

make success highly unlikely.

DOI: <http://dx.doi.org/10.6017/ihe.2017.91.9744>

Enough Quantity: Time to Focus on Quality of Researchers in Pakistan

MUHAMMAD Z. AHMED

Muhammad Z. Ahmed works at the Florida Department of Agriculture and Consumer Services, Gainesville, US. Email: muhammad.ahmed@freshfromflorida.com.

Although many Asian countries have recently experienced financial problems, the economic downturn in Pakistan is particularly notable for numerous additional factors including increased incidence of terrorism, widespread corruption, lack of law enforcement, a hampering of private investment and foreign aid, political instability, energy shortages, and ongoing military operations. Since 2000, the gross domestic product has grown on average by 4 percent per year, which is not enough to keep pace with the fast population growth. However, despite the relatively low growth rate, Pakistani R&D funds and the number of Pakistani PhD graduates increased at a surprisingly high rate during that same period.

IS PAKISTANI RESEARCH REALLY PROGRESSING?

To address the overall advancement of the Pakistani research sector, I performed an analysis using the database “Web of Science” to assess the research output quantitatively, by calculating the number of research articles by Pakistani authors in relation to the number of PhD graduates during the past 15 years. Articles produced by Pakistani institute affiliates increased by 687 percent between 1985 to 2015. Similarly, the number of Pakistani PhD graduates increased by 248 percent between 1947 and 2014. Further, citations of Pakistani research articles have increased by 419 percent over the last 30 years. The journal impact factor usually predicts the quality of an article and *Science* and *Nature* are among the highest impact factor journals publishing basic scientific research. Unfortunately, most research articles from Pakistan are published in low quality research journals (i.e., low impact factor journals). From 2000 to 2015, only nine articles were published by Pakistani researchers in *Science* and 11 in *Nature*. But even these relatively low figures represent an increase in periodical

publication rates, compared to the period between 1985 and 1999 (350 percent in *Science* and 267 percent in *Nature*). In comparison, overall publication rates for Pakistani research articles increased by 687 percent during the same time period.

Reviewing the comparative rates of articles published per higher education institution is also instructive. In Pakistan, the publication rates per institution are 0.13 in *Science* and 0.23 in *Nature*, while the same rates in India are 0.18 in *Science* and 0.48 in *Nature*, and 4.2 in *Science* and 5.6 in *Nature* in the United States. Acknowledging this gap, Pakistan has attempted to increase the number of local impact factor journals, from two such journals in 1999 to 11 at present (with a maximum impact factor of 1). Thus, while the number of research journals has increased, the perception of their quality remains very low.

I offer three relevant suggestions for Pakistani researchers, academic institutions, and university administrations, which may help raise national research standards.

URGENT NEED TO RID PAKISTAN OF A CORRUPT EDUCATION CULTURE

Plagiarism is a major cause of low quality academic research in Pakistan. Authors often plagiarize others’ ideas by exploring easily available literature and then skillfully manipulating the idea to minimize the appearance of plagiarism. Pakistani students are learning the art of publishing papers in easily accessible journals and then manipulating the citations of their articles. One can question to what extent the students themselves are to blame. The Pakistani research environment—fashioned by incompetent faculty who are improperly trained to supervise students—is responsible for perpetuating plagiarism, as the Pakistani academic culture discourages independent thinking and forces students to be blindly obedient to their supervisors. Indeed, the pressure on students from supervisors to produce papers forces them to manipulate their work, which is then enormously difficult to publish in a high quality journal. If Pakistani researchers are spending such a huge amount of time plagiarizing papers, and are smart enough to pass through intensive review procedures utilizing their network connections, then why are they not willing to use their time and effort in the right direction? What causes students to cheat is the lack of ability of teachers to educate them on research ethics at an early stage of their academic life.

