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Interviewee:	Dr. Bitange Ndemo
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MAJEED: This is Rushda Majeed on the 18th of June, 2012. I'm with Dr. Bitange Ndemo and Dr. Laila Macharia. We are in Nairobi, Kenya and we are speaking about the Open Data Initiative in Kenya. Dr. Ndemo, thank you so much for agreeing to speak with us. If I may start this interview by asking you to say a few words about your own career and before you came to this particular position as Permanent Secretary in the Ministry of Information and Communication.

NDEMO: *I don't know where to begin but I can say that prior to joining the civil service I used to teach at the University of Nairobi Business School. My area of specialty, the areas that I used to teach mostly were in research methods, entrepreneurship. I'll start from there because I can go back so many years.*

MAJEED: Sure. Would you describe the events or circumstances that led to your appointment as Permanent Secretary at the Ministry?

NDEMO: *Yes. At the University I used to help the new government then in 2002 to do many policy documents but they never paid me. This was just, they would call me, "Can you do a paper on this?" Then I would do it and I would forget about it. But they felt indebted to me because I never asked for money. The person, I mean I can name—Stanley Murage—when the government in 2005—of course if you are a Kenyan you remember after the referendum, the then government broke up and one side remained and decided now to bring in new people. He just asked for my CV. I didn't know why he asked for it because I had been working with him informally.*

                One evening I started receiving calls, "You have been appointed PS of Information." I had no idea what it was; I didn't even have a necktie to dress the following morning. I had some thin thing that I used to have from the US. I put it on. I looked so awful. So I started. That's how I started. I met my then-minister the following day. So we began to know each other. One of my areas of concern was, because when you do research from the outside, information was a big problem from government.

                One area that I really wanted to study was why firms were collapsing in Kenya. We couldn't get information. We couldn't get several years of information. So some people would say, "Okay, I'll get you one year." But it can't help you. So that's how it started. Actually it was during December, December 2005. Then I started calling several people from academia mostly whom I worked with, from industry, simply to understand the problems they had at the time.

                At the time Kenya was not linked, or East Africa was not linked with any undersea cables. Then I met the author of <u>The World Is Flat</u>, Tom Friedman. He told me that India succeeded so heavily because they had the undersea cables and stuff. So my focus then, I said, let us have a very simple strategy. First was to define the objectives because coming into the office there was no defined master plan. There was no strategic document.

MAJEED: This was early 2006?

NDEMO: *This was 2006, now January, when we were debating. So we quickly put up some document and justified why we needed the undersea cable. We want to create massive employment from the many youth who are learned in this country. Simply that is how we wanted to have it. How to create it is that we must*

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provide infrastructure. Then we can now compete with India. You know that is just the initial statement. We want to create a business processing outsourcing (BPO) industry. If you look at all the documents we did, we were then looking at the business process, outsourcing, we would be able to compete with India. There used to be some small work sent through India to Kenya. I said let us have five objectives on this. One is that we must have infrastructure. So meaning that we had to link Kenya to the rest of the world and then work on the terrestrial fiber-optic network. Eventually we would do the last mile so that we reach everybody and begin to create the massive employment.

Second, we said we must do content and applications. Meaning that we can make it easier to deal with government if we had applications that would enable people to work and then develop the necessary content. Actually it was a seven-page document. We did it deliberately because the Kenyan government used to have books of strategy documents or policy documents and nobody read. But surprisingly everybody read my simple seven-page thing. Everyone said, "This is stupid, we don't do such things." In government you are given the staff and they are used to having these confusing volumes of things. I said no, five.

Number three. I know I can't get money from treasury. I sought that we do public/private partnerships (PPPs). I actually went to treasury and said, "I know you don't have money. I know that you can't give me money but you can allow me to do public/private partnerships - PPPs." I think I had read something somewhere and then put it there.

Then number four, you see where I said infrastructure, application and content, PPPs, then capacity building. We wanted to develop massive capacity building so that everybody in the world would know if I needed this I would find it in Kenya. Then, last of course, employment, employment creation.

So we finished the first document. I want to look at it, I want to find it. It was not very organized, the strategy. The goals were very well defined. Actually, everybody in the sector understood it because it came from them. I consulted. People would be shocked. The PS called me to talk to me. I would call personally, not through the secretaries. It had a very big impact. They were calling. I'm new here. I want to talk to you about this. So people would come here and they sat here and we discussed this.

I said, "If you can do this type of thing, we can do the rest." So I started attending EASSY (East African Submarine Cable System). There was a cable, a consortium of East African countries which wanted to land the cable. I went by a couple of meetings and you would finish the meeting. They would say, "We meet in Zambia, we meet in South Africa, we meet in whatever." There was nothing about starting the cable. I said, "Is the next meeting going to decide the date we start?" Oh no, we will do it. Then I say, "Can I be clear on the funding?" Unfortunately, then South Africa wanted to use funds from their pension fund and somehow the other African countries would pay for it. I noted it very quickly, I had not seen it. So we went to Johannesburg, went through the program. I kept very quiet. Eventually I raised my hand and said, "If we are not starting in the next three months we will pull out." Then all was quiet.

It was like you're shaking somebody. Then my counterpart in South Africa who was a good friend by then said, "You can't do that. You will not do that." I said, "Try me. I'm going to do it." I had no clue what I was going to do, but I was fed up

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with the whole thing. If I could collect the amount of money we were spending in hotels and whatever. It was actually coming close to the amount that we could spend on the fiber. I said, "This is not going to work. Even if it works it would have cost us so much money."

So I came straight, I talked to my Minister. I said we must see the President. He looked at me. He said, "You must be crazy. You pulled out of the East African effort?" I said, "Yes, it is not going to work. I mean, it isn't going to work." So he said, "Okay, let's go see the President." That was the most crucial meeting because the President got to know me. He didn't know who I was.

MAJEED: This was in 2006 also?

NDEMO: *In 2006, 2007, it was getting towards the end.*

MAJEED: By that time you had built a rapport with your minister and he trusted you?

NDEMO: *Now he understood me because we were the ones who generate everything and do whatever. I said, "This is not going to work. We simply have to pull out." You know you don't say something like that in Africa. So my counterpart was so confident that I was new and stupid and that I could not do what I said. So I said to my friend, "I will not come to any meetings again." So we came, the President asked me, "So what do you want to do?"*

I said, I had gone through—Google then was not as good as it is but I had Googled—I knew where the cables went through and I said, if we go to UAE, we can ask them for partnership and do a joint cable. It would be the most viable thing. "So what do you want?"

I said, "If we can get access to the government of UAE." The letter was drafted. We left afternoon on Friday. On Saturday we met with the government of UAE. They thought we were stupid. They thought—actually the first meeting they thought we didn't know what we were talking about. But then the minister was very good. Their minister for finance in UAE. I saw in his eyes that this guy is not believing us. So I looked at him and said, "We will pay for it." My minister looked at me, he said, "You said you would pay for it?"

I said, "We will pay for it." All we need is the access. We link our cable to yours. If you want to invest, fine. He looked at me and he said, "We will invest 30%." He put us in touch with Etisalat's people. They had another meeting the following week and I went. We went there. I had gone through internet, everything to do with marine cables. When I spoke they thought I was an engineer. What we needed to do and everything. So they began to trust us a little bit. But then Etisalat's did not trust us 100%. They said that they would lower their 30% to 15. I said fine.

So I came back here to organize the local companies to join my new effort. They laughed at me. They said, "You can't be serious. We'll build a cable?" I said, "Yes, we will build a cable." But I knew if my feet were in the water they would come. I mean that I take the first risk to do something and this is risky. There is another aspect that has been very successful. But to cut a long story short, I quickly got to know the companies—Tyco and Alcatel—and I was trying to convince the procurement that there is no other personal risk. It was so difficult

by then. One of the biggest things that you find that leads to corruption and other things, is a procurement law.

The previous government was very, very corrupt and the World Bank created a procurement law that would stop procurement. So I had a lot of difficulty in actually going through the steps. Actually the steps to procure took almost sixty days. I didn't have sixty days. So I went and pleaded with oversight authority. I said, "These are the only two companies in the world, why would I go through a lengthy procurement process. Let me send them quotations." Because I went there like ten times the guy gave up. He caved in and said okay. He did not even give me the letter but he okayed it. I went to treasury and said, "This thing will cost about 110 to 150 million US dollars. I need very little amount of money so that I do this survey." That is the first of the works you do in laying the fiber-optic and this is what changed everything. So the treasury people looked at me and said, "Do you know what you are talking about?"

I said, "Yes, I know what I'm talking about." The UAE government was not willing to take the risk. So I went ahead, committed, put Tyco. I had of course gone to US and seen what they are doing and what it was. We did this with the embassy cable. Then we hired a transaction adviser. The transaction adviser had no idea what laying an undersea cable was. The standard group, they said they would hire people from Europe and you see I had been doing research.

The day when they were trying to convince local investors the guy got up—I don't know what you call it. He went up to the stage and blanked out, completely. I mean he couldn't open his mouth. This is my most crucial meeting. I'm trying to get a PPP going and the guy blanks out. I look at him. I talk to the others. He just stood still, in front. So I went in front and said, "Yes, this is what we've been talking about. What we need is investment from you people." They laughed.

I was speaking like somebody who had been working with them and made a presentation of some slides he had. They all signed up. I was almost crying that evening. They didn't know. But then I knew this is done. I said, government 20%, the rest, 80%, you come on board. We created an escrow account, put the money in, moved on. Then we got into a crisis in 2007, 2008. Alcatel wanted a guarantee before they started. That was during the crisis.

MACHARIA: So originally the transaction structure did not require that but after the crisis they asked for one?

NDEMO: _Well, everything was going on now, the country was on fire. Nobody wanted to do anything._

MAJEED: Right.

