

**PURDUE-MOI UNIVERSITY PARTNERSHIP**

**THE LONG-TERM STRATEGIC PARTNERSHIP**

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In Partnership with IU and IUPUI

## **EXECUTIVE SUMMARY**

We intend to create a 20-year partnership for capacity-building for community outreach between Purdue University in West Lafayette, Indiana, and Moi University in Eldoret, Kenya. The initial phase of the partnership will focus on agriculture, environment and natural resource, public health and within that, on issues of water.

The initial activities described in this paper describe a strategic plan for joint capacity building and collaboration, together with an implementation plan for the initial 3-5 year focus on water issues. Initial seed funding of this partnership will be provided by Purdue University's Office of International Programs with some personnel support from other campus units. Longer term external donor funds will need to be found.

Purdue already has a Memorandum of Understanding (MOU) with Moi, with two full-time Purdue employees there. The Purdue-Moi partnership will extend and enhance an existing set of relationships between Purdue, Indiana University (IU) and AMPATH, the Academic Model Providing Access to Healthcare. Moi, IUPUI, and AMPATH have together identified water as one of the most important issue in the community today. Purdue's expertise in water and Purdue's prior experience with partnerships in other developing areas of the world will help create a permanent structural link between Indiana's flagship universities, the long-standing and highly successful AMPATH program, in Moi University one of Kenya's (and indeed Africa's) foremost universities.

This effort will involve reciprocal visits of design teams from Purdue and Moi, during which issues relating to water will be examined and discussed. The outcomes of these visits will be a highly detailed, specific strategic plan for developing capacity for addressing water issues through long-term collaborative research, engagement activities, and both faculty and student exchange.

Following the first stage (3-5 years), the initiative will identify other areas of interest to both Moi and Purdue to expand the scope of this effort beyond water resources.

## **BACKGROUND INFORMATION**

**Moi University** ([www.mu.ac.ke](http://www.mu.ac.ke)) is a public institution founded in 1984 in Eldoret in western Kenya, 310 kilometers northwest of Nairobi.

Moi has experienced rapid growth and today comprises 15 Schools, spread across three campuses, plus eight satellite campuses. The Schools include: Agriculture and Biotechnology, Business and Economics, Information Sciences, Engineering, Science, Natural Resource Management, Medicine, Dentistry, Public Health, Law, Environmental Studies, Arts and Social Sciences, and Human Resource Development and aerospace science.

Currently, Moi University hosts 22,000 students, 800 faculty and 2,800 support staff spread out in the fifteen schools. The Moi University strategic plan (2005-2115) identifies a number of challenges facing the University, including: high student enrollment, inadequate infrastructure, reduced government funding and inadequate options for income generation. Other challenges include global competition for quality staff, dynamic demands and expectations of stakeholders, changes in national goals and policies on education. There is need therefore to respond to these challenges by forging new partnerships in research, extension and development to meet the growing needs of Moi University and the country at large.

**Purdue University**, ([www.purdue.edu](http://www.purdue.edu)) 200 km. south of Chicago, was chartered in 1869 as Indiana's Land-Grant University. Purdue has 40,000 undergraduate and graduate students on its West Lafayette campus, and the third highest enrolment of international students in the nation. Purdue has over three thousand full-time faculty, and ten academic colleges. The College of Engineering recently announced water as a major strategic area of global emphasis. Purdue University identifies global impact as a highlight of the university strategic plan. This partnership is inline and at the core of this plan. It exemplifies a global strategic effort involving all academic units on campus.

### **History of Moi – Purdue Interaction**

Moi University has a long-standing relationship with Indiana University (IU) in Bloomington and with Indiana University-Purdue University at Indianapolis (IUPUI). These institutions have developed a deep understanding of the meaning and value of strong collaborative partnerships. In the past 18 months, Purdue University and Moi University have become engaged in discussions to create a similar long-term strategic partnership. This emerging partnership—while valuable in its own right—will be intentional in complementing and enhancing the existing partnership among Moi, IU and IUPI. Purdue has had activities in Kenya since the early 1990s, through INTSORMIL. Since 2002, Purdue has become increasingly involved with Moi University, beginning with a joint research project on crop improvement and soil fertility (McKnight).