In addition, politics and favoritism are very common in Pakistan. Knowing your supervisor and examiners well will likely guarantee your graduation. Pakistan needs an organized infrastructure to enforce antiplagiarism laws and avoid politics and favoritism in science. Seminars and training workshops on ethics should be held to spread aware-

ness about plagiarism, and at least one compulsory course related to academic ethics should be offered in the early stages of bachelor and postgraduate degrees.

Recently, the Pakistani Higher Education Commission blacklisted 23 academic researchers on charges of plagiarism. However, no adequate actions have been taken against these blacklisted scholars under the plagiarism policy: all of them continue to hold positions at their universities. One of them is a well-known researcher, a former postdoctoral fellow in the United Kingdom currently working as a professor and director of a research center in Pakistan. Due to the widespread corruption in Pakistani academic culture, blacklisting does not have any impact on the reputation or career of such high-profile individuals. A portion of Pakistani R&D funds should be budgeted to enforce antiplagiarism rules, as in the budget of the National Science Foundation in the United States. An infrastructure with a team of specialized experts is urgently needed to enforce laws against plagiarism; to set an example for others, guilty parties should have their research and teaching rights revoked by universities.

Pakistan needs an organized infrastructure to enforce antiplagiarism laws and avoid politics and favoritism in science.

REVISION OF FACULTY SELECTION CRITERIA

Research standards will only improve over the long term by dedicating resources to producing better quality researchers and hiring well-trained faculty members. At present, most faculty members hired as assistant professors in Pakistan have no postdoctoral experience. In developed countries, postdoc experience is often required before being hired in a faculty position, as postdoc positions provide additional research training in a specialized field, allowing for the acquisition of necessary skills before starting in a faculty position. Pakistan needs to revise its faculty recruitment procedure. Higher selection standards and transparency in hiring faculty are critical to save academia in Pakistan. Instead of hiring all PhD graduates as assistant professors, why not appoint them as postdocs for a few years before considering them for faculty positions? This would allow for a more effective screening process. Among those selected for a faculty role, tenure (and further promotion) should only be awarded based on research novelty and creativity, rather than on number of publications.

ENGAGING PAKISTANI RESEARCHERS GRADUATED ABROAD

The Pakistani HEC has run overseas scholarship programs since 2003 and has given awards to 7,537 students to study around the world. This is by far the highest achievement of HEC. The aim of these scholarships is to send students abroad to get training and later return to serve the country (it is a mandatory requirement that students return after completing their PhD). However, many HEC policy makers do not understand the concept of post-PhD research. Between 300 and 400 cases are being pursued in the courts against scholars who refused to return to Pakistan after completing doctoral work. If, as seems likely, the duration of existing scholarships is insufficient for students to be fully trained, HEC must consider extending time limits. Further, if scholars choose to remain abroad, they might easily be engaged as adjunct faculty at Pakistani universities, or by distantly supervising Pakistani students, and/or serving as coprincipal investigators in HEC projects.

Overall, there is an urgent need to change the environment of Pakistani research. Although many of these changes must be implemented by universities and government organizations, some must come from the researchers themselves.

DOI: <http://dx.doi.org/10.6017/ihe.2017.91.9932>

Student Diversity and Challenges of Inclusion in Higher Education in India

NIDHI S. SABHARWAL AND C. M. MALISH

Nidhi S. Sabharwal is associate professor, and C. M. Malish is assistant professor at the Centre for Policy Research in Higher Education at the National University of Educational Planning and Administration in New Delhi, India. E-mail: nidhis@nuepa.org and malishcm@nuepa.org.

The higher education sector in India has experienced an unprecedented expansion in recent decades. With an enrollment of 34 million students and a gross enrollment ratio passing 24 percent in 2016, India is in a stage of massification of higher education. This massification is accompanied by a growing diversity of the student body. A large number of students from disadvantaged and socially excluded groups, such as former “untouchables” and other lower castes from poor families and rural areas, have been entering the sector and this has changed the social composition of campuses in India. Today, a majority of higher