NDEMO: _So I went to Citibank. I said, "You must trust me." The country is burning everything. I need a guarantee. They said, "You must be nuts. You may not even be back by the time." I said, "Just trust me. I need the guarantee." Then, because Communications Commission of Kenya (CCK)—the industry regulator under our Ministry—had some money with Citibank, one of the officers looked and me and saw the passion that was in it. I said, "I know we are going to be okay. I must have the guarantee." So they took the 4 billion that was in the bank. I went, you see, parliament is the one that approves any money you spend. Parliament was_

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not there, we were in a crisis. So I went to treasury and I said, "I want my letter for the guarantee."

They said, "Ndemo, the country is on fire." I said, "But when the fire stops we will want to know where to get employment." So eventually the PS caved gave me the letter. I took it to the Board of CCK of which I am a member. We approved it and got together and the cable was started. At the end of 2009, the cable had landed in Mombasa.

MAJEED: Interesting.

NDEMO: *Then I said "Voila." But I went back and said, "The cable is going to land. We must distribute it throughout the country where we want." So they funded the National Optic Fibre Broadband Network (NOFBI) cable throughout the country. Then the prices began coming down. They started pushing application development only to discover we were very good in developing various applications. MPESA was just coming up. MPESA was another war. It had to succeed in order to create an environment for applications.*

Central Bank refused to approve because we have a dual regulatory mechanism. The Central Bank regulates money and the CCK on the communication side. So I went to the governor and I said, "You must approve this." She looked at me and she told me that I have been there long, this is how Anglo Leasing started." Anglo Leasing was another scandal, big scandal. I said, "You simply have to approve it for me."

I wrote the letter to treasury. I wrote to her and she phoned that she had no room. Of course normally when I need something I go there. Even open data, that's what I did. I said, "You simply have to approve it."

MAJEED: In terms of the support, you were getting support from people, so you were going to people and they seemed to be supporting you. How were you able to build support? By that time you had already developed a reputation I would say, but you also had support from the President's office?

NDEMO: *The President's office, my minister came from the neighboring constituency to the President's. So I leveraged that. Anywhere we were stuck I could simply go to him and say, "Let's see the President." To the extent that he trusted me. That was very critical, even for Open Data later on. Eventually she said that I have to write a letter that I take responsibility. I said I will take full, full responsibility. If you see the news clippings, even on the cable when everybody was worried I said, "I will take responsibility now and ten years down the road. If there is something I'll go to jail." It was on TV like that. So I told her, "If you want me to write it, I'll write it." I wrote it.*

She approved with caution saying, if this passes or whatever, but it worked. This is the biggest thing that has ever happened in IT in Kenya because it inspired applications. You see now I'm giving my number two objective, applications and content. You can't develop applications if you don't have these guys' confidence. So I came back to the government and said we must digitize lines, we must digitize our judiciary. These are registries and those are one-time targets. Now to digitize every registry. Actually, if we digitized every registry, you finish corruption completely.

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We went to the Ministry of Land Registry and just reorganized the banking hall and the books. The revenue moved from one billion to seven billion. We are not done with digitization. We moved it that much. Just when we were beginning, when we started, when they realized things were happening, they started threatening us, "We'll kill you."

MAJEED: Who is they?

NDEMO: *These are the staff because chaos benefits some people. There are some people who benefit from chaos.*

MAJEED: Yes.

NDEMO: *They began to see—.*

MAJEED: Things changing.

NDEMO: *Their powers have been interrupted. Now the approvals are coming from here. They actually told my officers, "We will kill you."*

MAJEED: These are the civil servants in the Land Registry?

NDEMO: *Yes.*

MAJEED: Not in the ministry.

NDEMO: *The Land Registry.*

MAJEED: And Judiciary?

NDEMO: *In the Judiciary, we haven't gotten a lot of resistance because they were in a mess all the way. But you see this killing, we had been threatened with my minister when we liberalized the telecom sector. You know people used to benefit from the gray market. Then we announced we were going to give several gateway licenses. Someone came in and said—we were going to do it in the Grand Regency. They said, "You will not even step in the Grand Regency. We will kill you."*

So after that I asked for fifty policemen. They queued all the way up and went in there and announced it. So we are waiting to die. We did not die. But that changed the entire telecom industry in this country, simply by doing that. But that is a totally different story.

So on data, we have to have every registry digitized because this would mean service delivery to the citizens. They don't need to come to the office, you remove the face-to-face aspect where you have to go and apply for this or renew your ID. But if you can do it online and it comes you remove the aspect of corruption and you improve governance. You improve the spirit.

MAJEED: In terms of the open data—because you were getting into that—what were the primary goals for the program? You mentioned service delivery and you also mentioned corruption.

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NDEMO: *Now I'm coming into open data. Of course there is something we call Innovation Hub (IHub). I wanted you to understand the broad aspect.*

MAJEED: This is excellent.

NDEMO: *Then I will bring you back to this. I normally go there, like every month they call it fireside chat. This is where I meet my industry people, mostly youth. One time they said, "Yes, we have broadband now. We have everything but we need access to government data."*

MAJEED: You said fireside chat.

NDEMO: *Yes.*

MAJEED: When did it start? Was it something you initiated?

NDEMO: *IHub was started after the landing of the Undersea Cable by Eric Hershman (a US Citizen living in Kenya) and I use it as a platform to engage with stakeholders.*

MAJEED: Right, at Ushahidi.

NDEMO: *Yes, Ushahidi. They had already worked on Ushahidi. But I avail myself to go there, sometimes four, five times a month; sometimes once in a month, just to know—*

MAJEED: What they're thinking.

NDEMO: *Yes.*

MAJEED: When did you start? This was 2009 but you had started this relationship, building this relationship earlier.

NDEMO: *This relationship, this industry started when I came here. I mean, I will call them and say, "My friend, I don't know what we need to do here." So I can't claim all the things, that it was me. I was here in collaboration, consultations. There were industry players. I must say we started too many things but then we ended up succeeding in very few.*

              We wanted even to do [indecipherable 00:29:27] PC to the local assembly to do local whatever. Then I found it was too wide and I focused. Now when I focused on data is when we changed our strategy from BPO. We used to talk about BPO to IT-enabled services and focusing on creating internal efficiencies within the government.

              These internal efficiencies would give us more money than us going to the US to look for business projects and outsourcing work because there is so much wastage. We had seen that from the Ministry of Lands, from one billion to eight billion. We can actually do 50 billion from the Ministry of Lands if we really digitize and that would be on an annual basis.

              So even if we did work for the US, then I had, we studied the Indian model. This is not what we don't want. We can work with Indian companies but work with Indian companies on creating internal efficiencies. Then they looked outside;

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they did not look inwards. It is now India that is beginning to look at their internal efficiencies. Some states have done very well; some have not. Every time I went to India it was just to see. It helped me to learn from other countries.

We went to Infosys. Who do you work for? Do you deal with the government and what not and staff? So when I came here now, we sharpened our strategy back to internal efficiencies. These internal efficiencies would create capacity. This capacity, you would have excess capacity that everybody could trust and you work with. Now, if you see the strategy here, we work very closely with several multinationals, IBM, Accenture. Once they work here and they know we have this capacity, it is very easy to do the external work. But it is not my priority now.

If I did like e-procurement, I would actually reach almost 1 billion dollars (USD) every year. Land is another 2 billion. Judiciary is almost a billion dollars. I don't think you can develop a viable business outsourcing here. You can attract four, five billion dollars from outside. But internally you benefit from creating governance. You benefit from this and that. By so doing, now you begin to generate internal data that you can begin to look on how to improve what you need to do.

At the same time, there is data that is with government that nobody charges which the youth wanted to do applications. We said, "Okay. What do you want? This data is ours." They said, "No, no, no. We need data from government." So I said, "I know. Allow me time. I will go do it. I promise that." I came to see the President. To see the President, you have to have something that is for the President. They ask you why you want to see him. I said I just want to brief him on the sector and the new innovative things that we want to do. Then they said yes.

So I went and told him we have a lot of data in government which we can use— convert it into businesses for the youth to expand employment. The man is an economist; he understands very quickly. Then he said, "What is the problem?" I said, "The problem is that we are in—we have this silo mentality. Nobody uses their data. Education keeps their data. Planning keeps their data. Everybody keeps their data. What we have done is we're creating a portal, a place to put this and youth will use it and give credit to the government and through this they will create."

He said, "I may not understand the whole thing, but I think it is okay. Go ahead." So I put a team together. Thirty days. We did that in thirty days. You know I had promised those guys and here I am moving. I got a team together. I said, "I will get the data, you do it." Planning has almost the entire data for government, the Ministry for Planning. I went there, they refused. So I decided to camp there and explain to them. I talked to the Director, CBS, Central Bureau of Statistics. He said, "No, we can't do this."

MAJEED: What were the reasons for not giving the data?

NDEMO: *Well, they said it is a process of curetting the data. We might get wrong data out there and the staff—.*

MAJEED: What were you asking them? What kind of data were you asking them? Real straw data or were you asking—?

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NDEMO: *All data. We wanted data on spending, from the Ministry of Finance. We needed data on planning. We needed to know methods of data gathering. We needed so many things. Above all we needed the census data. The census data had just come out and I was asking them, "Do you know we have more information in it than what we have told the public?" I said, "Now when you know the number of each ethnic group, what you do with it? It goes and rots but I can do it. We can have marketers use it. We can have whatever use it. And census seems to be the most sore." I said, "I don't want the names of people; I need the data." I spent the whole morning. The third day, every morning, my counterpart eventually caved in and told the director that he can work with me on this.*

                I had shown them. I played around with the numbers and I started telling them on education, for example—there is no district in this country where more girls go to university than boys, even where more girls have performed well, better than boys.

                They said, "No, no, no."

                I said, "No. You can see here."

