



INNOVATIONS FOR SUCCESSFUL SOCIETIES

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Interviewee: Hans Rosling

Interviewer: Leon Schreiber

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Biographical note: At the time of this interview, Hans Rosling was a professor of international health at the Karolinska Institutet in Sweden. He had joined the West African Ebola Outbreak Response in September 2014 and went to Liberia to assist in October of that year.

A physician and statistician, Rosling has focused on community-based epidemiology throughout his career. After graduating from medical school, he served as a public health officer in post-Independence Mozambique. He then helped Democratic Republic of the Congo, Uganda, and other countries identify and track a rare paralytic disease, which he discovered arose from poorly processed cassava. In the early 1990s, he worked in Cuba to help respond to an epidemic of neuropathy that occurred there. He co-founded Doctors Without Borders Sweden and long advised WHO and UNICEF.

In 2005, Rosling created the Gapminder Foundation, which makes development data freely available and easy to analyze and visualize.

SCHREIBER: Would you start by describing disease surveillance systems as you found them when you joined the West African Ebola Outbreak Response in 2014?

ROSLING:

My big fault, for which I will criticize myself forever, was that I didn't realize how dangerous Ebola was when it reached Monrovia and the other capitals. I should have known that in the summer of 2014. I didn't.

I had been a senior professor in epidemiology [Professor of International Health and Regional and Global Health at Karolinska Institute in Stockholm]. When Ebola started to climb I was traveling. I just followed it in the news from the journals. When I came back I found that one of my Ph.D. students, with whom I founded Doctors Without Borders in Sweden, had gone to Sierra Leone for WHO (World Health Organization) and started to train staff to take care of Ebola patients. He sent back a message to us: "I need backstopping. You need to estimate how many people died from the collapsed health service in relation to Ebola."

We estimated at that time, in August 2014, about three to four times as many people were dying per day from other diseases due to the interrupted health service than from Ebola. But you can't get the health service to function if you don't fight Ebola. There is no way you can do it. You have to put all the resources on Ebola, because it is an epidemic disease, contagious in the health services. It kills doctors and nurses.

I started, in September, to do a number of fact pods and videos, about Ebola. I followed it carefully. I thought the international mobilization would bring it under control.

At the end of September, Chris Dry and his team at WHO published in The New England Journal of Medicine the prediction of what would happen if the epidemic continued to grow exponentially. That is a very important paper. I still honor it.

We had an enormous problem to get international response back to reality.

In October, the data that came out in the weekly report from WHO didn't make sense, because the number of confirmed cases in Liberia and especially in Monrovia was dropping right down. At the same time the number of suspected and probable continued to increase.

I talked with MSF (Médecins Sans Frontières) epidemiologists and they said, "We just don't understand it. It is probably lots of secret burials. That's what it is."

On the 20th of October, I landed in Liberia. I went to the Incident Management System office. The next day I walked into the Ministry of Health to see Luke Bawo [who headed information management]. Luke took me to his office and said, "There is an empty desk in my room; you can share it."

I worked on the Liberian side throughout the epidemic. I was very surprised that no other senior people set up side-by-side with Liberian colleagues in the ministry. Even Kevin De Cock [Director of the CDC Center for Global Health] didn't work in the ministry, although he was deeply involved. He worked at the CDC office. He had to take care of all these one-month students that CDC was sending to him. The other senior colleagues, they kept writing their papers at the CDC. Only one of them, Terry Lo, was really integrated in the Ministry of Health and worked there.

On one floor we had the enhanced administration of Montserrado, the county where the capital was. The brain of the surveillance was there and Luke wanted me to be in parallel to the Minister of Health.

Every Monday, Wednesday, Friday, and sometimes at other times, we went to the Incident Management System office and we had meetings there.

