RECTeach: To build a nation of opportunities

Recently, I had the opportunity to attend a social innovation conference at MIT Sloan and meet social innovators from all over the world. I was pleasantly surprised to see a great many people working in primary education domain. Even in India, I see plenty of NGOs trying to create schools for the underprivileged or for those in remote areas. This is a very heartening sight indeed. But there is a huge imbalance in resources and efforts directed at improving primary education compared to efforts at developing higher education. There is not enough focus on translating or scaling up efforts from primary education to higher education. This is likely to result in an unstable environment where people are educated only till high school and do not have a clear direction after that. This would not allow them to participate and contribute equally in the society. There is a critical need to develop real skills among people besides giving them a framework to think and act responsibly. My essay will focus primarily on what can be done to improve higher education and then it will discuss initiatives which will help people from underdeveloped areas to attain higher education.

2000 students from my hometown Kumta, a small agricultural place, compete every year with 225000 nationwide in the state level engineering and medical entrance exams. However less than 30 secure ranks that fetch them a place even in some very average colleges. At the other end of the spectrum, 164 out of 200 Karnataka students in my batch at a premier engineering institute were from Bangalore. What does this mean?

The conclusions from the above are fairly straight forward. There are very few educational institutes which offer high quality transformational experience to students. Hence there is such competition for those choicest few institutes. Secondly, opportunities to study in such institutes exist only to those privileged few from urban areas and 70% of India living in rural areas is being left out.

We have a mighty three dimensional challenge on our hands.

1. Expansion: Increasing the number of educational institutes and providing opportunities for a greater number of citizens to build a career and life of their dreams.

2 Excellence: Promoting excellence in curriculum, infrastructure and faculty .

3 Inclusion: Enhancing the competitiveness of the rural students/graduates to enable them to compete with their urban counterparts.

Let us discuss each of these briefly and constantly question what can be done.

Expansion: India is going to be one of the youngest nations of the world and we cannot expect to provide quality education to all our youth unless we expand. Expansion could come in two ways. One is by growing capacity by upgrading the existing infrastructure to accommodate more students and the other by setting up new facilities. Both tend to serve different needs and our choice should depend on factors such as the nature of the facility being provided, the region being served and the benefits it is likely to bring.

Growing Capacity: If we are evaluating an expansion option for a university in Delhi, then growing capacity is more suitable. One reason is that it may not be feasible to add more campuses in Delhi and it may not even be sustainable for a university to maintain multiple campuses within the same city and share its limited number of professors. Capacity expansion will involve a one time capital expenditure but it is going to bring in long term benefits. Growing capacity would also bring in a lot of efficiencies and help maximize the available resources. To quote as an example, every college now has computer lab which offers no specific high end technology equipment and serves mostly as a browsing center. If this is the case, then there is an opportunity to enable wifi in those buildings and better utilize that space. Expansion entails expanding our human capital involved in academia and this is dealt with briefly in the next section -Excellence.

Setting up new institutes: Certain areas of our country have been neglected for a long time and these places need some national focus. This neglect has even led to social unrest. Educational institutes in these areas can play a vital role in development and national integration. Apart from serving a critical need of providing access to education to underserved people, educational institutes help create a stable environment. People graduating from these institutes become local role models and their views and messages can impact the local people in a very positive way. So there needs to be a selective approach in the way capacity is increased. Having said that, a critical evaluation of the role IIT Guwahati will tell us what is being done right and also shed light on possible areas of improvement for education sector as a whole. Educational institutes symbolize hope, future and stands for unity. Expanding them in underserved areas will create talent

pool of skilled labor and professionals who can play a significant role in the region's development.

We should also take a look at the ratio of our education spend on higher education. Why did it take 40 years to realize that we need more IITs. On a similar note, why is it that courses on public policy and healthcare so few in India? These courses tend to be some of the main feeders for the government in western countries. Karnataka, Tamil Nadu and Andhra Pradesh have become factories churning out engineers. It is imperative that we take a more balanced view towards higher education and expand the nature of the courses offered. There is a critical need for people in a wide array of development areas and there are hardly any courses focusing on these topics. We should recognize that good citizens are not created out of thin air. They are a result of the investment made by the society on their development. May be it's time to evaluate our current approach towards higher education as just a means of meeting demand from the popular industries.