                These are the things we wanted to generate from here. So he caved in and said all right. But I could see they were not 100%. I said, this is a start. We had some people from the World Bank who had access to some data and then we started approaching other ministries. So two days before the launch.

MAJEED: When was this? This was in 2009, July?

NDEMO: *July last year.*

MAJEED: And how long did it take you to convince the Ministry of Planning?

NDEMO: *No, you see I—.*

MAJEED: You're still working on it?

NDEMO: *I had promised this within thirty days.*

MAJEED: This is all happening within thirty days.

NDEMO: *I knew it must happen with a very short period. Because if you extend it they will find other reasons.*

MAJEED: So that was the strategy to have it—?

NDEMO: *You want it by the date. I set the launch date. These guys are working day and night and I am trying to get the data and I have announced the launch date. You know things work better under crisis in the government. That is what has helped me. You have to create a super crisis and say the President is willing to launch. I don't know why you are refusing me. The President, I was called to see the President two days before the launch. I was told this has been canceled.*

                So I went there and met three ministers with the President. I knew they had convinced him. Or was it the cabinet? I think it was the cabinet. No, no, so the

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ministers who are telling the President this is very dangerous. It will create problems.

MAJEED: Dangerous in what sense? Why?

NDEMO: _I don't know. They called me in. They were sitting like this. I knew, if I looked, because they were my seniors. I looked at the President, in his eyes, and said, "Mr. President, this is your legacy. I can't do anything that will mess up what your legacy is. It will change the lives of Kenyans. I know people have worried about this, but they shouldn't be worried. I take full responsibility. If anything happens with the data," I said, "I will take the responsibility. I will not refuse it."_

He looks at me and he said, he normally says, "Sawa," meaning it's okay. Now, I turned to look at these gentlemen when he had already given the okay. He said, "I am going to come to launch it."

Up until I saw the President's vehicle arrive at the launch venue, my heart was like somebody is going to tell him not to come. But he actually came and it launched and it completely changed everything. So we had about fifty applications out of the data that we released. Now they are demanding for more current data. So that is what I am working on—to get more current data and to be able to create more applications. But that is not the end of it.

We have now begun to work with Open Government Initiative. For it to work in government, you must take it through a policy framework. We do—the cabinet must approve. So I did what we call the Cabinet Memo to get approval. The first presentation we did was the worst nightmare for me.

MAJEED: This is after the launch?

NDEMO: _After the launch. Now we are trying to create a legal framework. Now it is not the President. It is ministers you are dealing with. They told me this is another one of those International Criminal Court at The Hague type laws that you are creating. I was almost crying but I decided to engage them. Some of them are academics like me._

I said, "My friends, this is the time we should make this country and create opportunities for this country. We must do it."

They said, "No. It can't go. It cannot go through."

I knew if they canceled today it would not go through, it would never go through again. But I said, "Let me revise it."

You have to know the steps in government. When you do the revision, it is not coming to that committee again—the subcommittee that takes it through the cabinet. I knew if it went to the main cabinet, I would get the support of the President. The subcommittee had shredded me into pieces. I said let me revise it. I will revise it in a way that it won't make any problems for anybody.

So I did it. I started campaigns from all people. When you take it in the main cabinet, the President approved it because the President has the power to override. So it went through. Now we have a proper framework for dealing with

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international—it has become part of the international treaties. The Ministry of Foreign Affairs joined in. They signed it. So we are pushing it.

At the same time—because the release of data does not mean you can sustain that—I have begun to look at allies to propagate the message of open data. We began with the media. We had a master class for media. Media have never quite embraced open data.

MAJEED: Why is that?

NDEMO: *I think it is too much. Most developing countries, they give you the picture. Often it is reported that a vehicle has crushed. That is the news. But they can't go back and look at how the data is kept—the maintenance documents of this—that are now to help you make the decision whether it was human error or whether it was whatever. They have not reached that. If you recall, the Wall Street Journal— before Murdock bought it—used to give you the entire story. I used to be satisfied. It used to feel good reading the Wall Street Journal because they would give you the entire—the analogy, analytics, and whatever. We have not reached that. So I couldn't find out how to push it.*

But then I've gone back to the universities to ask them, analyze, and give them one-liners. Like now to say the comparison between mortality, child mortality rates, whatever. They have begun to use such data. The difference between this county and this is that the mortality rate in this is higher due to these conditions and whatever. They are actually now beginning to use data to make the decision.

MAJEED: When you were initially looking at open data and demands were coming from groups like IHub or Ushahidi, how did you envision it? You mentioned employment creation.

NDEMO: *Yes.*

MAJEED: How did you envision that the data would actually be used? It is a work in progress it seems. What were the original goals for the data and how it would be used and then also—?

NDEMO: *Somewhere we had changed from working—you know the triple helix, universities, government, and industry—and decided that we would do something called quad helix where we bring in the civil society. That civil society could actually help us evangelize the information and that because they can criticize, I can't criticize. You see this is some bureaucrat who wants us to use this. So we needed that fourth arm which would make you begin to do this. But even from the university, I told you I used to do, I used to teach research methods.*

One of my jokes was that failure in Africa is due to our failure to utilize data. I will give you very basic examples and then you will understand. In Africa, she is here, she can confirm, there is no recipe for cooking ugali. There is no recipe. The outcome of that is that every day we waste tons and tons of food because we have no way of cooking for two people or for four people. We just put water and you keep on adding and you hope for the best. Usually a huge mound is left which is thrown out, even in very poor neighborhoods.

I have actually said it is time we have recipes and say for every one glass you can get ugali that it feeds one person. This is how much flour you put. But now it

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depends, it depends on the hand. You just put and you keep on doing whatever and if it gets too hard you put water and then it becomes more than you can feed. So actually that is to bring science to our food.

Because I used to study small enterprises, most African-owned food stores have never sustained more than three years. This is because there is no dish that has a recipe, it depends on the cook. Maybe when they start the chef is good but when the chef goes on leave, another one comes and you go and get—because your mind goes to the taste you had originally. When you come, the other one, because even salt by the way, they don't say how many spoons, you just know how much you put. So sometimes it is salty, sometimes it is less salty. I've said until the date we begin to have these recipes we will have a lot of problems for many years.

We cannot be talking about food security. We can be talking about practically nothing. That explains why we are importing sun-dried tomatoes from Spain and we have soil and tomatoes and labor to do it here and a lot of sunshine. It is because we have not been able to put those together. That is why I am so passionate about data. Data would help in areas where we need to improve. That is why, if you look at our open data, we have begun to break it down.

I will show you something I am doing with my village so that you fully understand why I need data. To see that the counties begin to compete based on the information, on data. Per capita income is this. Compared to our neighbors who are very similar circumstances, we must begin to get into those levels. If you can't measure anything, you can't improve it. If you can't measure the child mortality, you cannot be able to improve that.

So data is much more important to Africa than any other part of the world because that is how you can begin to say you are doing better than you did the previous year and continuously.

MAJEED: Right. So it seems to me that it started with tackling inefficiency in government.

NDEMO: Yes.

MAJEED: Then it evolved into service delivery? Is that how it started?

NDEMO: Yes. We started in the dark where we wanted to do BPOs. We got somewhere and said there is so much money if we digitized. We would create so much employment here. Out of that I will sort out my fourth objective which was capacity building because you would end up having excess capacity. Now these people go out there and look for BPOs from all over the world.

MAJEED: In terms of employment also, how does it fulfill the objective, open data, of creating more employment?

NDEMO: Applications. Developing applications.

MAJEED: So because you're working with these groups.

NDEMO: Yes, yes. That creates massive employment.

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There are two which would change this country. One is one that would help farmers. If you see there is one I launched with young girls who did it. This is helping farmers in terms of cutting out the middlemen. But there is one which they are building on the back of that utilizing GPS and experts. This also started with a grant from the Rockefeller Foundation and farmers calling a call center and asking to be helped on their crops. But now they are going to make it such that you can actually call from wherever you are at because on the open data, we have the soils of Kenya.

Now an expert would know you fall within a red soil zone, and in that this is the alkalinity level of the soil, the acidity level of the soil, the crops that can grow in that area, the crop husbandry and stuff. Actually they are able to advise, even on the fertilizer that you are using.

You know with this, the farmers will be able to improve on productivity because what, this again was what I said. We dig and put the maize there then. Productivity has continuously dropped. I will show you from where I come from, where I showed the farmers why productivity has gone down. Excessive land subdivision has undermined economic growth because the government assumed that by sending people to the rural farms, they would become farmers. But these are subsistence farmers who have no idea about productivity, who have no idea about small enterprises. The term productivity is not in any African language, nowhere. And if it is not, then they will not by accident begin to be productive. The only way to educate it is to show them: "The previous year, you harvested this many bags of maize from one acre, this year you have harvested this much. This has reduced. The factors that are causing this are that you did not use fertilizer, you are over utilizing the soil." You have to leave it for some time to do whatever, which cannot happen.

I saw this when I was looking on data for tea. Tea varieties have changed, even coffee, even a place where I went to school in Nyeri. Farmers began to uproot coffee. Because they could not understand why they are not making money but because the variety they used you needed a minimum of two acres to break even. This is a place where average land size is two acres and they can't grow all of it in the same soil.

When they grow coffee on less than the break even it is equivalent to taking money and dumping it because they will never break-even; they will never make money from it. These farmers needed to be helped because the new variety—while the other one was giving them one kilo per bush, the new variety will give them 20 kilos per bush meaning that even if they did only a quarter acre they would even break-even and they'd make money like they used to do. But they are not making money; they couldn't make money. They started to approach it because obviously they knew this is not benefiting us.

So the word "break-even" is not in any African language. "Productivity" is not in any African language. So the only language you use is that this thing is not helping you because you are not able to meet your needs. That actually said, "If this is happening, and these are the cash crops, it must happen with food crops." And the truth I found that farmers who were growing maize under subsistence program, they were actually undermining economic growth.

