TRANSCRIPT OF PRESENTATION BY CALESTOUS JUMA

‘Let me start by apologizing to you all for not having the opportunity to join this very important conference. As you know, I am very interested in the role of universities in development and would have liked to join you. but because of a conflict today and this week, particularly, I’m not going to be able to participate in your conference. but I wanted to use the opportunity to share with you at least some of the thinking that we’ve been doing on how universities could be brought to bear on Africa’s development, with particular reference to the role of information and communications technologies.

‘And possibly the best way to put this is to give you an overview of what we consider to be an emerging development narrative in Africa that is guided by African leaders – and this is based on a review of the decisions that African presidents have been making over the last five years, under the auspices of the African Union, which clearly demonstrate a growing interest (on the part of the leadership) to focus Africa’s development strategies around the concept of innovation, more specifically, technological innovation, that is building on previous activities in the improvement of governance. So, leadership is starting to come to terms with the concept of continuous improvement, whether it’s in the political arena or whether it’s in the economic arena.

‘It’s evident now that a lot of the attention is focusing now on the economic arena. Traditionally, when African leaders were confronted with new technologies, the first thing they thought of was to worry about whether those technologies might be used to their disadvantage, and it was only later that they started to think about their possible benefits. But every time they started thinking about their possible benefits it was always too late. And so, what we are starting to see now is a new narrative where they first of all think about the problems that they face. Secondly, they think about possible technological options available to them and how they could apply them. And thirdly, they start to think about the possible negative consequences of using those technologies. So, it’s in that context of the new development narrative of Africa that one can start to think about the role of information and communications technologies.

‘And of course, this is an area that has been dominated by a lot of misunderstandings. Most people think of information and communications technologies as a collection of devices, whether they’re computers or cellphones or radios. It is predominantly conceived in the context of particular devices and particular applications. And this has, to a large extent, distorted the debate, because when you talk about information and communications technologies and education, most of the time people think about how many computers professors are likely to have in their departments! I think the most critical element is to think about information and communications technologies as a platform for improving performance, whether that performance is in the agricultural sector, in the industrial sector, or in the area of governance. Therefore, to think of information and
communications technologies as a generic and pervasive set of tools that you can use to improve or aid economic performance or welfare. It’s in that context that universities can then start to play an important role in thinking through how they could offer programmes so that they become theatres of a new generation of leaders and actors in the economy that understand how you could use information telecommunication technologies as tools of social enhancement and social development.

‘The other point I wanted to make in regard to the role of information and communications technologies is that it would be a mistake to think of information and communications technologies as being independent technologies that determine economic outcomes independently. What is critical, is to think about the convergence between information and communications technologies with other technological systems. The idea to users in information and communications technologies was in fact to improve the productivity of labour in manufacturing enterprises, say in the textile industries. So, in this case, new technologies (in this case semi-conductor technologies) were used to enhance the productivity of traditional sectors. So, we think first of all about integration of information and communications technologies into traditional sectors to improve their performance. That’s the first order of business.

‘The second order of business is thinking about the new technologies in their own rights and how they could be used to create new industries and new social activities – being used in areas where they have not been applied in the past. I think the internet is a classic example of the application of this technology in radically new areas where we didn’t have effective ways of communicating in the way we do with the internet today. Now that’s slightly different from the integration of information and communications technologies, say in agriculture, to enhance the distribution of information for farmers. It’s important to distinguish between those two categories.

‘My claim, in terms of the role of universities, is that most of the African universities are structured in ways that they have difficulties accommodating teaching programmes that involve radically new applications and new users, in that the universities tend to be organized around policies and government policies and structures of curricula that are very, very slow at changing. Most universities tend to look alike, and so innovators – professors or deans or presidents of universities – that seek to promote change very often have to do or introduce those changes on the margins of the core operations of the universities rather than doing it directly. And this is … I attribute this to the fact that most of our universities in Africa were initially created to support the public sector, not to support the private sector. A large part of the application of science and technology in the general development, but more specifically in the area of information and communications technologies, will happen in the private sector.

‘And so, the first order of business is to think about how you can bring African
universities to be players in the economy, to engage with the economic structure directly. Now this I know, to me, is a very controversial issue, but I don’t think that, in the long run, Africa will ever be able to justify investment in institutions of higher learning that do not address the critical challenges facing the continent, at least in [the following] three areas:

‘The first is in the area of meeting basic needs, which is agricultural production, human health provision and social activities. The second category of challenges facing Africa fall in the area of being able to participate effectively in the global economy, which is basically engaged, directed globalization. And that entails the development of new products that will compete in the global economy.

