



# ISAS

The Institute for South Asia Studies  
University of California at Berkeley

## South Asia Research Notes

SPRING 2015

# FIXING PAKISTAN'S EDUCATION

## INNOVATIVE SOLUTIONS FOR A MAJOR CHALLENGE

*A conference on Pakistan's education emergency held at the University of California, Berkeley on February 7, 2015, co-hosted by The Citizens Foundation and the Pakistan Initiative at UC Berkeley*

## SUMMARY

Over a third of Pakistan's population of around 200 million is under the age of fifteen, yet it has the world's second-highest number of children out of school. Pakistan's youth could be the nation's greatest asset—or its biggest liability. Turning around Pakistan's broken education system potentially holds the key to a more peaceful and prosperous future for a country in one of the world's most volatile regions. To address this issue, in early February 2015, the Berkeley Pakistan Initiative and The Citizen's Foundation (USA) held a one-day conference focused on the challenges facing Pakistan's educational system as well as possible solutions.

Bringing together scholars and experts on education in Pakistan with entrepreneurs and innovators in e-learning from the Bay Area, this conference included speakers who shared their thoughts on the economic, social, political and technological issues that must be considered as we think about education reform in Pakistan. Speakers included Adil Ajmal, Shashi Buluswar, Salman Humayun, Ameen Jan, Umair Khan, Bilal Musharraf, Irfan Muzaffar, Sanaa Riaz, Amjad Noorani, and Munis Faruqi.



This issue of South Asia Research Notes is a summary of the conference. It was prepared by Hannah Archambault, a Ph.D candidate in the Department of South and Southeast Asian Studies at UC Berkeley.

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AMJAD NOORANI & IRFAN MUZAFFAR

## OPENING REMARKS

**AMJAD NOORANI** and **MUNIS FARUQUI** opened the conference, thanking the organizers, the Institute for South Asia Studies, the Pakistan Studies Initiative, and others who contributed their time and resources to the event. Amjad Noorani indicated that this conference is the second in a series, to be followed by a third event based in London, followed by a further conference in either Lahore or Karachi.

## PANEL I: TECHNOLOGICAL SOLUTIONS

The first panel opened with a stimulating discussion between **IRFAN MUZAFFAR** and **SALMAN HUMAYUN**, with the latter Skyping in from Islamabad. The discussion, titled **SYNERGIZING TECHNICAL AND POLITICAL INTERFACE FOR EDUCATION REFORMS**, focused on pragmatic strategies for achieving goals in education reform on the ground in Pakistan. Dr. Humayun outlined some of the major issues: the overall level of education reform continues to fall very

short of expectations. Some 25 million students are out of school, and many in the middle classes who can afford other options have exited the public system. Those who remain are doing poorly in terms of learning outcomes. Within the country, there are some islands of success, often associated with NGO interventions, but these present the challenge of scalability. One of the central issues at hand is the question of whether reformers can continue to work within the formal public system of education, or whether the state apparatus should be abandoned and reformers concentrate on working outside it through informal structures. The problem here lies in the small scale of such projects. Despite the many problems of the state apparatus, its nation-wide scale presents a singular opportunity for transformations across the board. Yet up to this point, one of the major challenges of working within the system has been the failure of the system to respond to stimulus and funding. Dr. Humayun noted that despite a recent constitutional amendment setting aside resources for Pakistan's schools, these resources are by-and-large not reaching their intended recipients. One major roadblock being that politicians tend to punish certain regions for their voting choices. The other being that Pakistanis who lack political clout generally send their children to private school. Thus, there is little incentive for politicians to act.