So I wrote to the PS, my counterpart in agriculture. I said, "We must talk this." He was very angry with me. He was very angry because even as I knew this is

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happening, and we continue to subdivide the land, it is going to reach a period when you can't reverse it and when you are entirely not able to feed, you have undermined your food security. I said, "We must do something now, because the people we are assuming to be farmers, actually one in ten is a farmer. The rest are just wasting their time there which still undermines food security more than anything. Actually it is cheaper to move those people into an urban set up and pay them than having them doing nothing on the farms and assuming that they will feed themselves."

But he was very angry. That was four years ago. He is also an academic like me. Eventually he caved in and said, "You know, you were right." But it has been five years since we discussed it. We must begin to talk data. We must begin to have annual data on how much did you harvest from your acre. How much were you harvesting before? Is this the right crop you need to grow now to get the best out of it?

So this is one application. I have a lot of hope. But you see the policy makers must embrace it.

MAJEED: Right, because you expect the people in the ministry to use it.

NDEMO: *Yes. The Ministry of Agriculture must use it.*

MAJEED: Agriculture.

NDEMO: *But they haven't reached that, to embrace it, to get current data on productivity.*

MAJEED: Do you see that now as a challenge moving forward in terms of how this data is going to be used?

NDEMO: *That is why we need newspapers—the media—to talk about it, to begin to talk and say, "With this year's crop from Meru, the productivity went down by this much. What is the government doing to change this? We are going to have food security." Media has to get to that level. You see, they don't see the benefit of it. The Ministry of Agriculture is still thinking of what to do because the crisis is how to feed the people now.*

MAJEED: So what is your strategy moving forward to make sure that this data is actually usable?

NDEMO: *It would be nice to have one-liners from analysts, the people who understand the data, so that media, when we chew for them, they use it. I called media here when our crop went bad with a disease, a fungal disease. I said, "Please, let's work on it in a more detailed way and let's write about it." They were not interested. So until somebody said, "We are losing 40% of the crop. This is going to undermine our food security in the coming years." Then, they started writing. You see someone needs to synthesize and someone needs to speak about it. Then they will pick it; but they will not do it. They will not do it. That is why I need academia. That is why I need civil society. With civil society, if you get them, they will actually say, "What are we doing about protecting our food now before the crisis comes?" They can say about that.*

I can't work on my own and be able to succeed because if I go too much into it, my counterpart in agriculture will begin to say, "What business do you have in my

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ministry?" So I have limits. But civil society can cut across. Media can cut across, but you need to work as partners and share the data. Even the entire world—I spoke about this in Brazil when we met. This is the biggest fear they have; what are you going to do with the data you release? It must be analyzed. It must be simplified. It must be usable by the media because media is a very complex enterprise.

MAJEED: In order to synthesize data and be able to use this data, that is massive work on your part. Your ministry or whoever the team is in another country. How do you think about the resources? How do you put those systems—?

NDEMO: *The academia can do it.*

MAJEED: So that's why you are working with academia.

NDEMO: *I mean this is what we used to do at the university. It is only that we don't know how to disseminate. The problem is how to get media and the analysts to do it. I see so many papers that I can write out of this but we need the media to understand us. Media has never worked well with researchers unless like today you say, "A cure for AIDS has been found." Boom, headline. That is media.*

MAJEED: Did you work with them, did you involve them initially when the open data was being discussed and planned in terms of the actual portal or are you trying to establish a partnership now?

NDEMO: *They normally come to my fireside chats. They did not even report it. It is not, I didn't kill anybody. It is unusual to kill somebody in an open data forum. Media is a very complex place, but we need also op-eds where people write and they say there is research like this. I write sometimes; that wakes them up. That wakes them up if you do very good data, analyze it nicely, and deliver it nicely in an op-ed. They will use it, use it, use it, but you need to do that constantly. If I had a lot of money I would have people at my own feet to write what I want in opinion pages and then it would be picked up from there.*

MAJEED: You mentioned money and that is one of my questions. Where was the financial support for at least the open data portal coming from? Was it the Kenyan government and did it have other supporters or loans?

NDEMO: *I am an accounting officer. When you are an accounting officer you can play around and restart. But now we have some support from the World Bank. So we are fine.*

MAJEED: So you would say, how much did it cost if you don't mind sharing the number broadly?

NDEMO: *The initial?*

MAJEED: Yes.

NDEMO: *It cost us money because we did not have the visual realization software. You know data is a very complex thing. You can't just put data there. It must be visualized properly. We had to hire Socrata to create it in a simple way so it could be visualized by non-data crunchers to understand. We paid I don't know how many dollars, but it cost about 20 million Kenyan Shillings.*

MAJEED: That was Kenyan government or the World Bank?

NDEMO: *That was Kenyan government. Of course World Bank really helped with some resources, some young people to work on it, and then sent it to Socrata.*

MAJEED: Why did you work with Socrata, was there a particular reason you chose that firm?

NDEMO: *Visualization. Actually even software manufacturers are working on this visualization software. I saw Microsoft is busy working on it. It is trying to make it easier for the people to visualize data in ways they can understand it.*

MAJEED: You did not go with a local firm. I believe that was one of the criticisms.

NDEMO: *Of course, we were hit so hard. Even taking the data out of there. What I have not told you is that risk of breaking several laws—even when Obama released the data. They ignored several pieces of legislation and they actually changed some of it because we have what we call the Official Secrets Act. That data cannot be—but I asked for special permission to have it presented that way. That is why I am working with Freedom of Information law and the data protection. There is some data that must be protected like personal information.*

MAJEED: You said that you got permission, official permission, but that would be directly from the President?

NDEMO: *Yes. So you have to take a lot of risks. Actually the success is equal to the amount of risk that you take.*

MAJEED: I know that we are overtime. I have just a couple more questions if that is okay.

NDEMO: *That is all right.*

MAJEED: One thing was that you mentioned in the beginning you were talking about working with different people. I was wondering who were the people within the ministry, who were the people who were doing this on a day-to-day basis?

NDEMO: *We have something called the ICT Board.*

MAJEED: Yes.

NDEMO: *The ICT Board they are paid slightly better than civil servants and they are able to dedicate more time.*

MAJEED: To actually implement it?

NDEMO: *That is the first thing we created. It is a very good question. In government, as I said, you get to work with who is there. I can't transfer. I can't do anything. So we actually have a small body called the ICT Board. They are able to drive a lot of implementation. They are paid a little better; they are able to work extra time. They are able to get better experts.*

MAJEED: Yes.

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NDEMO: *Better than you get in the civil service.*

MAJEED: So they are the main implementers of this?

NDEMO: *Yes.*

MAJEED: What percentage of your time did it take when you were working in 2011 on the launch? Was it 100% of your time? 80%? 90%? In terms of just working on the open data?

NDEMO: *The initial days of convincing, first we used to have meetings. My role was to get the data. Like I told you I could sit the whole morning, messing up somebody's time. Of course, the initial stages took a lot of my time—almost 60% of my time.*

MAJEED: Just in conclusion, when we write case studies and put up interviews, other reform leaders like to learn from what you've done. If there is anything that you would like to offer to others who are looking to launch a similar portal in another country, what would be the key learnings that you could tell them?

NDEMO: *You must have political buy-in. If it is not there, it won't work. Because, as I said, chaos benefits a number of people and, when you try to streamline, you get serious opposition. Take risks; they pay heavily. Get the political buy-in. Get the support of those whom you are working with. Be transparent. Be very transparent. It is very easy to say, "You have broken this law to do this. This is against the law. How did you procure Socrata?" And stuff like that. It is very easy to be messed up, very easy to be messed up in many of those things that I have said. Because we have a stupid procurement law, there are so many risks where you can be caught. That is why you must maintain good relationships. Be persistent in what you are trying to do. Be very transparent and explain every point.*

            This is why I am doing it. Socrata—I had to explain we are doing this because we need this data to be visualized in the most proper way.

            Of course be very trusting. If you don't, you'll kill yourself trying to do everything by yourself. You must have allies that you trust that this one can be handled very well.

MAJEED: Just related to that, when you travel, you travel now and you speak about the portal to countries outside. What are some of the key things people ask of you in terms of—?

NDEMO: *Sustainability, how I have sustained it. That is the biggest headache. In most countries, of the 56 or so who have become members of OGP, when they go back, they ask themselves questions. We had an African caucus in Brazil. They were asking, "Are we being duped by these westerners again?" You know that they don't have an idea what they are going to do with the data. So when we convince them to be members of OGP, we must fully convince them, this is what you are going to do with the data. So they are asking, maybe they need to know our data, they will be more competitive. They want to compete with us. So I kept on telling them, look at it from your internal efficiencies, that you want to create service delivery to your people. Just don't think that we are doing it for the western world.*

So there are some African countries which bolt out because they have not quite figured out. They have bolted out of OGP and said, "We are not moving on this." It is because probably they look at it and say, "No, we don't want to do this." Or if it landed on somebody who benefits from chaos and they say, "If we correct this, I will not benefit from this." That is why I am saying sustainability of this, even OGP needs help; they should sit and discuss it.

Britain, for example, has done excellent work. They have taken it to the data on healthcare. We have actually done it here. We are moving there now. If I see, of the twenty patients that you operated on, nineteen died, I will not agree to be on the operating table where you are coming. So data is for you.

I told you Africa needs data more than any other continent because we must begin to inculcate this in our minds, that we are going to decide on this. What information do we have about this? Then we begin to piece together and make decisions based on data, from the simple tasks we do, as cooking, to the more complex ones.

MAJEED: That brings to mind another question in terms of countries needing data. How do you build that trust in the data as well? In some other countries I have seen you have to kind of change the mindset of the public as well in terms of using the government data and even trusting.