Excellence: Most of our universities rely on high quality student input to distinguish themselves rather than on excellent learning facilities and faculty strength. In the technical education space, barring a few IITs and a couple of NITs in South India, not many can boast of world class research facilities. Having been through one of these institutes myself, I can say that overall faculty quality and their motivations, especially in the field of new sciences is average at best. The reason for this is the unattractive remuneration in education compared to the private sector. We had a situation in our college where some of our temporary faculty members joined firms which employed us during campus placements! This is certainly not an isolated problem. Even Stanford faces the crisis of faculty retention. They lose their faculty to Ivy leagues schools, banks and technical corporations. However they are able to attract a fresh crop of a good number motivated faculty through research grants and providing state of the art facilities for researchers. While I understand that Indian education system may not yet be in a position to compete with private sector firms in offering remuneration, we can certainly do better on the facilities that we offer to faculty.

1 Improve university research infrastructure: This has to be done on a public private collaborative partnership model. As a first step, we should reduce the entry barriers for investment in a university's research facilities for private firms. Few years back one of

the top Mechanical Engineering firms offered to upgrade the power tools lab in my college and they had endure endless redtapism and go through a million bureaucratic channels to get the clearance. The onus should be on colleges to setup channels for speedy clearances and obtaining permissions for a private sector investment in colleges.

2 Make a conscious effort to channelize consultation projects from the Government to universities whereever possible befure going to private firms. This is mainly to set up a culture of earning through consultancy projects. It will also bring to governments notice what exactly is missing in our education system. This can help better the curriculum for future and also gives a direction to our education system.

3 Introduce a grading system for the faculty members. Devise a framework for measuring the performance of a college's faculty. It should be a relative grading based on the region under consideration. His impact should be measured in terms of papers published, contribution to his field over the last 3-4 years, and impact on students, community. This is to say that make the faculty stake holders in the performance of the students, the college and environment as a whole.

Inclusion: I recently accompanied my father, who had been posted on election duty to a place called Goir in the interiors of Northwest Karnataka. It is such an interior place that there are no hospitals, no post offices, no power and no vehicles either because the nearest tarred road is about 6 kms from this village. Even though the population of the village is only about 75, there was still a primary school with a teacher. I was moved. Such an effort to promote primary education deserves highest praise. But then you really need to ask how will one lady for class 1 to class 7 really transform this community? Unless we maintain quality standards and make these students competitive we will not be able to help them blend into mainstream society and contribute. I studied in a rural place for 12 years and I know how unbelievably difficult it is for a rural student to compete with his urban counterparts, especially in the standardized tests and entrance exams. We can build competitiveness by providing similar opportunities in terms of access to education. Kota sends more students to IITs than Bangalore mainly because of the coaching centers. That is what access can do. We can improve access by leveraging technology and involving university students in a voluntary movement to improve

education.

I have been actively involved in two such initiatives.

1. Satellite based distance education program: This is 'live' broadcasting of tutoring over a satellite network. I was involved in setting up of one such facility last year in my hometown and it has certain limitations. The technology is still very expensive which makes the end product out of reach for many students.

2. Along similar lines, we are now working on a model which replicates MIT OCW(Open CourseWare) for India through Recreational Teaching (RECTeach). We are involving student volunteers from some of the best universities(NIT-K for pilot) to play teachers and video record tutoring sessions in Maths and Physics in the comfort of their classrooms. The idea is that, if these students were good enough to crack tough entrance exams, then they have enough merit to teach others how to do it. This video is then converted to a DVD and circulated in rural colleges. This will bring down the cost of coaching drastically because it practically removes the entire middle layer (coaching academy, franchisees, infrastructure) which is making education(coaching specifically) prohibitively expensive. This has a lot of potential to reach out to the masses at low cost. Is digital content the right way to go? The answer is Yes. I say this because a lot of higher secondary schools have at least a few computers even if they may not have a Maths teacher.

Some of these thoughts may be new and some others old. And some of them may be more easily achievable than others. This exchange of ideas is certainly a start of a challenging yet incredibly satisfying journey. But we cannot let this momentum die down. I sincerely hope that at least some of the ideas discussed in the forum are implemented and that it brings tangible benefits to people out there who are in need.

An impact is an impact however small it may be.