development Partnerships in Higher Education (DeLPHE) required that only higher education institutions in LMICs lead the proposals and “encouraged” South-South and multilateral partnerships. MUHAS prepared the concept note for a recent grant opportunity funded by The Swedish International Development Cooperation Agency (SIDA) (MUHAS, 2014c). In at least the first two cases, MEPI and DeLPHE, some of the successful grants were written principally by the Northern partners, albeit in consultation with their SSA partners.

Grantsmanship is, of course, an important issue in the competitive world of seeking, securing and sustaining funding. This was noted by a US study participant who was leading a project that was not focused on HIV or AIDS research but kept making reference to it. The KI stated,

We have to sort of insert HIV periodically into things. [Under a previous project administrator at the organisation it was understood that] ... yeah, cervical cancer screening." Yes, that's important for HIV. Giving people primary care and screening them for their hypertension and diabetics, that's probably important for HIV infected people. Now, everything is put in these buckets ... It's really complicated. I see this (the programme I lead) as a global program but I'm also realistic that to get the funding, we have to sometimes direct [our writing] towards an interest [of the donor].

In another example, a northern university encouraged a South-South partnership. The University of Bergen, using Norwegian government funding (NORAD), contracted the University of the Western Cape (UWC) to help MUHAS develop part of the curriculum for its Globalization and Health course. The initiative for this link came from the Norwegians. MUHAS was supported with a module for its course while UWC benefited from having a module for one of its courses updated.

This leads us to the issue of who specifically at the international partner universities is involved, in whole or in part, in establishing the partnership and the perspective that each of these individuals brings based on their values, life experience and the position they hold at their university.

7.3.4 Who initiates and sustains partnerships and what do they value from it?

The five elements identified by Clark for creating an entrepreneurial university were found to be useful for examining how partnerships were established between the international partners and the focus universities. Further, individuals within each element were important for determining if a partnership was ultimately pursued, initiated, developed and sustained.

7.3.5 Development periphery

Initially, the establishment of some partnerships began in the “development periphery” or outreach centres of the international partner. Some, through persistence, changing context or the value of activities to the portfolio of the international partner, became institutionalized at the university. Others remained largely on the periphery. Ultimately the challenge was to integrate the activities of the partnership into the core educational and research activities, what Clark calls the academic heartland, of the institution. This is supported by a number of statements by KIs. One North American representative stated:

We knew we'd only get one chance at this [idea of establishing a long-term partnership]. We were not experts in global health. As you know, global health wasn't even a term back then. I think we called it international health or international medicine, these sorts of things. We knew though that we would only get one chance at success here. We were kind of pushing our own school about as far as they could be pushed. Even as far as they could be pushed, even though they weren't really supporting us. These all came from the division. We thought, 'Let's go where we think we can be most successful initially, and then try to expand from there.'

A European representative made a similar comment about the support he received from the individual to whom he reported, stating:

I sat down with my head of department and asked, ‘what would you think if we were looking for a partner somewhere in the developing world for long term partnership with the aim of training people there?’ He said, ‘wonderful idea, I'm with you, don't expect too much input from my side in term of letters, work, travel, etc. You do all of that but I support you’

7.3.6 Academic heartland

Mainstreaming or institutionalizing the activities of the partnership into the core activities of the partner university's work, education and research, within a department or formal centre of the university, best ensured that the international partnership will be sustained. Partnerships that commenced with research being conducted by a faculty member were this type of partnership from the beginning. Dartmouth University's relationship with MUHAS began this way in 2001, "... the partnership started because we were doing clinical research, vaccine trials, looking at TB and HIV co-infection." Additional research work was conducted, educational placements were made possible and capacity building activities for MUHAS in Hanover, New Hampshire were established.

The importance of having faculty leads was emphasised by a representative of a US university:

I think what matters most in any collaboration ... what I've learned over the years, is faculty. Are there faculty with similar interest? Because if there aren't faculty with similar interests, no collaboration will work. That's first and foremost, to me, the sure sign we're going to have a success. Because if we don't have that match, it doesn't work, okay.

Now, other things are important, certainly. For example, like how capable is the other university at doing research or education. What is its quality, in a relative sense? What is its potential to grow? What is the commitment of the leadership of the institution to be a leaning institution in a particular field? That's important to me because that means it's also likely that we'll have a good partnership.

I guess another important quality is that they are an academic institution. In other words that ... they have students. I don't think very often it pays to collaborate with NGO's as much as it does, with universities. So, I like to know, that first and foremost, it's a university, and not an NGO. That sometimes is a problem we found.

Those are three things that come to mind.

Rooting a partnership in the academic heartland of the university allowed for the possibility that the partnership may be institutionalized at both partner universities. Some partnerships were able to combine faculty research with trainee experiences. This enabled both the research and education needs of the international partner to be met. However, even a partnership that secures significant 2nd and 3rd stream funding, offers educational placements

for its trainees and publishes numerous papers may not be valued across a research focused university. This was illustrated by study participants from an R1⁷⁶ university in the USA when they recounted a conversation with their boss. The study participant stated: “I showed him all the stuff, 14 million dollars worth of funding and he says, ‘Great, (but) where is the science?’”

7.3.7 Support from Central Administration and others in the Steering Core
“None”, was frequently the initial response to the question, “What support do you get from central administration at your university for the partnership?” Upon reflection, however, many of the study participants admitted they received some support from central administration. Other representatives stated as soon they were asked that they received support from central administration (what Clark refers to as the Steering Core), even if they would have appreciated greater support. This was expressed by a Duke representative involved with KCMUCo:

Even the president of Duke has visited KCMC which was fantastic, the dean of the school of medicine, Bart Haynes the head [of] the Duke human vaccine institute, Mike Mersen [Director of Duke’s Center for Global Health] has been there a couple of times, so I think that in terms of university leadership, we have had quite a bit of support. Is it fully sufficient? No. I would like to have more support.

At Duke University the chancellor provided a third of the salary for a one-year global health residency while the surgical department paid the other half. At the time, this arrangement was only guaranteed for an additional two years.

In the case of the University of Toronto, a grant from the University’s Academic Initiative Fund provided two years of initial funding to the Centre for International Health to establish the HIV/AIDS Initiative-Africa in 2005. It was the lead of this initiative who first met the Indiana University field director at MU and coordinated approaching the Chair of the Department of Obstetrics and Gynecology to become a partner of MU as a member of the AMPATH Consortium. The department identified *social responsibility* as an objective in its

⁷⁶ R1 refers to the top level of research universities in the Carnegie Classification of Institutions of Higher Education in the United States. These are doctorate-granting universities. See - <https://en.wikipedia.org>. (Accessed 26 October 2017).

recently conducted strategic planning exercise and argued that a partnership with MU, focused on capacity building of its Department of Reproductive Health, would help assist in realizing this objective. It was also likely fortunate that the chair of the department was also the chair of OBGYN at one of U of T's teaching hospitals. This facilitated some matching funds in the initial years. Two consecutive 3-year grants from a high-value University of Toronto donor, who had initially encouraged the Director of the HIV/AIDS Initiative-Africa to visit Eldoret, allowed the department to play a leading role in supporting reproductive health at MU.

Although a number of respondents specifically mentioned 'social responsibility' they did not define it. Two faculty leads in North America commented that their international partnerships in East Africa came out of departmental discussions. One of them stated that this included:

the concept of being a sort of global citizen with respect to our work and this was part of how to actualize that part of our vision. ... A lot of departments ... are parochial and really only look after their most local concerns they might have. Whereas we are trying to improve the health of the women [state-wide and] have an impact globally.

This quotation blends the concepts of social accountability, social responsibility and certain metaphors of global health.

It is questionable if the development (i.e. fundraising) representatives of the faculty of medicine desired to pursue funding from a key private foundation for international capacity building. It appears likely that when the HIV/AIDS Initiative-Africa was initiated many university administrators desired that the initial support would build research partnerships that would better enable securing grants from pharmaceutical companies and private foundations like the Bill and Melinda Gates Foundation (Oleksiyenko, 2008). Ultimately, however, U of T's partnership with MU has become one of the faculty's two featured international outreach activities in "building capacity locally to meet local needs" [(Faculty of Medicine, 2014), pp.23-24]. Both of these types of global outreach partnerships are in East Africa (the other one is the Toronto Addis Ababa Academic Collaboration or TAAAC)⁷⁷. All

⁷⁷ See: <http://taaac.com/>. The founder of TAAAC was a VSO volunteer in Ethiopia in the 1970s

the other international partnerships highlighted in the 2014 Faculty of Medicine Annual Report, with Brazil, European Union, China and Australia, focused mainly on research and policy collaborations, except for those in the Middle East that include “contractual agreements”. Moreover, with time, partnerships addressing social responsibility also allowed the university to compete for grants – thereby fitting directly with the traditional mission of a university and therefore the needs of the academic heartland of universities. This was the case in 2013 when members of the University of Toronto partnership with MU led a submission for a Gate’s funded grant that that would have brought together a number of leading researchers from across Toronto Academic Health Science Network thereby supporting the research objective of the university as the partnership also addressed social responsibility.

Dalhousie University, like the University of Toronto, had partnerships in other areas of the world that were based on contractual agreements. These types of partnerships address health inequalities but do not share all the characteristics of collaborative global health partnerships. They are paid consultative or operational partnerships.

One important issue identified as a concern for central administration was managing the risk associated with international partnerships. An administration official from a Canadian university outlined how their university views risk, stating:

... so first of all you have to define what type of risk you are looking at right? Because we like to define risk fairly broadly. So yes there is definitely say personal safety risk, right that we have to look at I think that’s kind of what you are asking right now but there is also things like reputational risk, there is relational risk, there is financial risk.

The need to use a more systematic and centralized approach to risk management of international partnership activities was implied earlier in the same interview when the study participant stated, “... going forward our office will be more involved in terms of risk assessment and partnership management and things like that.”

7.3.8 Social responsibility⁷⁸

The growing importance of social responsibility, defined here as the “ethical ideology or theory that an entity, be it an organisation or individual, has an obligation to act to benefit society at large” [quoted in Kwizera and Iputo (2011), p.649], as an important value to promote in medical school was expressed by the department Chairs in schools of medicine at a R1 university in the United States and a large Canadian university. The USA representative stated:

Now that we've seen the higher quality residents that are attracted to our program, even the faculty who might look a little bit askance at spending money in Kenya understand that it does recruit a different caliber of resident. ... when I came [to this university] the residents were... they wanted to be very well trained and they wanted to go out and earn a good living. They were American... typical American physicians, they were not globally minded. ... and now we find they're much more interested in local under-served and global under-served [populations], family planning ... learning about methods of family planning.

There was one notable example of central administration playing a very direct and larger than usual role in the establishment of a partnership. A former school of medicine dean and chancellor of the University of California, San Francisco (UCSF) was stated to be central to the establishment of the UCSF-MUHAS partnership when he became Executive Director of UCSF Global Health Sciences upon the conclusion of his term as dean⁷⁹. An Eritrean by birth, it is likely that this individual's participation in the initiation of a long-term partnership with MUHAS was instrumental in establishing it quickly based on comments from some representatives at the university, although others made it clear that it took a team of skilled representatives from across the university to successfully implement the partnership's first large grant relatively quickly after the partnership was established. Their participation early on, along with the participation of the vice-chancellor of MUHAS, in the development of the partnership likely played a role in identifying a key need for MUHAS and mobilizing representatives across UCSF to implement the project, once a multimillion dollar grant was secured from the Bill and Melinda Gates Foundation. As one UCSF study participant stated:

⁷⁸ It was observed that the terms social responsibility and social accountability were used interchangeably by a number of study participants.

⁷⁹ See: <http://history.library.ucsf.edu/debas.html>. (Accessed 26 October 2017).

We met his [MUHAS Vice-Chancellor Kisali Pallangyo] senior faculty. They met us and we discussed what it was that would be of value for us to collaborate. And I think at that stage, ... it was really fairly unusual because it was very high level. It wasn't some kind of one faculty forming a relationship with another ... [who] decided to do a research project.

Later in the same interview, the discussion went as follows:

Interviewer: What was the total [dollar value] that was allowed?

Interviewee: Seven and a half million [US]. ... It was a lot of money so we took it to three years.

Interviewer: I find it very interesting that you were actually given a \$7.5 million project without much of a foundation to the partnership⁸⁰.

Interviewee: Yes, I suppose it's a good question. I suppose they [Gates Foundation representatives] went and visited MUHAS and time that and time here and I suppose as program officers, they felt that this . . .

Interviewer: They had the leadership of both institutions.

Interviewee: Yes.

Other UCSF study participants from UCSF made similar statements.

Individuals played a critical role in establishing partnerships. The majority of lead representatives from North American and European universities who initiated partnerships had previous overseas experience. Frequently this experience was obtained while they were a trainee or in a voluntary capacity. The importance of leadership at the focus universities was found to be equally important. The founding dean of MU School of Medicine was entrepreneurial in networking. He visited other schools training their health professional students using problem-based learning (PBL), after he was encouraged to use this, then, new approach by the WHO. It was noted that he and other members of MU continued to network through the Network of Community-Oriented Educational Institutions for the Health Sciences (Schmidt et al., 1991, Oman et al., 2007). This is one example of a focus university representative who sometimes reached out to representatives of international universities to explore partnering.

⁸⁰ Earlier in the interview the study participant stated that the other two projects funded by Gates Foundation at the same time "... were both very long standing relationships whereas ours was newer as you gathered."

7.3.9 Reverse innovation?

No clear examples of reverse innovation were identified. One example of observing an event in Tanzania and implementing a similar event at their institution in the United States was mentioned. An American professor mentioned that faculty from MUHAS organised a “teaching collaboration” session. The professor stated “It was a really excellent way of getting together with the faculty and exchanging challenges that you were facing in the classrooms and stuff like that.” Faculty from the American university continued with it thereafter.

7.4 Discussion

7.4.1 Top 100 universities are not the only valuable international partners

Our assessment of the association between world ranking of the 88 universities that partnered with the four focus universities and the focus university perceptions of value found a weak relationship. This was surprising for two reasons. One, attention is often focused strictly on the top ranked universities when discussing capacity building partnerships with universities in LMICs, as Herrick and Reades (2016) do by including only the top 100 ranked universities in THE 2015-16. Two, the top ranked universities are often the wealthiest universities from the richest countries (Stack, 2016). Our findings suggest a number of explanations for why there isn't a stronger relationship between the worldwide rankings and the perceived value of the partnerships.

A university in a LMIC country may expect that it will benefit more from a partnership with a top tier university than it will from partnerships with less prestigious, lower-ranked universities and be surprised that either this isn't the case in absolute terms or relative to their expectations. When the realities of the benefits of partnerships fail to meet the expectations of partnering with a “prestigious” university this may be reflected in how valuable the representative felt the partnership was.

Based on probing conducted during the interviewing of some study participants from the international partners, representatives of highly ranked universities may be more likely to be solely focused on research towards scientific development, especially biomedical research. They may not have time for other components, especially education. While there will be researchers at the focus universities who share this focus, it appears that most senior university representatives of LMICs are equally concerned with strengthening their capacity

in education areas too. As we found in Phase 1 of this study, 92% of the partnerships which focus university senior representatives identified as significant had an education component.

Social responsibility appears to be increasing in importance at some of the international partner universities and is being mainstreamed into their objectives but based on the continued focus on research and student experiences for HIC universities this objective remains secondary to the core objectives of educating these universities' own students and supporting their own faculty in discovering new knowledge through research. While the international university leaders of some of the partnerships embrace the norms of collaborative partnerships at the international partner universities, others appeared less inclined to follow this approach for a variety of reasons including time constraints, lack of guidance or support, or different values. One international partner that appears to have institutionalised collaborative approaches may be Duke University that institutionalized global health with the establishment of the Duke Global Health Institute (DGHI) in 2006.

The use of using overall world university rankings when examining partnerships addressing HPPs may be a serious limitation, since the rankings do not focus on health programmes. The most obvious example is that neither the London School of Hygiene of Tropical Medicine (LSHTM) nor UCSF ranked in the top 200 of average rankings, or appear in the table produced by Herrick and Reades (2016), since neither have undergraduate programmes. They therefore ranked poorly or not at all in THE overall rankings.

Finally, another potential limitation was not examining university-affiliated non-governmental organisations involved directly in global health, particularly in the US. For example, Jhpiego, is “an international, non-profit health organization affiliated with The Johns Hopkins University” (Jhpiego, 2017). These appear to be permanent organisations so would not be considered part of a university's Development Periphery but a representative of one of the SSA international partner universities noted that they secure much US government funding. It was observed that Jhpiego has an office in Dar es Salaam.

7.4.2 Importance of individuals and leadership

Central administration has many other issues to focus on. Social responsibility under the rubric of global health is but one of many areas of importance for many universities today. Interested chairs of departments can use their authority and discretionary funding to support the establishment of partnerships, guide members of the academic heartland (especially faculty) into a partnership, and provide continued leadership. Chairs, even ones who aren't

directly involved, can support a partnership by committing to assist junior members of their faculty that there will be opportunities waiting for them at their home institution once they are finished working overseas. While this may be more difficult in today's era than it was in 1980s West Germany, the general ideas remains valid. Individuals with previous international experience, but who may not be researchers, were found to have the coordination skills often needed to bring academics together to achieve common goals internationally. As Pinto et al. (2014) note, "Such coordination is rarely supported centrally by the institution and may take academics away from their primary activities with partners."

7.4.3 Context Matters

Contextual issues matter a lot to international partners. Security is an important risk management issue that was mentioned by a central administration representative. Good governance, climate and a certain level of development were all mentioned by study participants to be issues of consideration when considering a country in which to partner with a university. Universities in East Africa partner commonly with other universities within their region and universities in the countries that are the continent's research hubs (Yarmoshuk et al., 2016, Adams et al., 2010). This is likely due not only to funding opportunities promoting regional activities but due to shared language, common culture, already existing links and reduced costs in sustaining the links made.

7.4.4 What do the international partners value?

What international partner representatives value about a specific partnership depends on the role of each specific individual within the partnership, their place in the hierarchy of their institution, whether their primary responsibility is administrative, educational or research focused and their value and belief sets and career aspirations, or what stage of their career they are in. "Are the perspectives and values of the individual consistent with or supported by the nature of the partnership?", is a question some representatives will ask themselves. It also depends on how the unit in which the partnership is based fits into broader institutional priorities and hierarchies. The characteristics and culture of the international partner university will likely influence these issues. The context in which a partner university is situated and the characteristics of it and its members, just like the members of the international partner, are likely to change over time.

7.5 Conclusion

A wide variety of universities are involved in global health partnerships. Partnerships with prestigious, well-resourced internationally recognized universities are not always of high-

value to a low- or middle-income country university. Universities worldwide enter partnerships for a variety of reasons, notably for research and training benefits to their own staff and students, for social responsibility reasons, and to respond to funding opportunities and imperatives. It is important to examine the specific interests and values of the individuals involved and where they based to more fully understand their motivations. Burton Clark's framework of "entrepreneurial" universities offers a useful, robust approach to analysing the diverse and sometimes divergent interests and motivations for international partnerships in universities facing the imperatives, constraints and opportunities of globalisation.



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CHAPTER 8: PAPER 4 - RECIPROCITY IN INTERNATIONAL INTERUNIVERSITY GLOBAL HEALTH PARTNERSHIPS

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ABSTRACT

BACKGROUND: Interuniversity global health partnerships are often between parties unequal in their organisational capacity and performance using conventional academic output measures. Mutual benefit and reciprocity are increasingly called for in global health partnerships but literature examining the concept is limited compared to international relations and sociology.

OBJECTIVE: to analyse how reciprocity is practiced in international interuniversity global health partnerships and to identify structures of reciprocity relevant to examining global health partnerships.

METHODS: Four focus universities in East Africa and 125 of their international partnerships were included. A total of 192 representatives from the focus universities and their international partners participated in key informant interviews and focus group

⁸¹ A link to the publication will be provided at: <http://hppafrica.org/research/>.

discussions. Interviews were transcribed and analysed thematically, drawing on reciprocity theories from international relations and sociology.

RESULTS: A range of reciprocal exchanges, including specific, unilateral and diffuse (bilateral and multilateral), were observed within and across the partnerships. Many partnerships violated the principle of equivalence, as exchanges were often not roughly equal based on tangible benefits realized. Only when intangible benefits, like values or principles, were considered was equivalence within reciprocity realised. This changed the way the principle of contingency – an action done for benefit received - was observed within the partnerships. The values of individuals, structures of organisation and terms guiding partnerships were observed to guide some representatives more than financial gain. Reciprocity within consortia generated exchange costs but also benefits valued by all parties.

CONCLUSION: Achieving reciprocity in interuniversity global health partnerships is challenging because of various factors including the asymmetry of partners, dissimilar perspectives and priorities and the terms of funding. Measuring reciprocity is difficult too since diffuse reciprocity is often practiced and social responsibility is often part of the benefit realized by one partner. In an era when partnership is promoted to address global health challenges and strengthening institutions is considered crucial to achieving development goals, more rigorous examination and assessment of reciprocity in interuniversity global health partnerships is warranted. Theoretical approaches from international relations and sociology can be useful both in the conceptual understanding and the empirical analysis of international interuniversity global health partnerships.

8.1 Introduction

8.1.1 The Concept of Reciprocity

In a recent paper (Yarmoshuk et al., Accepted), we identified that the degree of reciprocity achieved was one of three key criteria senior representatives of East African universities used to judge whether their international, interuniversity global health partnerships were higher- medium- or lower-value for strengthening the capacity of their health professional programmes (HPPs). In this paper, we review how reciprocity is discussed currently in global health partnership literature, outline how it is discussed in international relations and sociology literatures, and examine examples of how reciprocity was practiced within some of the global health partnerships of the four East African universities.

Partnerships, whether between individuals or organisations, are formed to realize objectives that cannot be achieved alone, including becoming more successful individually (de Waal, 2012). This is true of international interuniversity health partnerships too and it accounts, in part, for the frequent mention of mutual interest, mutual benefits, and mutuality in global health literature (Anderson et al., 2014, Mulvihill and Debas, 2011, KFPE, 2014, KFPE, 1998, Muir et al., 2016b). Additional reasons for the continuing discussion of mutuality are that the partnerships are frequently among unequals in terms of existing capacities and access to resources (Gaillard, 1994, Mulvihill and Debas, 2011) and that universities, being independent entities operating within a competitive environment characterized by globalization (Kerr, 1991), also act out of self-interest. In addition, it is difficult to measure and evaluate the success of the partnerships (Mullan et al., 2010b, The Academy of Medical Sciences and Royal College of Physicians, 2012). Developing more rigorous and nuanced approaches to assessing reciprocity within global health partnerships may assist with how such partnerships are monitored and evaluated and provide clarity on what it meant by mutual benefit within them.

Within global health literature the concept of reciprocity has been discussed to a limited degree. In building their argument for the development of a global mindset to address the challenges facing humanity, Benatar et al. (2003) refer to the concept of reciprocal exchange, or socially-embedded exchange, without defining it. The Working Group on Ethics Guidelines for Global Health Training (WEIGHT) suggests that sponsors of global health training programs “consider” reciprocity and that “mutual and reciprocal benefit, geared to achieving the program goals of all parties and aiming for equity, should be the goal”(Crump

et al., 2010), although WEIGHT does not define reciprocity or provide specific examples of reciprocity or mutual benefits. In a study examining undergraduate and graduate medical education programs between institutions, Umoren et al. (2012) define reciprocity as “actions that show mutual respect and seek mutual benefit between the institutional partners.” Similarly, Bozinoff et al. (2014) examine mutual benefit within a medical student international elective program. Umoren et al. (2014) call on American university global health programs that offer international experiences for their trainees to offer international opportunities for their partners’ trainees and fund them.

Reciprocity has been addressed in greater detail in several disciplines, and these reflections may be useful for global health partnership research. Keohane (1986) discusses two types of reciprocity in the field of international relations. *Specific reciprocity* refers to situations in which specified partners exchange items of equivalent value in a strict manner. Obligations are clearly specified in terms of rights and duties of particular actors and it is important that they are adhered to. *Diffuse reciprocity* refers to situations where the definition of equivalence, the specific partners and/or the sequence of events are all less precise, although all parties are still expected to operate within “accepted standards of behaviour” [p. 4]. For Keohane two terms are critical when discussing reciprocity: equivalence and contingency. Equivalence means that rough equivalence in terms of benefits received is usually expected between parties in reciprocal exchanges. Keohane notes that this is the expectation “among equals” although not among unequals. He characterizes reciprocal relationships among unequals as “patron-client” relationships. Within them he states “there is little prospect of equivalent exchange” [p. 6]. He continues by stating that “Patron-client relationships are characterized by exchanges of mutually valued but noncomparable goods and services” and elaborates and provides examples in a footnote [(Keohane, 1986) p.6] while discussing European feudal society. Examples are presented in which the exchange of benefits favours the patron (i.e. the feudal lord) and other times the client (i.e. the vassal). Contingency means that an action is taken for a benefit received. Reciprocity depends on contingency in that the exchange of benefits between partners will cease if an exchange of benefit is not forthcoming for a benefit given.

Writing in the field of sociology, (Molm, 2010) discusses reciprocity in terms of three types of social exchange. The first two types of social exchange are grouped within direct reciprocity. These are exchanges involving only two parties. *Reciprocal exchange* is the first

type of direct reciprocity and refers to the flow of benefits between two parties that does not occur simultaneously; the flow of the exchange is unilateral at any given moment - one partner initiates the exchange, but the exchange of benefits between partners occurs over time. As the flow of benefits is unilateral, there is no guarantee that the party providing the initial benefit will receive a benefit in return, although in time reciprocity is anticipated. The second type of direct reciprocity is *negotiated exchange*. This refers to negotiated agreements and although the exchange is always bilateral in nature it is not required that the respective benefits received by each party be roughly equal. Molm's third type of reciprocity is indirect reciprocity between parties in a group. As with reciprocal exchange, the flow of benefits is unilateral in nature but with multiple partners; for example, party A receives a benefit from party B who then benefits party C and party A then receives its benefit from party C. [See Figure 8.1: Structure of Reciprocity in Three Forms of Exchange (Molm, 2010)⁸²].