NDEMO: *Even the public sometimes blasts me, "Why are you sharing this data with the western world?" Or something, and other stuff. But the public is a much easier one to deal with. I can argue with you on that. We can't do research, our academic people cannot do research if you keep the data. How would you know? You must be able to release data and you look at it from your selfish point of view, not from the outside that somebody is going to look at it and do like this. We need comparisons.*

It is not only the data we say we don't want to give; it is already out there. The World Bank has more data than the one that I have here and they put it out there. You want to say oh you are—you know we get called all kinds of names when you do this, but you know I—and this is one of my success areas—I fight it out in the, I will argue with you to the point you agree that I am doing the right thing. I will argue with you to the end.

MACHARIA: What authority do you have? Where are your limits? I think it is difficult for people outside to understand now.

NDEMO: *The minister is the chairman of the board. The PS is the CEO. So now you understand. You do everything, but the minister has to understand what you are doing.*

MACHARIA: But he is not your appointing authority? He can't fire you?

NDEMO: *No, no, no, it is the President. But you have seen some ministries where PS and minister fight; they don't understand their roles. Where the minister doesn't understand his role, you will have a lot of problems. But we end up shouldering their problems, because they're here. They will call the procurement officer and they will say, "Help me on this." Who is the senior? They say, "Yes sir, but you are the one to answer." They see you. That is why we are an endangered species.*

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MAJEED: You have had several ministers during your tenure here.

NDEMO: *Two, yes.*

MAJEED: Did you have any problems or have you been able to convince them?

NDEMO: *The previous one we worked—actually, he could speak—we could go to speak and we could speak on the same thing. I never used to write speeches for him. We knew each other so well. I would stand up and deal with points that he was not touching and you would think we prepared. We were close in a way we understood each other and understood the objectives of the ministry very well. You have to have that. Even in a corporation, the chairman has to understand the direction you are going and be able to do. Otherwise you would be likely to fight.*

MAJEED: Very good, is there anything else you would like to add Dr. Ndemo?

NDEMO: *No, I am happy that people are looking at this. A number of people have tried to look at how we did that undersea cable. We've done some papers out on it. We need to begin to so some papers on the internal efficiencies because it is a very good case study for reforms in any country.*

                We would want to succeed in it, but we have developed a PPP and we are looking for partners. It cannot be done by us. Even as I speak to you like this, when I send the staff out there and they are told, "Stay out of this; it will destroy you." Then they slow down. But you need a third party who will come and tell you, "This is nonsense. This is my work. Data is work." You have to be very strong to succeed where a culture has already been created.

                That is why I said earlier that you can't look at these things in isolation. You can't look at service delivery for governments or open data. They all go in one way. But whoever came up with the word governance needed to define it. They said governance, automation, and service delivery. Because it is a very amorphous thing; nobody knows what governance is. In fact, some people don't know how corruption comes in or whatever. But it needs to be defined so that you know you have this aspect. Maybe my recommendation is that every government must automate. Then we begin from there.

MAJEED: Yes.

NDEMO: *You now will be dealing with corruption. The word corruption is really a very small aspect of the entire process of creating better governance.*

MAJEED: Thank you so much Dr. Ndemo, we really appreciate your time.

                Part II of interview with Dr. Ndemo Bitange

MAJEED: This is Rushda Majeed on July 4, 2012, I am with Dr. Bitange Ndemo who has agreed to meet with us a second time. Thank you so much, Dr. Ndemo, for your time. We really appreciate it.

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We were just talking about the open data portal and that it had been implemented in a relatively short timeframe.

NDEMO: *Four weeks.*

MAJEED: Could you talk about why that was the case? Why did you feel that the launch should be done so quickly? What were the reasons?

NDEMO: *Well, in this place, after some time you get to know when you implement sensitive matters like open data and the people don't understand what you mean. It is like you are going to destroy the Official Secrets Act and everything will be out there. What will happen is that you get very stable assistance.*

                At the time we had been very frustrated in pushing for the Freedom of Information law. You realize that we did it before the Freedom of Information law was in place.

MAJEED: Yes.

NDEMO: *What we did and why we did it in a very short period of time is that it would give comfort to people if they begin to understand the benefits of open data. It is like a boxing match. You hit here. You hit here. And because I had had the opportunity to talk to the President and they said you could go ahead, I said that this is what I would seize, the moment I would seize and move forward. If I had not done it—because this question was being asked, why don't you do the law first, then we can do it. The law takes almost—it has taken almost ten years and it is still not in parliament. When it goes to parliament you have no guarantee that it will go through and you have no guarantee that you would be there to implement the data, the open data.*

                So what we did is we said, "Let's move with this, take advantage of the new constitution, and just move with it." This is not the first project where I have done that. The projects that have been held back, especially automation where people say, why can't we organize this. We need to have a concept paper on this. They would have never taken off. We wanted to fully automate it. Then one donor said, "No, no, no, we have to do it right. We must have the documentation. We must do this." Whatever, give it a chance. But, you know, most people benefit from chaos. It gave them time to regroup when we had actually cornered them and said now we want to digitize the entire data. I said, "This is not the best way of implementation. We can document what we have done. Let's move and do the things." And, it worked. Now we are getting data from all over the place. The law on Freedom of Information has not gone through yet.

MAJEED: Thank you so much for that. That's very interesting. One of the questions on that is where did you perceive the primary threats or resistance would come from?

NDEMO: *From everywhere. Even one day before, one day before the launch, some of the senior ministers went and told the President, this is the worst—what we were doing. So I was called to explain to the President. I said, even as I begin looking into the eyes of this gentleman, this will not go through. So I looked in the President's eyes and said, "This is your legacy. That is why I am doing it. I am looking at your legacy."*

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He looked at me and said, "Go and do it." These gentleman were sitting there and they were saying, "This thing is going to be the worst thing. We're going to have everything done."

MAJEED: What were their main arguments?

NDEMO: There were no arguments. It was just that we had had so many scandals before and so many reports and things never came out and maybe this would end up revealing everything that had happened. You see, we have had problems with governance and that is what we were wanting to—one of the ways of doing it is through openness. Let everybody know how you spent the resources. Most of the politicians—especially the [indecipherable 00:05:32]—they actually misappropriate. There are so many cases to that. There is no secret about it.

We actually wanted this to come out. I happened to be with a very good portfolio where I see so many injustices to citizens. For example, we have the government, the filming department is with us. So, whenever there is a crisis somewhere, we send our team to film. The Kenyan News Agency sends us and you see some of the things that can be actually sorted out much, much more easily but because of politics and because of dishonesty it doesn't happen.

The motivating factor was, if we are devolving resources to the bottom of the pyramid—mostly in the rural areas—it needs to be spent well. Let us be more prudent in spending this. So this is not the first time we were trying the open data. We had done something before the elections. We did it in 2007.

MAJEED: In 2007, so the first—.

NDEMO: We mapped what we called CDF, Constituencies Development Fund, and poverty maps. We started asking, if you are given this money, obviously where you will spend it is the most heat, partial you consider, meaning the poorest. But, because these members of parliament came from rich areas, the spending is skewed towards where they came from so that they get the votes. We actually put it out; we put out the maps. I can show you some of the maps. They were Members of parliament that said, "You can't do this." I said, "Why not? We're just looking at distribution of resources."

They managed to push the then minister and we pulled down the website. We actually pulled it down because it was going to hurt them in the elections. So it is not the first time when we wanted to do open data.

MAJEED: And the first pilot was in 2007 as you said. Where did that idea come from?

NDEMO: On the spending and the—?

MAJEED: The CDF mapping and poverty?

NDEMO: We have a mailing list, just like a blog. I write so much. If I ask them to give you the whole thing you will see where the whole thing came from. Sometimes I have done things like mock candidate, mock presidential candidate. Then you raise the issues, what we need to do. So this is what I was finding, we were just doing it for fun. This is what we can do. We have dealt with agriculture, food security. We have done on IT. What we can do with IT? We have done practically every sector that we need to do. But you see I am not a politician.

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Then you get—when you put such on a mailing list, you get so many ideas and the people tell you, "You can't do this if data is held by the government. You are in a privileged position where you are accessing information and we are not able to get this." That is how we started. I said, "No, 95% of actual data is actually out there. It is just that people don't know how to do it."

I must take you back to when I was at the university. I wanted to do research on corporate failures; these are government-owned companies. I could not access the data. All offices were closed. So when I was told to come to government, one of my objectives was that—because I am going back to teach—I must find a way that this data is out there for me to do research. So if I managed to pull it out, I would have achieved one of my objectives I was doing in government in 2005.

MAJEED: Very interesting. That is very helpful. You said something right now. You said that people were complaining or saying that we don't get data and that was your own experience. One of the things I've heard is—and you've said this also—is that traditionally the government has not shared information.

NDEMO: *It doesn't.*

MAJEED: Can you comment a little bit on that in terms of the history and so on?

NDEMO: *We have what is called the Official Secrets Act. The people who make the decision that this data should be—we have several levels of classification. We have confidential, we have secret, we have—there are like four but the top, top one, I don't know any secret. There is information which is shareable which you can give. There is information which is restricted, actually restricted. There is confidential, restricted, secret. Secret you handle it almost yourself, even filing it to yourself, meaning that when you get it, it is you who knows and you die with it. So the people sometimes who decide are the Secretaries. The stamp that is nearest, they put—even if it is something that was supposed to be shared and is by accident—they put the secret stamp on it there. Nobody will look at it because we sign what is called official secrets. There is a form that we sign that you don't—.*

MAJEED: A confidentiality agreement?

NDEMO: *A confidentiality agreement. Even when I am planning to write I am going to seek permission, even though the information I would talk about does not touch on the official secrets. So sometimes it is very restrictive as to what you can write.*

MAJEED: You mentioned just now that you did the launch quickly and even the President also approved of that and said why don't we move ahead.