The remainder of Dr. Humayun's discussion related to successes that he had met within his own work of designing 'experiments' to motivate reform within the public system. He drew his discussion from the issue of missing facilities in schools, specifically toilets, for which there is plenty of readily available, government-produced, statistical data. His organization disaggregated this data in order to move away from large, province-level data-sets, and instead to be able to point specifically to the figures for individual political constituencies. Humayun argued that by use of name-and-shame techniques, sufficient pressure could be put onto politicians to make a difference. By producing school rankings for particular regions, politicians could be motivated to personally take responsibility for improvements in their constituency regions. Dr. Humayun concluded his discussion by stating that in order to achieve equilibrium

between the public/political side of reforms and the technical side of reforms, technical information needed to be made into a public and political resource that could be used in specific, local conversations with constituency actors.

The next talk was given by **SHASHI BULUSWAR**, the founder of LIGTT at Lawrence-Berkeley National Laboratory, on the topic of **TECHNOLOGICAL INNOVATIONS FOR EDUCATION REFORM IN PAKISTAN**. The opening part of his discussion centered around the relationship between a series of interlocking statistical relationships drawn from the UNDP Human Development Index. Buluswar noted that Pakistan is ranked in the bottom 7-9% out of 194 ranked countries and the indicators that are understood to relate to a state's place in the HDI index are not necessarily telling with respect to Pakistan's position. For example, the state does not possess oil and diamond resources, both of which are strongly correlated with dysfunctional states. On the other hand, Pakistan possesses a highly undiversified economy, relying very heavily upon agriculture (45% of its population is agrarian, putting Pakistan in the top 10% of undiversified economies). The significance of this statistic, said Dr. Buluswar, is hard to gauge, since it was unclear whether the cause was a lack of economic diversity or instead a symptom of low HDI ranking. While some have argued that ethno-lingual fragmentation is not necessarily a cause for concern, Buluswar noted that in practice it only took one conflict across ethnic lines to create major instability within a



SHASHI BULUSWAR

state. This is a problem that Pakistan struggles with. A further concern related to the issue of institutional strength, the index of which was closely tied to a countries' past experience of colonialism, and Pakistan's institutional weaknesses reflect such a history.

Buluswar also noted that Pakistan suffered from the problem of 'spillover' from its neighbors, Afghanistan and India. These issues of 'neighborhood' can be usefully graphed. For example it is immediately evident that the long wars in Afghanistan, first during the US intervention against the USSR invasion, and again following the arrival of the US 'War on Terror' in Afghanistan after 9-11, resulted in a dramatic increase in rates of violence and the circulation of arms. Dr. Buluswar concluded with a discussion of the so-called 'militancy funnel,' a useful visualization of the process of radicalization. He demonstrated how at each successive stage of progression into this 'funnel,' militants become increasingly difficult to access through re-habilitation efforts. Building from this visualization, he also discussed some of the factors that lead actors in the Pakistani context to enter into the first rungs of this process.

The third panelist of the morning was **BILAL MUSHARRAF** who spoke on the topic of **TECHNOLOGY INTERVENTIONS IN A DEVELOPING EDUCATION ECOSYSTEM**. Drawing upon his experience in both the world of emerging market investment strategy and in the education sector, working for Khan Academy, Musharraf based his talk on the premise that Pakistan presently lies at a major potential point of departure. He suggested that with the right approach, Pakistan could experience a "quantum leap in education standards." He encouraged the audience to move away from a focus on brick-and-mortar concerns like toilets, and instead focus on how we can motivate people to consume knowledge.

Musharraf acknowledged that, although it is a legitimate concern that many people struggle without regular access to the



BILAL MUSHARRAF

# FIXING PAKISTAN'S EDUCATION

## Innovative Solutions for a Major Challenge

[southasia.berkeley.edu/fixing-pakistans-education](http://southasia.berkeley.edu/fixing-pakistans-education)

### Conference Agenda

Moderator: Irfan Muzaffar

9:00 am: Welcome

Munis Faruqui (University of California, Berkeley) and Amjad Noorani (The Citizens Foundation)

#### TECHNOLOGICAL SOLUTIONS

9:20 am: Synergizing Technical and Political Interface for Education Reforms

Irfan Muzaffar (Institute of Development and Economic Alternatives, Lahore) in conversation with Salman Humayun (Institute of Social and Policy Sciences, Islamabad)