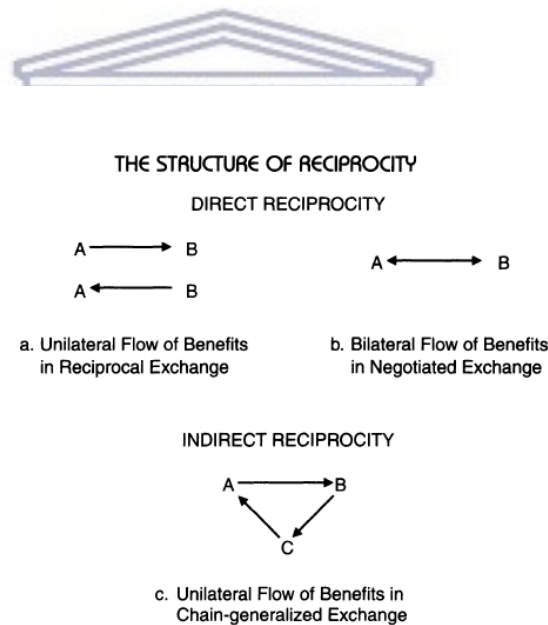


Figure 8.1: Structure of reciprocity in three forms of exchange (Molm, 2010)

Koehane's concept of *specific reciprocity* is similar to Molm's concept of the *negotiated bilateral exchange of benefits within direct reciprocity*. Koehane's description of diffuse

⁸² The American Sociological Association (ASA) owns the copyright to this article. ASA permission guidelines allows use for "unpublished dissertations" but permission is required if it is to be published - <http://www.asanet.org/research-publications/journal-resources/reprint-permissions> (Accessed 10 Dec 2017). The ASA authorised me to use Figure 8.1 in a published article on 24 January 2018, Permission No. 006820.

reciprocity is similar to Molm's description of unilateral flow of benefits except that Molm clearly distinguishes between exchanges involving only two parties and those with multiple parties (3 or more). This, therefore, gives us two types of diffuse reciprocity: diffuse reciprocity between two partners, which we will call *diffuse bilateral reciprocity*, and diffuse reciprocity between multiple partners (3 or more) – which we will call *diffuse multilateral reciprocity*. This distinction could prove useful when comparing bilateral global health partnerships and multilateral partnerships, including consortia. Keohane's concepts of *equivalence* and *contingency* could also prove useful for developing a more precise and nuanced analysis of partnerships within global health.

In this paper we will examine the exchange of benefits between the partners within 125 global health partnerships using the three structures of reciprocity discussed above, by combining Keohane's and Molm's classifications, and concepts of equivalence and contingency raised by Keohane. We will address the question: how is reciprocity currently practiced within international interuniversity global health partnerships? We will conclude by presenting the general structures of reciprocity we observed in the partnerships and identifying what factors led to these.

8.2 Methods

This study, conducted in three distinct phases, used mixed methods to explore the practice of reciprocity in 125 partnerships of four focus universities. The analysis reported here is a secondary analysis of data collected to examine how international interuniversity partnerships contribute to developing the health professional programmes (HPPs) of four East African universities. Reciprocity emerged as a key characteristic of higher-value partnerships in the original analysis.

Consistent with a grounded theory approach (Strauss and Corbin, 1990, Barney G. Glaser, 2014b, Barney G. Glaser, 2014a), additional literature was reviewed; specifically, global health, international relations and sociology literature that discussed reciprocity. Then we developed a framework for examining reciprocity within our partnerships and applied the grid to the 125 partnerships to classify them, and then interpreted this classification against the interviews and previous work.

Four universities in East Africa – Moi University (MU) and University of Nairobi (UoN) in Kenya and Kilimanjaro Christian Medical University College (KCMUCo) and Muhimbili University of Health and Allied Sciences (MUHAS) in Tanzania – were purposefully

selected. In each country, the university with the first medical school was selected: UoN and MUHAS. MU was selected because it housed an unusual international partnership, the AMPATH Consortium led by Indiana University, identified as a “successful” and “unique” partnership by numerous authors (Obamba et al., 2013, Crane, 2011, Frenk et al., 2010) and the lead author (AY) had a good understanding of this consortium since he had worked within it. KCMUCo was selected primarily because we wanted to include a private university. All four universities have schools or programmes of medicine, nursing and public health and teaching hospitals, so can be considered Academic Health Science Centres (AHSCs). The reasons for selecting these four universities have been fully described previously (Yarmoshuk et al., 2016). We refer to these four universities as the *focus universities* of this study since we were interested in learning how international partners supported their capacity development in medicine, nursing and public health programmes.

A total of 192 individuals participated in the study. In Phase 1, 42 senior (decanal level) representatives from the four focus universities and their affiliated teaching hospitals participated in key informant interviews (KIIs) with the lead author (AY) to identify partnerships they considered significant for building the capacity of their HPPs in any one, two or three components (education, research and service (i.e. care) of the tripartite mission of academic health science centres (AHSCs).

In Phase 2, an additional 88 representatives from the four focus universities participated in this study. They were either interviewed or participated in focus group discussions (FGDs) to provide further details about specific partnerships, discuss their participation in specific partnerships and/or discuss the benefits of international partnerships from their perspective.

In Phase 3, 59 representatives of the international partners participated in KIIs. These latter interviews were conducted to gain an understanding of why the international partners participated in the partnerships and what benefits they valued. Three government representatives (1 in East Africa, 2 in Europe) were interviewed opportunistically to get additional insights about some of the partnerships. The majority of the study participants in all three phases of this study were male [see Table 8.1: - Sex of study participants by phase].

Phase of Research	Female	Male	Total
Phase One - Senior Representatives at Focus Universities	12	30	42
	29%	71%	100%
Phase Two - Professors, Lecturers, Students at Focus Universities	43	45	88
	49%	51%	100%
Phase Three - Representatives of Partner International Partners	26	33	59
	44%	56%	100%
TOTAL	81	108	189
	43%	57%	100%

Note: data of the three government representatives are not included in this table. Therefore the total is 189, not

All interviews were conducted by the first author (AY) in English and most were recorded and transcribed. A few participants declined permission for voice recording but allowed detailed notes to be taken. (More details on methods and other findings can be found in , Yarmoshuk et al. (Accepted) and Yarmoshuk et al. (2016).

We reviewed all 125 partnerships using the three types of reciprocity discussed above - i) specific; 2) diffuse bilateral; 3) diffuse multilateral – to determine which of the partnerships showed examples of practicing each type. In addition, we identified whether the exchange of benefits within the partnership adhered to the two principles identified by Keohane to consider when examining reciprocity: equivalence and contingency. Thematic content analysis was then applied to the interview transcripts by exploring how reciprocity was viewed and discussed by study participants.

8.2.1 Limitations

We only examined three memoranda of understandings (MOU) between partners. We did not request contribution agreements between the partner(s) and funders of activities or ask any KIs questions specifically about the nature of reciprocity practiced within their partnerships. We are unable therefore to comment on the extent of the negotiations between partners in many of the partnerships. Our findings are based on the KIIs and FGDs that were conducted and published and grey literature that we reviewed.

Overall, the respondents in this study were well-balanced between men and women. However, the distribution of respondents was heavily skewed towards men in Phase 1 of the study. Moreover, specific analysis of gender issues within these partnerships, though warranted, was beyond the scope of this study.

8.2.2 Ethics approvals

Ethics approval was obtained for the entire study (Phases 1, 2, and 3) from: the Senate Research Committee of the University of the Western Cape (13/5/15); Institutional Research and Ethics Committee Secretariat of Moi Teaching and Referral Hospital / Moi University School of Medicine; Ethics and Research Committee, Kenyatta National Hospital / University of Nairobi; and, National Institute for Medical Research in Tanzania. Research Clearance was received from the Tanzanian Commission for Science and Technology.

Throughout the paper we have attempted to prevent attribution of specific comments to specific individuals. In those few circumstances where we felt this standard might not be met we contacted the individual(s) to determine if they wished to include a clarifying statement or rebuttal.

8.3 Findings

8.3.1 Building on prior findings and informing further research

As mentioned above, the analysis reported in this paper was developed because prior analyses of the overall dataset suggested that reciprocity was an important but not always straightforward issue for the study participants. Previous analyses provided the elements for developing the analytic framework and arriving at the findings reported here.

The first paper (Yarmoshuk et al., 2016) mapped the partnerships and identified the range and types of activities and outputs within all the partnerships. A total of 21 activities within four groupings - i) education, ii) research, iii) service (care) and iv) infrastructure development, including the provision of equipment and supplies – were identified. Nineteen of the 21 were stated to be particularly significant by some KIs to their institutions for capacity development (Yarmoshuk et al., 2016).

The second paper identified that 25% of the partnerships were judged to be *higher-value*. Thematic analysis revealed that all higher-value partnerships shared three general characteristics: the outputs and outcomes addressed a priority need of the university; the long-term capacity of the focus university to fulfil its mandate was increased; and, the overall capacity building benefits realized by the focus university were perceived to be fair when compared to the benefits realized by the international partner - the exchange of benefits in the partnership should be reciprocal (Yarmoshuk et al., Accepted).

A third analysis explored whether and to what extent “higher-value” partnerships for the focus universities align with university rankings and then examines why the international partners of the four focus universities entered into these partnerships and what they valued most about the partnerships. (Yarmoshuk et al., Unpublished Findings).

This paper builds on these findings, and suggests a conceptual framework to address in more depth the key issue of reciprocity in international university partnerships in global health.

8.3.2 Each form of reciprocity

Specific / Negotiated Reciprocity	Diffuse Reciprocity - bilateral	Diffuse Reciprocity – multilateral	TOTAL
36	94	51	181
20%	52%	28%	100%

Note: Total is more than 125 since more than one type of reciprocity was demonstrated in one partnership.

Determining the type of reciprocity for each of the 125 partnerships was often challenging because partnerships often had multiple activities and outputs and the exchange of benefits within them matched more than one form of reciprocity. This was especially true in partnerships with multiple projects or phases, especially those with activities addressing more than one component of the tripartite mission of AHSCs. One project or activity within a partnership may have exchanged the same benefit (e.g. the exchange of students) but another project within it, or even another aspect of the same project, could be characteristic of diffuse reciprocity. Similarly, although partnerships are often viewed as being between two partner institutions, representatives from another university may be involved to some degree resulting in benefits being exchanged between one of the two initial partners and another partner university [see Table 8.2: Number of partnerships with each type of reciprocity]. Therefore the total incidence of types of reciprocity identified was greater than the number of partners.

The partners in twenty-three (18%) of the partnerships were considered to have received roughly equivalent benefits, thus adhering to the principle of equivalency, when only tangible benefits were considered. For example, equivalency was considered by this study to have been realised when a research project had co-principal investigators and the work was stated or evaluated to be shared. Similarly, a student exchange programme was considered to have

adhered to the principle of equivalency when the exchange ratio of students exchanged was roughly equal. The partnership between KCMUCo and SRCUC, with an exchange ratio of 1 to 3, was considered to be equivalent. This was because other study exchange partnerships had exchange ratios of 1 to 15 (see pp134-145). (Findings about intangible benefits are discussed below.) Contingency, when an action is taken for a benefit received, was observed in 116 of the 125 (93%) partnerships.

8.3.3 Illustrative examples of reciprocity in practice

Below we present how reciprocity was practiced in a number of partnerships to illustrate the types and characteristics of reciprocity identified by Keohane in international relations and Molm in sociology. We will also present examples that don't fit the types and characteristics they discuss. We will begin with reciprocity in student exchanges and end with examples from a complex multilateral partnership that includes bilateral partnerships. In between we will provide an example of negotiated exchange within a focused consortium.

8.3.3.1 Reciprocity within student programs

Global health literature addressing reciprocity often discusses reciprocity within student programmes. Many universities in high-income countries have established global health field placements to respond to student demand (Macfarlane et al., 2008). In a previous paper (Yarmoshuk et al., 2016), we identified that many partnerships included student exchanges as an activity. We grouped these student exchanges into four types: 1) one-way; 2) one-way - but partnering students; 3) two-way – unbalanced; and, 4) two-way – *reciprocal*. Here we discuss examples of each type to illustrate reciprocity within global health partnership.

One-way student exchanges referred to partnerships in which students from only one of the partner universities benefited from student exchanges at the other partner(s) university(ies)⁸³. There were many partnerships that contained this type of student exchange. Sometimes this was the only activity within the partnership. Other times there were two or more types of activities within the partnership. When it was the only type of activity within the partnership,

⁸³ The singular and plural of “partner” and “university” are used to be inclusive and signify that some the partnerships were bilateral in nature and sometimes they were multilateral (consortia) in nature. We will not do this throughout however. We will only use the singular in this discussion unless we are discussing a specific partnership that was a consortium. However, the reader should note that many of the concepts apply whether the partnership is bilateral or multilateral.

study participants from the focus universities stated it was either done out of good will⁸⁴ or in the expectation that the international partner would (or at least try to) secure funding in the future to allow some of the focus university's students to benefit from exchanges too. Framed within the types of reciprocity we are exploring this would be an example of the initial exchange of the *unilateral flow of benefits in reciprocal exchange*. However, study participants from focus universities often stated that their students either didn't have the funding to do an exchange at the partner university or a representative was exploring sources of funding to fund focus university students to do an exchange at their institution. Sometimes the exchange would never come in which case the principle of *contingency* was violated.

There was one *one-way* partnership that was viewed more favourably by the focus university. It was between the American University (USA) and UoN. American University students travelled to Kenya and took a course taught by UoN School of Public Health (SOPH) faculty. The instructors signed contracts and received a level of remuneration for teaching the American students that was not a lot but was considered fair. One instructor said they "don't consider it a lot of money" but it was sufficient, although the rate was only about a third of a low rate consultancy. The same respondent stated, "Most of us do consultancies" and then offered that "... to do research it is not easy. Because research, unless it is paid for, by the time it puts some bread on your table it is maybe after you are dead." Another UoN faculty member stated that the participation of the more direct American University students gave them the opportunity to teach a type of student who would openly challenge them, which they found valuable. One respondent commented:

For our staff, the teaching approaches [were beneficial]. The teaching approaches are entirely different. You had students who could actually challenge you. ... It's very different from the British [approach], or whatever we inherited, where the teacher is the law. It was very exciting for us. Very useful to us. We have adopted that you must give your students feedback. `And this is the criteria that I used.'

This is an example of specific reciprocity in negotiated exchange.

⁸⁴ There were study participants from focus universities who stated their universities didn't wish to demand reciprocity from their international partners. They valued having international students coming to their university.

One way – but partnering students exchanges are similar to *one-way* student exchanges, but the students from the sending university are formally partnered with students from the receiving university. An example of this type of student exchange was between Cornell University (USA) and KCMUCo. Senior level Cornell undergraduates were partnered with first and second year KCMUCo medical students to conduct one-month research projects. The Cornell students benefited from an international experience, including cross-cultural learning, research experience and an internship with organisations in Moshi while the KCMUCo medical students gained cross-cultural learning, albeit placed within their own cultural context, and research experience. Again, this is an example of *specific reciprocity in negotiated exchange*.

Two-way - unbalanced student exchange meant that there was a bilateral exchange of students but the benefits were skewed to a considerable degree to one partner, usually to the benefit of the international partner. This type of student exchange is very similar to one-way student exchanges, except that at least one focus university student benefited. In these exchanges the principle of *equivalence* was clearly violated. Examples of this included a number of American, Dutch and Spanish universities that kept sending their students to one of the four universities but did not secure funding to support reciprocal exchanges for students of their partners university.

Two-way – reciprocal student exchanges referred again to the bilateral exchange of students and the extent of the exchange was considered reciprocal in that it was viewed as *fair* by the focus university representatives. The partnerships between Swedish Red Cross University College (SRCUC) and KCMUCo, in which nursing students from each institution participate in exchanges, would be an example of this although the exchange ratio was 3:1 in favour of SRCUC (Yarmoshuk et al., Accepted).

Another example of two-way – reciprocal student exchange was a PhD model between Radboud University in Nijmegen (Netherlands) and KCMUCo. A KCMUCo representative voiced approval of it stating:

Nijmegen's approach was quite unique. They had [funding to support] about eight [of our] PhDs in one project but they had to partner them with Nijmegen [PhDs too]. It was a partnership in terms of involving staff [faculty] and students.

KCMUCo PhD students and their KCMUCo supervisors were partnered with Radboud University PhD students and their Radboud supervisors. The groups of four formed a unit that worked together in a collaborative way. A study participant from Radboud University also spoke favourably about this model and added that each PhD student was expected to write five papers for which they were the lead author. Therefore, each pair of PhDs would produce 10 manuscripts. The graduates were granted their PhDs from their respective universities.

8.3.3.2 Reciprocity with negotiated exchanges – within a consortium

Negotiated exchange, which we define as firm, binding agreements, and therefore fitting with Molm's description of the *bilateral flow of benefits in negotiated exchange* and Keohane's description of *specific reciprocity*, appeared to be the exception rather than the rule in the 125 partnerships examined in this study⁸⁵. While we had limited access to memoranda of understanding (MOUs), study participants from both the focus and partner universities almost never stated that specific tangible benefits needed to be exchanged or identify specific targets or guidelines that had to be met. There were a few exceptions, however.

Members of one consortium established that PhD candidates would be selected to participate in their programme based on the merit of their application without any consideration of the number of recipients from each member institution. A number of KCMUCo respondents were displeased with this negotiated agreement after only one of their PhD candidates received funding whilst 9 PhD candidates from another African consortium member university were selected to participate. Some of the KCMUCo study participants felt the distribution of funding recipients should have been more evenly distributed instead of adhering strictly to merit, based on the review of their applications to the programme using criteria agreed to in advance.

A number of focus university representatives stated, generally, that a benefit of partnering internationally was to gauge one's performance against international standards. That may be

⁸⁵ By negotiated exchange we are referring to the written, documents in which the rights and responsibilities of the signatories are clearly agreed upon. They could be considered legally binding. These are different in nature than most memoranda of understandings (MOUs) or agreements (MOAs) in interuniversity partnerships that are general in nature and simply mention that the parties involved are going to work together on activities of mutual interest funding permitted.

so, but this example shows tension can be created when the resulting benefits are skewed after following the terms of the negotiated agreement, which amounts to *specific reciprocity within a negotiated exchange* in our discussion of reciprocity.

8.3.3.3 Negotiated reciprocity leading to various form of reciprocity within a consortium

Another example of negotiated reciprocity – this time between international partners supporting a focus university - was within the AMPATH Consortium, a group of North American universities led by Indiana University. We will use examples from it to illustrate the various types of reciprocity within interuniversity global health partnerships.

The general terms for joining the AMPATH Consortium, an informal consortium since it was not a legal entity, were set by Indiana University (IU), the founder of the consortium. Members of the consortium agreed to adhere to three non-negotiable requirements, in addition to paying annual dues to defray the costs of administering the consortium: i) Kenyans lead; ii) bi-directional exchange; iii) faculty engagement.

In practice, this meant consortium members were required to: i) ensure that Kenyans were co-leads on all grants and publications and consortium representatives in Eldoret answered to and were responsible to the MU head of department; ii) accept and fund two MU senior medical students to do electives at their university each year; and, iii) lead with faculty participation, including having a faculty member in Eldoret to supervise any trainee from their institution whom they placed at MU, or secure supervision from another consortium faculty member based at MU, or its catchment area. Indiana's approach led one study participant from a US university to describe the Indiana lead as a "dictator". However, all representatives interviewed stated that the benefits of membership outweighed the costs, terms and responsibilities of membership even when they questioned some of the requirements (for example, why a senior resident - still a trainee by AMPATH Consortium guidelines - placed in Eldoret for an extended period required faculty supervision).

However, the interview with the lead of the AMPATH Consortium revealed that he saw himself not as the leader or ruler of a group of universities, but as the "guardian of a shared mission". His concern was that if exceptions were made to the rules then slowly the values and principles guiding the partnership may deteriorate or there would be free-riders. Nevertheless, short-term exceptions to following the rules were sometimes granted when the IU lead considered it was warranted for potential long-term benefit. This happened when

another North American university was exploring partnering with MU through the AMPATH Consortium in the mid-2000s, and the Indiana lead permitted one of its students to book accommodation through Indiana House in Eldoret, although the university would have no faculty member from their university in Eldoret to supervise the trainee. This exception to the rule, an illustration of the unilateral flow of exchange, was granted after the IU lead asked one of the university's representative involved in the establishment of the partnership if having the student placed in Eldoret may assist the university in deciding whether or not to join the consortium.

Once agreement is made between a university seeking to join the AMPATH Consortium and the led for the AMPATH Consortium, it was observed that its members then benefit from diffuse bilateral and diffuse multilateral reciprocity, in addition to specific reciprocity, both with MU and with the other members of the consortium. The following examples, based on document analysis, participant observation and interviews, illustrate this. It is important to recall that the AMPATH Consortium is an informal consortium.

8.3.3.4 Specific reciprocity – Toronto & Moi through AMPATH

The clearest form of specific reciprocity between Toronto and MU was the exchange of trainees between the two institutions⁸⁶. In the first six years of the partnerships 31 University of Toronto trainees did clinical and research placements at MU and 18 MU students did placements at the University of Toronto, for an *exchange ratio* less than 2 to 1 in favour of the University of Toronto. (OBGYN - University of Toronto, 2017).

Research publications would be another type of specific reciprocity within the partnership. By 2014, representatives in the Reproductive Health and Gynaecologic-Oncology components of the Toronto-MU partnership had co-authored at least 10 publications (Spitzer et al., 2014, Hawkins et al., 2013, McFadden et al., 2011, Ranney et al., 2011, Ouma et al., 2012, Khozaim et al., 2014, Kamanda et al., 2013, Embleton et al., 2013b, Embleton et al., 2013a, Embleton et al., 2012). All publications had both Kenyan and North American authors as per the consortium's standard operating procedures. In addition, some of these

⁸⁶ It should be noted that this exchange was facilitated through the structure of the AMPATH Consortium and was therefore "negotiated" between Toronto and Indiana. MU made no requirement on Toronto to fund or accept its student in order for Toronto to place its students with MU, although a MU faculty member would have had to accept to supervise any Toronto students while in Eldoret.

publications included representatives from other consortium members and faculty from non-members.

8.3.3.5 Diffuse reciprocity - 2 parties - Toronto & Moi through AMPATH

In a video on the University of Toronto the Department of OBGYN's web-site that presents the achievements of the first six years of the partnership, thirteen types of activities are mentioned including "hundreds of pregnant women involved in mother and child support groups", "nine courses in emergency obstetrical care provided to 337 physicians and nurse midwives", the provision of "20 new birthing beds", the establishment of a "new post-graduate degree in reproductive health" at MU, the establishment of fellowship in gynaecological-oncology at MU, 50 University of Toronto faculty visits to Kenya "for teaching and research", 17 MU faculty visits to Canada and the respective trainee visits mentioned above under specific reciprocity (OBGYN - University of Toronto, 2017). These benefits appear to favour MU, its teaching hospital and communities within the teaching hospital's catchment area. Based on the in-depth interviews with a number of Toronto faculty members involved in the partnership this is not the case for all of them. In addition to trainee and research opportunities, one of the benefits for University of Toronto OBGYN from the MU partnership was meeting "social responsibility as a departmental objective. A lead representative of the department stated:

We initiated our involvement with Moi University ... [when] we were going through a strategic planning process where we identified social responsibility as one of the key goals to enhance as a department and international global health was identified as one of those components whereby we could contribute to enhancing our social responsibilities activities.

8.3.3.6 Indirect reciprocity - multiple parties - members of the AMPATH Consortium

Indirect reciprocity was viewed among the AMPATH Consortium members. Multiple representatives stressed two issues in the in-depth interviews: i) access to more funding opportunities, especially since the members were in two countries (Canada and the United States), in addition to Kenya, the country of the focus university Moi University and ii) a "broader base of experience", said a lead representative from one of the member universities, resulting from having faculty members from numerous universities in numerous fields. A representative from a different university stated that the interaction between members created a "very stimulating environment", in a beneficial way.