NDEMO: *Yes.*

MAJEED: Can you tell me how did you manage to get the President's support in the first place? What did you do to convince him when you were trying to do the portal the second round?

NDEMO: *One of our sectors ran very well to the extent that I can get away with some other. You see when people aren't always doing the right thing, this is because of taking a lot of risk at the beginning. I took actually personal risk. If you are able to*

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get most of the clips from around 2007—some of the project—I used to say, "I take full responsibility for this and I don't want government or anything, it is my personal responsibility." Especially that cable to—it got somewhere. Everybody was saying, "We have never done—government has never done—a large project." This is a white elephant.

So, immediately I decided to do that. I actually called a press conference and I said, "Ten years down the road, I will still take personal responsibility on this." It shook up everybody in government. Nobody says that thing. It can't be. But I was so confident that it would happen.

There are several projects again where I had to take personal responsibility to make sure that it goes through. I took the risk. That enabled me to get the access that I could not ordinarily—that someone could not ordinarily get. I was doing it for the good of the country, for the good of the President's legacy. So that actually is what drove him to trust me and say, "Whatever he is doing is not to hurt anybody." Otherwise, it would not have gone through.

I'm saying this because later on we were to join the OGP, Open Government Partnership. That made a policy statement. So we normally prepare what we call a Cabinet Memo and it has to be approved by the cabinet. Before it goes to the cabinet, it goes through the prime minister's office. Then it goes to the cabinet subcommittee.

So I went to present it to them; they refused. They actually refused, so I lost it and then forgot I was talking to my seniors. I said, "This is the future." Then in the heat of explaining, they must have noted my voice had gone a little high. I really wanted that thing to go through. They said, "Can you revise them this way? Can you revise it so that it doesn't hurt us?" They say, "You know we have signed the things which are hurting us now in The Hague. This is one of those things."Actually then all the cabinet ministers were against it.

So I pushed. They said I do an addendum. Initially, they said to take it back. You're not taking it back; it will take you another six months. So I said I would not take it back; I would rather revise whatever you want. Then they allowed me for a revision.

That opened me a window to again see the President because it was going to now the full cabinet. Well of course, the President said, "Let it go."

MAJEED: He approved it.

NDEMO: Everybody kept quiet. So that is how we do in the OGP. That is the documentation now which will document that. When it goes through that you get now a directive like the government wants you to facilitate the government's role in open data, international.

MAJEED: So that is one of the preconditions of the Open Government Partnership?

NDEMO: Yes.

MAJEED: You were trying to implement, or at least you approached the President before the OGP came about or did the—.

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NDEMO: *Before the OGP. The OGP was much later. In fact, the day we went to Washington for OGP, it was around July 11 in Washington, around July 11.*

MAJEED: 2011?

NDEMO: *Last year. It is when they said "Congratulations, Kenya did that, so wonderful."*

MAJEED: So this was just a few days after the launch.

NDEMO: *Just a few days after the launch. Practically for everyone it was like I was the king. Why are they doing this? Because me, I had been trying to fight to get this. Then actually, OGP came as a blessing so that you can now drive it, get a legal policy statement from the government.*

MAJEED: So just to get the timeline of this. When would you say you first approached the President on the idea of open data?

NDEMO: *It was around June 1st.*

MAJEED: June first of?

NDEMO: *Of 2011. But you realize 2007 we had some things—.*

MAJEED: The first portal.

NDEMO: *When I saw him and said, because we had been playing with data.*

MAJEED: Right, and you had already been trying before this to get data but the President was not involved.

NDEMO: *I must say that, even in 2007, I got the assistance of the World Bank. They were the ones who did the maps. They brought the data. You know, the World Bank has all the data. They brought the poverty data and whatever. They did it in 2007. Even in—when I was approaching the President.*

MAJEED: 2011, last year.

NDEMO: *2011. Around May, we had discussed with World Bank—they have this data on spending in Kenya. I said, "Actually we can do the same thing we did in 2007 but a much bigger thing." So we started discussion. A young lady in the World Bank called Tracey Lane and Christopher Finch. So we said, "You can bring the data. We can do this. We can do that."*

They said, "We have some small money."

I said, "Okay, I'll get it through."

So I sought permission to see the President in June. In June, I explained, and he normally he doesn't give you a clear. So in July, the early part of July, I went to see him again. No June, I went again. He accepted.

MAJEED: What arguments did you use?

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NDEMO: *I said, "I want you to come and launch." I had not gotten any data. I was just relying on Tracey and Christopher that they would provide whatever they had, we would go ahead and launch it. Then they had problems with planning. Planning wasn't giving the clear. They had the data but they needed the concurrence of the Minister of Planning. I said I would get it. So I went and booked the President first. Then I went to look for concurrence from planning. I sat the whole morning. That is the article you saw in TIME.*

We had something called pivot point. This is where kids go pitch. Now it is coming together. This is where they pitch their applications. Someone asked about the data.

No, no, that was after. I had gone to speak on the Fireside Chat. I think Erik must have told you this. They asked me for the data. I said that I would do it.

MAJEED: When was this, this was earlier in May?

NDEMO: *Yes, this was earlier in May. I said, "I am going to do it, I will do it." Then Tracey and Chris came. I think, out of the chat, Tracey said she had the data. I think the best thing we do, we get the President to launch whatever you have. Then we will use it to push. Tracey said, "No, no, no. You have to get concurrence from— ."*

MAJEED: The Minister of Planning.

NDEMO: *Then I went to Planning, very early in the morning.*

MAJEED: Before you met the President? This is in June?

NDEMO: *No I had already booked.*

MAJEED: You had booked the President for the launch.

NDEMO: *Now I am getting concurrence so that data can go ahead. So I went and sat with my counterpart. He refused. He said, "You have to accept. You simply have to. This thing is with the World Bank. I had my iPad where I had this datafinder. I said, "T this thing is here. The World Bank has released it and it is stupid that you can't release it here."*

So he said, "Let me see."

I showed him and he asked the Director of the Kenyan National Bureau of Statistics who said, "Yes, we have given it to the World Bank."

I said, "The World Bank has released it. This is the open data." So they gave me the go ahead and okay. After that now everybody started donating their data. That is what happened. I wish I could record. Will you give me the recording?

MAJEED: Yes, I will absolutely give you the recording.

NDEMO: *I can't remember precisely. Now I sort of remember some of the things.*

MAJEED: That's great. This is very, very interesting. Thank you so much. Just on the point I had asked you earlier and you had explained a little bit—about the arguments

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that you used to convince the President. You started talking about it and then we went to planning.

NDEMO: *The argument was that I could get away with murder because he had built up a reputation. He is going to do good.*

MAJEED: So you went to him and when you said that he was—.

NDEMO: *They said this is another good thing he is trying to do. Just go and launch it.*

MAJEED: Then you were able to set a date.

NDEMO: *I think even now he is very comfortable that we have succeeded in it because I am taking him to another project which will drive the openness to greater heights. What I have done, I went to one of the top schools. It was started by a British guy named [Geoffrey] Griffin, was started for boys, a top performing secondary school. So I negotiated with Safaricom and I told them, "Let me tell you how to use your cloud services."*

I sat actually, they see you like that and I said, what I want is I want you to donate a thousand tablets to students. He said, "You must be out of your head." I said, "Yes, a thousand tablets." But what I wanted is that—we would use IT to level, to create a level playing field because some kids had disadvantages. Teachers don't—they don't have good teachers. I said actually we can share these teachers. So I talked to the director and the principal. They came here and said, "We can film what you are doing, put it in a cloud, and we give kids the tablets. They can access the teaching Stahere. It was a top school."

He says no problem. It took a while. The teachers were scared. What I wanted was to create for them an open learning platform. This, I think you may have it. MIT has it. So it took a while. He went and consulted. Several caved in and said yes. We are launching it on the 14ᵗʰ.

MAJEED: Congratulations.

NDEMO: *From there I am now talking to several banks to buy tablets to poor schools. These kids now can access the learning from Stahere. Now people begin to see that actually we can get the best teachers in the country to teach every kid in the country. I don't know whether it will work, but I know it is going to be big; it is going to be very big. It is not an innovation. It is just that I looked at MIT and said well, "I can apply it in the local environment and do it."*

When I asked, it comes, in an instant. I've not even written a letter to invite even though officially we write and everybody agrees and then they say yes, yes. So we are doing it on the 14ᵗʰ.

MAJEED: Congratulations.

NDEMO: *Maybe I will tape it and send it to you.*

MAJEED: Absolutely. Thank you so much. One of the things, just moving back a little bit, we talked about the Open Government Partnership.

NDEMO: *Yes.*

MAJEED: Can you elaborate a little bit on whether, or how you used it as an incentive for pushing the open data forward?

NDEMO: *We are still—several ministries were—you know what happens with our documents. Several ministries are directed by the cabinet that we push for this policy. One of the ministries we put there is the Ministry of Planning. We put Foreign Affairs. We put the Ministry of Health. We are now doing a lot of work with the Minister of Health. We are starting with—I think they may have told you, the medical records.*

MAJEED: Yes, MedHealth.

NDEMO: *Accenture is doing it. We are converting that into a public/private partnership. We will create a revenue model out of it simply because nobody can find— government—I cannot go into the President and say I need money to digitize health records. But we are creating a business model out of it which we would partner with several people. Then, I would raise the money to do the entire medical records.*

                  What was the question?

MAJEED: My question was on the Open Government Partnership and I was curious about the timeline, when did that happen, around the time of the portal?

NDEMO: *Actually, after I went to DC, then they said there are eight governments—.*

MAJEED: So you went to DC in June it must be?

NDEMO: *In July.*

MAJEED: After you got the President's--.