10:00 am: Technological Innovations for Education Reform in Pakistan: Part 1

Shashi Buluswar (Institute for Globally Transformative Technologies, Lawrence Berkeley National Laboratory)

10:25 am: Technology Interventions in a Developing Education Ecosystem

Bilal Musharraf (One Market Capital in San Francisco)

10:50 am: Implementing Technology Solutions in Education

Ameen Jan (EDeQUAL)

11:15 am: Technology & Second Language Learning in Pakistani Public Schools

Sanaa Riaz (Metropolitan State University, Denver)

11:40 am: Technological Innovations for Education Reform in Pakistan: Part 2

Shashi Buluswar (Institute for Globally Transformative Technologies, Lawrence Berkeley National Laboratory)

12:00 pm: Panel Discussion and Q&A with Speakers

Guest Panelist: Adil Ajmal (TenMarks Education)

12:45 pm: Lunch

#### SOCIAL & POLICY CHALLENGES (AND OPPORTUNITIES)

1:30 pm: The Role of NGOs and Donors in Education Reform

Amjad Noorani (The Citizens Foundation)

2:00 pm: Panel Discussion and Q&A with Speakers

Guest Panelist: Umair Khan (SecretBuilders)

2:45 pm: Closing Remarks

Munis Faruqui (University of California, Berkeley)

3:00 pm: Light Reception & Networking



internet, or even electricity, these types of issues could be overcome through technological creativity. He used the example of 'Khan Academy Lite,' a stripped-down version of the online education system which can be set up for use from a wifi dongle, and streamed to 35 units, a technology that was currently being successfully used at The Citizens Foundation in Karachi.

Mr. Musharraf argued that one of the major important innovations in the educational system in the US in the 20th century was the development of the single, standardized aptitude test. According to Mr. Musharraf, such a system is a useful way to absorb young, talented populations into appropriate professional pursuits. He suggested that such a system allowed a possible workaround for the failures of the formalized education system, allowing those who have achieved their education through whatever means to compete on an equal platform. Beyond systemized testing, Mr. Musharraf also underscored the value of 'institutional heterogeneity.' Pakistan should work to diversify the educational landscape, promoting growth across both for-profit, non-profit and government sectors.

The next panelist was **SANAA RIAZ**, who teaches anthropology at the Metropolitan University of Denver, on **TECHNOLOGY AND SECOND LANGUAGE LEARNING IN PAKISTANI PUBLIC SCHOOLS**. Riaz focused on pragmatic means of incorporating technology into education in order to improve course learning outcomes. She began by noting that where problems of perceived prestige exist — as with Sindhi versus English languages in Karachi schools and in Pakistan more generally — those perceptions could be mitigated by appropriate usage of technology. She argued that technology usage must be informed by the types of learning one hopes to encourage. Programs such as Rosetta Stone could be used to facilitate language drills and practice

(learning goals associated with 'behaviorist approach' type methodologies that achieved great popularity in the 1950s-60s.) The 'cognitive model' - popular in the 1980s-90s — placed emphasis on content-based learning. This type of methodology required that students be actively involved in the production of knowledge they are about to acquire, typically by co-producing it with the teacher. Dr. Riaz argued that these types of learning goals are perfect opportunities for use of technology. She suggested that students and teachers could work together within digital spaces like Wikispaces, blogs, RSS feeds, Flickr accounts, etc. where students could be encouraged, for example, to photograph and label their photography on Flickr, or to use podcasts and online news feeds to simulate language immersion.

#### DISCUSSION WITH GUEST PANELIST ADIL AJMAL

The panel discussion offered audience members and fellow-panelists alike opportunities to ask presenters to elaborate upon or further justify the ideas from their talks. Some questions, for example, concentrated upon Mr. Musharraf's desire to build a standardized testing platform. He was asked how such tests would fit the particular cultural context, and also to explain why he suggested a move towards standardized testing during a period when standardized tests were coming under increasing criticism within the United States. In reply he argued that standardized testing had helped to level the playing field by opening access to those outside of elite institutions. Other questions directed to all the panelists included

the possibility that technology might increase gender inequalities in education.