8.3.4. Failure to have holistic reciprocal partnerships

Before concluding our findings, it is useful to present a finding of how the failure to engage in reciprocal exchange can potentially hinder the development of effective partnerships. While Sweden has been supporting MUHAS with capacity building and strengthening for over 20 years, especially with PhD training, it hasn't included many trainees in this aspect of the partnership. A Swedish respondent presented this as a problem in an in-depth interview. They stated:

Respondent: *But there has never been a real component of how do we get young Swedes interested in this [type of work]? And how do we train them in this? And how do we as Swedes become a good counterpart? ... that's never been sort of part of the agenda.*

Interviewer: *You see that as a shortfall?*

Respondent: *I think you can hear it within my voice that I think it's a serious flaw.*

Interviewer: *Because?*

Respondent: *You have a generation of enthusiasts [right now]. ... And when they run out, you run out of a national program.*

Interviewer: *Okay. That's interesting. So you ... build capacity on the Tanzanian side which is good but for the continued growth of the partnership, you're not going to have that then.*

Respondent: *No. Well, you're always going to have enthusiasts right? I mean there are always people driven by similar ideas that I (and the current project lead have). I mean they're always these kind of people but it's not something to build a program on.*

Interviewer: *Do you need to build a program if you've been successful in building the capacity in Tanzania?*

Respondent: *That's a whole different philosophical question. It's if... what is the sort of this partnership and aid good for? I wouldn't sit and... It's a very different story. Suppose that you think that we can contribute and that Sweden has something to contribute, yeah it's bad. ... And I think we do. We have an attitude to science and people that seem to fill a niche.*

8.4 Discussion

Global health activities and outputs can be examined well using the three types and two principles of reciprocity identified by Keohane and Molm from the fields of international relations and sociology theory, respectively. Considering whether the principle of equivalence is being adhered to seems especially important when so many student and

research partnerships between universities in high-income countries (HIC) and low- and middle-income countries (LMIC) have been historically unbalanced (Jentsch and Pilley, 2003). Monitoring the partnership's exchange ratio of benefits is a useful tool to assist with this. While neither Keohane nor Molm presented a structure of reciprocity that is consistent with consortia partnerships in global health, we were still able to examine THRiVE and the AMPATH Consortium with the types and principles they did present.

Keohane's discussion of patron-client reciprocity is useful to consider within asymmetrical partnership in which the benefits favour the less resource-rich partner, such as MU's partnership with the AMPATH Consortium. Adherence to guidelines of membership that are consistent with social responsibility largely explain why the IU representatives started the partnership and why the representatives from the other members joined the AMPATH Consortium. While the North American representatives also benefit from research and trainee opportunities, social responsibility appears to be a real value and not merely a publicity tool, as demonstrated by the North American partners' willingness to adhere to what some may consider onerous obligations of shared leadership and responsibility, and because the African university partners are consistently included as co-authors and in research and training placements valued by them. This values-based approach, combined with attention to operationalising the values in practice, is not an exception however. The same types of values and principles appeared to guide other HIC universities in partnering with the focus universities, including Ludwig-Maximilian University of Munich-UoN, the Karolinska Institute/Uppsala University/Umea University-MUHAS, Radboud University-KCMUCo; Linköping University-MU (Yarmoshuk et al., Unpublished Findings). This would seem to illustrate that global health ethics, as described by Benatar et al. (2003), and the idea of global health solidarity, as described by Frenk et al. (2014), are becoming the norm.

However, while the AMPATH Consortium shows the value of working within a coordinated group, the question remains of who should coordinate the partners of a university. It can be argued that Indiana University plays too large a role in coordinating the international partners. Indiana may also be over-protective of MU. This could hurt the sustainability of some of the benefits realized by MU in the longer term. None of the respondents suggested that the AMPATH Consortium-MU relationships were neo-colonial in the sense of being extractive, disempowering or about the control of resources. Indiana University especially, but also other members of the AMPATH Consortium have brought many resources to MU

and empowered many of its staff. However, the setup could potentially be considered “neo-feudal” in terms of Keohane’s analysis. Keohane explains that “social exchange theory answers that the political deference of the client toward the patron balances the exchange. This deference may be used to extract resources indirectly ...” If partnerships and consortia such as AMPATH are to contribute to empowerment of African universities, close attention to the full range of tangible and intangible benefits in process and in outcomes – and their equivalence or lack thereof – will be required, both by the partners, and by researchers or evaluators seeking to understand and assess reciprocity.

8.5 Conclusion

In an era when partnership is championed to address global health challenges and strengthening institutions is considered crucial to achieving development goals, more rigorous examination and assessment of reciprocity in interuniversity global health partnerships is warranted. Diffuse reciprocal exchange will often be necessary within global health partnerships to accommodate the asymmetry of partners, if mutual benefit is to be achieved. The principle of equivalence should be adhered to or commonly favour the less resource rich partner in asymmetrical partnerships. We suggest that theoretical approaches to reciprocity from the fields of International Relations (Keohane, 1986) and Sociology (Molm, 2010) can inform both the conceptual and the empirical analysis of international interuniversity global health partnerships, and can contribute to enhancing the reciprocal, mutual benefit called for in the global health field.

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CHAPTER 9: DISCUSSION

9.1 Introduction

This chapter discusses the findings of this research in two parts. First, it will present the core findings by the research objectives presented in Chapter 3 (Methodology) and discuss them in relation to the literature reviewed in Chapter 2, other relevant literature, and the initial framework of analysis presented in Chapter 2. It will then provide an overall, integrated discussion of the findings and present a revised Table 2.1 that organises literature and findings presented and discussed in this study by way of Table 9.1. The discussion will then inform a revised framework of analysis. This chapter then states the contributions this research has made to the field, followed by the limitations to the research. It concludes with a few reflections.

9.2 Overview of findings by objective

9.2.1 Objective 1: To document the context within which the four focus universities are situated

As anticipated, based on the literature reviewed (Horton et al., 2003, Keohane and Nye, 1989), the four focus universities were found to be dealing with the effect of context at various levels: district, national, regional and global. The challenges and threats outlined in the strategic plans⁸⁷ of each institution and the need which the two Kenyan universities felt to revise their strategic plans mid-way illustrates how context affects the planning and actions of universities to accommodate changes outside their direct control. The importance of context was particularly evident in the ways that the focus universities evaluated partnerships (Chapter 6), in informing who partnered with whom and why across both the focus universities and the international partners (Chapter 7), and in how reciprocity was practiced and understood (Chapter 8).

It was found in the grey literature, especially strategic plans, and mentioned by participants that central government policies, especially with regards to funding, were important to all universities. This is not surprising in a context of neo-liberal globalization in which government demands to educate more students with less public funding per student are reflected in a broader challenge of funding higher education worldwide (Allahar, 2007). This

⁸⁷ A strategic plan for KCMUCo was not reviewed but the Self-Assessment (2013). It addresses similar issues.

is especially true in SSA (Teferra, 2008, Teferra and Altbach, 2004), including Kenya (Ronoh et al., 2013) and Tanzania (Ishengoma, 2013) .

The importance of funding is related to the demographics and socio-economic realities of both countries, which in turn reflect the broader political and economic forces at multiple levels. In this dominant vision of globalisation, the underlying assumption is that public expenditures should be limited (Labonté et al., 2011, Ottersen et al., 2014). In Chapter 1 the scale of the human resources for health challenge was presented by showing that even with 63% growth in the size of its health workforce between 2013 and 2030, the WHO African region's share of health workers worldwide would increase by less than one percent, because of the growing population and challenging socio-economic context in the region.

Contextual challenges related to higher education policy also influenced the work of the focus universities, as well as their partnerships. For example, a regulatory body like Tanzanian Commission of Universities requiring AHSCs to use competency based curriculum resulted in MUHAS and UCSF addressing this externally enforced priority, by including it as one of the objectives in the Academic Learning Project of their young partnership (Ngassapa et al., 2012).

Political context, in the form of both national and international insecurity, affects partnership activities as well. Perhaps the most extreme case was partnership activities between MU and members of the AMPATH Consortium during the post-election violence in Kenya following the 2007 presidential election, when all AMPATH Consortium members were evacuated except for the Field Director and his wife. The international environment in terms of terrorist attacks also influences partnerships, as mentioned in Chapter 4.

Although this study did not explore national partnerships this is an area that deserves more research. In examining Makerere University College of Health's stakeholders, Okui et al. (2011) identified seven groups of stakeholders, of which one set were national and international universities⁸⁸. How the various national universities work, or don't work,

⁸⁸ The eight groups they identified are: i) government; ii) statutory bodies; iii) faith-based organizations; iv) international organizations and non-governmental organisations; v) multilateral agencies; vi) bilateral agencies; vii) local agencies; and, vii) other universities, local and international.

together to achieve national objectives is an important issue. Talib et al. (2015) argue that, because partnerships with northern institutions are not driven by local needs, “Future funding aimed at strengthening health professions education should prioritize ... south-south partnerships to optimize outcomes from education investment” [p.7].

9.2.2 Objective 2: To identify and document the international partnerships that four colleges of health sciences in Kenya and Tanzania consider most significant for increasing their education, research and service capacity in medicine, nursing and public health and to understand why they are considered the most significant.

The findings regarding the identification and mapping of the international interuniversity partners of the four focus universities are consistent with literature that shows that historically the international partners of SSA and LMIC universities have been primarily universities in HICs, especially in western Europe and North America (Mullan et al., 2010a, The Academy of Medical Sciences and Royal College of Physicians, 2012). The findings also revealed that East Africa is a fairly well coordinated region. Universities within the region have historically partnered with each other, although regional cooperation has faltered when national interests superseded regional ones. Nevertheless, the East African Community (EAC) is slowly building regional initiatives. Outside of East Africa, the only bilateral partnerships identified were with universities in the three countries in Africa producing the most research: South Africa, Egypt and Nigeria (AU-NEPAD., 2014). Adams et al. (2010) refers to these three countries, and Kenya, as Africa’s “key nodes” as they form the “strongest cross-continent links and are also key nodes into global research networks” [p. 8].

It was rare for international partners from different countries to work together directly to support the focus universities whether through bilateral or consortia partnerships. While donors increasingly favour South-South partnerships across borders they don’t seem to favour North-North partners working with South-South partners for Northern partners they fund. CARTA and the AMPATH Consortium appeared to be the only consortia with Northern partners from more than one country that partnered in a coordinated manner. In this way, they more closely exemplified the ideal of “harmonized” activities that are both more “transparent” and “collectively effective”, as promulgated in the Paris Declaration of 2005 [(OECD, 2005), p.6].

The number of consortium partnerships between universities is increasing. Again this is consistent with the literature (The Academy of Medical Sciences and Royal College of

Physicians, 2012). However, representatives of MUHAS mentioned that consortia such as LIPHEA, the HEALTH Alliance and OHCEA are donor dependent. In Chapter 6 it was noted that one representative felt HEALTH Alliance would “never end”. However, the web-site stopped being active sometime in 2014⁸⁹. While the demise of a web-site is not tragic, it does illustrate the project to project nature of much global health work and the failure to institutionalise work. Perhaps OneHealth, a legal entity housed at Makerere University, will play a coordinating role for public health in East Africa? However, currently it has a focused mission which would need to be expanded to cover public health generally.

This research found that there are a great number of activities and outputs of global health partnerships which are consistent with all three components of the tripartite mission of AHSCs. Over 90% of partnerships had an education component of some type. As noted in Chapter 5 this is not surprising since capacity building, strengthening or development often involves some form of training, although the overall questions asked did not mention capacity and although *education* was mentioned first, before either research or service, it was not stressed. Research activities were found to exist in approximately 50% of partnerships. That more than 90% of partnerships included education components either indicates the large number of partnerships including students or the importance of providing training components in all partnerships. However, others (Muir et al., 2016a, Muir et al., 2016b) have found that the majority of global health partnerships have research components. Their study began with the perspective of North American partners and included non-governmental organisations (NGOs), governments and other types of organisations (27.7%) in addition to academic institutions (72.3%), whereas this study started from the perspective of the representatives of Kenyan and Tanzanian universities and only included universities. These two factors may account for the large difference.

⁸⁹ The last “capture” of the www.halliance.org on the Internet Archive WayBackMachine is 11 January 2014 <https://web.archive.org/web/20140111030649/http://halliance.org/> when the message was, “We apologize for any inconvenience as we make improvements to our site so that we may serve you better. Thank you! Health Alliance. The 11 June 2013 website includes more information; including, “Welcome to the Higher Education Alliance for Leadership Through Health. The HEALTH Alliance is a network of seven East African schools of public health assembled under the LIPHEA project. This site is hosted and maintained at Makerere University School of Public Health.” <https://web.archive.org/web/20130611111313/http://halliance.org/> (Accessed 9 October 2017).

Chapter 6 reported that 31 (25%) of the 125 distinct partnerships were perceived to be higher-value by the senior representatives of the focus universities. Global health partnership literature often stresses that partnerships should have long durations, although few state how long. Boutilier et al. (2011) imply that 10-15 years is a long-term partnership. Mulvihill and Debas (2011) state 10-20 years. Cancedda et al. (2015) state partnerships should be “long-lasting” and then describe four partnerships, two of which are 5-years, one is eight and the fourth has a duration that is “indeterminate” [p. 5], before declaring:

The engagement of development and training partners in low-income countries should neither end abruptly nor last indefinitely. Funding and training expertise should gradually decrease over time until (and only when) both become no longer necessary. Conversely, local governments should assume responsibility for sustaining and further expanding these initiatives and have a long-term plan for hiring and adequately compensating the newly trained health professionals.

Their addition of “and only when” in the above quoted statement means theoretically that some partnerships should exist forever. In contrast, this research found that that some short-term projects (defined as less than five years in duration) were perceived to be higher-value by senior representatives.

The 31 partnerships identified as higher-value in this research all shared three characteristics: i) the outputs or outcome were considered a **priority need** for the focus university; ii) the **long-term capacity of the focus university to fulfil its mandate was increased**; and iii) the overall capacity building/strengthening/development benefits realized by the focus university were perceived to be **fair** when compared to the benefits realised by the international partner(s). Fairness in benefits implies that the benefits realised by the respective partnerships are reciprocal in nature as discussed in Chapter 6. However, a review of the literature (Crump et al., 2010, Bozinoff et al., 2014, Umoren et al., 2014, Umoren et al., 2012) revealed that the concept of reciprocity was not very well developed in the global health field and warranted further research using literature from other fields. Theory about reciprocity in international relations (Keohane, 1986) and sociology (Molm, 2010) was applied to examine this important characteristic of partnerships in Chapter 8.

The finding that the priority need of the LMIC should be the focus of the partnerships is shared by Mulvihill and Debas (2011) and, to some extent Buse and Harmer (2007). Focus universities are, unsurprisingly, most concerned with initiatives that will strengthen their institutions. Focus universities have priorities and not just any activity will do. The second

finding concerning the importance of the university's long-term capacity being increased speaks to the institution building and the sustainability of outputs and outcomes being necessary for a partnership to be higher-valued. Institutional strengthening is of key importance. Gaillard (1994), (Ijsselmuiden et al., 2004) and KFPE (2014) note the importance of securing outcomes and Cancedda et al. (2015) recommend that low-income country beneficiaries have a "sustainability strategy" for partnership outputs and outcomes and "institutional capacity building" [p. 8]. Fairness is also mentioned by the Canadian Coalition for Health Research in its *Partnership Assessment Toolkit* (Afsana et al., 2009) and by COHRED in its Research Fairness Initiative COHRED (2017).

9.2.3 Objective 3: To identify and critically appraise the reasons why the universities from other countries are involved in these partnerships with universities in SSA.

This research found Clark's (Clark, 2001) framework useful for examining and explaining why the international partners of the focus universities were interested in establishing international partnerships with the four focus universities, how they went about establishing them, and what benefits they valued from them. Specifically the *Steering Core* was interested in internationalising their institutions in response to globalisation. How each university expressed this interest was found to depend on the specific characteristics of the university.

The University of Toronto, a public institution in Canada, provided a modest level of seed money to the Centre for International Health, a *Development Periphery* unit, to fund its HIV/AIDS Initiative-Africa to explore partnerships in SSA, and then expected it to secure research grants from foundations or pharmaceutical companies (Oleksiyenko, 2008). At the University of Toronto, the Centre for International Health was disbanded and the Institute for Global Health Equity and Innovation was established in 2012 although it appears to be embedded within the Dalla Lana School of Public Health (DLSPH)⁹⁰. Conversely, Duke University, a private US university, led by its president, set internationalisation as a core objective and secured a large amount of funding to establish the Duke Global Health Institute (DGHI), an important unit at Duke. In both the case of Toronto and Duke, *diversifying the*

⁹⁰ <http://www.dlsp.utoronto.ca/institutes/institute-for-global-health-equity-and-innovation/> (Accessed various dates since University of Toronto hosted its Global Health Summit, November 3-5, 2014.)

funding base, Clark's fourth element, was seen as important to the *Steering Core* and the units given the responsibility to establish and manage the global health partnerships.

Social responsibility was found to be a theme explaining why some individuals, initially on the *Development Periphery*, decided to start international partnerships. This theme was not found to be a recent development, as a Ludwig Maximilian University of Munich (Germany) representative decided to start partnering with UoN in late 1970s, and Indiana University (US) medicine representatives and Dalhousie University nursing representatives (Canada) decided to start partnering with MU and UoN, respectively, in the 1980s.

To sustain the partnerships, including those partnerships concerned with *social responsibility*, it was found important to include the interests of the *Academic Heartland* of the international partner universities. This meant ensuring that either or both the research and education interests of the international partners were being met somehow by the partnership with the focus universities. Although it was found in Chapter 6 that no student-only partnerships were of higher-value to the focus universities, excluding students was not a good idea either, as expressed during an in-depth interview with a Swedish respondent in Chapter 8.

This study also found the relationship between the worldwide ranking of the university and the perceived value of the partnerships was weak. The percentage of top 200 universities in higher-value partnerships (62%) was almost the same as the percentage in lower-value partnerships (58%). While there are examples of "successful" partnerships in the literature (Crane, 2011, Frenk et al., 2010, Mulvihill and Debas, 2011), there appear to be very few studies that examine multiple partnerships using a scoring system of some type. The only one found during the course of this study was a survey conducted by Muir et al. (2016b) of members of the Consortium of Universities for Global Health (CUGH) – consisting mainly of North American universities – and their international partners. They found "High levels of perceived equity and mutual benefits by North American and international institutions" [(Muir et al., 2016a), p.1], although they only surveyed one individual from each side (i.e. one representative from the North American university and one representative from the non-North American partner university) of each partnership (Muir et al., 2016b). Based on the findings of this research this appears to be an important limitation in their study since perceptions of the success, value or benefits of a partnership can vary greatly among representatives of the same school, let alone the same university.

9.2.4 Objective 4: To analyse how and if partnerships are mutually beneficial to the focus and international universities partnering.

This research found that the majority of global health partnerships were asymmetrical, even among South-South partners. Nevertheless, asymmetrical partnerships can achieve mutually beneficial exchange by using a variety of types of reciprocal exchange: specific reciprocity; unilateral reciprocity; and, diffuse reciprocity (bilateral and multilateral). This variety of types of reciprocity needs to be used because the priority benefits of the global health partners are often different and the scale of resources available to support the different activities varies too. Student programmes are often a priority for universities in HIC countries (Macfarlane et al., 2008, Muir et al., 2016b). While student programmes were also found to be valued by the focus universities in this study, as presented in Chapter 6, other activities are valued more. Available funds spent on, for example, the library, internet, a hospital ward, and training of lecturers and professors would strengthen institutional capacity more than sending many students on an international exchange. However, providing international opportunities to students may encourage highly qualified potential students to consider a specific school, apply and ultimately accept an offer of admission, because international experience and exposure is highly valued by potential employers (Study Group on Global Education, 2017).

This study found that **social responsibility** is a benefit that some international partners desired to receive. Some respondents of the international partner universities' stated the primary reason they chose to partner with a one of the focus universities was to support the development of a health professional programme (HPP), to support the strengthening of the Kenyan or Tanzania university as an institution, or to assist trainees with their career development. These individuals may also enjoy the travel, find international work more interesting or exciting, and, in some cases, may simply prefer the weather, particularly when compared to northern climates. However, these are secondary benefits for the lead international partner representatives of the partnerships who participated in the in-depth interviews. Many of them had other full-time responsibilities that had to be done in addition to their work on the partnerships.

As a result, this research finds that diffuse reciprocity is an important type of reciprocity in global health interuniversity partnerships. In fact, it is worth asking, Does social responsibility has to be considered a benefit by the more powerful partner for institution

building to take place in an asymmetrical partnership? The answer is likely, yes, if the scale of the endeavours are going to be sufficiently large to address the human resources for health and institutional strengthening needs of Kenya and Tanzania, as it may be unlikely that a donor would reimburse the representatives involved for all the time they committed to the partnership.

Reciprocity is increasingly discussed in global health literature but remains difficult to measure in asymmetrical relationships in which diffuse exchange is practiced. Nevertheless partnerships should try to track it using simple tools such as the exchange ratio for trainees suggested in Chapter 6. Considering how important trust is to global health partnerships (KFPE, 1998, Casey, 2008, Anderson et al., 2014), and trust is built through reciprocal exchange (Molm et al., 2009), it is in the interest of partnerships to track such data.

9.3 Integrated discussion of findings in relation to literature

9.3.1 Is the partnership landscape changing?

The partner landscape appears to be changing to a small extent from bilateral, North-South partnerships between universities from HICs in Europe and North America to consortia South-South-North partnerships. Funding for consortia partnerships is still coming from the North whether it is from: government agencies, such as the UK's Department of International Development (DfID-UK) funding of DELPHI or the US's National Institute of Health's (NIH) funding of MEPI (British Council, 2017, Collins et al., 2010); or private foundations, such as the Bill & Melinda Gates Foundation that funded the MUHAS-UCSF ALP (Macfarlane and Kaaya, 2012) or the Carnegie Corporation and the Wellcome Trust that are major funders of CARTA, in addition to the Swedish International Cooperation Development Agency (SIDA) and other private foundations and northern government agencies (Fonn et al., 2016). Until governments in SSA choose to or are able to adhere to the *Abuja Declaration* of 2001, and apportion 15% of public funds to health (WHO-AFRO, 2010) and the *Khartoum Decision* concerning science and technology of 2006, and apportion 1% of public funds to research and development (AU, 2006, AU-NEPAD, 2010, AU-NEPAD., 2014), it is likely that LMIC universities will continue to embrace funding from HICs on whatever terms they can negotiate. Fortunately, some HIC governments are requesting that representatives from SSA plan and lead the projects and programmes that they fund, as was the case of SIDA (MUHAS, 2014c) and the US NIH (Talib et al., 2015).

It appears unlikely however that the scale, duration and balancing of activities of the majority of the partnerships examined would help address the structural imbalances observed in the global socio-economic system. Only 25% of the partnerships were perceived to be higher-value by the focus university representatives. Many of the partnerships identified were small-scale or short-term interventions or exchange benefits that favoured the HIC university partners such that they did not adhere to the principle of *equivalence* that Keohane considers critical to the concept of reciprocity. Moreover, some of the higher-value partnerships were considered high-value in the past but not when the data was collected. This includes the Maastricht University-MU, McMaster-MU, Heidelberg University-MUHAS and Dalhousie University-MUHAS partnership.

The various factors in the 10 articles discussing success factors for global health partnerships thus seem to align with the factors of high performance partnerships identified by de Waal et al. (2015). This comparison of criteria was done in the table that follows on the subsequent pages [see Table 9.1: Factors for examining the type, scale and performance of international interuniversity health partnerships from 10 sources, 1994 to 2015]. The columns present the factors the 10 authors identify. The rows categorise these factors based on the three overall factors for high performance partnerships identified by de Waal et al. However, not all the factors fit. First, the idea that the partnership had to be valuable to the members of the partnerships was not an overall factor for de Waal et al. For them businesses only enter partnerships because it will be valuable to them. Likely because global health partnerships, almost by definition, are between unequals, resulting in a potential power imbalance, some universities may enter a non-beneficial partnership. Therefore a row labelled “Valued by each party involved” was added to the table. Resources were observed to be an issue important to the success of global health partnerships that wasn’t identified by de Waal et al. Therefore “secure sufficient resources to realize objectives and ensure they are appropriate to the setting” was added as a row.

On the other hand, the global health partnership literature listed some success factors that may not actually be factors but something else; for example, an outcome of a partnership, such as *trust*. KFPE (1998) lists trust as a principle in its Guidelines for Research in Partnership with Developing Countries and discusses its importance. Casey (2008) and Anderson et al. (2014), amongst many others emphasise trust too. There is little doubt that parties in successful partnerships have to trust one another and may not even consider

partnering without enjoying some level of initial trust, but even if partners initially trust each other, for whatever reason, the trust must be maintained and, likely, increased. De Waal too identified trust and states that it is “a prerequisite for the development of high levels of communication needed to facilitate the sharing of knowledge and achievement of continuous improvement” [p.91], but his “factor analysis” of 35 potential characteristics identified it to be an underlying characteristic not a core factor of high performance partnerships. For de Waal, trust is a characteristic embedded within or coming out of factor three, *good conflict management*.

There were factors that were explicitly relevant or characteristic to the field and study of global health and therefore to partnerships formed in the name of global health. A final row named, “Strengthen the capacity of a component of an academic health science centre (AHSC) in a low- or middle-income (LMIC) country in education, research and/or service – Institution Strengthening”, was added. This table was then used to further develop the final framework of analysis for this study [see Figure 9.1: Framework for Examining Interuniversity Global Health Partnerships].

Finally, sometimes it appears that some of the authors of the various 10 articles did not build on previous work conducted in the partnership field by referring to existing literature in the field. Highlighted in *red bold italics* in Table 9.1 are what this study considers may be best wording and/or a value-added concept in the global health partnership literature.

