

TRANSFORMING TERTIARY EDUCATION FOR INNOVATION AND COMPETITIVENESS: UNIVERSITY OF CENTRAL ASIA

Shamsh Kassim-Lakha

I would like to, first of all, thank Nazarbayev University for inviting me to address this gathering. Loretta, thank you for your very generous introduction. I feel at this moment like a very happy midwife, particularly as my co-midwife, who is Jamil Salmi, in fact, he was the obstetrician and I was the midwife at the birth of this university. We are so happy to see that you are having your first graduation. I want to congratulate the President. I want to congratulate Aslan Sarinzhapov and Kadisha Dairova for their leadership, with whom we have such a pleasure to work. This was a remarkable team of people, who made it happen and the evidence is all here. Again, good wishes to you as you move to the next level of your development.

My presentation basically will follow the outline. Why should universities respond to the job market? What are the implications for future jobs and higher education? Higher education in Central Asia and the market demand. This is of course where we are and we must focus on this area. And I would like to present the case of the University of Central Asia as an example of how we have tried to respond or are proposing to respond to this challenge.

So why should universities respond to the job market? Look. We all know that universities are no longer acceptable as ivory towers and we are responsible for teaching students and developing faculty and researchers to increase knowledge that is given. Our prime customers – graduates and their families – judge the value of the university degree by the success it brings to the graduate and not necessarily by how many research papers were written in the “Nature” or this or that journal. We accept the job to educate our constituencies but I will come to this in a minute. In most societies, success for graduates means jobs. In fact, when we were planning my university, most recent one – the University of Central Asia, we often heard that success equals jobs. That is the way the stakeholders out there look at us. As we look at what happens and how should universities respond, let us just look at the mega picture, which is shifting the centre of economic gravity from the West to the East. A longer-term forecast by the OECD suggests that today developing and emerging countries are contributing 40% but by 2030, they will contribute 51% and 57% of the GDP of the world by 2050. My sense is that it will be faster than what we have seen. These forecasts have been proven slower than we have seen in the past. The question is “What are the implications for emerging economies?” I know the implications for developed industrialised economies. The implications for the developing and emerging economies are even bigger. There is a shift in demand for skills in emerging economies and this will increase substantially from the call centre type of skills to greater needs for skills for sophisticated services, R&D, industrial R&D that delivers cross benefits. You can see so many designer shops moved to China and to other parts of the East. Yesterday Professor Lauder’s presentation highlighted that point quite well. But it is doubtful if emerging economies will be ready for this opportunity. It is not doubtful. I am convinced that they will not be ready.

Can we plan for the jobs for tomorrow? Now Sony Corporation notes that top ten jobs in demand in 2010 did not exist just six years before that. Those jobs did not exist. The Department of Labour at the US government estimates that today’s learners will have ten to fourteen jobs by the age of 38. Somebody joining Grade 1 is going to have ten to fourteen jobs by the time they finish their career. Welcome to those of us who will be in academia moving along in one stream.

With rapid growth of knowledge, making mastering of any subject is difficult and renders knowledge obsolete. In fact, in ten years half of what one learns at university will be obsolete. Someone may say it will be in less than ten years. So what should be done? I wish there was a

seminar to hear what can be done. We must teach for jobs that do not exist today. We heard this expression before. Using technologies that have not been invented today. Solving problems we do not know of today. And, therefore, we cannot anticipate the future, we cannot create jobs for the people for the future, but we can prepare for that change. Cannot anticipate the future but we can prepare for it. This is the most important take away, one of the most important take aways of my presentation. I want us – the academic world – also realise that there is no formula. Very often we are so focused on our own subjects and our own formulas. We are really challenged to rethink that premise. However, today most higher education institutions prepare students for jobs that exist today or in the past. Always young people come to us and say, “What should I do? What is the big demand? The stock market is rising so I must get into business.” I heard this from many-many people whenever I interacted with young people. Or “The stock market is going down so I must not go into business.”