‘The third area is being able to effectively manage the environment. And here, one can start to think of, say, the role of geographic information sciences as a powerful tool for enhancing environmental management.

‘If we think about those three areas, there’s a very large involvement of the private sector. Therefore, our universities need to be thinking about how they can become, themselves, entrepreneurial as institutions, and secondly, how they can effectively engage with the private sector. This is not to argue that they shouldn’t be linked to the public sector – many of them are still public sector institutions – but I think the mandate of universities, in light of emerging technologies that could be applied in the economic sector, is starting to change significantly.

‘And so, my proposal is to think about at least five areas of reform within universities that will make it possible for African universities to engage productively with information and communications technologies.

‘The first is a critical area of access to telecommunications infrastructure. If universities don’t have that infrastructure it’s unlikely that they’ll be effective in being part of the global economy to start with. And secondly, in being able to effectively utilize, information and communications technologies. A large part of the challenge really lies with government policy and that we should be pressing and lobbying and talking to governments to consider information and telecommunications infrastructure for universities as a critical input in the same category as roads. We don’t charge professors for driving to work. In the same way I think professors and students ought to have ready access to the global fund of knowledge through effective infrastructure in the area of telecommunications. And therefore I would say that if there is anything the government can do for universities that could be very effective, it’s to create opportunities for them to have access to the best-available telecommunications infrastructure, and this could be aided through cables or through satellite communications. I see that as falling in the same category as providing universities with clean water or roads or electric supply.

‘The second area has to do with what universities themselves need to do, and this I would consider at least three areas to be particularly fundamental. The first is the
curriculum, to bring the curriculum of African universities in line with the needs of
the private sector, in the case the needs of being able to apply information and
communications technologies as vehicles for long-term economic transformation.
And this could be done through some collaboration between the universities and ICT-
based enterprises. This could be public enterprise but they could also be private
enterprises. And so, reform in the curriculum, in my view, is a very, very fundamental
area. This would mean that you can’t really operate a uniform curriculum within a
country or across countries. What really needs to be done is to be flexible in the
design of curricula so that different universities can adapt their teaching programmes
to different ends and different means, so that, say, those who are focused on
agricultural production can still deal with ICT but they should be able to relate their
curriculum to the application of ICT in agriculture. This may be different, say, from
teaching programmes that are focused on industrial activities or manufacturing.

‘The second area has to do with the way we teach, which is the pedagogy. A large
part of the teaching that is done in African universities focuses very much on an
acquisition of knowledge and facts as opposed to acquisition of practical skills and
engagement with the practical world. And so, I would like to plead for us to think
very carefully about a designing or teaching system so that a large proportion of the
time of the students is devoted to practical engagement with the real world, which
means a part of it being spent in public or private enterprises, where they have hands-
on experience with information and communications technologies. And there are
numerous models that could help with this. Again, in that area it will entail some
direct engagement with public or private enterprises, because you cannot really
engage student in practical activities without having a good or positive relationship
with the enterprises themselves.

‘And the third area. The third area is the area of the selection of students, in that we
have a system of selection of students that doesn’t pay much attention to the interests
of the students and also to long-term projections of what universities could contribute
or how universities could contribute to development. And I would strongly suggest
that we should start thinking carefully about specialization within universities so that
universities can start selecting students based on where they think they can make
important contributions.

‘Of course, all this cannot be done without significant reforms in government
policy itself. And so, for governments, in addition to providing infrastructure, I would
really insist on a critical review of economic policies to see the extent to which
universities can be defined as engines of economic development, and then to think
about how government itself could organize itself so that it can engage with
universities in a more productive way. I think what we are seeing in Africa is a
history of tension between universities and government and this is partly because
governments have yet to define universities as engines of community of economic
development. As soon as they do that, it’s not only going to change the relationships
between the universities and governments, but it’s also going to lead to changes in the
way government itself is organized, in that it will start to give – at least at the executive level, at the level of presidents – it will start to pay more attention to the role of knowledge in development, broadly, but more specifically, on the role of universities.

‘So I see at least your conference as having two purposes in this regard: one, as thinking about how to improve the policy environment that would enable universities to play important roles as contributors of development through information and communications technologies, and secondly, what the universities themselves can do to reform themselves so that they become relevant to long-term economic needs of the countries.

‘I want to, again, thank you all for the opportunity that you’ve given me to talk to you and look forward to seeing the results of your discussions. Thank you.’

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