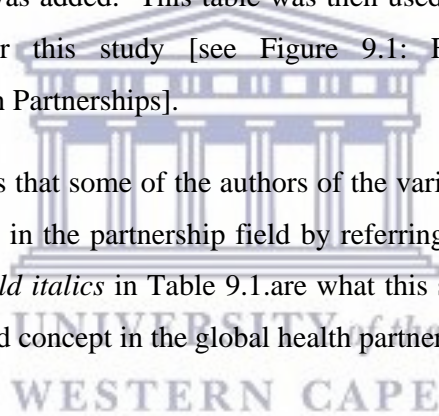


Table 9.1: Factors for examining the type, scale and performance of international interuniversity health partnerships from 10 sources, 1994 to 2015 – text in *red bold italics* identifies best wording and/or value-added concept

	12 Ingredients for a North-South Partnership Charter (Gaillard, 1994)	11 Principles of Research Partnerships (KFPE, 1998)	7 Elements of Successful Capacity Development Partnerships (Horton et al., 2003)	7 Principles of Good Education Capacity Partnership - COHRED (Ijsselmuiden et al., 2004)	7 Habits of Highly Effective Global Health Partnerships (Buse and Harmer, 2007) ⁱ	7 Factors for Successful Partnerships (Casey, 2008)	9 Attributes of Successful Global Health Academic Partnerships (Mulvihill and Debas, 2011)	7 Principles Leading to Mutually Beneficial Collaboration (Anderson et al., 2014)	11 Principles of Transboundary & Intercultural Research Partnerships (KFPE, 2014)	6 Best Practices within an Improved Framework (Cancedda et al., 2015) ⁹¹	
Valued by each party involved	I/ Valuable to Each Organisation Individually										
	<i>... based on a strong mutual interest and both parties should have something to gain from it.</i>	Decide on objectives together.	<i>Link to organisations' mission, strategy, and values and have clear purpose and intent</i>			Value and respect the partner	Mutually advantageous to both parties. (State that the benefits for the developing country institution are obvious and that the benefits for the richer institution should be stated explicitly.)		Set the agenda together	Competency-based training & pedagogic innovation (3)	
3 Overall Factors for High Performance Partnerships: Openness; Equality; Good Conflict Management (de Waal et al., 2015).	II/ Openness (regular exchange of information, honest communication), but within a framework that embodies good governance⁹²										
	<i>Transparency should be a golden rule between the partners, e.g., both sides have information on the budget allocations to each side and how funds are being spent.</i>	Create transparency			Improve oversight (5)		All financial transactions must be transparent.	Transparency	Account to beneficiaries	Social accountability	
	<i>... be evaluated on a regular basis, e.g., after each phase is completed. Monitoring should emphasis project outputs, rather than inputs.</i>		<i>Clear division of roles and responsibilities</i>		<i>Have a partnership framework</i>	A partnership framework	The work to be done must be based on previously agreed-upon principles for project development and for monitoring and evaluation		Clarify responsibilities		
	<i>Both parties should meet regularly to review on going work and plan future activities.</i>	Monitor and evaluate the collaboration		Monitor routinely and evaluate regularly using appropriate indicators, yet be flexible to take advantage of opportunities.	<i>Appropriate, regular performance monitoring;</i>			Accountability	Interact with stakeholders		
	Communication channels (e.g., fax and E mail) must be available to secure efficient interaction between partners.	<i>Share information (both internally and externally) so networks are developed</i>	Openness to learning and change	Good communication.		Communication and interaction within the partnership	Clear understanding and agreement on mechanism of handling data, publications, specimens and intellectual property.	Communication	Share data and network, including	Strong governance and good communication.	
	<i>Scientific papers should be written jointly, with the names of the authors from both sides appearing on the published articles.</i>	<i>Disseminate results</i>							Disseminate results		
	II/ Equality										
	Project proposals should, whenever possible, be drafted jointly and each partner should be associated as much as possible to the important decisions which need to be taken.	<i>Share responsibility. Share profits equitably.</i>	Joint decision-making		Balanced representation of stakeholders on governing bodies - decision-making level (2) Defined roles and responsibilities (4)	Equity and involvement in decision making	A relationship must be among equals and based on trust, and with respect for the customs and cultural and religious values of each party.				
						<i>Power sharing</i>			<i>Promote mutual learning</i>		
	IV/ Good Conflict Management										
		Principled negotiation		Management of conflict of Interest (7)	<i>Leadership and managing change. Balance between 1.power-sharing versus control 2.process versus results 3.continuity versus change (Structure & Innovation) interpersonal trust versus formalized procedures</i>	<i>Mechanism for conflict resolution should be developed and agreed upon from the beginning</i>					
		<i>Flexibility</i>			<i>The role of partnership coordinator</i>		<i>Leadership</i>				

⁹¹ Cancedda et al (2015) actually identify six Best Practices for Training Initiatives in Low-Income Countries not for producing successful partnerships. The six best practices are nevertheless worth reviewing since they are derive from the authors experiences in four international global health partnerships. The four are: MEPI; NEPI; HRH; GHSP.

⁹² In discussing good governance, Buse & Hamer (2007) mention appropriate, regular performance monitoring; management of conflict of Interest; transparency in decision-making.

Table 9.1: Factors for examining the type, scale and performance of international interuniversity health partnerships from 10 sources, 1994 to 2015 – text in <i>red bold italics</i> identifies best wording and/or value-added concept (continued)											
	12 Ingredients for a North-South Partnership Charter (Gaillard, 1994)	11 Principles of Research Partnerships (KFPE, 1998)	7 Elements of Successful Capacity Development Partnerships (Horton et al., 2003)	7 Principles of Good Education Capacity Partnership - COHRED (Ijsselmuiden et al., 2004)	7 Habits of Highly Effective Global Health Partnerships (Buse and Harmer, 2007)	7 Factors for Successful Partnerships (Casey, 2008)	9 Attributes of Successful Global Health Academic Partnerships (Mulvihill and Debas, 2011)	7 Principles Leading to Mutually Beneficial Collaboration (Anderson et al., 2014)	11 Principles of Transboundary & Intercultural Research Partnerships (KFPE, 2014)	6 Best Practices within an Improved Framework (Cancedda et al., 2015)	
Secure sufficient resources to realize objectives and ensure they are appropriate to the setting.	V/ Resources										
	<i>Decision on specific instrument purchase should be made jointly and the necessary provision for installation, maintenance and repair should be secured.</i>										
	<i>Each cooperating group should include a substantial number of researchers (at least 3).</i>										
	Salaries should be sufficient. to ensure a full-time commitment, or completed by supplementary means (e.g., honorarium) secured in the budget.							Long-term funding needs to be secured.		Pool profits (and merits)	Low overhead costs, selected and funded by government.
	<i>Mechanisms should be established so collaboration can continue after the program is terminated to ensure a long lifetime to the partnership.</i>			<i>Continuity and persistence (of personnel)</i>							
				<i>Be well defined and have a clear and manageable focus.</i>	<i>‘SMART’ objectives (4)</i>						
Other	VI/ Outcomes (i.e. result) of a Good Partnership										
		Mutual trust is built						Trust (and value) the partner		Trust; Mutual Respect	
		Networks Built				Encourage staff to partner with potentially “competing” organisations (7)					
		<i>Apply results</i>								<i>Apply results</i>	
		Build on the achievements.									
							<i>Long-term, spanning 10-20 years</i>			Est. Long-lasting partnerships & <i>communities of practice. (6)</i>	
Strengthen the capacity of a component of an academic health science centres (AHSC) in a low- or middle-income (LMIC) country in education, research and/or service – <i>Institution Strengthening</i>	VII/ Explicitly Relevant to Global Health - one of the 7 metaphors of Global Health										
	<i>Provision should be made in the budget for a training component and research training should, whenever possible, take place as part of a formal degree program to increase commitment.</i>	<i>(Research) capacity is increased</i>			<i>Staff development and training of the African partner at the centre of activities, and optimize the use of local resources, expertise and budgets to ensure sustainability.</i>				Sustainability	<i>Enhance capacities</i>	<i>Sustainability strategy. (5)</i>
				Coordinate donor investments and direct funding to African institutions.	<i>Harmonise procedures and practices with other partnerships to avoid duplication and waste. (1)</i>					<i>Secure outcomes</i>	Strong coordination, alignment to national priorities.
				<i>African institutions should prepare their own internal environments to engage external partnerships and use them strategically.</i>							Funding flexibility and host country ownership. (2)
				<i>Support national and regional health strategies and seek to strengthen existing regional organisations and professional associations.</i>							Institutional capacity building. (4)
					Activities need to be in sync with local needs			<i>Needs and priorities of the less-resourced party to come first.</i>			Alignment with local priorities, joint planning, and coordination. (1)
					<i>Support public sector (3)</i>						

9.3.2 Words matter, but so do actions

Capacity building is often used in global health partnership literature. It was used in this research too. It was found that sometimes it is appropriate to use this terminology but often it is not. Sometimes using the terms *capacity development* as Horton et al. (2003) do or *continuing education* as Sriharan et al. (2016)⁹³ do would be more appropriate. If it is a completely new endeavour at a LMIC university it might still be appropriate to use the term *capacity building*, especially if the participants are trainees who have not secured a first degree in higher education. In other cases it would be more appropriate to use terminology that recognizes that the trainees have already earned higher professional status. In these cases, *continuing education* would be more appropriate.

While words matter and should be used carefully, and as per their meaning, actions matter too. At the opening of a Roundtable on *Capacity Building and Human Resource Development in Africa* in Halifax in 1989, the president of Dalhousie University opened the event stating that two issues were clear regarding the “development crisis” in SSA: “... Africa itself must have a major role in the decisions that affects its future; solutions cannot be imposed unilaterally from outside” [(Clark, 1989), p.ix]. It is surprising to read this quotation today because it seems obvious that people need to be involved in their own development. However, around the same time as Dalhousie’s university president made this statement, members of Dalhousie University nursing were working to establish Tanzania’s first university-based nursing programme at what is today MUHAS (Moyo and Mhamela, 2011).

Global health is an interdisciplinary field (Koplan et al., 2009) but sometimes scholars in the field don’t take sufficient advantage of advances already made in the field or in other fields. Let’s begin with the latter part, other fields, before returning to discuss within the field.

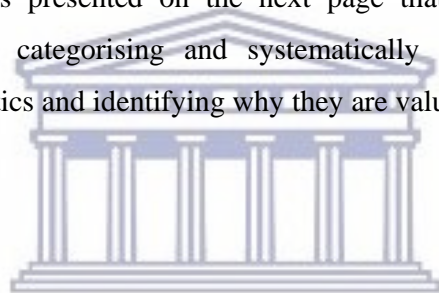
Keohane (1986) discussed reciprocity thirty years ago in a manner worthwhile for global health partners to consider today. In sociology, Molm has been examining reciprocal exchange for over 15 years. Chapter 8 of this thesis began to explore reciprocity in global health partnerships using this work (Molm, 2010), particularly on how power, trust and fairness in negotiated. Reciprocal exchanges, in particular, may be of interest to global health

⁹³ They actually use the term “continuing medical education” which is fine when it is actually medical but continuing health professional education would be more inclusionary.

partnership scholars concerned with fairness and reciprocity (Molm et al., 1999, Molm, 2003).

9.4 Framework for examining interuniversity global health partnerships

In the examination of global health partnerships, this thesis urges moving beyond reflections on partnerships in which authors are involved to a more systematic analysis of partnerships. This is consistent with addressing one of the challenges identified by The Academy of Medical Sciences and Royal College of Physicians (2012), “lack of a common language to describe the science of evaluation” when examining partnerships [p. 7]. The thesis proposed an initial Framework of Analysis (Figure 2.1) in Chapter 2, which was subsequently modified as this research was implemented, data were analysed and initial findings presented [see Appendix 7 – Presentations delivered while undertaking PhD research] and additional literature examined. A *Framework for Examining Interuniversity Global Health Partnerships* (Figure 9.1) is presented on the next page that scholars of global health partnerships can utilize in categorising and systematically examining partnerships by focusing on their characteristics and identifying why they are valuable to the parties involved.



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Figure 9.1: FRAMEWORK for EXAMINING INTERUNIVERSITY GLOBAL HEALTH PARTNERSHIPS



Yarmoshuk, 2017

The Initial Framework combined a number of frameworks and analysis, to be considered during the three phases of the study, to produce a comprehensive framework. It had seven boxes, four arrows and five lines. Each box was labelled and all, except “Indicators”, included additional content. Neither the arrows nor the lines were labeled. Ultimately, this study was concerned with the top or highest level of the initial framework: how effective were the health professional programmes (HPPs) of a university in achieving its mandate of training “a sufficient number of skilled health professionals, including educators, policymakers, researchers and service providers, to help sustain and improve the Health Care Systems of its impact area”. Although the study proposed examining the international partners’ perspectives towards the partnerships, the international partners were not included in the initial framework - it was inappropriately (because a framework should be clear) assumed that their perspectives would be covered in the box labeled *Factors for Successful Partnerships* in Figure 2.1.

The Initial Framework was modified in the following ways and for the following reasons to produce the final framework, *Framework for Examining Interuniversity Global Health Partnerships*.

Types of Partnerships became the centrepiece of the Final Framework since this study focused on partnerships. Consistent with the voluminous and variety of literature on partnerships generally, and global health partnerships specifically, that considers and examines partnerships through a number of lenses, three categories and two sub-categories are presented. *Characteristic* of partnerships is included, based on Kernaghan (1993) five types of partnerships - collaborative, operational, contributory, consultative and phoney (neo-colonial) for empowering organisations - and used in this study, as presented in Chapter 6. Neo-colonial was added as a descriptive for phoney partnerships since it is frequently referred to in the literature; examples of neo-colonial partnerships and behaviour were identified in this study and one of the negatives results of colonialism, and therefore neo-colonialism, is that it is disempowering. *Structure* of partnerships considers the number of partners in a partnership and how they are organised, for example formally or informally, and whether the partnership is for a singular project or includes multiple projects (i.e. a programme). This research reported on structure in the findings presented in Chapter 5 when the mapping of significant partnerships for the four focus universities was presented and again in Paper 6 when discussing the value of partnerships. Finally, the specific focus of

global health partnerships are considered in two ways in the third category: i) by the component(s) of the tripartite mission and the health professional programme(s) involved. This category reflects the finding presented in Chapter 5 that few partnerships are comprehensive, either in terms of the tripartite mission or the having multiple units of the universities involved. Physical capital was added as a component of AHSCs because sometimes partnerships support infrastructure development too.

Factors for Determining the Type, Scale & Performance of Partnerships identifies the five key overall factors for evaluating the benefits of a partnership for the parties involved and how successful and significant the partnership is likely to be for the parties involved. This box combines a number of findings in this research. It is derived from the review of 10 articles of ingredients, principles, elements, habits, factors, attributes and practices and the results of the factor analysis conducted by de Waal et al. (2015) discussed in Chapter 2 and further discussed, analysed, and finally presented in Table 9.1 in this chapter. In addition, the findings of this research concerning the value of partnerships for the focus universities presented in Chapter 6, the benefits for the international partners presented in Chapter 7 and the nature of the reciprocal exchange presented in Chapter 8 helped to form this box of the Final Framework.

Box III, *Consistent with Global Health*, was added to the framework to draw attention to literature showing that global health remains a contested field. There is no common definition of global health despite efforts to create one (Koplan et al., 2009). Perspectives vary among global health scholars. Partnerships can be examined however to determine which metaphor of definition of global health it is consistent with (Kickbusch, 2008, Stuckler and McKee, 2008, Silberschmidt, 2009). In addition, part B, Characteristics, was added to focus attention on whether a partnership is consistent with a i) equity lens or an b) equality lens (Gideon and Porter, 2016).

In the Initial Framework, there was a box named *Elements of the Organizational Assessment Framework*. It presented the items Horton et al. (2003) identify for assessing organisational performance. It was too ambitious for this study to address all these issues systematically, although it presents examples of many of them in the findings in Chapters 5, 6, 7 and 8. However, it was decided to focus the Final Framework on the lead representatives and units of the universities involved using the Clark (1998) framework for examining the elements of European universities to understand their response to the challenge presented by globalisation

by becoming entrepreneurial universities, based on how it was used in this research as presented in Chapter 7. The Horton et al. (2003) assessment framework was also left in, however, because it was found to be useful for examining the specifics of organisational assessment for universities as already stated.

Health Professional Programs (HPPs) of Focus University (Box VI) is at the top of the Final Framework because they are what the partnerships ultimately hope to contribute towards. From this perspective, they are primarily concerned with the extent to which interuniversity global health partnerships address inequality and inequity between countries. Frenk et al. (2010) recommend ten changes to health professional education to meet health care needs in the 21st century. They are: 1) adoption of competency-based curricular; 2) promotion of interprofessional and transprofessional education; 3) exploitation of information technology (IT) power; 4) harnessing of global resources for local adaption; 5) strengthening of educational resources (e.g. journals and teaching materials); 6) new professionalism using competencies as objective criterion; 7) country-based joint planning mechanisms; 8) expansion to academic (health) systems rather than academic (health) centres; 9) linking institutions internationally through networks, alliances and consortia to train full complement of health professionals when gaps exist in a local educational institution; and, 10) nurturing a culture of critical inquiry. This research presented findings on how international partnerships have assisted the four focus universities in addressing these needs in Chapters 5-8.

Benefits for the International Partner University (Box VII) is at the bottom of the framework. It is important that all partners benefit, or at least not be harmed, in a partnership. This box recognises that the international partners have their own interests and seek benefits specific to them. Findings related to these issues were presented in Chapter 7 and 8.

Lastly, all the boxes and arrows are embedded in one large, green box (Box VIII) labeled ***Context***. This is done to signify that context is likely to influence every decision made and action taken by all actors in a partnership and the outcome and impact of decisions and actions. Context is considered first locally, nationally and internationally based on works by Horton et al. (2003), Okui et al. (2011) and Keohane and Nye (1989). Then it is considered in terms of, globalisation, based on (Knight, 2008). The five elements of globalization or change factors identified by Teferra and Knight (2008) and Sawyerr (2004) – 1) Knowledge

Society; 2) Information and Communication Technologies (ICTS); 3) Market Economy; 4) Trade Liberalization and 5) Governance – that are having a profound impact on higher education worldwide and influencing LMICs and HICs universities alike. This box, and the arrows which represent the mechanisms and processes through which change or influence occur, are far from exhaustively addressed in this thesis, but are highlighted in the revised Framework to emphasize their practical and analytic importance.

9.5 Contributions of this thesis

The research reported in this thesis is an original contribution in undertaking a multi-institution and multi-country analysis of international interuniversity partnerships, from the vantage point of two universities in each of two East African countries and also from the perspective of these universities' multiple international partners. It collected and integrated data from multiple sources, including senior academic leadership, faculty members, students, and other key informants, in three disciplines (medicine, public health and nursing) within a single project. In addition to its substantive and original empirical contributions, this research makes a number of contributions to the field of capacity strengthening and partnership in public health and global health.

While the main research proposal was being written it produced a mapping of health professional programmes – medicine, nursing and public health - in every WHO Africa country except Algeria that is available on-line - <http://hppafrica.org/health-programs/>. Reflecting on this initial work, it put the four focus universities in East Africa first by asking senior representatives of them to identify international partnerships that they considered significant to their institutional development. It did not prioritise partnerships from any specific region of the work.

In terms of its methodological approach, it used and integrated a variety of qualitative and quantitative methods and a variety of frameworks from multiple fields – types of partnerships from public administration (Kernaghan, 1993); high performance partnerships from business and administration (de Waal et al., 2015); entrepreneurial universities from higher education management (Clark, 1998); and, reciprocity from international relations (Keohane, 1986) and sociology (Molm, 2010) to identifying the type and understand the key dimensions of global health partnerships. This adaptation to global health partnerships and capacity strengthening of meso-level theory from several fields helps to strengthen both the conceptual and methodological basis of research and for future interventions in a complex and

multidisciplinary field that is sometimes lacking in conceptual rigour. Global health has much to learn from – and offer to – other disciplines.

Concerning the specifics of international global health partnerships it introduced some innovative measurement tools and approaches. It introduces a simple weighted measure for valuing partnerships as higher-, medium-, or lower-value, although this measure has yet to be formally validated. It also identified three general characteristics of higher-value global health interuniversity partnerships: i) addressing the priority need of the institution that seeks support; ii) institution building; and iii) being fair as measured by achieving equivalence in reciprocity. The perceived value of partnerships was analysed relative to the worldwide ranking of universities. Lastly, it introduces types of reciprocal exchange for asymmetrical partners to consider using to reflect on the exchange of benefits within their partnerships. It introduces the suggestion that partnerships should keep track of the *exchange ratio of trainees* to assist with monitoring reciprocity within their partnerships.

9.6 Limitations

This study had several limitations.

First, this study covered a broad range of issues related to the complexity of 125 distinct partnerships of four different universities in East Africa, involving 88 distinct universities and 10 consortia. While this allowed me to examine a very broad terrain in a comparative and contextualised way, it would have also been possible to go into much more depth on either a smaller number of issues or partnerships, or both.

Second, it collected minimal financial information about the partnerships. This was because I had no relationship with three of the four focus universities included in the study and was not able to build enough trust in the constraints of a PhD study to probe these sensitive issues. In addition, I desired to collect the same level of information from each of the four focus universities. I did not wish to abuse my relationship with representatives of MU by requesting information from them that I wasn't able to get from the other universities.

Third, I was very sensitive to the potential to do harm to relationships and to institutions by presenting incomplete or inaccurate information. It was ambitious to include 125 distinct partnerships, especially when the level of detail available about each of them varied significantly. Overall I took an "appreciative inquiry" (Cooperrider and Srivastva, 1987; Cooperrider and Pasmore, 1991; Watkins and

Cooperrider, 2000) approach to presenting my findings, by not being overly critical about lower- and medium-value partnerships. However, I also believed that it was important to identify short-comings of higher-value partnerships that have been written about extensively, such as the Indiana-Moi partnership, to move research about these positively perceived partnerships forward.

Fourth, being employed by University of Toronto during Phase 1 and 2 of the study was both an opportunity and a hindrance when collecting data. On the one hand, it allowed for frank, open discussions with most study participants from MU and AMPATH Consortium universities. On the other hand, I didn't feel it was appropriate to use some of the information mentioned or certain information that was specified as off-the-record. However, off-the-record comments were made by representatives from other universities too, both focus and international partners.

Fifth, although many leaders of the partnerships were interviewed it was not possible to interview some key leaders of some of the partnerships. As a result, parallel information about all the partnerships, especially from the perspective of the international partners, was not collected in some cases. This prevented trying to develop semi-qualitative findings for some studies; for example, about the types of reciprocal exchange.

Sixth, the study did not include an explicit gender analysis. Although relevant information was collected regarding gender issues it has not yet been sufficiently analysed or presented.

Lastly, this study looked at partnerships broadly. Details are important however. Ideally, detailed information would be analysed about the specific baseline information and outputs for all partnerships, for example, the number of PhDs started within a sandwich programme and the number completed and the number of publications arising for the PhD work.

9.7 Reflections

When I was preparing the proposal for this study, I initially proposed to try to develop an “ideal model” of partnership. My supervisor suggested I instead explore a number of partnerships and learn about the strengths of each of them. I took this to heart, perhaps a bit too much, by including four focus universities and then interviewing representatives at 25 of their international partner universities. However, this made me appreciate that there is no obvious ideal model in terms of the structure, timeline or content of partnerships. An ideal model can be formulated at the abstract level (e.g. the three characteristics shared by all

higher-value partnerships), but it is when not at the implementation level. At the implementation level, partners are constrained by factors sometimes completely or largely outside of their control. In addition, perspectives vary between individuals based on many factors, including age, education, nature of employment, life experiences, and nationality. People's thinking evolves, and perhaps regresses, but it changes. The same is true of institutions and countries. What was appropriate in 1991, or 2011, may not be appropriate in 2021.



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CHAPTER 10: CONCLUSIONS

10.1 Introduction

This research provides detailed findings and analysis about the range of international partnerships with the health professional programmes of four universities in East Africa. In summary it found that each focus university has had many partnerships since 1991 involved in an array of activities supporting the tripartite mission of academic health science centres and each of them continue to have many partnerships. However, it was also found that only one-quarter of the partnerships were considered to be of higher-value for strengthening the capacity of the health professional programmes of the focus universities. Three characteristics were shared by all the higher-value partnerships. *One*, they addressed a priority need of the focus university. *Two*, they supported this priority need in a manner that was sustained or could be sustained. In other words, the benefit was institutionalised. *Three*, the exchange of benefits viewed as being fair, or in terms of reciprocal exchange, equivalence was realised.

A wide variety of universities worldwide are involved in global health partnerships. Partnerships with the highest ranked universities in worldwide university rankings were not always of high-value to universities in sub-Saharan African. Universities engaged in global health partnerships for a variety of reasons. Individuals, especially faculty members, were important for developing and sustaining partnerships but it is important to analyse the various elements of universities to understand how and why they were started and how they are sustained. Partnerships that were sustained were firmly rooted in the academic heartland of universities – their research and teaching.

Global health partnerships were often characterised as being asymmetrical, based on the respective resources and experience of the partners. Achieving mutual benefit in these partnerships was therefore sometimes difficult. Using theories of exchange from other fields, notably international relations and sociology, improved the examination of exchange benefits in global health partnerships. It was useful to consider specific reciprocity and diffuse reciprocity – bilateral and multilateral - to better understand the issue of reciprocity in global health.

10.2 Policy implications of the research and policy recommendation

As noted in Chapters 2, 5 and 9, many representatives describe their partnerships as being successful. This research instead points to discussing why partnerships are valuable for the parties involved. Partnerships that state they are concerned about the sustainability of results and equity or equality should state specifically how the outputs and outcomes of the partnership benefitted institutional development in the lower resourced setting. In global health partnership, whether they seek to address inequality or inequity, it is likely that the balance of benefits should favour the lower resourced partner(s), as Mulvihill and Debas (2011) state.

Finally, consortia partnerships are increasingly favoured by donors and some universities for global health partnerships. A variety of types of consortia should be considered. Sometimes national South-South consortia will likely offer partners the greatest value. Other times, regional or international consortia will be the preferred model. In a similar light North-South-South partnerships with more southern partners than northern partners will likely offer the greatest value. Yet, in other cases it may be advantageous for Northern parties to unite to focus their efforts on one institution in the South. Equality, whatever the structure of the partnership and whoever the parties are, is usually difficult to achieve with them. All parties in partnerships that seek to empower its members and be mutually beneficial need to consider who ultimately is in control and who should be in control, and why.