## PANEL II: SOCIAL & POLICY CHALLENGES (AND OPPORTUNITIES)

The first panelist was **AMEEN JAN**, founder and CEO of EdEqual, who spoke on the topic of **IMPLEMENTING TECHNOLOGY SOLUTIONS IN EDUCATION**. Mr. Jan's talk focused upon the pragmatic aspects of setting up online instructional content and courses in Pakistan. For him, the great benefit of such online courses is that it allows for a stopgap solution to a serious problem—namely the shortage of skilled and motivated teachers. While in the longer run it is important to concentrate on building a supply of skilled and motivated teachers, this is a large undertaking that cannot yield quick returns. By contrast, high quality, instructional content is widely available and could be used to bridge the gap. Mr. Jan suggested that with the use of online content, Pakistan could aspire to achieve an international standard at primary and secondary levels within a decade across many regions.

Mr. Jan then turned to a discussion on some of the current challenges that Pakistan faces in education. Those students who can afford to, often pay high fees to go to private schools, and then on top of that pay



ADIL AJMAL



AMEEN JAN

## CONFERENCE SPEAKERS



**ADIL AJMAL**  
(Chief Technology Officer & Vice President of Engineering, TenMarks Education)



**SHASHI BULUSWAR**  
(Founder & Exec. Director, Institute for Globally Transformative Technologies, LBNL)



**MUNIS FARUQUI**  
(Associate Professor, South and Southeast Asian Studies, UC Berkeley)



**SALMAN HUMAYUN,**  
(Executive Director, Institute of Social and Policy Sciences, Islamabad)



**AMEEN JAN**  
(Founder and CEO, EDeQUAL)



**UMAIR KHAN**  
(Co-founder, SecretBuilders)



**BILAL MUSHARRAF**  
(Director Operations, One Market Capital, San Francisco)



**IRFAN MUZAFFAR**  
(Fellow, Institute of Development & Economic Alternatives, Lahore)



**AMJAD NOORANI**  
(The Citizens Foundation, USA)



**SANAA RIAZ**  
(Associate Professor of Anthropology, Metropolitan State University, Denver)

again for after school tuition as learning within the school is usually of low quality. He argued that because the demand for schools in good neighborhoods far exceeds the supply, schools face little motivation to improve. They receive fees regardless of their standards as there are always students willing to enroll. He noted that there is a lack of motivation for many teachers to undergo training to self-improve as well as a strong reluctance to take on board new teaching methodologies. In low income schools, other barriers were in place. Many schools, for example, face a perceived challenge of lack of funding to install technology access. However, as Mr. Jan noted, the cost of installing a computer lab was not debilitating. He estimated that on a 1 computer / 10 student ratio, schools could set up a lab for about \$26 per student, plus operating costs of around \$1 per student per year. These costs, he believes, are not unaffordable.

A second challenge he suggested low income schools face is the problem of English proficiency. In order to be able to use online course materials, he estimated that students need to be able to achieve comprehension skills at an approximately third grade level. He suggested that through a fast-tracking language program, much like the Rosetta Stone, students could achieve this type of language capacity in approximately nine months, at a cost of about \$60 per student.

The other remaining major challenges faced by low-income schools, he argued, are problems of teacher training and of school leadership, with the former being a product of low salaries and



(FROM L) SANAA RIAZ, MUNIS FARUQUI, IRFAN MUZAFFAR, AMEEN JAN, UMAIR KHAN, ADIL AJMAL, AMJAD NOORANI

archaic training methods. Most teachers are not at all comfortable using technology. However in any given school, he estimated that there only needs to be one technologically trained teacher per school—such a teacher could be compensated better to indicate the value of technology, and it would overall help students to access pre-existing educational material that that could be provided by institutions like EdEqual. School leadership, the final challenge faced, he argued, can be an enabler or a constraint. Unless the school principal gives space and resources to an online learning program, such a program will not be successful. He noted that EdEqual places a set of minimum demands upon schools in order to ensure they will receive adequate support. In conclusion, Mr. Jan described two examples of implementation of such a program: one in the Karachi Grammar School and the other at a well-resourced low-income school in Karachi.