In 2004, the Pharmacy school at Purdue began collaboration with Moi and the Indiana University School of Medicine under the umbrella of the long-established AMPATH program (known as the Academic Model for the Prevention and Treatment of HIV/AIDS at the time and now called Academic Model Providing Access to Healthcare). The Purdue School of Pharmacy and Pharmaceutical Sciences, together with several faculty members from Industrial Engineering, provide pharmacy services for HIV-infected patients under AMPATH, distributing and dispensing medication at the 18 rural clinic sites in AMPATH's catchment area. Purdue provides training to both Purdue and Kenyan pharmacy students, and participates in research designed to improve program effectiveness. The Purdue Industrial Engineering team also designed a food distribution system and a nutrition information system for the program.

In 2004 and 2005 Purdue and Moi faculty organized a workshop on the impact of nutrition on the human immune system. Purdue's Agricultural Economics faculty became involved in 2005 with Moi through the

USAID-funded Aquaculture Collaborative Research Support Program (CRSP). An MOU was signed between Moi and Purdue in 2005.

In 2007 a team from Purdue Agriculture and Veterinary Medicine worked with their Moi counterparts to develop a plan for providing agricultural extension services to recovering AMPATH patients, who are mostly farmers. In that same year, the then Moi Vice Chancellor visited Purdue and discussed possibilities for further collaboration. Purdue's Dean of International Programs began talks with IU, and later visited Moi, in August 2008, to continue these conversations. During these meetings, it was agreed to form a long-term partnership.

## **VISION & MISSION FOR THE PARTNERSHIP**

### **VISION**

Improve the environment at both Moi University and Purdue University to face current and future global challenges that will provide long-term benefits to the global community.

### **MISSION**

To build capacity at the two institutions through staff development, student exchange, community outreach, collaborative research, curricula development and value addition to IUPUI-MU collaboration.

### **GOALS AND OBJECTIVES FOR THE PARTNERSHIP**

- To build capacity within Purdue university for collaboration with African institutions,
- To build capacity within Moi University to address regional issues of importance, in particular water issues
- To directly benefit the people and the communities of western Kenya.

## **SUSTAINABLE WATER RESOURCES MANAGEMENT FOR COMMUNITY DEVELOPMENT IN WESTERN KENYA**

The two universities have a long history of association, dating back to the IUPUI-MU collaboration, which has seen the development of an institution which has impacted western Kenya – AMPATH. This focuses on health sciences, but need has arisen on other areas that need attention. This has led to exchange of views and the identification of other priority issues. The primary focus of the Purdue-Moi partnership during the next 3-5 years will be on sustainable water resources management for community development in Western Kenya. However, this focus on water resources management does NOT preclude other important topics and opportunities that can benefit the larger partnership.

### **The Water Resource Management Issues in Kenya**

The National Development Plan 2002–2008 recognizes Kenya as a water scarce country whereby the water demand exceeds renewable freshwater sources. It is also clear from the National Water Master Plan of 1992 that out of 164 sub-basins with perennial river flows, 90 will suffer from surface water deficit by 2010 while already 33 sub-basins without perennial river flow have an apparent water shortage (AQUASTAT Survey, 2005) The total water withdrawal is estimated to be over 2.7 km<sup>3</sup>. The water demand is projected to increase to 5.8 km<sup>3</sup> by the year 2010. Agriculture is the main user of water and currently consumes about 80 percent, while domestic and commercial use accounts for the rest. With the rising demand for water and the need for food security, there is bound to be a huge demand for this resource which might give way to conflicts if not managed. It is in this regard therefore that the partnership (MU-Purdue) is envisaged to assist in management of water resources for communities in western Kenya. The western Kenya

traverses areas that are humid, sub-humid to semi-arid and arid lands. These areas/lands suffer a host of extreme water situations.

The Water Act (2002) laid the framework for the water sector reforms starting in 2003. The main objective of the Act was to separate water resource management from water supply. Under this Act, the Ministry of Water and Irrigation was established with the main function being concentrated on policy issues. Other functions were transferred to the water boards, and other authorities set up under the Act, each with a clear mandate. The current institutions under the ministry are given in Table 1.