10.3 Further research

Further research is recommended in the following areas:

- Further validation of the process used to determine lower-, medium and higher-value partnerships in other settings.
- Analysing and measuring reciprocity, especially the exchange of diffuse benefits.
- Mapping and assessments of international, interuniversity, global health partnerships in other regions of SSA.
- Mixed method and longitudinal case studies to gain deeper insight into the dynamics which this thesis has begun to document and analyse.

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UNIVERSITY of the
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APPENDICES



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WESTERN CAPE

Appendix 1: Ethics Protocol, Approvals and Consent Forms

Presented on the next 15 pages.



UNIVERSITY *of the*
WESTERN CAPE

A1.1 Ethical Considerations

The ethical considerations are discussed in the attached Ethical Statement. The study will seek to be beneficial to organizations and individuals who participate, and to the broader fields of higher education, capacity strengthening, and public health. This will be best ensured through the dissemination of its findings. I will offer to present my findings in-person at each of the participating universities. This project will seek to do no harm to any individual or partnership. Such harm will be prevented by allowing sensitive information to be vetted by individuals interviewed. To protect the interests and integrity of participants I will allow them to review my manuscript before it is submitted or published. I will agree to re-word my writing to better ensure their confidentiality and/or anonymity while not modifying my conclusions if I believe they are valid. Participants will be given the opportunity to refute my conclusions and I will include them either in a footnote or an appendix to my dissertation.

My role as participant observer in the case of MUCHS may facilitate frank discussion of some issues, but may raise concerns; I will be on leave from U of T while conducting the study with MUCHS representatives but it may be advisable for a third party to conduct certain interviews. While this study is NOT an audit or seeking to identify or disclose any malfeasance, it is possible that the research will uncover potential financial discrepancies when reviewing statements. If this should arise, I will consult my supervisors before taking action. I will ensure non-disclosure of any and all confidential documents. I will also ensure that the views of anyone who requests anonymity remain anonymous.

Participant Consent Forms (see Appendix 2), Participant Information Sheets (see Appendix 2) and Focus Group Discussion Consent Forms (see Appendix 2) have been produced and will be used.

Ethics submissions will be submitted to each of the relevant university IRECs and, in the case of Tanzania, The Commission for Science and Technology (COSTECH). It is agreed that this project will be carried out to the highest ethical standards.

A1.2: Participant Consent Form



University of the Western Cape

Faculty of Community and Health Sciences

P/Bag X17, Bellville 7535, South Africa Tel.: +27 21 9592163 Fax: +27 21 9592755; E-mail:
aaron.yarmoshuk@gmail.com

CONSENT FORM

Title of Research Project: *The role of international partnerships in building the capacity of health professional programs in Kenyan and Tanzanian universities*

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name:

Participant's signature:

Witness:

Date:

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Study Coordinator's Name: Aaron Nicholas Yarmoshuk
University of the Western Cape
Private Bag X17, Belville 7535
Telephone: +1 647 829 4559
Cell: +27 78 086 7951
Fax: +27 (021) 959 2872
Email: aaron.yarmoshuk@gmail.com

Dean of the Faculty of Community and Health Sciences:
Prof. J. Frantz (Acting)
University of the Western Cape
Private Bag X17
Bellville 7535
021-959 2631
jfrantz@uwc.ac.za

A1.3: Participant Information Sheet



University of the Western Cape

Faculty of Community and Health Sciences

P/Bag X17, Bellville 7535, South Africa Tel.: +27 21 9592163 Fax: +27 21 9592755; E-mail: aaron.yarmoshuk@gmail.com

Participant Information Sheet for

The role of international partnerships in building the capacity of health professional programs in Kenyan and Tanzanian universities

Introducing the interviewer and the study

Hello. My name is Aaron Yarmoshuk. I am a researcher from the University of the Western Cape School of Public Health in South Africa. I am conducting research on *the role of international partnerships in building the capacity of health professional programs in Kenyan and Tanzanian universities*. The aim of this study is to analyse in what ways and to what extent international partnerships identified as important by selected universities in Kenya and Tanzania strengthen and/or weaken the capacity of the universities to train health workers (service providers and/or practitioners), educators, and researchers in three key health professions (medicine, nursing, and public health) for national health systems. I'm conducting the research for my PhD studies at the University of the Western Cape. It is my hope that the information obtained during the study, and my analysis of it, will assist those who enter global health partnerships in sub-Saharan Africa to design and implement them better and ultimately improve the performance of universities in the region to deliver health professional programs.

The study seeks to understand strengths and weaknesses of partnerships and universities, and to understand and fairly portray differing interests and perspectives. It is likely that areas of contestation and disagreement will arise across study participants. The individuals and institutions I have consulted in preparing this study have indicated that a constructive, honest assessment of both successes and failures, and areas of shared as well as different perspectives, is needed and possible. This is the spirit in which this study is conducted.

I will strive to present the information and perspectives I garner from you accurately and present them objectively. I will invite you or a representative of your choosing to review and comment on my analysis and conclusions prior to me presenting them in my final dissertation or any publication.

Method

The study will be conducted in two phases. You may be involved in one or both phases should you agree to participate in this study. Your involvement will consist of key informant interviews, focus group discussions and/or the completion of a survey. The key informant interview(s) will be conducted in-person or using Skype. The first interview will be held at a mutually agreed to date in the coming weeks/months should you agree to participate. The subsequent interviews, focus group discussions and or surveys will be conducted within the subsequent eight months. Each interview and focus group discussion will last approximately two (2) hours. I will be asking you open-ended questions and audio-recording your responses. Your responses will be transcribed. Once recorded, the audio-tapes will be stored on my computer and two external hard drives in password protected files.

Keeping information you don't wish shared confidential

As this study includes a small number of select representatives at a small number or select institutions, it will be difficult to keep certain information from being attributable to you should it be presented. To protect your interests, you will be allowed to review my manuscript before it is completed and submitted or published. I will agree to re-word my writing to better ensure your confidentiality and/or anonymity while not modifying my conclusions if I believe they are valid. You will be given the opportunity to refute my conclusions and I will include them either as a footnote or an appendix in my dissertation.

Informed Consent

If you do not want to participate in the study, you can remove your name from the study anytime and I will respect your decision. If you agree to participate I will read out a formal consent form to you and ask you to sign it to say you agree to participate.

Compensation

You will receive no compensation for the time and effort that you spend with me. You will, however, be acknowledged in all publications in which information and perspectives you share with me are included.

Contact details

If you have any questions regarding the study you may contact me by: e-mail, aaron.yarmoshuk@gmail.com; Skype, aaronyarmoshuk; or, telephone, +1.647.829.4559.

Or, you can contact my supervisor, Professor Christina Zarowsky by: e-mail, czarowsky@uwc.ac.za or czarowsky@gmail.com; telephone, +27 21 959 9394.

Dean of the Faculty of Community and Health Sciences:
Prof. J. Frantz (Acting)
University of the Western Cape
Private Bag X17
Bellville 7535
021-959 2631
jfrantz@uwc.ac.za

A1.4: Focus Group Discussion Consent Form



University of the Western Cape

Faculty of Community and Health Sciences

P/Bag X17, Bellville 7535, South Africa Tel.: +27 21 9592163 Fax: +27 21 9592755; E-mail: aaron.yarmoshuk@gmail.com

Title of Research Project: *The role of international partnerships in building the capacity of health professional programs in Kenyan and Tanzanian universities*

Thank you for agreeing to participate in a focus group discussion. What follows is an explanation of the purpose and process of this type of group interview. You are asked to give your consent to me on tape when we meet to conduct the focus group discussion.

Purpose and contents of interview

A focus group discussion is a kind of group interview. It will assist me to explore different stakeholders' understandings of the role of international partnerships in building the capacity of health professional programs in Kenyan and Tanzanian universities, as described in the information sheet about the project which we have just discussed. A focus group discussion allows participants to interact with each other and discuss other points of view that they might not think of in an individual interview. It also helps the researcher and the participants to get a clearer picture of what is and is not readily discussed in a group setting with different participants.

The interview process

I ask questions to start and guide a discussion among the participants and at times will probe further based on the responses of participants in order to facilitate a wider discussion. At times I may encourage more quiet participants to share their views but at no time will anyone be forced to say anything. All participants are asked to participate freely while respecting the views of other participants. At no time will you or anyone else be asked to reveal any personal or confidential departmental information. Please do not reveal or ask any other participant to reveal any sensitive personal information. We will start by completing the basic demographic information about participants. The focus group discussion will be recorded.

Anonymity and confidentiality of contributors

Protecting the anonymity and confidentiality of all participants, including yourself, is of utmost importance. By agreeing to participate in this discussion, you also agree to keeping the identities of all participants confidential, and to avoid divulging or discussing their identities or anything that was said by participants outside of this discussion.

At all times, I will keep the source of the information confidential and refer to you or your words by a pseudonym or invented name which I would like you to choose. I shall keep any other records of your participation locked away at all times, and destroy them after the data has been collected and analysed.

Things that may affect your willingness to participate

The discussion may touch on issues which may be sensitive or affect you emotionally. If there is anything that you would prefer not to discuss, please feel free to say so. I will not be offended and there will be no negative consequences if you would prefer not to answer a question. I would appreciate your guidance should I or other participants ask anything which you see as intrusive.

Agreement

Participant's agreement

I, the interview participant, indicate my consent to participate by signing below. I understand that consent to participate in the Focus Group Discussion also means that I promise not to divulge the identity of any of the participants, or to divulge or disclose anything that was said by participants during the discussion outside of this Focus Group Discussion.

Interviewer's agreement

I shall keep the contents of the above research interview confidential in the sense that the pseudonym noted above will be used in all documents which refer to the interview. The contents will be used for the purposes referred to above, but may be used for published or unpublished research at a later stage without further consent. Any change from this agreement will be renegotiated with you.

Signed by interviewer:

Date:

Place:

Signed by participant:

Date:

Place:

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name:

Participant's signature:

Witness:

Date:

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Study Coordinator's Name: Aaron Nicholas Yarmoshuk
University of the Western Cape
Private Bag X17, Belville 7535
Telephone: +1 647 829 4559
Cell: +27 78 086 7951
Fax: +27 (021) 959 2872
Email: aaron.yarmoshuk@gmail.com

Dean of the Faculty of Community and Health Sciences:
Prof. J. Frantz (Acting)
University of the Western Cape
Private Bag X17
Bellville 7535
021-959 2631
jfrantz@uwc.ac.za



**OFFICE OF THE DEAN
DEPARTMENT OF RESEARCH DEVELOPMENT**

14 June 2013

To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape has approved the methodology and ethics of the following research project by:
Mr A Yarmoshuk (School of Public Health)

Research Project: The role of international partnerships in building
the capacity of health professional programs in
Kenyan and Tanzanian universities.

Registration no: 13/5/15

Any amendments, extension or other modifications to the protocol must be submitted to
the Ethics Committee for approval.

The Committee must be informed of any serious adverse event and/or termination of the
study.

*Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape*

A1.6: MU/MTRH Ethics Approval



MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 33471/2/3

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

MOI UNIVERSITY
SCHOOL OF MEDICINE
P.O. BOX 4606
ELDORET
Tel: 33471/2/3
4th July, 2013

Reference: IREC/2013/96
Approval Number: 0001017

Aaron Yarmoshuk,
Moi University,
School of Public Health,
P.O. Box 4606-30100,
ELDORET-KENYA.

Dear Mr. Yarmoshuk,

RE: FORMAL APPROVAL



The Institutional Research and Ethics Committee have reviewed your research proposal titled:-

"The Role of International Partnerships in Building the Capacity of Health Professional Programs in Kenyan and Tanzania Universities."

Your proposal has been granted a Formal Approval Number: **FAN: IREC 1017** on 4th July, 2013. You are therefore permitted to begin your investigations.

Note that this approval is for 1 year; it will thus expire on 3rd July, 2014. If it is necessary to continue with this research beyond the expiry date, a request for continuation should be made in writing to IREC Secretariat two months prior to the expiry date.

You are required to submit progress report(s) regularly as dictated by your proposal. Furthermore, you must notify the Committee of any proposal change (s) or amendment (s), serious or unexpected outcomes related to the conduct of the study, or study termination for any reason. The Committee expects to receive a final report at the end of the study.

Sincerely,

Done 05/07/13
DR. W. ARUASA
VICE-CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc: Director - MTRH
Principal - CHS
Dean - SOM
Dean - SPH
Dean - SON
Dean - SOD



UNIVERSITY OF NAIROBI
COLLEGE OF HEALTH SCIENCES
P O BOX 19676 Code 00202
Telegrams: varsity
(254-020) 2726300 Ext 44355

Ref: KNH-ERC/A/312

Aaron Yarmoshuk
School of Public Health
University of the Western Cape
South Africa

Dear Mr. Yarmoshuk

RESEARCH PROPOSAL: THE ROLE OF INTERNATIONAL PARTNERSHIPS IN BUILDING THE CAPACITY OF HEALTH PROFESSIONAL PROGRAMS IN KENYAN AND TANZANIAN UNIVERSITIES (P379/07/2013)

This is to inform you that the KNH/UoN-Ethics & Research Committee (KNH/UoN-ERC) has reviewed and **approved** your above proposal. The approval periods are 10th October 2013 to 9th October 2014.

This approval is subject to compliance with the following requirements:

- a) Only approved documents (informed consents, study instruments, advertising materials etc) will be used.
- b) All changes (amendments, deviations, violations etc) are submitted for review and approval by KNH/UoN ERC before implementation.
- c) Death and life threatening problems and severe adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the KNH/UoN ERC within 72 hours of notification.
- d) Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH/UoN ERC within 72 hours.
- e) Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. (*Attach a comprehensive progress report to support the renewal*).
- f) Clearance for export of biological specimens must be obtained from KNH/UoN-Ethics & Research Committee for each batch of shipment.
- g) Submission of an *executive summary* report within 90 days upon completion of the study
This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/or plagiarism.

For more details consult the KNH/UoN ERC website www.uonbi.ac.ke/activities/KNHUoN.



KNH/UON-ERC
Email: uonknh_erc@uonbi.ac.ke
Website: www.uonbi.ac.ke

Link: www.uonbi.ac.ke/activities/KNHUoN



KENYATTA NATIONAL HOSPITAL
P O BOX 20723 Code 00202
Tel: 726300-9
Fax: 725272
Telegrams: MEDSUP, Nairobi

10th October 2013

"Protect to Discover"

Yours sincerely



PROF. M. L. CHINDIA
SECRETARY, KNH/UON-ERC

c.c. Prof. A.N.Guantai, Chairperson, KNH/UoN-ERC
The Deputy Director CS, KNH
The Principal, College of Health Sciences, UoN
AD/Health Information, KNH
local supervisor: Prof. A.N.Guantai, University of Nairobi
Supervisors: Prof. Christina Zarowsky, University of the Western Cape,
Prof. Donald Cole, University of Toronto

"Protect to Discover"



THE UNITED REPUBLIC OF
TANZANIA



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NIMR/HQ/R.8a/Vol. IX/1634

Ministry of Health and Social Welfare
P.O. Box 9083
Dar es Salaam
Tel: 255 22 2120262-7
Fax: 255 22 2110986

26th September, 2013

Aaron Yarmoshuk,
Faculty of Community and Health Sciences
University of Western Cape,
P O Box X17 Bellville, 7535, South Africa,
C/O Dr Mughwira A Mwangu, MUHAS
P O Box 65001 DAR ES SALAAM

**CLEARANCE CERTIFICATE FOR CONDUCTING
MEDICAL RESEARCH IN TANZANIA**


This is to certify that the research entitled: The Role of International Partnership in Building the Capacity of Health Professionals in Kenyan and Tanzanian Universities, (Yarmoshuk A *et al*) whose Local Investigator is Dr Mughwira A Mwangu, MUHAS, Dar es Salaam, has been granted ethical clearance to be conducted in Tanzania,

The Principal Investigator of the study must ensure that the following conditions are fulfilled:


1. Progress report is submitted to the Ministry of Health and the National Institute for Medical Research, Regional and District Medical Officers after every six months.
2. Permission to publish the results is obtained from National Institute for Medical Research.
3. Copies of final publications are made available to the Ministry of Health & Social Welfare and the National Institute for Medical Research.
4. Any researcher, who contravenes or fails to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine. NIMR Act No. 23 of 1979, PART III Section 10(2).
5. Sites: Moshi, Kilimanjaro and Dar es Salaam.

Approval is for one year: 26th September 2013 to 25th September 2014.

Name: **Dr Mwelecele N Malecela**

Signature 
CHAIRPERSON
MEDICAL RESEARCH
COORDINATING COMMITTEE

Name: **Dr Donan Mmbando**

Signature 
CHIEF MEDICAL OFFICER
MINISTRY OF HEALTH, SOCIAL
WELFARE

CC: RMO
DMO

**TANZANIA COMMISSION FOR SCIENCE AND TECHNOLOGY
(COSTECH)**



Telephones: (255 - 022) 2775155 - 6, 2700745/6
Director General: (255 - 022) 2700750&2775315
Fax: (255 - 022) 2775313
Email: rclearance@costech.or.tz

Ali Hassan Mwinyi Road
P.O. Box 4302
Dar es Salaam
Tanzania

In reply please quote: CST/RCA 2013/125/2013

22nd October 2013

Director of Immigration Services
Ministry of Home Affairs
P.O. Box 512

DAR ES SALAAM

Dear Sir/Madam,

RESEARCH PERMIT

We wish to introduce **Aaron N. Yarmoshuk** from **Canada** who has been granted Research permit No. 2013-218-NA-2013-125 dated 22nd October 2013

The permit allows him/her to do research in the country “**The Role of International Partnerships in Building the Capacity of Health Professional Programs in Kenyan and Tanzanian Universities**”

We would like to support the application of the researcher(s) for the appropriate immigration status to enable the scholar(s) begin research as soon as possible.

By copy of this letter, we are requesting regional authorities and other relevant institutions to accord the researcher(s) all the necessary assistance. Similarly the designated local contact is requested to assist the researcher(s).

Yours faithfully


M. Mushi

for: **DIRECTOR GENERAL**

Cc:1. Regional Administrative Secretary: Dar es Salaam and Kilimanjaro

2. Local contact: Dr. Mughwira A. Mwangu, Department of Development Studies, School of Public Health and Social Sciences, MUHAS, P. O. Box 65454, Dar es Salaam

3. Co-Researcher: None

**TANZANIA COMMISSION FOR SCIENCE AND TECHNOLOGY
(COSTECH)**



Telephones: (255 - 022) 2775155 - 6, 2700745/6
Director General: (255 - 022) 2700750&2775315
Fax: (255 - 022) 2775313
Email: relearance@costech.or.tz

Ali Hassan Mwinyi Road
P.O. Box 4302
Dar es Salaam
Tanzania

RESEARCH PERMIT

No. 2013-318-NA-2013-125

22nd October 2013

1. Name : Aaron N. Yarmoshuk
2. Nationality : Canadian
3. Title : **The Role of International Partnerships in Building the Capacity of Health Professional Programs in Kenyan and Tanzanian Universities**
4. Research shall be confined to the following region(s): **Dar es Salaam and Kilimanjaro**
5. Permit validity from: **22nd October 2013 to 21st October 2014**
6. Contact /Collaborator: **Dr. Mughwira A. Mwangi, Department of Development Studies, School of Public Health and Social Sciences, MUHAS, P. O. Box 65454, Dar es Salaam**
7. Researcher is required to submit progress report on quarterly basis and submit all Publications made after research.



M. Mushi
for: **DIRECTOR GENERAL**

Appendix 2: Instruments

Presented on the next four pages.



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A2.1: Phase 1 Key Informant Interview Guide

Overall Question: What in your opinion have been or are the ten most important international partnerships (any partnership outside your country) since 1991 for strengthening the medicine, nursing and/or public health programs of (name of the university)? Please answer the following questions for up to 10 partnerships.

- a) What is the name of partner institution, or institutions (if it's a consortium)? Where is (are) the partner(s) located (university/institution, city and country)?
- b) Who is the lead representative for the partnership? What is his/her contact information (telephone number & email)?
- c) What year did the partnership start?
- d) What year did the partnership end? Or, is it on-going?
- e) What is (was) the duration of the partnership to date?
- f) Which Schools (Medicine, Nursing, and/or Public Health) are (were) involved in the partnership?
- g) What departments in each of the Schools are involved in the partnership? Please name them.
- h) Who is the overall lead of the partnership for your institution?
- i) Is the partnership project or program-based?
- j) Who funds it? Who has funded it?
- k) Does the partnership include education, research and/or service (clinical or community service) components?
- l) If there is a service component is it clinical and/or community service?
- m) What components (education, research and/or service) of the partnership are most significant? Rank 1, 2, 3.
- n) Estimate the level of effort for each component (education, research and/or service), as a percentage (%).
- o) What are the principal education, research and/or service objectives and outputs within the partnership, as applicable?
- p) How valuable was/is the partnership to your College or School, as appropriate? (High, Medium, Low).
- q) Please rank all the partnerships you identified in order of significance (1 to *n*) – with "1" being the most significant partnership.

A2.2: Interview Guide for Phase 2 - FGDs with Other Professors and Lecturers

Overall Question: What in your opinion have been or are the ten most important international partnerships since 1991 for strengthening your School to produce health professionals from your country? Please answer the following questions for up to 10 partnerships.

Please review the list of international partnerships your institution has on the attached sheet. (List to be presented at the start of the FGD).

Are there any international partnerships that you feel have been significant to building the capacity of your institution that are not included in the list? If so, what are they and what did they focus on.

Identify key benefits of each partnership from your perspective.

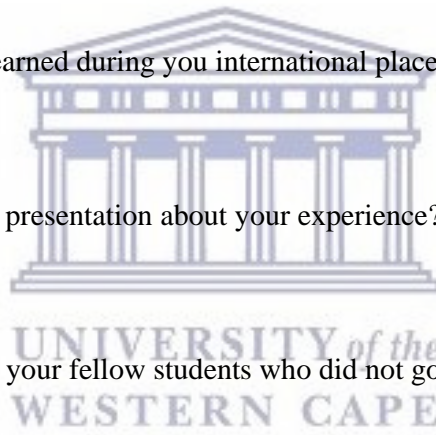


Identify key challenges of each partnership from your perspective.

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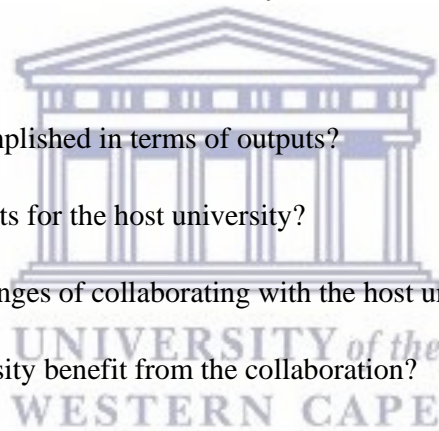
A2.3: FGD Guide for Phase 2 - Students

1. Please introduce yourself, state where you are from and why you chose your program and institution of study.
2. What international exchange did you do? When and where? What was the structure of it?
3. Where were the benefits and challenges to you of your international placement?
4. How will what you learned during your international placement help you here?
5. Have you had to do a presentation about your experience?
6. Any resentment from your fellow students who did not go on international placements?
7. What international partnerships do you know about that your institution is involved?
8. What involvement do you have with representatives from international partners here at your home institution?
9. Do you think having participated in an international placement may encourage you to seek international work after graduating?



A2.4: Generic Interview Questions for International Partners – Phase 3

1. When did you explore partnering with the Kenyan/Tanzanian university?
2. What types of GH opportunities were you interested in establishing? Why?
3. Who else at your university was/is interested in partnering with the host university – faculty and/or students?
4. What have you done with the host university?
5. What has been accomplished in terms of outputs?
6. What were the benefits for the host university?
7. What were the challenges of collaborating with the host university?
8. How did your university benefit from the collaboration?
9. Do you see the partnership ending?



Appendix 3: Mapping of Health Professional Programmes in sub-Saharan Africa

LEARNING ABOUT RESEARCH CAPACITY STRENGTHENING



Mapping of Health Professional Programs in sub-Saharan Africa

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Introduction

The health systems of WHO's Africa Region address 24% of the world's disease burden with 3% of the world's health workforce and less than 1% of world health expenditure. The reasons for the severe workforce shortages in Africa are manifold, including decades of underfunding tertiary education. Many African universities are unable to play their critical roles of developing the human capital of countries, including health professionals and researchers. Education programs for health professionals in sub-Saharan Africa (SSA) are reported to be both too few and unevenly distributed. However, an accurate and comprehensive inventory of existing health professional programs (HPPs) in SSA is not readily accessible to planners, educators or researchers. Without an inventory of programs a systematic mapping of the distribution of existing HPPs relative to population, burden of disease or level of development cannot be conducted. This study asks: What is the distribution of university-based medical, nursing, and public health training programs in sub-Saharan Africa? It is a component of an on-going research program examining health science capacity building (education, research and service) of universities in SSA, and the role of international partnerships in supporting this effort.

Methodology

We searched electronic and printed references to identify all public and private university-based, medical, nursing and public health programs in the 47 countries of SSA. SSA includes all countries in the WHO Africa Region with two exceptions: Algeria is not included, South Sudan is.

"Medical" refers to an university-based, undergraduate medical program, including Doctor of Medicine (MD), MBBS, doctorat de medicine and diplôme d'État de docteur en medicine, or equivalent;

"Public health" refers to an university-based Master's program, an MPH, MHSc, M.Med in Community Medicine, or equivalent.