Most universities prepare for hard skills, subject specialisations. Soft skills, which are really fostered by liberal arts, humanities, arts, sciences, they foster analytical and critical thinking skills. Again, this is a very-very important point. I do not have to tell the audience what it means. I am just reminding ourselves that this is the key. Consequently, most graduates in emerging economies are educated unemployables. They are educated but unemployables. This is a paradox. Or is it? We are educating them to be unemployable. Can systems of education deliver? The answer you all know is that it is not the case. The effect is that most education systems around the world are not capable of meeting future expectations. We are too much into ourselves. Central Asian education systems are no exception. In fact, they are probably at the lower end of the curve.

Let us look at the case of Central Asia. Why do I make such a statement? Economic transition from the Soviet system has been a painful and agonising experience. I think we often write off the Soviet Union and say that it was then. The reality is that they had a very powerful education system. They did a very good job of educating and had a literacy rate in all parts of the Soviet Union ranges up to 98%. Somewhere it was 100%. I think those folks who do not come from this region very often dismiss it. I think it is a big mistake. It is a very big mistake. We would not have all these scholars sitting here if it was not for the Soviet system. I think we ought to give our respect for that system. There are areas in which that system did not work out, economic, for example, but an education side – they have something to teach. That was a very agonising situation for those who live in Central Asia, for the governments of Central Asia. To improve the quality life, Central Asia will need many years of high rates of economic growth driven by private sector. I have to say that Kazakhstan, which is in this conference, is somewhat of an exception because they have taken education as a high priority. This is an example of a role model institution to which others can benchmark or at least try to aspire and it will prepare teachers for the future. I do not see many institutions, hardly any institutions that are the benchmark institutions in Central Asia. For this, of course, beside the economic growth, it will only come if you have the HR – human resources, which is the key. Central Asia after independence has experienced a booming university development, a populist response to the demand of young people who were coming out in growing numbers. The number of students in higher education increased by 2.8 times in Kazakhstan, 4.3 times in Kyrgyzstan and 1.8 times in Tajikistan in a matter of 1992 to 2012, in twenty years. This was a huge increase. If you saw this kind of an increase in North America or Western Europe, the system could not cope, the system would collapse. Here it is somehow ambling along. The period was also characterised by the appearance and fast growth of private universities because the state universities could not cope, they opened up the shop for private universities. Unfortunately, while there are some good universities in the private sector, I would say my ten-fifteen-year experience in Central Asia indicates that there are very few outstanding private universities. They often also are fly-by-night types. I am sorry to say this, which is really a signal and request to the Governments of Central Asia that their quality assurance programmes and their abilities to charter new universities have an issue. However, the increased enrollment

did not address market needs. The point we have been struggling with since yesterday. Enroll them and they will be educated and then they will be unemployables.

Let us take the case of Kyrgyzstan. Just one country. It spends 6.8% of its GDP on education. 6.8. Wow! Wait a minute. It is higher than Hong Kong, it is higher Singapore. It is higher than in Sweden, Norway, Belgium and Finland. Wow! Of course, the GDP is not the size of that in Sweden. It is small. Its population is only six million people. To spend that kind of money – this is an applaud. Wait a minute. The education system is seriously failing to meet the needs of the economy. Rather, it is meeting the needs and aspirations of the population. How many times have we heard this? How many times have we thought and written about this? We are responding to the needs of the people rather than economy and the market. Continuing with Kyrgyzstan. Look at this. Education attainments in Maths and Sciences are among the lowest in the world. Very low. You saw yesterday, Jamil or somebody explained a chart there. Poor performance in Maths and Science means what? It is a snowballing effect and a negative effect on students' choices in disciplines. They go for easier to get a degree. Students have gone for softer choices and away from science and technologies that bring innovation and economic growth and consequently there is a huge gap between preparation of university graduates and the market needs.