**Table 1 Current Institutions Within The Ministry of Water And Irrigation.**

	<b>Institution</b>	<b>Mandate</b>
1.	Ministry of Water and Irrigation (MWI)	Policy formulation, sector coordination, monitoring, financing and supervision
2.	Water Resources Management Authority (WRMA)	Water resources management regulation
3.	Catchment Area Advisory Committees (CAACs)	Provide water resources management advisory functions at water catchment level
4.	Water Resources Users Association (WRUAs)	Co-operative management of water resources and conflict resolution at sub-catchment level
5.	Water Services Regulatory Board (WASREB)	Regulation of water and sewerage services
6.	Water Services Boards (WSBs)	Water and Sewerage services planning and provision at regional level
7.	Water services providers (WSPs)	Direct provision of water and sewerage services as agents of the WSBs
8.	Water Services Trust Fund (WSTF)	Support financing of water services for under served rural areas
9.	Water Appeals Board (WAB)	Handle disputes in the water sector
10.	National Water conservation and pipeline Corporation (NWCPC)	Bulk water supply, dam construction, flood control, land drainage, ground water development and MWI reserve WSP.

## GOAL FOR WATER RESOURCE MANAGEMENT

The partnership envisions to have a substantial positive impact on the lives and livelihoods of the residents of Western Kenya and their communities.

To reach this goal, we shall identify critical water resource development issues in Western Kenya and bring the relevant strengths of Purdue and Moi University together in a mutually beneficial and collaborative fashion to systematically address and impact these issues.

## **The Strategic Framework for Water Resource Management:**

The basic framework for the Purdue-Moi partnership on water development issues includes six<sup>1</sup> broad objectives:

- i. To contribute towards improvement of peoples' well-being through participatory approaches to sustainable management of the water and the environment.

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<sup>1</sup> The six objectives were affirmed in April 2009 by Moi Vice-Chancellor Mibey following discussions held between Moi representatives and Purdue representatives (i.e. Purdue delegation led by Riall Nolan, then Associate Provost and Dean of International Programs).

- ii. To contribute towards improvement of human and environmental well-being through the sustainable supply of potable water and prevention of the pollution of water resources through participatory approaches.
- iii. To contribute towards improvement of human and environmental well-being through participatory approaches to sustainable irrigation and environmental issues.
- iv. To develop and implement soil and water conservation techniques peculiar to the identified area.
- v. To improve water resource management for community development through wetland conservation in Western Kenya
- vi. To determine the socio-economic /cultural practices of water resource management and to promote sustainable water resource management within the community.

The name of the theme for the first major project coming out of the Purdue University Moi University partnership was cited by Moi leadership. The suggestion was “Sustainable Water Resource Management for Community Development in Western Kenya”.

### **Strategic Objectives, stakeholders, activities, and other details**

Outlines of each objective were jointly discussed by Purdue-Moi sub-groups at the time of the June 2009 visit. For each objective the following information is sketched out: stakeholders; activities; timeframe; performance indicators and resources. This outline will continue to be refined and developed further as the partnership and initiative evolve during the next 3-5 years. (The brief outline can be made available)

### **Western Kenya Water Catchments**

It should be noted that the above six objectives are critical throughout Kenya, particularly Western Kenya. However, the initial focus of this water Management initiative will be the Kesses and Kerio-Valley catchment areas. Identifying a particular geography as a pilot region does not preclude the Purdue-Moi partnership from identifying and initiating activities and pursuing strategic opportunities in other parts of Western Kenya (and elsewhere throughout the country). However, having a smaller geographic focus initially to help launch the water development portion of the partnership will likely result in some early short-term successes and create synergies that can be built upon as the work is expanded elsewhere. (An auxiliary document about Western Kenya Water Catchments, River Drainage and Problems can be made available.)

### **Activities, Modalities, and Performance Indicators**

Activities, Modalities, and Performance Indicators were identified by the combined Purdue University Moi University (PUMU) group for each of the six objectives. Within each, the framework of discussion was about faculty development, student mobility, community outreach, collaborative research, and curriculum design. (More about this framework is available.)

### **Communication, Responsibilities, and Milestones**

Communication, Responsibilities, and Milestones were identified by the combined Purdue University Moi University (PUMU) group at the time of the Purdue June 2009 visit to MOI. Proposal development was differentiated by group level versus partnership level. And milestones were differentiated by time framework of immediate versus short-term versus long-term. (More about these markers is available as a separate document.)