"Nursing" refers to an BScN, a diploma, or equivalent at an academic institution – university and non-university (e.g. nursing training schools, schools of midwifery).

The initial sources of data were:

- Medical programs - The Sub-Saharan African Medical Schools Study - www.samss.org.
- Nursing programs - Health training Institutions WHO AFRO Data 2005.xls.
- Public health programs - the COHRED database - www.cohred.co.za.

Gaps were noticed in the data. Our database was supplemented with data from these additional sources:

1. Guide to Higher Education in Africa, 5th Edition, International Association of Universities (IAU) and the Association of African Universities (AAU). Hampshire (UK): Palgrave Macmillan, 2010.
2. University websites.
3. Wikipedia (English, Français and Português) - <http://en.wikipedia.org>; <http://fr.wikipedia.org>; and <http://pt.wikipedia.org>.
4. Country-specific nursing associations.
5. Personal communication.

Results

- 912 universities and non-universities offer 1,049 HPPs in the 47 countries of sub-Saharan Africa.
- Of the 1,049 HPPs: 808 Nursing, 177 Medical and 64 Public Health.
- Only 36 institutions offer all three HPPs. 14 (40%) of these institutions (7 each) are in South Africa and Nigeria. 31 countries in SAA have no institutions offering all three HPPs and 7 have only 1 that does.
- Information on the institutional ownership was available in only 48.4% (441) of cases (there were 471 unknown cases): 277 public, 155 private, 9 public/private.
- HPPs are concentrated in countries with the highest populations, but roughly in proportion to the populations of countries: the five countries accounting for ~50% of SSA's population have ~60% of the HPPs.
- Wealthier countries have more programs.

- Anglophone countries have more HPPs - they account for 65% of SSA's population but have 84% of HPPs; Francophone countries represent 28% of SSA's population but only 12% of HPPs; Lusophone countries represent 5% of SSA's population but have 3% of HPPs.
- 3 countries have no medical program, 3 countries no nursing program, 24 countries no Master's level public health program. All countries have at least one program.
- At least 83 new institutions offering HPPs have been opened in SSA since 2000.

Conclusion

A preliminary mapping of health professions training in Africa is now available – it can be viewed at: <http://www.locsis.com/hpp>. The distribution of HPPs in SSAs roughly follows: 1) population, 2) wealth and 3) colonial heritage. It is necessary to continue to update the information to capture new institutions and programs, especially in francophone and lusophone countries, and to populate more fields in the database (e.g. year founded, number of current students, existence of research programs). Additional research is required to fully map existing institutions providing HPPs relative to burden of disease and socio-economic indicators, and to analyse the content and quality of HPPs

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Appendix 4: Detailed findings of the Higher-Valued Partnerships (Appendix to Chapter 6)



A4.1 Moi University

#	Name of Institution	Country	Years Active	Currently Active	HPPs Involved ⁹⁴	AHSC Comps Involved	Identified by X Reps (n=10)	Strengths Mentioned by Focus University KIs	Limitations Mentioned
1	Indiana University	USA	23	Yes		All	10	Service: internal medicine; paediatrics; surgery; Education: faculty & student exchanges; Research: clinical trials; development of RSPO; Infrastructure: Mother-Baby Hospital	Support of Schools of Nursing and Public Health
2	Linköping University	Sweden	23	Yes	Med & Nur	Edu & Res	8	PhDs & Master's; Problem-Based Learning; Student Exchanges	Approach to PBL different to MU's
3	Brown University	USA	16	Yes	Med & PH	All	5	TB service (hospital & community), education and research; education exchanges	Limited in personnel
4	Maastricht University	Netherlands	23	Yes	All	Edu & Res	5	Infrastructure: LRC; Problem-based learning; PhDs	Did not support project management support at MU when building LRC
5	University of Toronto	Canada	5	Yes	Med & PH	All	5	Reproductive Health (hospital & community); exchanges; Public Health	Too narrow: mainly Reproductive Health
6	Duke University	USA	4	Yes	Med & PH	All	4	Cardiology: service; education; research	Too narrow: mainly Cardiology
7	McMaster University	Canada	4	No	All	Edu	2	Problem-based learning, including planning workshops	
8	One Health Central and Eastern Africa (OHCEA)	Consortium	3	Yes	PH	All	2	Exposing faculty & students to issues of human, animal & environmental health; on-line PBL with Tufts	

⁹⁴ Involvement does not denote higher-value for each HPP mentioned. In many cases, more than one HPP was involved but representatives of only one or two of the schools considered the partnership high-value for their school.

MU's partnership with Indiana University was mentioned by every representative in Phase 1. Although it was stated to be the most important partnership to the College of Health Science by almost all representatives, some Nursing and Public Health representatives didn't list it as a significant partner for their School or stated its direct capacity building support was limited for their School even though a number of their faculty members were involved in the AMPATH program that MU and Indiana representatives implement. One Nursing representative regarded the equally long-standing partnership with Linköping University to be of greater value to their School. The partnership with Indiana was stated to be building capacity in many areas including service, research, education, infrastructure and support services such as the Research Services and Projects Office (RSPO). One Phase 1 representative compared the manner in which Maastricht University and Indiana built capacity. When the former established the Learning Resource Centre (LRC) at MU they based an individual to reside in Eldoret for the duration of the multi-year project; stating, "... this was total control of the work, as opposed to the way AMPATH (i.e. IU) built RSPO." However, a Maastricht University KI noted that they had a MU counterpart. Three other members of the AMPATH Consortium, a consortium of North American universities led by Indiana University, were identified as higher-value partnerships by MU: Brown University; Duke University; and, University of Toronto.

MU KIs identified McMaster University although it hadn't formally partnered with MU for over 10 years. McMaster is credited for being instrumental in assisting MU's HPPs in establishing its problem-based learning curriculum (PBL). Maastricht University, Linköping University and Ben-Gurion University of the Negev in Israel were also identified for their support of PBL at MU.

A4.2 University of Nairobi

#	Name of Institution	Country	Years	Active	HPPs Involved	AHSC Comps	Identified by X Reps (n=9)	Strengths Mentioned by Focus University KIs	Limitations Mentioned
1	University of Manitoba	Canada	35	Yes	All	All	8	Infrastructure: UNITAD; Research: HIV/AIDS Research; PhDs	
2	University of Washington	USA	25	Yes	All	All	8	Education thru MEPI, especially rural retention of physicians; PhDs and Master's; Research: mentorship & support	Nursing
3	University of Maryland	USA	25	Yes	All	Edu & Res	7	Education: HIV/AIDS (PACE); ID Fellowship; mentorship	
4	Ludwig Maximilian University of Munich (LMU)	Germany	30	Yes	Med	Edu	3	M.Med Ophthalmology; sub-specialty support; equipment	
5	One Health Central and Eastern Africa (OHCEA)	Consortium	3	Yes	PH	All	2	Curriculum development; faculty exchange visits; Leadership training	

Four of the five UoN partnerships determined to be higher-value for building the capacity of its HPPs were at least 25 years old. University of Manitoba is the College's oldest and stood out for securing funding for the construction of UoN's Institute of Tropical and Infective Diseases and PhD training. Although initially focused in Medicine and Public Health, links had been established with the School of Nursing recently. The University of Washington and Maryland activities have also historically been focused on Medicine and Public Health, although through PRIME-K partnerships activities have reached Nursing too. However, Nursing had no higher-value partnerships. Public Health's only higher-value partnership was OHCEA.

The partnership with Ludwig Maximilian University of Munich and its Eye Hospital, operating strictly with Medicine established the M.Med. in Ophthalmology, was stated to be high-value by the three representatives who mentioned it although none of them were involved in it directly. Initial funding (10 years) was provided by DAAD - the German Academic Exchange Service – in 1978 to establish the degree program⁹⁵. The first student graduated in 1980. He was Kenyan, as were the next four. The first foreign student graduated in 1984. By 2013, 167 students had graduated, 99 (59%) Kenyan and 68 (41%) foreigners. Fifty-seven (84%) of the foreign graduates were from 16 countries from the WHO Africa Region, 5 Eastern Mediterranean Region, 4 European Region and 2 South-East Asia Region. As a UoN Phase 2 representative concluded, “Through University of Munich they negotiate for funding, physical facility development, they also participate in training, they source and they get equipment for student ophthalmologists and through the University of Nairobi they have funded the University of Nairobi to train most of the ophthalmologists in sub-Saharan Africa.”

⁹⁵ DAAD's initial funding was for a 10 year project. The majority of the funding went to cover the cost of topping up the salaries of the German participants. A ten year MOU was signed between the University of Nairobi and LMU's Eye Hospital. Two subsequent MOUs were signed. The fourth and current MOU was signed in 2014.

A4.3 Kilimanjaro Christian Medical University College

Table A4.3: KCMUC's Higher-Value Partnerships, listed in order of most mentioned by senior representatives

#	Name of Institution	Country	Years	Active	HPPs Involved	AHSC Comps	Identified by X Reps (n=12)	Strengths Mentioned by Focus University KIs	Limitations Mentioned
1	Duke University	USA	16	Yes	All	All	12	Education thru MEPI, especially research grants and ICT; Research: HIV & Malaria	Was mainly research before MEPI
2	Radboud University Medical Centre	Netherlands	13	Yes	Med	Edu & Res	10	PhD & Master's; Infrastructure: KCRI building; Research	Mainly Medicine
3	University of Copenhagen	Denmark	12	Yes	Med & PH	Edu & Res	9	General Education and Research capacity building	Mainly Medicine
4	London School of Hygiene & Tropical Medicine	UK	12	Yes		Edu & Res	8	Epidemiology Lecturers; PhDs & Master's; Research & Research capacity building;	
5	Karolinska University Hospital	Sweden	13	Yes	Nur	Edu & Res	5	Student exchanges; KCMUC lecture in Sweden	
6	Red Cross University College	Sweden	14	Yes	Nur	Edu	5	Student exchanges (ratio 1:3); mentoring of academic staff	

All KCMUCo representatives identified Duke University as a significant partner as a result of the size and scope of their MEPI grant⁹⁶. The opportunity for all KCMUCo faculty to compete for small research grants through MEPI was one example how this project's capacity building reach extended beyond Medicine⁹⁷. However, Radboud University Medical Centre in Nijmegen was mentioned by one representative as the most valuable partnership because of its support of Master's and PhD obtainment by faculty in Medicine. LSHTM's support of KCMUCo was perceived to be greatest for Public Health in education and research and for research with the research centre, Kilimanjaro Christian Research Institute (KCRI). One senior representative considered the partnership high-value for KCRI but low for the College.



⁹⁶ The value of KCMUCo's MEPI grant, like all MEPI grants, was approximately US\$10,000,000 over 5 years.

⁹⁷ There may have been other examples, but the small grants opportunities was the one emphasised by KIs.

A4.4 Muhimbili University of Health and Allied Sciences

#	Name of Institution	Country	Years	Active	HPPs Involved	AHSC Comps	Identified by X Reps (n=11)	Strengths Mentioned by Focus University KIs	Limitations Mentioned
1	Karolinska Institute	Sweden	27	Yes	All	Edu & Res	9	PhDs for faculty; HIV Research; Support Quality Control Laboratory	
2	University of Bergen	Norway	25	Yes	All	Edu & Res	9	PhDs and Master's; Research within PhDs	
3	University of California at San Francisco (UCSF)	USA	8	Yes	All	Edu & Res	9	Competency-Based Learning Pedagogy thru Academic Learning Project (ALP); Infrastructure; Research	
4	Dartmouth College	USA	23	Yes	Med & PH	Edu & Res	9	Research; 2-way exchanges; support est. Centre for HIV/AIDS; mainly School of Medicine (Internal & Microbiology)	
5	Uppsala University	Sweden	26	Yes	All	Edu & Res	8	PhDs & Master's; Infrastructure Development - Laboratory	
6	Umea University	Sweden	26	Yes	All	Edu & Res	7	PhDs & MSc; Research within PhDs; 2-way Trainee Exchanges	
7	Makerere University	Uganda	25	Yes	All	Edu	4	Leadership Education; MSc Nursing-Midwifery	
8	University of KwaZulu-Natal (UKZN)	South Africa	5	Yes	Nur & PH	Edu & Res	4	M.Sc. Nursing-Mental Health; Public Health Policy Research	
9	Dalhousie University	Canada	5	No	Med & Nur	Edu	4	Supported establishment of BSc Nursing	
10	NOMA (Norad's Programme for Master Studies)	Consortium	5	Yes	Nur	Edu	3	Establishment MSc Nursing; regional network with Ethiopia, Kenya & Uganda	
11	University of Nairobi	Kenya	25	Yes	All	Edu & Res	3	Clinical attachments (Nursing); Research; External Examiners	
12	Boston University	USA	3	Yes	PH	Edu	2	Curriculum Development; 2-way Faculty Exchange	
13	University of Heidelberg	Germany	10	No	PH	Edu	2	Establishment of 1-Year MPH over 10 year project.	

All of MUHAS' higher-value partnerships had very clear education foci. The Swedish and Norwegian universities and Dartmouth College were mentioned for training Master's and PhDs. Dalhousie University supported MUHAS in establishing its Bachelor's in Nursing. UKZN helped Nursing establish a Master's in Mental Health and continued to be external examiners of the graduating students. The partnership with UKZN was one of three South-South partnerships calculated to be of higher-value at MUHAS, the only focus university with higher-value South-South partnerships, although some KIs did identify some South-South partnerships as high-value. University of Heidelberg helped MUHAS' SOPH establish a 1-Year MPH programme. UCSF partnered with MUHAS on a project to transform the entire university's curriculum to being competency-based when it was a priority need for the university because of changing government policy. The Bill and Melinda Gates Foundation provided a multi-million dollar grant for it. A subsequent ~US\$400,000 grant from the Centre for Disease Control and Prevention (CDC) in the USA allowed Boston University to support MUHAS' SOPH in fine-tuning its new competency-base curriculum soon after the project with UCSF ended.

A decanal representative stated why an education partnership that created a degree course was high-value:

High, because then we had specialized staff Because if you speak from our perspective, if you want to run a university you need to have highly qualified people. But how do you get highly qualified people when the institution itself has a shortage? You need to bring in people from outside to train others here and get their Master's and PhDs. Or, you need to send people to other universities and then when (you) translate that to how much of it is contributing, then you say it's high.... If you train people in specialities it makes more sense, then you can be independent.

A4.5 Higher-Value Consortia Partnerships

Focus Universities	Name of Consortium	HPPs Involved	Country(ies) of Lead(s)	Membership North-South
Moi, MUHAS & UoN	OHCEA	PH (and Veterinary)	Uganda ⁹⁸	North-South
MUHAS	NOMA ⁹⁹	Nur	Norway and Tanzania	North-South

Two of the 10 consortia were determined to be higher-value¹⁰⁰. One of them, OHCEA – One Health Central and Eastern Africa¹⁰¹, is a network, arising out of a USAID One Health project. It links seven schools of public health (SOPH) and seven veterinary institutions from six countries in central and east Africa. Two USA universities (University of Minnesota and Tufts University) are ex-officio members. OHCEA was the idea of HEALTH Alliance, a consortium of seven SOPH in DRC, Ethiopia, Rwanda, Tanzania, Uganda and Kenya. HEALTH Alliance originated from LIPHEA, another project funded by USAID. The Kenya representatives rated OHCEA high-value but the Tanzanian representatives rated it medium-value. A MU representative commented on the importance of the research, education (PBL with Tufts) and staff exchanges before stating, “I think it will never end. As a network you can lobby for funds from all kinds of places.” Another MU representative stated it was valuable because of the issues involved: building and strengthen capacity to combat the emerging threats from zoonotic diseases. A MUHAS representative who considered the partnership medium-value because such projects are very active “when money is there” but “they do

⁹⁸ Makerere University was the hub, although University of Minnesota was the overall PI.

⁹⁹ Information about this partnerships is available within: Leshabari et al (2015)

¹⁰⁰ Note: neither AMPATH nor the Swedish universities partnered with MUHAS were considered consortia for this study since KIs typically mentioned individual universities. For details see: Yarmoshuk et al (2016).

¹⁰¹ A Summary of OHCEA’s Ten-Year Strategic Plan, March 2011 – 21 can be found at ohcea.org. (Accessed 21 February 2017).

not have a lot of sustainability ... and I think this is dangerous.” The KI did add that some aspects of OHCEA, like LIPHEA before it, were institutionalized into the curriculum. Another MUHAS representative rated it medium-value, but said it had the potential to be high.



A4.6: Table of Partners by Country and Value of Partnership					
Country of Partner	Higher	Medium	Lower	TOTAL	% of All Partnerships Higher-Value
Australia	0	0	2	2	0
Belgium	0	0	2	2	0
Canada	4	0	2	6	67
Consortium	2	5	3	10	20
Denmark	1	1	0	2	50
Egypt	0	1	1	2	0
Germany	2	0	0	2	100
India	0	1	0	1	0
Israel	0	1	1	2	0
Japan	0	0	4	4	0
Kenya	1	1	0	2	50
Malawi	0	1	1	2	0
Netherlands	2	1	1	4	50
Nigeria	0	0	1	1	0
Norway	1	3	3	7	14
Singapore	0	0	1	1	0
South Africa	1	4	3	8	13
South Korea	0	2	0	2	0
Spain	0	1	1	2	0
Sudan	0	0	1	1	0
Sweden	6	1	1	8	75

Uganda	1	1	0	2	50
UK	1	4	6	11	9
USA	9	13	19	41	22
Total	31	41	53	125	

A4.7: Table of Higher-Value Consortia – coordinating and partnering universities			
Name of Consortium	Coordinating University(ies)	Country	Partners
Norwegian Program for Master Studies (NOMA) - Regional Masters in Nursing Initiative	Bergen University College; MUHAS	Norway; Tanzania	Southern Partners: Addis Ababa University (Ethiopia), Muhimbili University of Health and Allied Sciences (Tanzania), Makerere University (Uganda). Northern Partner: Bergen University College (Norway)
One Health Central and Eastern Africa (OHCEA)	Makerere University	Uganda	African Partners: University of Kinshasa School of Public Health (DRC), Faculty of Veterinary Medicine University of Lubumbashi (DRC), Jimma University College of Public Health Medical Sciences (Ethiopia), Jimma University College of Agriculture and Veterinary Medicine (Ethiopia), School of Veterinary Medicine, College of Veterinary Medicine Mekelle University (Ethiopia), University of Nairobi School of Public Health (Kenya), Moi University School of Public Health (Kenya), University of Nairobi Faculty of Veterinary Medicine (Kenya), National University of Rwanda School of Public Health (Rwanda), Umutara Polytechnic Faculty of Veterinary Medicine (Rwanda), Muhimbili University of Health and Allied Sciences School of Public Health and Social Sciences (Tanzania), Sokoine University of Agriculture Faculty of Veterinary Medicine (Tanzania), Makerere University School of Public Health and Makerere University College of Veterinary Medicine (Uganda) Northern University Partners: Tufts University, USA; University of Minnesota, USA

Appendix 5: Websites visited

The following 134 websites were accessed at various times during the research. This was done to cross verify data as part of the triangulation process. This was particularly important to prepare the papers, “Mapping International University Partnerships Identified by East African Universities as Strengthening Their Medicine, Nursing, and Public Health Programs” (Yarmoshuk et al, 2016) and “What makes international global health university partnerships higher-value? An examination of partnership types and activities favoured at four East African universities” (Yarmoshuk et al, Accepted).

African Center for Global Health and Social Transformation - <http://www.achest.org/>
Afyra Bora Consortium - <http://www.afyaboraconsortium.org>
Alexandria University - <http://www.alexu.edu.eg/index.php/en/>
American University - <http://www.american.edu/>
AMPATH - <http://www.ampathkenya.org>
Ben-Gurion University of the Negev - <http://in.bgu.ac.il/en/Pages/default.aspx>
Bergen University College - <http://www.hib.no/en/>
Brighton Medico Chirurgical Society - <http://brightonmedchi.org.uk/>
Boston University - <http://www.bu.edu/>
Brown University - <https://www.brown.edu>
Case Western Reserve University School of Medicine - <https://case.edu/medicine/>
Christelijke Hogeschool Ede (Christian University of Applied Sciences) - <https://www.che.nl/>
Christian Medical College Vellore - <http://www.cmch-vellore.edu/>
College of Health Sciences University of KwaZulu-Natal - <http://chs.ukzn.ac.za>
College of Human Ecology, Cornell University - <https://www.human.cornell.edu/>
College of Ophthalmology of Eastern Central and Southern Africa (COECSA) - <http://www.coecsa.org/>
Columbia University - <https://www.columbia.edu/>
Consortium for Advanced Research Training in Africa, The (CARTA) - <http://www.cartafrika.org/>
Commonwealth Eye Health Consortium - <http://cehc.lshtm.ac.uk/ourteam/>
Corporate Social Responsibility Newswire, The - <http://www.csrwire.com>
Dalla Lana School of Public Health, University of Toronto - <http://www.dlsph.utoronto.ca>
Dalhousie University - <https://www.dal.ca/>
Dar-Dar Health Programs - <http://geiseldardar.org>
Dartmouth College - <http://home.dartmouth.edu/>

Department of Obstetrics and Gynaecology, University of Toronto - <https://www.obgyn.utoronto.ca/global-health-opportunities>

Duke University - www.duke.edu

Economist, The - <https://www.economist.com/>

East African Consortium for Clinical Research - <http://eaccr.org/>

Fogarty International Center, National Institutes of Health - www.fic.nih.gov

Future Health Systems - <http://www.futurehealthsystems.org/africahub/>

Gates Malaria Partnership - <http://www.gatesmaliapartnership.org>

George Washington University - <https://www.gwu.edu>

Ghent University - <https://www.ugent.be/>

Gjøvik University College - <http://english.hig.no/>¹⁰²

Haifa University - <https://www.haifa.ac.il/index.php/en/home-eng>

Harvard University - <https://www.harvard.edu/>

Higher Education Alliance for Leadership Through Health (HEALTH Alliance) - www.halliance.org

Health Alliance International - <http://www.healthallianceinternational.org>

HI-TRAIN: Health Informatics Training and Research in East Africa for Improved Health Care - <http://www.hitrain.org>

Indiana University - <https://www.indiana.edu/>

Indiana University Center for Global Health - <http://globalhealth.iu.edu/>

Internet Archive Wayback Machine - <http://archive.org/web/>

International Association of Universities - <http://www.iauau.net>

International Collaborations: Johns Hopkins Medicine - http://www.hopkinsmedicine.org/international/international_affiliations/#

Inter-University Council for East Africa - <http://iucea.org/>

Johns Hopkins Medicine - <http://www.hopkinsmedicine.org>

Joint Malaria Programme - <http://www.jmp.or.tz>

Kanazawa University - <https://www.kanazawa-u.ac.jp/e/>

Karolinska Institute - <https://ki.se/en/startpage>

Karolinska University Hospital - <http://www.karolinska.se/en>

Kilimanjaro Christian Medical Centre - <https://www.kcmc.ac.tz/>

Kilimanjaro Christian Medical University College (KCMUCo) - <http://www.kcmuco.ac.tz>

¹⁰² Gjøvik University College joined the Norwegian University of Science and Technology (NTNU) - <https://www.ntnu.no/> - in 2016 See: https://en.wikipedia.org/wiki/Gj%C3%B8vik_University_College

Kilimanjaro Clinical Research Institute (KCRI) - <http://www.kcri.ac.tz/>
Korea Foundation for International Healthcare (KOFIH) - <http://www.kofih.org>
Linköping University (LiU) - <http://www.liu.se>
Liverpool School of Hygiene & Tropical Medicine - <http://www.lstmed.ac.uk/>
London School of Hygiene & Tropical Medicine - <https://www.lshtm.ac.uk>
Lovisenberg University College of Diakonia and Nursing -
<https://www.ldh.no/en/about/about-ldc>
Ludwig Maximilian University of Munich - <http://www.uni-muenchen.de/index.html>
Maastricht University - <https://www.maastrichtuniversity.nl>
Makerere University - <https://www.mak.ac.ug/>
Malaria Capacity Development Consortium (MCDC) - <https://www.mcdconsortium.org/>
McMaster University - <http://www.mcmaster.ca/>
Mie University Graduate School / Faculty of Medicine - <https://www.medic.mie-u.ac.jp/en/>
Moi University - <https://www.mu.ac.ke/>
Moi University College of Health Sciences - <https://chs.mu.ac.ke/>
Multilateral Initiative on Malaria - <http://www.mimalaria.org>
New York University - <http://www.nyu.edu/>
Newcastle University - <http://www.ncl.ac.uk/>
Nijmegen Institute for International Health (NIIH, UMC Nijmegen) - <http://www.niih.nl/>
NOMA - <http://www.uib.no/en/education/48760/noma>
Northeastern University - <http://www.northeastern.edu/>
Norwegian Centre for International Cooperation in Education (SIU) -
<https://www.siu.no/eng/>
Northumbria Healthcare NHS Foundation Trust - www.northumbria.nhs.uk
Ohio State University - <https://www.osu.edu/>
One Health - <http://www.ohcea.org/>
Pacific Institute for Research and Evaluation - <http://www.pire.org>
Payson Graduate Program in Global Development -
<http://www.payson.tulane.edu/tags/liphea>
Radboud University Medical Centre - <https://www.radboudumc.nl/en/patient-care>
Saint John of God College of Health Sciences - <http://www.sjog.mw/college.html>
St. Luke's College of Nursing – (now St. Luke's International University) -
<http://www.slcn.ac.jp/english/access.html>
St. Luke's International University (formerly St. Luke's College of Nursing) -
<http://university.luke.ac.jp>
St. Olaf College - <https://wp.stolaf.edu/>

School of Nursing The University of North Carolina at Chapel Hill - <http://nursing.unc.edu>

School of Public Health, University of Rwanda - <http://www.sph.nur.ac.rw>

School for Field Studies, The - <https://fieldstudies.org/>

Southern African Centre for Infectious Disease Surveillance (SACIDS) - <http://www.sacids.org/>

Suez Canal University - <http://scuegypt.edu.eg/en/>

Swedish International Development Agency - <http://www.sida.se>

Swedish International Development Agency publications - <https://www.sida.se/English/publications/publicationsearch/>

The State University of New York Upstate Medical University - <http://www.upstate.edu/>

The University of Newcastle Australia (UON) - <https://www.newcastle.edu.au/>

The University of Shiga Prefecture - <http://www.usp.ac.jp/english/>

The University of Texas Health Science Center at Houston - <https://www.uth.edu/>

The University of Utah - <https://www.utah.edu/>

Training Health Researchers into Vocational Excellence (THRiVE) - <http://thrive.or.ug>

Tufts University - <https://www.tufts.edu/>

Tulane University - <http://tulane.edu/>

Umea University - <http://www.umu.se/english/?languageId=1>

University of Barcelona - <http://www.ub.edu/web/ub/en/index.html>

University of Bergen - <http://www.uib.no/en>

University of California at David Global Health - <http://globalhealth.ucdavis.edu>

University of California, San Francisco - <https://www.ucsf.edu/>

University of Cape Town - <http://www.uct.ac.za/>

University of Colorado Denver - <http://www.ucdenver.edu/pages/ucdwelcomepage.aspx>

University of Copenhagen- <http://development.ku.dk>

University of Gothenburg - <https://www.gu.se/english>

University of Heidelberg - <http://www.uni-heidelberg.de/>

University of Ibadan - <https://www.ui.edu.ng/>

University of London - King's College London - <https://www.kcl.ac.uk/index.aspx>

University of Malawi College of Medicine - <https://www.medcol.mw/>

University of Manitoba - <http://umanitoba.ca/>

University of Maryland - <https://www.umd.edu/>

University of Massachusetts Boston - <https://www.umb.edu>

University of Melbourne - <http://www.unimelb.edu.au/>

University of Nairobi - <http://www.uonbi.ac.ke>

University of New Mexico - <http://www.unm.edu/>
University of North Carolina (UNC) Gillings School of Global Public Health -
<http://sph.unc.edu>
University of Oslo - <http://www.uio.no/english/>
University of Oxford - <http://www.ox.ac.uk/>
University of Pennsylvania - <https://www.upenn.edu/>
University of Singapore - <http://www.nus.edu.sg/>
University of Southampton - <https://www.southampton.ac.uk/>
University of Texas Medical Branch - <https://www.utmb.edu/>
University of the Balearic Islands - <http://www.uib.eu/>
University of Toronto – www.utoronto.ca
University of the Western Cape - <https://www.uwc.ac.za>
University of Washington – <https://www.washington.edu>
Uppsala University - <http://www.uu.se/>
West Virginia University - <https://www.wvu.edu/>
Wright State University - <http://www.wright.edu/>
Wikipedia - <https://en.wikipedia.org>
World RePORT - <https://worldreport.nih.gov>
Yale University - <https://www.yale.edu/>
Yonsei University Health System - <http://www.yuhs.or.kr/en/>



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Appendix 6: Additional sources accessed during research

The following sources were accessed to obtain additional information about the focus universities, their international partners and the partnerships identified in this study.