An example of the mining industry in Kyrgyzstan. Mining produces anything between 20-30% of the total GDP of Kyrgyzstan. One industry that can make or break the budget. What are they doing about it? In the next few years, the forecast, this is by the Government, I have a document full of figures, they require over 11,000 people in core mining professions to expand gold production. They are producing gold – it is not iron, it is easily marketable. However, in the statistics we have for four years between 2008 and 2012, Kyrgyz universities graduated only eight geo-ecologists and sixty geological exploration technologists. This means that less than two ecologists a year and maybe twelve or fifteen a year for other key professions required. Wait a minute. What else did they do? They produced 18,000 lawyers and by the way doubled the number of economists for the same period. This is the source of my statistics – the Kyrgyz government report on the mining industry as late as 2014 and the National Statistical Committee of the Kyrgyz Republic. Now, if there was one slide I wanted you to take home which is the essence of this seminar, this is it. Say no more. Now, the absence of skilled workforce is of course is a break on the growth. University education is not enough. We think we are the saviors – we are not. We are only the tip of the iceberg. It is like the icing that makes the cake look good. We are higher education but that icing means nothing if there is no meat or no cake underneath. What does it mean? Adult training and retraining which is highly developed in advanced economies is virtually absent in Central Asia. This also means training of university graduates, not just TVET. The urgent need, therefore, in Central Asia is for the higher education reform. We heard the Minister speak about the reform. Let us just dwell on it for a minute.

What do these reforms mean? I used to be a Minister of Education in Pakistan and of Science and Technology. I took on the responsibility for reforming the higher education of Pakistan and creating the higher education commission. It changed the whole situation. Do you know who were the people unwilling to change? Faculty members and rectors of universities. Jamil mentioned that you would not be able to change the curriculum. It is easier to change a graveyard than the curriculum of the universities because the occupants are not willing to cooperate. When I speak about stakeholders, your first thought is academics. You matter the last. Go to the people who are the customers. Who are the customers? The community – the third part of our session this time – we talked about community engagement. Talk to the private sector who are the business people who will create the jobs. Talk to the government who will shape the policy. We are always moaning about this policy and that policy – we have to engage. Nobody else will come from out there. Listen to industries and professional associations. Professional associations are very powerful lobbyists. The biggest union in the United States is the American Medical Association.

And you will find that these associations can do a great deal in our cause if we take an advantage of them.

Education reforms must include school education. The problem is that we are so busy looking at higher education that the upstream material that comes to us, the raw material is faulty, we do what we can. If you do business, a manufacturing plant, and you take a faulty material and reject 20-30% of the outcome. The company will be in business for three years. We keep on going. Our raw material is not adequately trained and we do not take an interest in it. We say, oh, this is the Government's business or the Education Ministry's business. No Sir. We have to engage the Education Ministry to prepare upstream materials properly.

Education reforms are most difficult. Ask the French government in 1968 and more recently. Therefore, most of all, governments must exercise a political will for reforms. If we you do not have the stomach for it, do not do it. I went through it, I know it, in a country, that was not an easy to do it. I am a citizen of Pakistan so it was a little easier for me but it was very difficult. I was the President of the Aga Khan University. The most important thing I heard is "You are from a private sector, we are a public university – you do not know anything about us". Today when I go back to these people, they are literally so excited to see me, "How can we improve?" How can reforms focus on reassessing curricula and programmes, faculty development and research? Educate stakeholders. We have to educate stakeholders, communities and private sector, forge strong linkages with industries for higher education, HR, research, and there is professional and vocational education. However, there was a tendency among Central Asian states when they talk about reforms, they talk about "Reduce the numbers of universities, get rid of those bad private universities and reduce the numbers of students so we do not have to pay much". That is a reform. So what can be done? Let me give the illustration of one initiative, which we started in 1996-1998 and it is the image of the University of Central Asia precisely to address and provide a role model. It is a role model.