NDEMO: *I remember very well because we had launched.*

MAJEED: Oh, so you had launched already.

NDEMO: *What happened, it was almost like two days after.*

MAJEED: Then you heard about the Open Government Partnership or at least were kind of discussing—?

NDEMO: *The World Bank facilitated my invitation to Washington.*

MAJEED: For the OGP.

NDEMO: *Even then they were excited and saying, "Yes, we are going to showcase this." So I was invited. I went actually—we did it on—it must have been the 10th or 11th in Washington.*

MAJEED: To discuss Kenya's membership to the OGP? That was the purpose?

NDEMO   *No, they just invited us to speak and then they said we are going to have a conference in Brazil and in this conference we could invite other countries to be*

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members. Then the conditions were there. So I went ahead and did with Foreign Affairs. Foreign Affairs wrote to the US government and the President of the government expressing intentions to be members.

MAJEED: When did they write?

NDEMO: *This was towards the end of the year.*

MAJEED: Last year.

NDEMO: *Because I wanted to take a huge team to Brazil. I did not manage because Planning have never quite agreed with me that we could take data and splash it out there. But the same Planning takes the data and puts it in a very complex format every year which nobody reads.*

MAJEED: In terms of the Ministry of Planning traditionally their argument has been that this is not a good thing.

NDEMO: *Yes.*

MAJEED: And that we should not share it, share all this data.

NDEMO: *What they say is that data can be misused. I still want to prove them wrong. If it is correctly put out there, it will never be misused. You have been to the site?*

MAJEED: Yes.

NDEMO: *Even the budgets, the current budget is there.*

MAJEED: Yes.

NDEMO: *You can see how the locations have been done.*

MAJEED: It is very clear.

NDEMO: *What can you misuse from that? Those are the questions we are asking them. The World Bank has actually helped me with providing money that we paid, paid some people in the Central Bureau of Statistics who can be like evangelists. We talk to them to the extent now they can freely share information. They don't move from their formats that they have set. I think they change these numbers but we need to disrupt that.*

MAJEED: So you can —?

NDEMO: *They don't change the formats within which they presented it at the time because people don't understand it. Part of it is that they don't want people to understand it. So to change it, to bring better visualization, where people understand it. I think that is where the resistance falls.*

MAJEED: On the Kenya National Statistics Bureau, that is the central repository by law of all data in the country.

NDEMO: *Yes.*

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MAJEED: One of the questions I had was that—.

NDEMO: Did you talk to them? What did you feel?

MAJEED: The question I had was that the ICT Board is kind of the implementer of the project.

NDEMO: Yes.

MAJEED: Then the KNBS is where the data is housed. I was wondering about the relationship and why, in your opinion, the KNBS was not the logical place to run this initiative.

NDEMO: They would not do it. They couldn't do it because of the way they were brought up as civil servants. The Kenya ICT Board is like a private sector thing which we put together in 2007. Most of the people are from outside with whom we share so much in common. That is why we put them to drive it. To change civil service you must bring outsiders into the civil service. You will never change it because they have strict ways of thinking.

MAJEED: So even the creation of the ICT Board and this was way back in 2007 was a strategy in the sense to be able to push forward.

NDEMO: A strategy to get better-paid people and the ability to retain those people because government never retains the best because the salaries are again fixed. They can't give you because you are talented and pay you more. So they pay you the same. If you don't like it you go. That's how it is.

MAJEED: But in terms of the relationship between the ICT Board and the KNBS, could you comment on that? How would that work?

NDEMO: They work with KNBS through us.

MAJEED: Through the Ministry?

NDEMO: Yes, we work with them as counterparts. But then we wanted to build the ICT Board that they are accepted but sometimes they are not accepted because they are seen as sort of elites although some departments have begun to accept them.

MAJEED: So that is going to be difficult. Do you think ICT's role will be a difficult thing in terms of getting more data or getting other ministries to comply?

NDEMO: You see, I am doing a strategy for two counties. And I want to emphasize data from open data so that once my, once the strategy is out there for the two counties, practically every county is going to do the same seeking forgotten data. Now it becomes, what I want to do is, I want the whole thing to be driven by demand. Right now we are only dealing with the supply side of data. If you build the demand side, the whole thing will be sustainable by itself.

So I am using my money to do something very beautiful for two counties and begin the show, sort of build a matrix where you say we are here in terms of capital income. This is the national average. This is how we compare with other counties in terms of child mortality. We are here. Then we can say in two years

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we want to be here and this is what we need to do to be here. Every county will do that and they will demand data so that they can justify their performance. So you want to build the demand side. Right now it is not demand driven.

MAJEED: Very interesting. You mentioned the civil servants within KNBS and other ministries. I was curious about the civil servants within the Ministry of Information and Communication here. Were there any that were working with you on open data? Were there any on the taskforce? How do you involve them or not?

NDEMO: *I mostly dealt with ICT Board. It is very difficult, even for the ones who come here.*

MAJEED: In this ministry.

NDEMO: *I work with them very well because I am very free with them which is something that doesn't happen in government. I talk to all of them. I mean I wish you could talk to them. I run this like a corporation, a private organization, only I don't have the power to give them incentives. So they sort of trust what I am doing and support and sometimes warn me. They say, "It doesn't happen like that in civil service." Then I ask them why. They have no answer to that. Then they end up supporting what I am doing.*

MAJEED: That's helpful.

NDEMO: *Of course when you use IT, everyone now wants to ride in the success.*

MAJEED: Be part of it.

NDEMO: *Some come and say, we have never known this ministry was like this, we were out there. So I don't think they are fully converted. If you get another civil servant in this—another traditional civil servant in this, it will go back to that. Because what happens is they follow the strict military. There is the PS, I can't go to his office. I can't share with him this information because it is not good.*

I don't know if that is how it works worldwide. Good news. They can come and share with you but you need both for you to succeed.

MAJEED: Very good. In terms of the ministries, actually in terms of this particular ministry, how would you characterize the support of the minister in terms of the open data portal and was his support crucial in terms of moving forward with the launch and what was the relationship?

NDEMO: *The minister is actually like chairman of the board. We do most of the thing. What I used to do I will brief him and tell him, "This is what we want to do. These are the benefits. I need your support on this." The good thing he is going to support you in your own field. I can't say he opposed it or whatever.*

MAJEED: That support is critical even for the critical part of convincing—?

NDEMO: *Yes, the overall limit is for the minister and it is him who would benefit from most improvements; I think that is also why he supported me.*

MAJEED: How often do you have to report to him or discuss with him in terms of at least the Open Data Initiative?

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NDEMO: *Right now, not much. We just drive it, but he knows it is there.*

MAJEED: Okay, good to know. You talked about the Minister of Planning and the KNBS. I was also curious about other ministries. Were there some that were easier than others and why was that the case, in terms of sharing data?

NDEMO: *One of the things that I'll miss is that my counterpart, not counterpart, my ally in the World Bank is leaving, Tracey. Somehow Tracey knew how to get this data and all she needed was that I would go and get concurrence. She would work with the people and would tell me and then when we need this go and see the PS and get the concurrence.*

What that tells you, the lower echelons of the civil service they are willing to work but, because of the traditional way the government is run, they say we would share with you but make sure you get permission from our boss. That is what I usually do. I wish I could get a clone of Tracey so we can drive this to the end. I've told her this. We took her for lunch. We don't do this with the World Bank people because we never trusted one another. We took her for lunch. We are buying her a present. It is because I feel that her contribution was enormous to this because she cured the data. She knew how to do it. We may, if we don't get a clone like that, we will have a problem with errors and then create room for attack. We said you can take bad data out of there. So I really need a good economist, or statistician who fully understands.

MAJEED: And they had all the data to begin with, it was just a matter of getting that support, that approval from the ministries.

NDEMO: *Yes.*

MAJEED: And, in terms of getting the approval, you would go to them, as you said, for Planning—.

NDEMO: *I would write my letter and go there.*

MAJEED: You just go there.

NDEMO: *Sit there the whole morning. You can't do anything else until you tell me yes.*

MAJEED: And that works.

NDEMO: *They say, "No. Okay." Then now put it in writing because they may turn around and say I didn't give it.*

MAJEED: And this worked particularly well because there was the pressure of the launch at the time?

NDEMO: *There was the pressure of the launch but now the pressure I have is on real time which is very difficult for me to achieve because even KNBS says we must look at the data. We must ensure that the data has no errors. So there is nothing you can do; you can't have real time data because some of the applications assume real time.*

MAJEED: It is updated.

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NDEMO: *One area where I failed which we can do a PPP and that is what I would propose now, the meteorological data. Then they think they can make a lot of money out of it and they can share it.*

MAJEED: And they didn't.

NDEMO: *They refused.*

MAJEED: They refused to do it so far.

NDEMO: *I have a lunch meeting with my counterpart to deal with it today. That is part of the. It forms part of the real time data because they collect it on a daily basis. The problem is the data is not very comprehensive. We have argued, they get annoyed very quickly; what do I know? They don't—the spaces between their collection points would lead to errors. So if they allowed that we look for private sector, then we can have many points of data gathering. It would be more precise. Right now they are not but it is good enough.*

               When you tell them this they say, "Who told you that? Who told you we don't have this?" It is just anybody who has statistics can tell you. It's not that I'm a geological scientist, but this is what I think we need to do.

MAJEED: In terms of the data—and you said real time data is a challenge—what is the plan moving forward? What is the KNBS doing for example, or are they just saying, "We cannot do it"?

NDEMO: *I shut the door and they cannot provide real-time data, because you would render the reporting irrelevant. You know they have performance targets. They must have economic survey and they must have data. So that is why they behave like that. But I am going to get a solution to that very quickly. We will create an alternative. Some of the data you could actually build a business case out of and we can have a consortium of different people who added the data to bring it out.*

               One other area where I have not succeeded, I have not succeeded to get everything from the Treasury because we need like CMA data, the Capital Markets Authority. We must get that in real time. This is one area where, if we get it, we would bring a lot of credibility to the money market, to the stock market in this country.