**SHASHI BULUSWAR** led the next talk, giving the second part of his presentation begun in the first panel. In this second segment he focused on two major elements. Firstly, he examined the particular challenges of research innovation in the developing world. He classified this as the ‘Viagra problem,’ namely the reality that far more money had been spent on producing a solution to the problem of male impotence than to life-and-death issues like vaccination, world poverty, etc. He noted that, in the effort to counter the unbalanced priorities of research spending, he was heading a group at the Lawrence Berkeley National Laboratory known as LIGTT, which had recently released a study which sought to identify the fifty most important science and technology breakthroughs needed to solve major problems in the world. Their results, which are drawn in part from more than five hundred interviews with specialists in topical issues around the globe, are now published and available.

The other major element of his talk related to the particular challenges of public education in the developing world. We are fortunate that most low-income countries now officially provide compulsory primary education. Yet despite this achievement more than sixty million children remain out of school —and many of them are in South Asia. He outlined some of the major problems that kept children out of school — the value of child labor, problems with teacher/student ratios, problems with educational quality, etc. He noted that many of these issues were not reliant upon technological solutions. And those which were, could likely be solved, at least at the primary school level, by technology that already exists and is relatively easily available. At the secondary level, however, as educational content becomes more complex, Dr. Buluswar noted the potential for technological innovation that could conceivably be transformative in the developing world — namely some kind of system, perhaps a smart electronic textbook, that could be used to teach toward more complex cognitive problem solving processes and not just multiple choice solutions. Such a system, he argued, would be particularly useful in combating the deeply entrenched economies that have developed around multiple-choice examinations, which frequently are counter-productive for real learning.

The final presentation of the day was given by **AMJAD NOORANI**, on the topic of **THE ROLE OF NGOS AND DONORS IN EDUCATION REFORM**. This talk built usefully upon the first presentation of the day, given by Dr. Humayun. Building upon the insight that the state system of public education was the only meaningful tool by which we can hope to achieve universal access to quality education, Mr. Noorani argued that NGOs and NGO-led schools could not hope to replace the public system. Instead, they should use their influence to lobby for results in the public system. They should use their expertise and their resources to hold workshops to encourage expansion of knowledge both about teaching itself, and about the state of the education system more broadly. They should, moreover, use their schools as labs for innovative teaching methods. In general, education-related NGOs needed to use their voices to amplify the demand for reform.

### **DISCUSSION WITH GUEST PANELIST UMAIR KHAN**

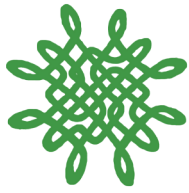
The final, post-panel discussion covered a wide range of topics. Questions focused both upon specific technology and policy related interventions (for example, what Dr. Buluswar’s ‘smart textbook’ might look like, and whether it would be possible to establish a training college for educators in order to improve the quality of available teachers for Pakistani schools), to more general questions about how Pakistan’s educational challenges compared with those in other developing countries. The audience was curious to hear more about what panelists saw as being the most important thing that needed to be done. The panel also fielded questions about the politics of international philanthropy, and the best ways to handle the fact that many donors are more interested in supplying funds for initial construction costs, but prefer not to contribute to maintenance and upkeep.

The afternoon ended with a networking and social hour.



UMAIR KHAN, SHASHI BULUSWAR, & AMJAD NOORANI

## CONFERENCE ORGANIZERS



**INSTITUTE for  
SOUTH ASIA  
STUDIES**  
UC Berkeley

### THE INSTITUTE FOR SOUTH ASIA STUDIES AT UC BERKELEY

One of the world's leading institutes for research and programs on South Asia, the Institute for South Asia Studies (ISAS) at UC Berkeley works with faculty members, graduate students, community members, private institutions, and non-profit organizations to deepen understanding of the region and to create new generations of scholars of South Asia.