It was founded by the international treaty between the governments of Kazakhstan, Kyrgyzstan and Tajikistan and His Highness Aga Khan. It is located not just in Kyrgyzstan. It is located in each of these countries in mountainous areas because the context is in difficult economic environments to address these challenging issues. There is one more point to point out. Why are we in mountainous areas? You know there is an inverse ratio between the height of the mountain and the level of quality. The higher you leave in the mountain, the poorer you are in any part of the world. Not just here. You go to Himalayas, you go to North Africa, you go to the Andes. What happens? You are poor and you do not have access to basic needs of education, healthcare, etc. and therefore you are marginalised especially in this part of the world with a large Muslim population. See what happens? You get radicalised. We had a focus. When we were starting this university, President Nazarbayev said "I am starting the Astana city, pick any land you like, you can have it". I said, "I do not want this. I want to be in the mountains of Kazakhstan." "Why in the mountains?" The same question came from Kyrgyzstan and Tajikistan. When we explained, they said, "Oh my goodness, we are with you". Building a mountain university, we signed the treaty in 2000 between the three Presidents and the Aga Khan and it focused on quality, relevance, impact and access – access for those who cannot afford it. Very important. The mission is the first internationally chartered regional university. Its campuses in three places, not just one. Offering international standards of education and research. Fostering socio-economic development of Central Asia in mountain-based societies. Civic engagement. Helping societies to preserve and draw upon their rich cultural heritage. Central Asia has a very rich cultural heritage. I could speak for an hour to two on that. The big names we hear – Ibn Sina, Nassir Khusraw, Razi, we talk about Rudaki. Some of the biggest inventors, writers, poets. They were not Arabs. Very often people think they were Arabs. They were Central Asian. They were from Ferghana, from Kyrgyzstan, they were from Tajikistan. They were from the Azerbaijani area. They were not Arabs, they had Arab names because they were Muslims. The literature in the West describes them as Arab scholars. There

are several interesting books that have been written on this theme. If you do not respect the heritage and culture of this part of the world, you are not educating people to be rooted here.

We are building three campuses – one is in Khorog in Tajikistan, the most mountainous area of Tajikistan, in Naryn which is a mountainous area in Kyrgyzstan and in Tekeli. How many Kazakhs here know where Tekeli is? How many Kazakhs here do not know where Tekeli? Tekeli is in the oblast of Taldykorgan. It is right on the eastern border of the country. All of these campuses are 150 or less kilometers from the border of China. Incidentally, I never heard the word “China” in this entire conference. We are in this part of the world where Russia and China are. They are the big neighbors. We have to talk about it and not talk only about America and Europe. I really feel that we are missing the boat because the centre of gravity has moved already and we can be with it or be left while the train is going. These campuses are across three countries and will act as a springboard for investments in the surrounding communities which will hopefully reduce marginalization.

Just to show you what we have been doing. In 2006, we started with our school of professional and continuing education. In 2006, we did not start undergraduate, we started professional and continuing education in several locations including northern Afghanistan. We now have already certified eighty thousands learners. They have already come out. We have two or three institutes. I just mentioned two mountain societies’ research institutes that engage in mountain societies, agriculture, animal husbandry, mining and engineering. The Institute of Public Policy and Administration that works in this country as well as other countries with governments on training civil servants and decision makers. In 2016, next year, our purpose is to built residential campus that will be open for our first undergraduate students. September of 2016. In 2018, we will open in Khorog – the construction is now going on. In Tekeli, InshAllah, we will open in 2020. So those who raised a hand, I am inviting you to come to Tekeli and see for yourself in 2020 or even earlier. Let us hope. We have already spent 166 million dollars building and preparing these campuses. The total investment is anticipated at 1.5 billion. Subjects in the first phase are computer sciences, communications and media, earth and environmental sciences, engineering sciences, economics, business and management. After that, this will be followed by masters and PhD degrees but step by step. (*Giving a picture of the construction in Kyrgyzstan*).

Let me conclude. The economic centre is moving to the east. The current tertiary education in Central Asia is not capable of meeting the labour market expectations. The paradoxical situation where there is a series sorts of skills for the workforce and an army of unemployable university degree holders on the other. Linkages with industries and commerce are imperative. Look at all these institutions that have done, these linkages, and moved on: MIT, Caltech, Cambridge. Civic engagement is essential. Listen to the communities and their needs. Do not tell them what you need. Listen. Linkages – we talked about. Graduates must be prepared to not only seek job but also create jobs. We heard that yesterday. Foster critical thinking and entrepreneurial skills – that is what will create jobs for others. There are no quick fixes in capacity building. This is not Aladdin’s lamp, unless you are a magician, you will not be able to make a difference. Make interventions and investments at multiple levels over a long term. We need to build and strengthen research and policy institutes, academic and vocational programmes and reform school education. Exercise a political will for reforms and engage all stakeholders in this critical effort. Ladies and gentlemen, that is my presentation. Thank you very much.