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- AUCC 2012b. List of 2011-2015 SFD university projects sorted by Canadian university - Projets EPD 2011-2015 dans chaque université canadienne.
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Appendix 7: Presentations delivered while undertaking PhD research

i) Conference Presentations

1. Health Professional Programs in sub-Saharan Africa mapped by Population, Burden of Disease and Economic/Development Indicators. Global Health Conference, Montreal, Canada, 13–15 November, 2011. (Poster)
2. The role of international partnerships in building the capacity of health professional programs in Kenyan and Tanzanian universities. Fifth Annual CUGH Conference, Washington, DC, USA. 10-12 May 2014. (Poster)
3. What Kenyan and Tanzanian Universities find Most Valuable from International Partnerships for Increasing Health Research and HR Capacity? Third Global Symposium on Health Systems Research, Cape Town, South Africa, 30 September to 3 October 2014. (Poster)
4. Maximising the potential of international university partnerships for building the capacity of medicine, nursing and public health programmes: a study of 127 partnerships with four universities in Kenya and Tanzania. The Network Towards Unity for Network – 2015, Gauteng, South Africa, 12-16 September 2015. (Oral)
5. *Reciprocity in Global Health university-to-university partnerships*. 22nd Canadian Conference on Global Health, 5-7 November 2015. (Oral)
6. *Resilient and responsive Global Health partnerships of East African universities in a changing world*. Fourth Global Symposium on Health Systems Research – HSR2016, 14 to 18 November 2016. (Accepted for Oral)

ii) Invited Presentations

- a. University Partnerships that make a difference to Global Health in Kenya and Tanzania. University of Alberta, Edmonton, Canada, 12 January 2015.
- b. What international partnerships are considered high level for strengthening Medicine, Nursing and Public Health programs of Kenyan and Tanzanian universities, and why?, University of Washington, Seattle, USA, 12 August 2015.
- c. Let Global Health be Dissolved: examining international, interuniversity partnerships in health based on an examination of 125 medicine, nursing and public health partnerships at four East African universities. Global Health Office, Dalla Lana School of Public Health, University of Toronto, Toronto, Canada, 3 October 2017.

Appendix 8: Chapter 5 (Paper 1) as Published

Chapter 5, Paper 1 of this dissertation has been published in *Annals of Global Health*. The publisher, allows authors to “include their articles in full or in part in a thesis or dissertation for non-commercial purposes”¹⁰³.

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The papers follows on the following pages as published.



¹⁰³ <https://www.elsevier.com/about/our-business/policies/copyright/permissions>. (Accessed 14 Mar 2018).

ORIGINAL RESEARCH

Mapping International University Partnerships Identified by East African Universities as Strengthening Their Medicine, Nursing, and Public Health Programs



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Abstract

BACKGROUND International university partnerships are recommended for increasing the capacity of sub-Saharan African universities. Many publications describe individual partnerships and projects, and tools are available for guiding collaborations, but systematic mappings of the basic, common characteristics of partnerships are scarce.

OBJECTIVE To document and categorize the international interuniversity partnerships deemed significant to building the capacity of medicine, nursing, and public health programs of 4 East African universities.

METHODS Two universities in Kenya and 2 in Tanzania were purposefully selected. Key informant interviews, conducted with 42 senior representatives of the 4 universities, identified partnerships they considered significant for increasing the capacity of their institutions' medicine, nursing, and public health programs in education, research, or service. Interviews were transcribed and analyzed. Partners were classified by country of origin and corresponding international groupings, duration, programs, and academic health science components.

FINDINGS One hundred twenty-nine university-to-university partnerships from 23 countries were identified. Each university reported between 25 and 36 international university partners. Seventy-four percent of partnerships were with universities in high-income countries, 15% in low- and middle-income countries, and 11% with consortia. Seventy percent included medicine, 37% nursing, and 45% public health; 15% included all 3 programs. Ninety-two percent included an education component, 47% research, and 24% service; 12% included all 3 components.

CONCLUSIONS This study confirms the rapid growth of interuniversity cross-border health partnerships this century. It also finds, however, that there is a pool of established international partnerships from numerous countries at each university. Most partnerships that seek to strengthen universities in East Africa should likely ensure they have a significant education component. Universities should make more systematic information about past and existing partnerships available publicly.

Conflicts of Interest: ANY was employed by the University of Toronto as its Program Manager - AMPATH-UofT when the majority of the data for this study was collected.

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KEY WORDS international partnerships, universities, global health, medicine, nursing, public health, capacity building, education, research, service, Africa

INTRODUCTION

International partnerships between universities are identified as a means of building the capacity of health professional programs (HPPs) of universities in sub-Saharan Africa (SSA).^{1–3} The New Partnership for Africa's Development⁴ identified such partnerships as an “essential” step for addressing the critical shortage of skilled human resources for health in SSA—the region of the world with the greatest burden of disease relative to its health workforce.⁵

The Sub-Saharan African Medical School Study⁶ characterizes international partnerships as “important assets” for their support of education, research, and service mandates through a variety of activities, including student and faculty exchanges, research, and curriculum development. The existing literature identifies numerous examples of university-to-university partnerships with SSA universities. Categorizing them by general discipline is sometimes straightforward—for example, by medicine,^{7,8} nursing,^{9–11} or public health¹²—but sometimes they bridge disciplines.¹³ Clear examples of partnership activities focusing on education,^{14–16} research,^{17,18} or service¹⁹ also exist. Sometimes partnerships are clearly multidisciplinary, by including at least 2 health professions, and include more than 1 component of education, research, or service.¹³ North-South partnerships are identified by the Academy of Medical Sciences and Royal College of Physicians²⁰ as the “traditional model” of academic partnerships before stating that South-South partnerships, networks, and consortia have increased in number this century.

However, after identifying the type of activities partner universities engage in and noting that medical schools have “an array” of international university partners, the Sub-Saharan African Medical School Study (p. 95) concludes that “an area for future research is how to improve and measure these collaborations to maximize efficacy and provide evidence for success.” An initial step toward achieving this need is identifying systematically the number and types of international university partnerships at specific universities in SSA.

Objective. The objective of the present study was to document and categorize the range of international university-to-university partnerships deemed significant for building the capacity of medicine, nursing, and public health professional programs at 4 East African universities.

METHODS

This study used a concurrent mixed methods design. We conducted key informant interviews and reviewed gray literature and published reports. Quantitative analysis has dominant status²¹ in this paper. Qualitative viewpoints are included to emphasize key issues and provide prospective.

University Selection. We sought a total of 4 universities in 2 countries (Kenya and Tanzania), within 1 distinct region of SSA, to explore diversity within broadly similar political, economic, and social contexts. All universities had to have medicine, nursing, and public health programs. Using purposeful selection, we included the oldest medical schools in each country and a private university, because the number of private universities in SSA has increased significantly in the past 2 decades.²² The 4 universities chosen each had a teaching or affiliated hospital.

Moi University (MU), Eldoret, Kenya, was selected because its partnership with Indiana University has been referred to as successful^{2,3} and has been used as a case study more than once.^{23–25} University of Nairobi (UoN), the second Kenyan site, is the country's oldest and largest medical school.

Tanzania has close cultural and economic ties with Kenya, and its first medical school, Muhimbili University of Health and Allied Sciences (MUHAS) in Dar es Salaam, was founded within 5 years of UoN's* in the 1960s. Kilimanjaro

*The first medical school in East Africa, Makerere University Medical School, was found in Kampala, Uganda, in 1924. It is today housed within Makerere University College of Health Sciences (see <http://90.mak.ac.ug/>). Makerere produced physicians for Kenya and Tanzania before what are today the schools of medicine of UoN and MUHAS were founded, in 1967 and 1963, respectively (see <http://med-school.uonbi.ac.ke/> and <http://som.muhas.ac.tz/>).

Christian Medical University College (KCMUCo) in Moshi is a private university and shares commonality with UoN and MU in 2 important ways for this study. First, both KCMUCo and UoN have National Institute of Health Medical Education Partnership Initiative grants—KCMUCo with Duke University and UoN with the University of Maryland and the University of Washington.⁸ Second, KCMUCo and MU have a common partner in Duke University, because it is also a member of the Academic Model Providing Access to Healthcare (AMPATH) Consortium led by Indiana University.

Key Terms: Academic Health Science, Partnership, Capacity Building. We begin by defining key terms used in this study: *academic health science*, *partners* and *partnership*, and *capacity building*.

The present study focused on *academic health science* at universities. This includes health education, research, and service—the first 2 components within medicine, nursing, and public health programs at 4 universities, the third component at their affiliated teaching hospitals. These institutions are often referred to as academic health science centers (AHSCs),²⁶ or academic health centers.²⁷ Although there is no standard definition for AHSCs, they generally include a medical school or program, another health professional school or program, and an affiliated teaching hospital. AHSCs are characterized as having *tripartite missions* that include education, research, and service. However, because *academic health science center* is not a term used widely in SSA and this study did not explore the political and structural relationship issues between the 4 universities and their teaching hospitals in detail—although challenges were observed—the study usually refers to universities instead of AHSCs.

The next terms are *partner* and *partnership*. A *partner* in this study is a university or a consortium of universities that engages in an education, research, or service activity with 1 or more of the *focus* universities of this study—MU, UoN, KCMUCo, or MUHAS—in medicine, nursing, or public health. Partners generally share risks and benefits.²⁸ For this paper, a *partnership* is the association between 1 of the *focus* universities and a partner university or a consortium.

Capacity is “the ability of individuals, organizations or systems to perform appropriate functions effectively, efficiently and sustainably.”²⁹ *Capacity building* is the process of developing this ability. Once an institution is established, it may be more appropriate to use the term *capacity strengthening*

instead of *capacity building*, to recognize the existing capacity.

Sampling and Data Collection. We interviewed all current lead health representatives (eg, provost, principal, vice-chancellor*) of each university and all current deans (or equivalent) of medicine, nursing, and public health. We interviewed at least 1 current lead representative for research and 1 current or past lead representative of each university’s teaching hospital. We also interviewed past deans, research heads, and other senior representatives of each institution as appropriate. Between July 2013 and July 2014, we interviewed between 9 and 12 representatives per university (MU n = 10, UoN n = 9, KCMUCo n = 12, MUHAS n = 11) for a total of 42 representatives. In a number of instances, representatives held more than 1 senior post at the institution during his or her career, but he or she was counted for only 1 post. The interviews lasted between 32 and 133 minutes, with most lasting between 60 and 90 minutes.

The overall question we asked each key informant (KI) was: *What in your opinion have been or are the 10 most significant international partnerships since 1991 for strengthening the medicine, nursing, and/or public health programs of your institution?* The word *significant* was not defined. We are confident it was understood by all KIs to mean “important enough to merit attention.”²⁸ We stressed that the partnerships could be in any combination of the 3 health professional programs; focus on education, research, and/or service; be ongoing or have concluded; but needed to be with an university or a consortium of universities outside the focus university’s country—in Africa, Asia, Europe, Oceania, or the Americas (see Appendix 2: Phase 1 Key Informant Interview Guide). In a number of instances additional information or clarification was sought in follow-up interviews, via e-mail, telephone, or SMS.

We triangulated data gathered from the key informant interviews with gray literature from MU, UoN, KCMUCo, and MUHAS (eg, annual reports, websites), published reports, and the websites of partners identified and donors who funded the partnerships. More than 450 documents were identified. They served to clarify or confirm details about the partnerships when findings differed

*MU and UoN are clearly part of larger institutions. KCMUCo is a constituent college of Tumaini University but is in the process of becoming independent. MUHAS is an independent institution.

between key informant interviews for the same partnership.

Ethics Approvals. Ethics approval was sought and obtained from the Senate Research Committee of the University of the Western Cape (13/5/15); Institutional Research and Ethics Committee Secretariat of Moi Teaching and Referral Hospital/Moi University School of Medicine; Ethics and Research Committee, Kenyatta National Hospital/University of Nairobi; and National Institute for Medical Research in Tanzania. Research clearance was received from the Tanzanian Commission for Science and Technology.

Data Management and Analysis. We transcribed the interviews. Data from the transcriptions were then used to complete Microsoft Excel tables of international partnerships identified by each respondent, in keeping with framework analysis approaches.³⁰ We produced a summary table of all the partnerships. For each partnership we identified (1) the name of partner institution; (2) the country in which partner was based; (3) the duration of partnership in years; (4) number of KIs who identified partnership; (5) whether the partnership was active or inactive; (6) HPPs (medicine, nursing, and/or public health) involved; (7) components (education, research, and/or service) of AHSCs included in partnership; and (8) key activities and outputs of the partnership.

Fifteen nonuniversity partnerships and non-health sciences university-to-university partnerships mentioned were not included in the analysis because they did not fit the criteria of being primarily university-to-university partnerships, including affiliated teaching hospitals, with at least 1 of the 3 HPPs included in this study. These included partnerships with nongovernmental organizations, bilateral donor agencies, foundations, pharmaceutical companies, consortia that were not principally between universities, and university-to-university partnerships not including the health sciences. In some cases, however, these organizations were considered a significant partnership for some HPPs; for example, Pacific Institute for Research and Evaluation (PIRE), a nonuniversity, not-for-profit organization in Chapel Hill, North Carolina, was considered one of the most significant partnerships by a MU nursing representative.

The final summary table of all partnerships identified was then analyzed using SPSS. Frequencies and crosstabs were produced. A description of each of the fields analyzed using SPSS appear in

Appendix 3, Data Fields for Each International Partnership. This paper maps the general characteristics of the partnerships identified. It does not report on the value or ranking of the partnerships. This will be reported in a separate paper (A.N. Yarmoshuk et al, unpublished data, 2016).

Findings. Number of partners identified. A total of 129 international, university partners were identified: 33 by MU representatives; 36 by UoN; 25 by KCMUCo; and 35 by MUHAS.

Regions and Countries of Partners. The 129 partners were from 23 countries, not including the countries of the consortia members because they were listed simply as “consortium.” All World Health Organization (WHO) regions had at least 1 partner, although all of the partners from the Americas were from North America. The majority of partners were from high-income countries from the Global North, specifically North America and Western Europe, as shown in Figure 1. The most partners, 41 (31.8%), were from the United States, followed by the United Kingdom, 11 (8.5%); South Africa and Sweden, 8 (6.2%) each; Norway, 7 (5.4%); Canada, 6 (4.7%); and Japan and the Netherlands, 4 (3.1%) each. The remaining 26 (20.2%) partners were from 15 countries; 11 of these countries had 2 partners and 4 countries had 1.

Twelve percent of partners (15 of 129) were from the WHO African Region, although from only 5 countries, and the majority, 8 of the 15 (53%), were South African universities. Ten partners (8%) were Asian or Oceanic universities: 4 from Japan, 2 each from Australia and South Korea, and 1 each from India and Singapore. In addition, India was mentioned twice as a secondary partner in a number of bilateral partnerships with universities in high-income countries. Only UoN and MUHAS identified partners from Asia. No partner from China was identified, although it was noted that the government of Kenya had approached China to upgrade the Moi Teaching and Referral Hospital facilities but the funding would be government-to-government, likely a soft loan.

Grouping the partnerships into North and South equates perfectly with high-income Organization for Economic Co-operation and Development (OECD) countries and lower middle-income countries, with the exception of partnership between UoN and the National University of Singapore, because Singapore is a high-income country but not an OECD member. Of the

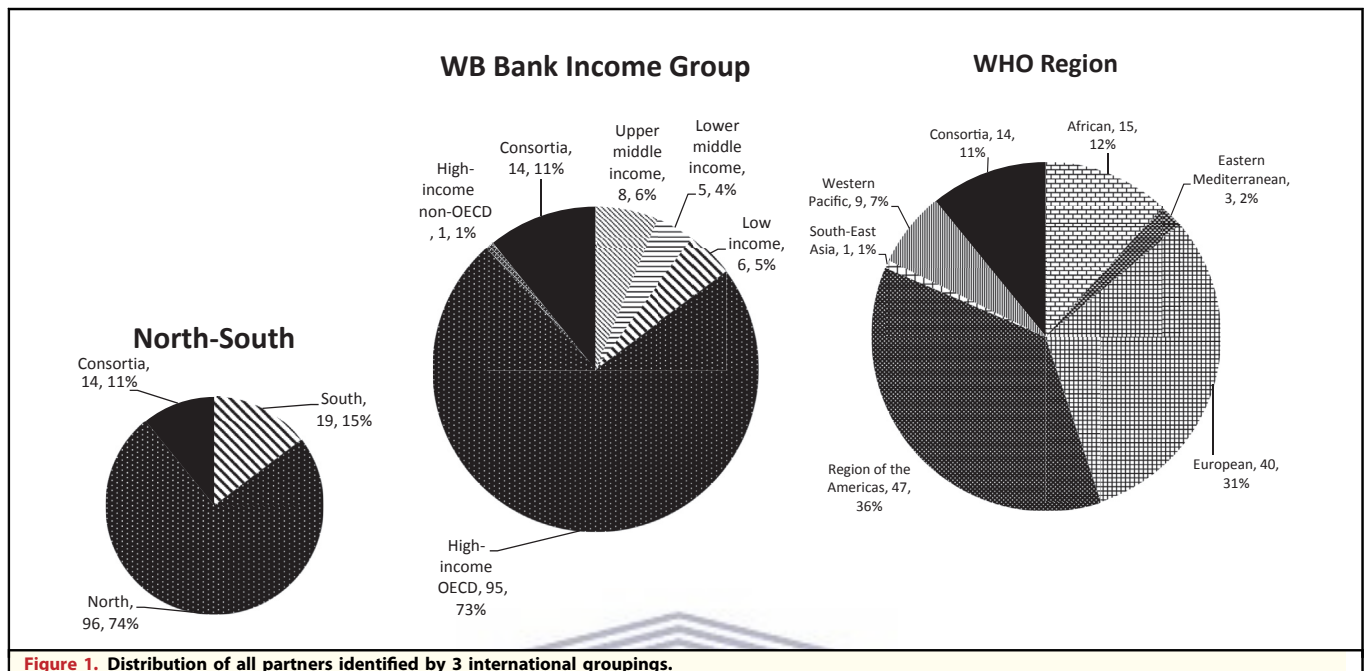


Figure 1. Distribution of all partners identified by 3 international groupings.

19 southern partners, 13 were from middle-income countries—South Africa (8), Egypt (2), India (1), Nigeria (1), Sudan (1); and 6 partnerships with universities in low-income countries—Kenya* (2), Malawi (2), and Uganda (2)—were identified. All the low-income partnerships were with universities in neighboring countries. India was the only non-African lower middle-income country housing a partner. The only nonconsortium partnership identified with a university from Central or West African countries was between KCMUCo and the University of Ibadan in Nigeria, although it was project-based and included a northern partner, Newcastle University, United Kingdom. A representative from the University of Ibadan was the project’s principal investigator. Twenty countries were represented in the consortia: Botswana, Canada, Democratic Republic of the Congo, Ethiopia, Finland, Kenya, Malawi, Mozambique, Namibia, Nigeria, Norway, Rwanda, South Africa, Sweden, Switzerland, Tanzania, Uganda, the United Kingdom, the United States, and Zambia. Half (10/20) of these countries also had bilateral partnerships with at least 1 of the 4 focus universities.

*At the time the data were collected, Kenya was a low-income country. Kenya became classified as a lower middle-income country by the World Bank in July 2015.

Consortia. Ten distinct consortia were mentioned a total of 14 times,[†] as 3 consortia were mentioned by representatives at more than 1 of the 4 universities. Because perspectives of the consortia varied between the KIs, each incidence is counted in the findings. The 10 consortia were Afya Bora; College of Ophthalmology of Eastern Central and Southern Africa (COECSA); Consortium for Advanced Research Training in Africa (CARTA); Inter-professional Team Education Promoting Public Health (I-Step); Higher Education Alliance for Leadership Training for Health (HEALTH Alliance); Leadership Initiative for Public Health in East Africa (LIPHEA); the Norwegian Agency for Development Cooperation’s Programme for Master Studies (NOMA). One Health Central and Eastern Africa (OHCEA); Southern African Centre for Infectious Disease Surveillance (SACIDS); and Training Health Researchers into Vocational Excellence in East Africa (THRiVE). Four of the

[†]KCMUCo is involved in a number of consortia projects and partnerships in addition to COECSA and THRiVE: for example, Building Stronger Universities; the European and Developing Countries Clinical Trials Partnership; Gates Malaria Partnership; and Malaria Capacity Development Consortium. These were sometimes mentioned, although usually after the lead university partner. For this reason, the lead university is noted, not the consortia.

10—CARTA, COESCSA, HEALTH Alliance, and SACIDS—have only southern members, although they are all linked to northern organizations to some degree; for example, although CARTA's members are all SSA universities, it has northern partners. Of the 7 consortia with northern partners, only 1, CARTA, has northern partners from more than 1 country.*

Coordinated Partners. In 2 separate cases, partners were sometimes mentioned individually and sometimes within a consortium. This was true of Indiana University, Brown University, Duke University, University of Toronto, and University of Utah with MU and Karolinska Institute, Umea University, University of Gothenburg, and Uppsala University with MUHAS. In both cases, the KIs referred to the individual universities more often than the consortia they form. In the case of the North American universities, the AMPATH Consortium was usually referred to as the Indiana-led consortium in recognition that Indiana was the first of these universities to partner with MU; the other universities started working with MU by linking with Indiana University, and Indiana leads the AMPATH Consortium. In the case of the Swedish universities working with MUHAS, either the Karolinska Institute was mentioned as the lead or the partnership was referred to as the MUHAS-SIDA partnership. SIDA is the Swedish International Development Agency. It is the official bilateral development agency of the Government of Sweden.

MUHAS' partnerships with universities funded by the Norwegian Agency for Development Cooperation were sometimes mentioned by the project (eg, NUFU, NOMA) or by the donor or by mentioning the partner universities. These partnerships sometimes involved multiple universities, but because the KIs focused on the role of individual universities—University of Bergen and University of Oslo—they were listed individually. The consortium nature of MUHAS' NOMA nursing project was emphasized by KIs, so it was identified as a consortium. Boston University and University of Ibadan were treated individually, although their partnerships with MUHAS and KCMUCo, respectively, also included another international partner.