ISAS actively:

- Supports teaching and research activities of South Asia-related fields.
- Organizes and hosts lectures, colloquia, seminars, and research conferences
- Develops financial resources for the enhancement of South Asia studies
- Encourages interdisciplinary, regional, and comparative studies of South Asia
- Creates outreach programs in coordination with other institutions of primary, secondary, and post-secondary education
- Administers fellowships and grants for the study of South Asia
- Publishes language textbooks, research notes, and conference reports and an annual newsletter
- Supports cultural and community activities relating to South Asia and South Asians

More on the Institute of South Asia Studies at [southasia.berkeley.edu](http://southasia.berkeley.edu)

### THE BERKELEY PAKISTAN INITIATIVE

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### THE BERKELEY PAKISTAN INITIATIVE

Launched in 2013, under the faculty leadership of Professors Saba Mahmood and Munis Faruqui, the Berkeley Pakistan Initiative is a campaign to broaden and deepen Pakistan related research, teaching and programming at UC Berkeley.

The initiative's long-term goals include hiring faculty who specifically work on Pakistan, broadening and deepening understanding of Pakistan by sponsoring talks and conferences on campus and across the Bay Area, promoting scholarly exchanges between UC Berkeley and educational institutions in Pakistan, raising funds for graduate fellowships (to train the next generation of scholars of Pakistan), and providing funding for Pakistan-specific courses at UC Berkeley.

Currently, three programs anchor Pakistan studies at Berkeley. They are:

- The Mohamedali Habib Distinguished Lecture Series on Pakistan
- The Syed Sharifuddin Pirzada Dissertation Prize on Pakistan
- The Berkeley-AIPS Urdu Language Program in Pakistan

More on the Berkeley Pakistan Initiative at [southasia.berkeley.edu/berkeley-pakistan-initiative](http://southasia.berkeley.edu/berkeley-pakistan-initiative)



THE CITIZENS FOUNDATION-USA  
EDUCATING PAKISTANI CHILDREN

### THE CITIZENS FOUNDATION, USA

The Citizens Foundation (USA), one of the largest non-profit organizations in Pakistan, funds schools and educational programs for underprivileged children in Pakistan. It was established in 1995, by a group of like-minded citizens in Karachi. The vision of this non-profit organization is to bring a positive change in Pakistan by providing quality education to the less-privileged youth. From 5 schools in Karachi in 1995, TCF has expanded to 1,000 purpose-built schools with 145,000 students in 100 towns and cities across Pakistan.

TCF provides primary and secondary level education. The students at TCF schools are charged a nominal fee but deserving students get scholarships, uniforms and textbooks free of cost.

TCF was awarded the Skoll Award for Social Entrepreneurship in 2013.

More on The Citizens Foundation (USA) at [www.tcfusa.org/](http://www.tcfusa.org/)



The Institute for South Asia Studies (ISAS) at the University of California, Berkeley, one of the world's foremost institutes for research and programs on South Asia, works with faculty members, graduate students, community members, private institutions, and non-profit organizations to both deepen understanding of the region and create new generations of scholars of South Asia. South Asia Research Notes (SARN) is published by ISAS to promote dialogue and exchange between scholars who work in inter-disciplinary fields related to South Asia, as well as to convey to the wider public the variety of exciting projects going on at Berkeley. It is published annually every Spring. Its e-version is available at [southasia.berkeley.edu/publications](http://southasia.berkeley.edu/publications).

— UPCOMING EVENT

## PAKISTAN BEYOND THE SECURITY STATE

a conference on security in Pakistan, widely conceived to include the vulnerabilities surrounding access to food and safe water, urban dysfunction, corruption, land tenure, legal access, rising religious nationalism, economic weakness

February 27-28, 2015  
Heyns Room, Faculty Club  
University of California, Berkeley



DETAILS AT:

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