               Initially, when we said we need this data, they were shocked. But we need it online—in real time—what is happening on the stock. We hope, I think, we should get it this year.

MAJEED: And, right now, you said that they were shocked because it is out of their—.

NDEMO: *They didn't know whom to ask for permission. You know you go to the top guy and he tells you, "We need permission." "From whom?" He says, "We don't know from whom." So they both need to sit and figure it out so that we know when the price changes. Say, for example, we are buying Rushda International, it has been going for $5 and then suddenly the price is $20. We need to know how many shares were bought, who bought those shares. Of course, I can do that to drive the stock up. I mean, very little amount just to drive it up. So you can very*

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easily monitor from where you are seated. So we actually need that data. So I don't know who they would ask for permission to get it, but we are getting it.

Then health data. We are dealing with the digital villages throughout the country and we want to build a value proposition for these digital villages. So we have several things, including data gathering, where they would go to a clinic and they simply get aggregate numbers to say there were one hundred patients, ten with diarrhea, five with malaria, three were typhoid. Just that. If one day we look up and find that 50 were diarrhea out of 100, you actually know there is a crisis. Then we can provide early warning systems to the Ministry of Health. This is now real time data.

We need that in education. These digital villages can actually tell us precisely what is happening in every school on a daily basis. This is the number of kids who attended school today. If you get 20 out of 40 in a class you know didn't attend, you probably know there is something wrong that has happened and you can now begin to investigate. We need to know the qualifications of every teacher, the performance of the kids.

If the kids are performing poorly in English and you go find out and find there was no training of the teacher, now you are actually beginning to respond to issues. When that happens nobody—the minister doesn't know what has happened. He just says, "We will add more teachers." He doesn't know which area to add because you have not narrowed down which area tasks poorly. So we actually need all this. But, at the same time we must create applications that would enable us to develop them to make some revenue. This is what is eating my brain now.

MAJEED: Very interesting. You mentioned the World Bank's role and that has been critical.

NDEMO: Yes.

MAJEED: In terms of Tracey Lane and others.

NDEMO: Even the finding now—.

MAJEED: I have two questions on that one. Did the banks sort of reduce ownership in terms of other ministries viewing it as a World Bank project? The second thing is in terms of the funding now, what are the plans for it?

NDEMO: Yes. I would say yes, because World Bank has such a huge impact. They are sort of taken as owners of some of the data because they needed that data. So when they come and say, "Yes, we need that data in the open data," it gives a lot of push for us. The fact that they funded us—I think they gave us $10 million—I think we are going to push a lot of things.

MAJEED: Sorry, just on your earlier point you said that because the World Bank is a major, is viewed as a strong partner—.

NDEMO: Yes.

MAJEED: So when they have the data, that it is actually positive.

NDEMO: It is actually a positive.

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MAJEED: So other ministries do not—.

NDEMO: *Either way, they have the data.*

MAJEED: But other ministries did not kind of see it as a World Bank project and create
                resentment?

NDEMO: *The World Bank, in ministries where they don't have an overwhelming support,
                you get problems. There are several ministries that we have not gotten data
                from.*

MAJEED: And the funding that the World Bank has given, how do you plan to use it, the
                new funding?

NDEMO: *We are going to do a lot of things. The actual $10 million is going to support
                getting a number of statisticians to respond to the public and to then pushing and
                getting more data into the portal. But we have other funding which is almost
                related. This is for content development. This has been supporting application
                development. These applications would, some of them rely on open data. If one
                of the applications succeeds, you would have succeeded in driving the demand
                side.*

MAJEED: I just have a couple of questions if that is okay.

NDEMO: *Yes, yes.*

MAJEED: In terms of developing these applications, I know a lot of work is already going on
                through the ICT Board driving it and so on. You said that there is the need to
                build businesses around it. So is that kind of the plan moving forward?

NDEMO: *In any project I do, I look at sustainability. For sustainability, you must figure out
                where to get the revenue stream from. That is what worries me on a daily basis.
                Last night, we were here until 10 planning on Demo. Demo is a worldwide thing.
                They are coming here to Kenya. We have more than a hundred applications.
                Then, we are saying, "Let's narrow down to what can come out of this, pick the
                ones that can create an impact worldwide". This is how you can scale up from a
                third-world country to a global player. Even if you succeed in one, we would have
                heavily succeeded.*

MAJEED: In terms of sustainability, the other part of sustainability is also the policy
                framework around it or the legal aspect. I know that there was—you mentioned
                the cabinet memo for the Open Government Partnership, but is there another
                cabinet memo or is that the one that is now moving forward in terms of creating?

NDEMO: *We have multiple areas. We have several policy papers going through. We have
                the one on open data. We have the one on data protection. We are developing
                another one on creative economy. So we have multiple papers. But I am not a
                fan of legal frameworks. I am not a fan of too much legislation. Innovation comes
                in the absence of law. Much of the things that have succeeded, the law follows. If
                you put the law in front, you will curtail creativity and innovation. That is how—. I
                will give you some examples. When people say we have to have a law on this, I
                say, "Nonsense. Do it." Then we can create the law. That's how I operate.*

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MAJEED: But would you think if there was some kind of a framework that ministries that have not shared information or other places would be in a position where they would not be able to say no? Or would be forced to share data?

NDEMO: *The ministries that are refusing, we are going to get all the data. We are working on it. We are going to do things that will make them release the data. That is all I can say now.*

MAJEED: That's okay.

NDEMO: *You get fun when you break certain laws and get away with it. That is the fun out of it. I mean to be very boring, that is, give me the data please and they do whatever.*

MAJEED: Just to conclude, Dr. Ndemo, what percentage of your job would you say today now focuses on Open Data Initiative as compared to your other functions—90%, 50%? Just trying to get a sense of how much.

NDEMO: *I have a problem answering that because I have too many things. But open data occupies a lot of my time. It is not just open data. It is open platforms, open money, open source, open—. So you'll probably find even a very small—even when I talk to operators. They didn't like me initially but we are very good friends. We are doing the first, actually the first in the world, open platform for telecommunications.*

               The last mile, LT, 4G—we are learning to do it as an open platform where people compete not via infrastructure but compete on service. So you are putting everyone in the same line and saying, "You go" and see who gets the best out of it. They got annoyed initially but now they have understood that an open network—. I presented it in Barcelona. You see the whole hall was like: "This is the most stupid thing you could have done." Then the Germans presented their model, you know when you give frequencies, the spectrum in 700, 800 was being used by broadcast so there isn't—. But it is the best to propagate a new technology like LT. So I said, "Why is it that you can't give it to all players?" And if you give it to one they will destroy the others because everybody would go for data from this one and you kill competition. As a policy maker, I must make sure that we have a healthy composition.

               So the best, if there is scarce resource, you can't go for auctioning of the spectrum because the richest will take it. You can't go for a beauty contest because everybody is beautiful. You can't give them a small spectrum because then you don't optimize the resource. So the best is putting it together and they share.

               At the end of my presentation, everybody wanted to talk to me about it and actually we are going to do it. We are starting soon to do it and so many of you will come to learn from me. Equipment providers as well are very annoyed because they need these people separate so that they share more staff. This is an open platform, open money, open resource, open data, open everything.

MAJEED: My last question, you mentioned Barcelona. You travel often in terms of sharing your experience here and sharing about the Open Data Initiative. What kinds of questions do you get from the audience on the Open Data Initiative? What do countries most want to learn from Kenya's experience?

NDEMO: *Even the US, even other countries, their drive to open—the concept was not fully thought out because most countries, I find they don't have a sustainability model. They don't know what to do when the data has come out. Those are the questions, this is what I am asked: "So now you have released, so now what is going to happen?" When they find me so concerned about the demand side, it surprises everybody. So everybody wants to know how are you going to drive it which means how are you going to sustain it and how will you make sure that this continues past your stay in the office. That is what I am trying to do. Let us develop the demand side of data and that will drive itself in whatever form.*

These are the many questions. What have you done in Kenya? The master classes to the media, the application developers now getting into the political realm where you are inciting everybody by doing a strategy for two counties and everybody now goes and says, we must do our strategy. We must measure our development.

If you are measuring development in all aspects, because if I stay longer, I would have now the performance, this one was number one, number two, number three, and all that. Now each one will compete to outdo the other.

Now you can measure. It is very easy to measure now and say mortality rate went up. Infant mortality went down. This went down. This went up. And this is how you are able to do this. So they will now employ data-backed decision making. We don't do it. We have never done it in developing countries. We have never used data to make decisions. If I am able to make a few to use data, to make policy decisions, I would have succeeded.

MAJEED: Absolutely. These were some of the things you're describing now. The earlier impetus was to push forward the portal as soon as possible and then work on all of this.

NDEMO: *Yes.*

MAJEED: That was the thought in the back of your mind since the beginning that you would do all of this later, that you would drive the demand side later.

NDEMO: *It is how I work in practically everything. I get worked up when people say, "Let us go do a feasibility study on LTE." I say, "What for? Why? You need it. We can write it when the thing is working." And, sometimes it works. Because people waste time. I support data in decision-making but there are some things in which you don't need data to make a decision. One of it was the fiber-optic laying; there was no fight.*

MAJEED: You knew the problem.

NDEMO: *So I can write them down for you if that is what you want. The government, you seize the moment, the opportunity when you get it and how to do it, you do the end and the rest you can now put—there are several people who write the process.*

MAJEED: Thank you so much Dr. Ndemo. Is there anything I've missed you would like to add?

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NDEMO:　　*No, you can write it.*

MAJEED:　　Thank you so much.