How Old Is the Partnership? Still alive? Or Taking a Break? Determining the length of some partnerships was difficult because responses varied for representatives of the same institution. Some partnerships were active for a period with 1 HPP, then added another HPP to the partnership. At other times an individual who was involved with a partner from the beginning would provide a significantly earlier start date for the partnership than another representative of the same university. Consider, for example, the duration of MUHAS's partnership with the University of Bergen in Norway. Nine representatives identified it as a significant partnership but only 6 stated its duration, and the time frame ranged from 6–25 years. Respondents generally gave the number of years their HPP or they themselves had been involved, not the university overall, although some respondents did acknowledge that the university had been partnered with an institution for some time but only recently began partnering with their HPP. Finally, dating a partnership can also discount what may have come before it, as in the case of COECSA. Although it was only 2 years old when this study was conducted, the 2 consortia that merged to form it in 2012, Eastern Africa College of Ophthalmologists and Ophthalmological Society of Eastern Africa, were 7 and more than 40 years old, respectively.^{31–33}

The length of the partnership is shown in **Table 1** for the 109 of 129 partnerships whose duration was determined. Fifty partnerships, 39% of all partnerships, started in the last 5 years and were active. Twenty-four of the partnerships lasted 15 years or more, and 79% (19 of 24) of these were still active. One hundred and three (103) of the 129 partnerships (80%) were considered active. Sixty-eight percent (68%), 15 of 22, of the inactive partnerships (when the duration was known) lasted 5 years or less. Of the 26 partnerships considered inactive, 11 had been project specific; 4 were considered to be dependent on 1 individual, and when that individual switched universities, the partnerships either moved with them or ended; 4 did not have current activities but may restart (ie, hiatus); 3 had been short, contributory or advisory relationships; 2 faded over time; 1 consortium project transitioned into another consortium; and 1 partnership proved not to be a good match and ended within the first year. More than one-third, 9 of 26 (35%), of all partnerships considered inactive were at KCMUCo. Thus, more than one-third, 9 of 25, of KCMUCo's partnerships were considered inactive; 6 (18%) of MU's, 6 (17%) of MUHAS's, and 5 (14%) of

*THRiVE's 2 northern partners are from the United Kingdom, although its advisory board had a Swedish member (THRiVE, 2014).

Table 1. Duration of Partnerships by Groupings of Countries

Income Level and Region of Partners	Duration of Partnerships, in Years (n = 109)						Subtotal
	≤5	6-10	11-15	16-20	21-25	26+	
High income—Americas	26	4	1	6	3	1	41
High income—Europe	11	4	7	2	3	4	31
High income—Other	6	0	0	1	0	0	7
Lower middle	3	0	1	0	2	0	6
Upper middle	3	1	0	0	0	0	4
Low income	4	2	0	0	0	0	6
Consortia	12	2	0	0	0	0	14
Totals	65	13	9	9	8	5	109
% of Total	60	12	8	8	7	5	100
Cumulative %	60	72	80	88	95	100	

UoN’s partnerships were considered inactive. Two UoN partnerships started more than 30 years ago and were still ongoing.

Who Knows Who? Approximately two-thirds, 85 of 129 (66%), of the partnerships were mentioned by 1 or 2 representatives (Fig. 2). Only 2 consortia, NOMA and THRiVE, were named by more than 2 representatives. Almost a quarter, 31 of 129 (24%), of partnerships were identified by between 4 and 12 representatives. The only 2 partner universities identified by all KIs of the respective focus universities were Duke University at KCMUCo and Indiana University at MU, although at least 1 Swedish university was mentioned by each MUHAS representative. KIs often mentioned partners with which they had direct contact—for example, if they earned their PhD linked to a partner, if a student or students they were

supervising were involved in a partnership, if they were the principal investigator for a project involving a partner, or if they coordinated some aspect of a partnership. Only 9 of the medicine-only partnerships were identified by 3 or more representatives, leaving 37 of 46 (80%) medicine-only partnerships identified by only 1 or 2 representatives. More than half of the partnerships, 48 of 83 (58%), involving nursing or public health were mentioned by only 1 or 2 representatives. The partnership between UoN and Ludwig Maximilian University of Munich, Germany, was mentioned by 3 of the 9 UoN KIs, although it has only involved ophthalmology and none of the UoN representatives interviewed were ophthalmologists.

Medicine, Nursing, or Public Health? As shown in Table 2, the majority, 81 of 129 (63%), of all partnerships include only 1 HPP, with medicine-only

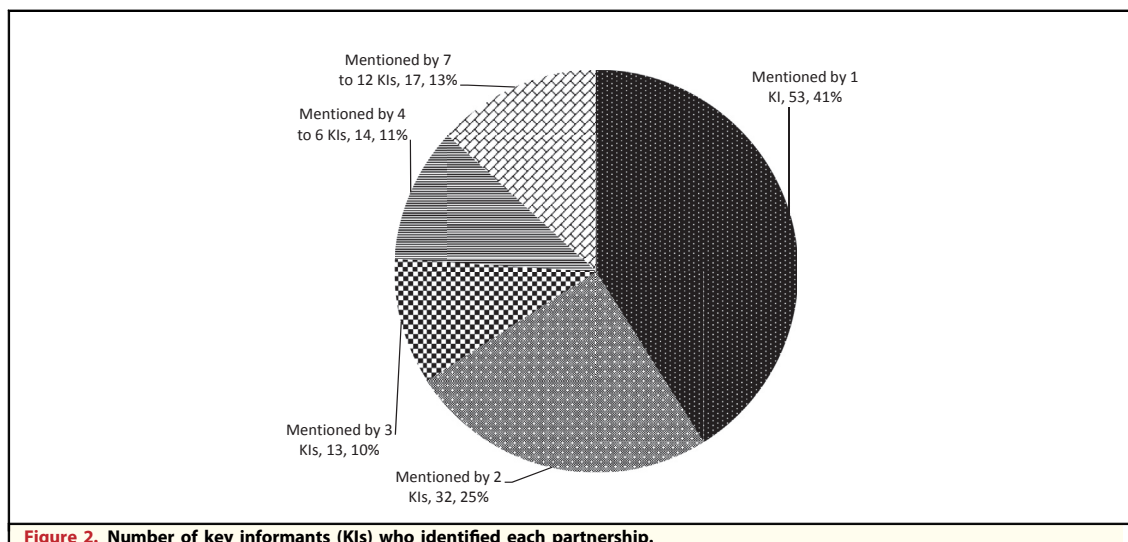


Figure 2. Number of key informants (KIs) who identified each partnership.

Table 2. HPPs by World Bank Income Groups

Income Level & Region of Partners	No. of Partners Identified	HPPs Involved (n = 129)						
		Med	Nur	PH	Med/Nur	Med/PH	Nur/PH	ALL
High income—Americas	47	13	3	8	4	8	3	8
High income—Europe	38	15	9	3	2	3	0	6
High income—Other	11	9	1	1	0	0	0	0
Lower middle	5	3	0	0	1	1	0	0
Upper middle	8	3	0	2	2	0	1	0
Low income	6	1	2	0	0	1	0	2
Consortia	14	2	1	5	0	3	0	3
Totals	129	46	16	19	9	16	4	19
% of Total	100	36	12	15	7	12	3	15
Cumulative %		36	48	63	70	82	85	100

HPP, health professional program; Med, medical; nurs, nursing; PH, public health.

partnerships being the most common. Seventy percent of all partnerships, 90 of 129, included medicine to some extent. Thirty-seven percent of partnerships, 48 of 129, included nursing to some extent. Forty-five percent of partnerships, 58 of 129, included public health to some extent. However, it was not the case that the level of activity or outputs realized for each HPP was necessarily equal or that the respective HPPs were involved in the partnership simultaneously in partnerships including more than 1 HPP. Consider MUHAS's partnership with Dalhousie University in Canada. The partnership began in the late 1980s when the Canadian university helped Muhimbili establish its bachelor of science in nursing degree. After the nursing program was established, there was a hiatus until the mid-2000s when activities recommenced between the 2 universities, but this time between their medical schools.

Another example is the partnership between Indiana University and MU. Although there have been some activities with the Schools of Public Health and Nursing, the bulk of activities have been with the School of Medicine, leading 1 representative to conclude that Indiana's "level of support in Medicine is so, so high you can't compare [it] to these others [ie, schools] that are spread out."

Supporting the Tripartite Mission? Almost all partnerships (119 of 129, or 92%) included an education component, with almost half being education only (Table 3). Almost half of all partnerships (47%, or 60 of 129) included a research component. Approximately one-quarter (31 of 129 [24%]) included a service component.

Seven of the 10 partnerships that did not include an education component were with North American partners. One partnership each from a European, high income—other, and lower middle-income

Table 3. AHSCs Components in Partnerships by World Bank Income Groups

Income Level & Region of Partners	No. of Partnerships Identified	Components (n = 129)						
		Edu	Res	Ser	Edu/Res	Edu/Ser	Res/Ser	ALL
High income—Americas	47	17	3	0	10	3	4	10
High income—Europe	38	18	0	0	14	4	1	1
High income—Other	11	6	1	0	2	1	0	1
Lower middle	5	4	0	0	0	0	1	0
Upper middle	8	5	0	0	3	0	0	0
Low income	6	4	0	0	2	0	0	0
Consortia	14	6	0	0	3	1	0	4
Totals	129	60	4	0	34	9	6	16
% of Total	100	47	3	0	26	7	5	12
Cumulative %		47	50	50	76	83	88	100

AHSC, academic health science center; Edu, education; Res, research; Ser, service.

country did not include an education component. More than one-third of the North American partnerships (17 of 47 [36%]) included service components. This compares to only 9 of the 68 (13%) from other regions. The consortia partnerships including all components were OHCEA (3) and LIPHEA (1), funded by the US Agency for International Development, and the HEALTH Alliance that was formed by the Eastern and Central African LIPHEA partners.

The specific type of activities, or results achieved, within the components were usually specified. A wide variety of education, research, and service outputs were produced through the partnerships (Table 4). Some of the outputs realized were only possible after other outputs were achieved or realized currently—for example, PhD research after education and highly cited research after service delivery. Although representatives were not asked about partnerships that supported infrastructure development (eg, construction of a building), some KIs identified such activities as valuable.

DISCUSSION

A Multitude of Partners at Each University. Our mapping of international partnerships significant for capacity building at MU, UoN, KCMUCo, and MUHAS identified that each of the 4 universities has had a multitude of partners since 1991 (1997 in the case of KCMUCo*). Ease of identifying partners from publicly available sources for the 4 universities varies significantly between the 4 institutions, generating challenges in obtaining precise estimates of partnerships. MUHAS's Research Links and Collaboration menu item on its website† and similar sections in its annual reports are most comprehensive and report on current activities (see <http://www.muhas.ac.tz/index.php/annual-reports>).^{34–36} The 2012–2013 annual report^{35(p31)} noted 78 research partnerships with foreign institutions. The report also identifies collaborations by the various schools, the names and principal investigators of the 19 new projects and 9

*What is today known as KCMUCo was founded in 1997. However, some of its partners predate the establishment of the university. They started with KCMC. KCMC was founded in 1971.

†MUHAS's website is <http://www.muhas.ac.tz/>. MU College of Health Sciences' website is <http://chstest.mu.ac.ke/>. UoN College of Health Sciences' website is <http://chs.uonbi.ac.ke/>. KCMUC's website is <http://www.kcmuco.ac.tz/>.

Table 4. Types of Activities and Outputs Mentioned by Component

1 Education
1.1 Examination (external examiners)—not considered capacity building by all representatives
1.2 Curriculum development
1.2.1 Pedagogy
1.2.2 Diplomas
1.2.3 Short courses
1.2.4 Undergraduate degrees
1.2.5 Master's degrees
1.2.6 Doctoral degrees
1.2.7 Fellowships
1.3 Student exchanges
1.3.1 One-way
1.3.2 One-way—but partnering students
1.3.3 Two-way—unbalanced
1.3.4 Two-way—reciprocal
2 Research
2.1 Highly cited
2.2 Publishable
2.3 Within a PhD
3 Service Delivery
3.1 Care within a teaching hospital
3.2 Care within the urban area of a university
3.3 Care in rural area
3.4 Prevention—health promotion
4 Infrastructure Development & Equipment & Supplies
4.1 Provision of equipment & supplies—information and communications technology, library, laboratory—common
4.2 Construction of facilities—learnings centers, research facilities, hospitals.

Note: (i) underlined subcomponents stated to be particularly significant by some key informants for achieving capacity development of their institution; (ii) not necessarily distinct (eg, 2.3 can also be 2.2 and/or 2.1). ICT, information and communications technology.

projects that ended that year and provides a summary progress report for each of the 103 current research projects, although research projects don't always identify partners.^{35(pp108–145)} Student exchange activities are reported separately. UoN's annual reports provide names of partners but few details (see <http://www.uonbi.ac.ke/uon-reports>).^{37–40} Moreover, it is difficult to get a sense of the arrangements; for example, in the 2012 annual report each university involved in OHCEA is mentioned individually but no mention of OHCEA is made.^{37(p72)} Both KCMUCo and MU provide limited partnership information online. The former has focused on the Medical Education Partnership Initiative project with Duke and THRIVE. KCMUCo annual reports do not appear to be available online, although some information on interuniversity partnerships is provided in the

annual reports of the affiliated teaching hospital, KCMC⁴¹, and hard- and soft-copy profiles of the research institute, Kilimanjaro Clinical Research Institute.⁴¹⁻⁴³ One of the clearest summaries of partnerships is KCMUCo's 2013 internal self-assessment.⁴⁴ Twenty-four nondonor international linkages are listed, 14 of which are international universities and 4 of which are consortia involving universities. MU's website provides a link to AMPATH Kenya (www.ampathkenya.org). Online access to MU's annual reports and strategic plans does not appear to be available, and its 2009-2015 strategic plan only identifies 3 partners, only 2 of which work with the College of Health Sciences.⁴⁵ Another MU document identifies a total of 6 partnerships for the Schools of Nursing and Public Health, but Medicine's partnerships are not mentioned.⁴⁶ In many cases, the 4 universities identify international university partners in documents when identifying other collaborators such as local, industry, and donor partners. Hence, substantial challenges remain in precisely determining information on international partnerships.

Geographic/Income Group Distribution. The geographic distribution of partnerships is consistent with previous findings that report that historically capacity building partnerships with SSA universities have been North-South in nature,²⁰ especially with North American and European universities.⁶ There were some partnerships with high-income countries in Asia, but they remain limited in number and scope of activities. Our findings bring clarification to the type of South-South and African-African partnerships in existence. Except for the 1 specified and the 2 unspecified Indian partners, all of the lower middle-income country partners were in Africa. Furthermore, the only partnerships with low-income country universities were with those in neighboring countries, and the only other non-consortium partners were from Egypt, Nigeria, and South Africa, the 3 dominant science countries in SSA.⁴⁷ The findings of our study also support Brautigam's⁴⁸ analysis that, in health, the Chinese government is focusing on hospital-to-hospital partnerships and not university-to-university.

Duration and Status of Partnerships. Although subject to the recall bias of KIs, this study provides a rare examination of the duration and status of university-to-university partnerships. By asking the representatives of the 4 focus universities to identify partnerships that have existed "since 1991" we permitted respondents to consider international partners with whom they have been partnered for more than

20 years in addition to younger partnerships. That 31 of the 109 partnerships (28%) of the partnerships whose duration were identified were more than 10 years old supports the published reports indicating that capacity-building partnerships often take time to develop.⁴⁹⁻⁵¹ However, that more than half of this set of partnerships were 20 years or older leads to questions about whether interactions that are 10-15 years long should be considered "long-term" partnerships, as commentators do.⁵² That 57% of the partnerships were established over the past 5 years and were still active roughly parallels the findings of Matheson et al.⁵³ indicating the growth of university global health partnerships of North American universities.*

Types of HPPs and Number of Representatives Who Identified a Partner. The overall research question for this study sought to implement the recommendation of the *Commission on Medical Education for the 21st Century* to look beyond "the silos of individual professions"² and included 3 health professional programs. Unsurprisingly, considering the leading role of medicine and historically siloed nature of the health professions, 70% of all partnerships included medicine and almost two-thirds (63%) of partnerships included only 1 of the 3 HPPs. Nevertheless, that does mean that 37% of partnerships included at least 2 of the HPPs. Fifteen percent included all 3 HPPs to some extent, although the activities within these partnerships were not necessarily integrated, nor was the level of activity necessarily equal between the HPPs. That 66% of partners were identified by only 1 or 2 representatives may indicate that many partnerships include only a few representatives at an institution and reflects the focused nature of academic work, existing disciplinary boundaries, and the siloed nature of HPPs.

Components Involved. For 2 reasons, it is unsurprising that almost all partnerships included an education component to some degree. One, addressing capacity building often implies an educational component, because this term is developmental in nature, and Kenya and Tanzania are well known to have a shortage of health professionals working in country.^{54,55} Two, the shortage of health researchers in SSA and the need to include training in research are well documented.⁵⁶⁻⁵⁸ Therefore, it

*Interestingly, Matheson et al sent surveys to 140 North American institutions, but only 35 responded. Of these 140 institutions sent surveys, 26 were identified as partner by Moi, UoN, KCMUCo, and MUHAS representatives in our study. Only 7 of these 26 universities responded to the survey sent by Matheson et al.

is unsurprisingly that only 15 partnerships were identified that were research or research or service only.

Limitations and Directions for Further Research and Analysis. This study took place in 2 countries in 1 distinct region—East Africa—of SSA. Both countries were former British colonies, Anglophone and members of the Commonwealth, and large in terms of population and recipients of foreign aid—in 2013, Tanzania and Kenya ranked fifth and sixth in terms of human population⁵⁹ and second and third in terms of overseas development assistance.⁶⁰ These facts are important when considering the generalizability of this study's findings to the WHO African Region, which includes 47 countries with varied colonial, linguistic, and academic histories.

We could not obtain centrally produced lists of historical or current international projects or partnerships at any of the institutions over time, precluding more rigorous cohort analyses. It was not possible to determine the statistical significance of associations because of the small counts (<5 and many 0s) in many cells. In addition, data were based on the reflections of individuals during, in most cases, 1 interview, rather than being extracted from institutional databases on partnerships. Individuals were not, in most cases, offered an opportunity to review or reconsider their answers at a later date. On the other hand, representatives gave their initial, unedited impressions.

This study makes a methodologic contribution by bringing clarification to the terminology of duration, status, and activities of partnerships. It would be

helpful for international partnership research if authors included general characteristics about the partnerships when reporting findings in which working in partnership was required for conducting the study.

CONCLUSIONS

This study took a global view of significant international health partnerships at 4 East African universities by identifying the range of the international partners at four universities in 3 HPPs that helped to fulfill the tripartite mission of AHSCs. It confirms the rapid growth of inter-university health partnerships in the last 10 years, especially with high-income countries and consortia, and also to some degree South–South partnerships. Innovative approaches within these new partnerships should be identified. As importantly, however, it shows that there is a pool of long-term partnerships at each university from which lessons can be learned.

With a majority of the partnerships not well-known among senior health representatives of the universities and confined to specific faculties, departments, or even, perhaps, individuals, it raises the question to what degree lessons and innovations are learned between partnerships and whether or when individual partnerships should work together to some degree. Universities could better publicize information about their partnerships by presenting basic information about them systematically on their websites and in their annual reports.

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APPENDIX

Appendix 1. Table of International Partners Mentioned by Country

Countries of International Partners, Various Country Groupings, Number of Partnerships Mentioned, and Percentage of All Partnerships from Those Countries

Country	WB Income Group—General	WB Income Group—Detailed	North-South*	WHO Region	Frequency	% of Partnerships
United States Consortium	High income	High income—OECD	North	Region of the Americas	41	31.8%
United Kingdom	High income	High income—OECD	North	European Region	11	8.5%
South Africa	Lower middle income	Upper middle income	South	African Region	8	6.2%
Sweden	High income	High income—OECD	North	European Region	8	6.2%
Norway	High income	High income—OECD	North	European Region	7	5.4%
Canada	High income	High income—OECD	North	Region of the Americas	6	4.7%
Japan	High income	High income—OECD	North	Western Pacific Region	4	3.1%
Netherlands	High income	High income—OECD	North	European Region	4	3.1%
Australia	High income	High income—OECD	North	Western Pacific Region	2	1.6%
Belgium	High income	High income—OECD	North	European Region	2	1.6%
Denmark	High income	High income—OECD	North	European Region	2	1.6%
Egypt	Lower middle income	Lower middle income	South	Eastern Mediterranean Region	2	1.6%
Germany	High income	High income—OECD	North	European Region	2	1.6%
Israel	High income	High income—OECD	North	European Region	2	1.6%
Kenya	Lower middle income	Low income	South	African Region	2	1.6%
Malawi	Lower middle income	Low income	South	African Region	2	1.6%
South Korea	High income	High income—OECD	North	Western Pacific Region	2	1.6%
Spain	High income	High income—OECD	North	European Region	2	1.6%
Uganda	Lower middle income	Low income	South	African Region	2	1.6%
India	Lower middle income	Lower middle income	South	South-East Asia Region	1	0.8%
Nigeria	Lower middle income	Lower middle income	South	African Region	1	0.8%
Singapore	High income	High income—non-OECD	North	Western Pacific Region	1	0.8%
Sudan	Lower middle income	Lower middle income	South	Eastern Mediterranean Region	1	0.8%
Total					129	100.0%

NA, not applicable; OECD, Organization for Economic Co-operation and Development; WB, World Bank; WHO, World Health Organization.
* From https://meta.wikimedia.org/wiki/List_of_countries_by_regional_classification. Accessed July 28, 2015.

APPENDIX 2 PHASE 1 KEY INFORMANT INTERVIEW GUIDE

Overall Question: What in your opinion have been or are the 10 most important international partnerships since 1991 for strengthening the medicine, nursing, and/or public health programs of (name of the university)? Please answer the following questions for up to 10 partnerships.

- What is the name of partner institution, or institutions (if it's a consortium)? Where is (are) the partner(s) located (university/institution, city and country)?
- Who is the lead representative for the partnership? What is his/her contact information (telephone number & e-mail)?
- What year did the partnership start?
- What year did the partnership end? Or is it ongoing?
- What is (was) the duration of the partnership to date?
- Which schools (Medicine, Nursing, and/or Public Health) are (were) involved in the partnership?
- What departments in each of the schools are involved in the partnership? Please name them.
- Who is the overall lead of the partnership for your institution?

- i. Is the partnership project or program-based?
 - (i) Who funds it? Who has funded it?
 - j. Does the partnership include education, research, and/or service (clinical or community service) components?
 - (i) If there is a service component, is it clinical and/or community service?
 - k. What components (education, research, and/or service) of the partnership are most significant? Rank 1, 2, 3.
 - l. Estimate the level of effort for each component (education, research, and/or service) as a percentage (%).
 - m. What are the principal education, research, and/or service objectives and outputs within the partnership, as applicable?
 - n. How valuable was/is the partnership to your college or school, as appropriate? (High, medium, low)
 - o. Please rank all the partnerships you identified in order of significance (1 to *n*)—with 1 being the most significant partnership.
10. **Med&Nur**: Whether the partnership focused solely/primarily on activities with the medicine and nursing schools. Binary: 1 for yes; 0 for no.
 11. **Med&PH**: Whether the partnership focused solely/primarily on activities with the medicine and public health schools. Binary: 1 for yes; 0 for no.
 12. **Nur&PH**: Whether the partnership focused solely/primarily on activities with the nursing and public health schools. Binary: 1 for yes; 0 for no.
 13. **All-Progs**: Whether the partnership included all three schools. Binary: 1 for yes; 0 for no.
 14. **Only-Edu**: Whether the partnership focused solely/primarily on education activities/components. Binary: 1 for yes; 0 for no.
 15. **Only-Res**: Whether the partnership focused solely/primarily on research activities/components. Binary: 1 for yes; 0 for no.
 16. **Only-Ser**: Whether the partnership focused solely/primarily on service activities/components. Binary: 1 for yes; 0 for no.
 17. **Edu&Res**: Whether the partnership focused solely/primarily on education activities/components. Binary: 1 for yes; 0 for no.
 18. **Edu&Ser**: Whether the partnership focused solely/primarily on education and service activities/components. Binary: 1 for yes; 0 for no.
 19. **Res&Ser**: Whether the partnership focused solely/primarily on research and service activities/components. Binary: 1 for yes; 0 for no.
 20. **All-Comps**: Whether the partnership included activities/components in education, research, and service. Binary: 1 for yes; 0 for no.
 21. **# of Reps 2**: The number of representatives who identified the international partner as a significant partner.

APPENDIX 3 DATA FIELDS FOR EACH INTERNATIONAL PARTNER

1. **Focus-Name**: Name of the focus university—MU, UoN, KCMUCo, or MUHAS.
 2. **Name of Institution**: Name of the international partner university.
 3. **City**: City in which the international partner university is based.
 4. **Country**: Country in which the international partner is based.
 5. **Years**: Age of the partnership in years.
 6. **Status**: Whether the partnership is currently active. Binary: 1 for active; 0 for inactive.
 7. **Only-Med**: Whether the partnership focused solely/primarily on activities with the medical school. Binary: 1 for yes; 0 for no.
 8. **Only-Nur**: Whether the partnership focused solely/primarily on activities with the nursing school. Binary: 1 for yes; 0 for no.
 9. **Only-PH**: Whether the partnership focused solely/primarily on activities with the public health school. Binary: 1 for yes; 0 for no.
- KCMUCo, Kilimanjaro Christian Medical University College; MU, Moi University; MUHAS, Muhimbili University of Health and Allied Sciences; UoN, University of Nairobi.

Appendix 9: Further research

Further publications arising from data collected in this study will be made available at:

www.hppafrica.org/research/



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