cent of countries (5 total including the United States) have more than 10 liberal education programs. The vast majority of GLEI countries, nearly 80 percent, have just one to three initiatives in their higher education systems. "Crowding at the bottom" of the global distribution dilutes the potential for liberal education to influence its own perceived legitimacy or the mainstream postsecondary sector more generally.

This is an observation, however, not a prescription for developing more liberal education programs. The GLEI study ignited several questions that challenge the positive assumptions often proclaimed by liberal arts enthusiasts. Included among them are the difficulties of designing culturally relevant curricula; required shifts in approaches to learning and teaching; lack of affordability and access to liberal education that perpetuates elitism and inequity; and issues of neoliberalism and cultural hegemony that might result from western influence on education in other parts of the world.

Financing of Education Hubs: Who Are the Investors?

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International education hubs are the latest development in the international higher education landscape. A country-level education hub is a planned effort to build a critical mass of local and international actors—higher education institutions and providers, students, research and development centers, and knowledge industries—who work collaboratively on education, training, and knowledge production/innovation. To date, six countries—Qatar, United Arab Emirates, Singapore, Malaysia, Hong Kong, and Botswana—claim to be education hubs. But how are they financed? Are the investors public or private? Are they local or foreign based? Are the current-funding models sustainable? These are important questions worthy of closer examination.

QATAR

Each country has its own capacity and strategies to fund education hub initiatives. Qatar is an interesting but unique model. All physical infrastructure and facilities are provided for foreign-branch campuses and companies located in Education City and the Science and Technology Park. Furthermore, 100 percent of the sizable operating costs for the 10 branch campuses and the new graduate-level university, Hammid bin Khalifa University, are covered by the Qatar Foundation. The annual operating costs to support Education City, Science and Technology Park and the extensive array of research programs and grants is the responsibility of the Qatar government and is extremely high. Is this government supported full funding model sustainable and is it optimal? In essence, Qatar is importing and purchasing the majority of education programs, services, and research for the education hub activities. A pivotal question is how long should a country attempt to build and strengthen domestic capacity by purchasing and importing foreign expertise. It has been 17 years since Qatar first started its work on inviting select foreign universities to establish specific programs in Education City. Is this the first phase of Qatar's long-term plan to develop more domestic human resource capacity as it loosens its reliance on natural gas and foreign expatriate talent, or is this becoming modus operandi? If so, is it a sustainable and effective model? If not, what will be the second phase?

International education hubs are the latest development in the international higher education landscape.

UNITED ARAB EMIRATES

The United Arab Emirates (UAE) offers a completely different set of circumstances in terms of funding, investments, and revenue generation. Each emirate has developed its own approach to making UAE an education hub. Abu Dhabi has invited world renowned institutions, such as New York University and the Sorbonne, to set up branch campuses in customized facilities provided by Abu Dhabi Government. In addition, the Massachusetts Institute of Technology was invited to help develop and advise on the development of Masdar Institute of Technology and Masdar City, the first carbon free zone in the world. Masdar City hosts world-class research facilities, scientists, and graduate programs—all of which are supported by the Abu Dhabi government. This represents an enormous domestic public investment.

Dubai is a different story. Dubai's Strategic Plan called for the establishment of several theme-based economic free zones. Two of these are education focused—Knowledge Village and Dubai International Academic City. The investment arm of the Dubai government (TECOM) is mandated to build the physical infrastructure and facilities for these zones and recruit reputable foreign institutions and training companies. The tenants in these zones enjoy attractive tax and regulatory incentives to offer their education and training programs. Unlike the situation in Qatar and Abu Dhabi, the foreign institutions and providers do not have their operating costs subsidized, and they pay rent for the use of their facilities. It is estimated that in Dubai's two economic free education zones, the public domestic investment is about 80 percent in terms of land, infrastructure, services, and private foreign investment from the tenants is about 20 percent. The amount of revenue generated from facility rentals for TECOM and from tuition fees for branch campuses/private training companies is not available; but given that these zones are relatively stable and operating at full capacity the funding formula seems to be working; and increased education opportunities are being offered to primarily expatriate students living in UAE (60% of enrollments), international offshore students (32%), and some UAE citizens (8%).

HONG KONG, BOTSWANA, AND SINGAPORE

Hong Kong presents yet another scenario. The government has made limited public investment into hub development, since it first announcement in 2004. The primary public investment by Hong Kong has been in the form of scholarships to attract international students, most of who come from China. Recently, a plot of land was made available to attract branch campuses of local or international universities: but there is not information as to whether facilities will be built and available for rent or whether the institution has to invest in building their own infrastructure. Similarly, the public investment of the Botswana government, beyond engaging in a sophisticated planning and consultation process for hub development, appears to be limited. Botswana hub plans are still on track but have been negatively impacted by the 2008 and 2012 economic crisis. Their investment to date has been scholarships for international students and the establishment of a new university—Botswana International University of Science and Technology.

The financial investments in Singapore's hub building activities since 1998 are impossible to track, due to the lack of any published information on public/private or domestic/foreign funding sources. No conclusions can be drawn but worth noting is that the Singapore government has been referred to as the "venture capitalist" in terms of its significant and generous role in bank rolling the education hub efforts.

MALAYSIA

The situation in Malaysia is complex, given the number of different components to the hub strategy. Malaysia is home to seven branch campuses and more are planned. Both private foreign and domestic funds were used to fund these initiatives. Yet, with the establishment of an economic free zone in the form of Educity@Iskandar, there has been major financing provided by the public investment arm of the government, Khazanah Nasional. It has funded the building of infrastructure and education facilities to attract international institutions. Overall in Malaysia, it is estimated that public domestic investment represents 50 percent of the funding for education hub activities, complemented by 40 percent of domestic private investment. The remaining 10 percent is made up of foreign private investment and other sources.

Each country has its own capacity and strategies to fund education hub initiatives. Qatar is an interesting but unique model.

CONCLUSION

These case studies demonstrate that public domestic investment is critical to the development of education hubs. While, hub building also requires private investment from domestic and foreign sources, the importance of local government support to kick start and leverage other sources of financing should not be underestimated. The UAE and Malaysia are examples where initial public investment has paid off and attracted other streams of private funding. Singapore and Qatar present other models where financing of education hub activities has been done primarily by the government (or ruling family) and over the last 15 years much has been accomplished. However, the sustainability of such funding and the ability to replicate this model in other nations remain as two unanswered questions.

For further information see Knight, J. 2014. *International Education Hubs: Student, Talent, Knowledge Models.* Dordrecht, Netherlands: Springer Publishers.