SCHREIBER: *Epi-surveillance was one pillar of the IMS and contact tracing was another—and case management yet another. Would you sketch out how that actually looked like and how the system worked?*

ROSLING: *It didn't work. But the person who led it was good. Moses Massaquoi was good, who was the clinical management. Sanford Wesseh, who was contact tracing, was good. But it should have been better coordinated.*

The situation was terrible. We didn't know what was going on. We didn't know whether the epidemic curve was rising or it was flat or whether it was going down. It was complete confusion and the reason for the complete confusion had nothing to do with the clinical management, because those who had worked with Médecins Sans Frontières functioned relatively well.

[On clinical management, let me say one thing about the Ebola Treatment Units (ETUs). Which was the most crucial ETU that broke the epidemic curve? It was probably Island Clinic. Who started that? Dr. Anne Deborah Omoruto-Atai, a Ugandan female doctor who was part of a team the WHO (World Health Organization) sent. She and her team were extremely good. Peter Clemens, also from WHO, stopped the Ebola transmission in Lofa County. He went from community leader to community leader and got community cooperation.]

The three big organizations that stepped in to help were the WHO, the CDC, and Médecins Sans Frontières. And they had such different characteristics, so different. The structure of CDC, at the end of the day, was very organizationally egoistic even though they were absolutely crucial for halting the epidemic. Médecins Sans Frontières is like the Catholic Church. They are reliable nuns. I never managed to get one person from Médecins Sans Frontières to work one single day within the health structure. On the one hand, they're anti-government, like libertarians. On the other hand, they are good.

Among the epidemiological experts there was the WHO Vice Director, a Canadian, Bruce Aylward. He became my best friend. Then Mike Ryan, senior adviser with the UN Mission on the Emergency Ebola Response, who was from Ireland and had worked as a field epidemiologist in many places—and Margaret Lamunu, who had helped stop Ebola in Uganda years before and was the one who said you have to coordinate data and epidemiological surveillance. You have to coordinate. She pointed out the weakness, I believe, between contact tracing and the epidemiological data. Those three were the best experts. They understood the character of Ebola.

So why was it a mess? On the 10th of September the CDC database collapsed. The software Epi-Info was meant to handle epidemics with one hundred cases, not the higher numbers we were seeing. And the database was fed with information from three sources. It came from case notification forms that were completed in the home, in the community, sometimes sent directly, sometimes following the ambulance to the Ebola Treatment Unit. It came from the clinical form, which was fed in through the Ebola Treatment Unit. That form in the Ebola Unit was sent in to the database. It also came from the lab results. But how could you link the community form to the clinical form to the lab forms? They have to have the same name, but names were different at different times.

In the home, it was the family who told the name and the sex and the age. But when they came to the Ebola Treatment Unit, patients came without anyone. The doctor and the nurse had no link to the patients, so they started to fill out a new form. And the range of age—because the 23 year old when he left home, was registered as 35 when he arrived at the ETU because he was so sick and he couldn't tell his age.

SCHREIBER: So you mean people estimated his age based on what he looked like.

ROSLING: Yes. And sometimes their sex was even listed wrong. We could manage until it became too much—too many cases. By then we had a room full of people who were trying to feed information from forms into the database. So how did we solve it?

At first they changed to this Norwegian open source database called District Health Management. When I came they had been running daily meetings for three weeks on how to construct the inputs for that database. But it had the same weakness. Everything should be perfect when it is entered. You couldn't change it later.

So what did I do as an adviser? We did everything in Excel.

The main thing I did was to protect the response from all these stupid apps and IT solutions and innovations that were being set upon us like a dog attack. The designers used the Ebola epidemic for their careers, nothing else. They were not there to fight the epidemic.

You see the situation. How did I manage to fall asleep during the first three weeks? Normally I listened to music. I listened to (Winston) Churchill's speeches from the Second World War. Seriously. It was extremely tense. It was just focus, focus, focus. How we should do the right things.

But I didn't have anyone who knew Excel well enough. There were a few people from CDC who knew Excel well enough, but they wouldn't touch Excel. It was like

getting a Roman Catholic priest to go and pray in the mosque. It just doesn't happen. There is no way. So how could I have someone who could take all the lab files, convert the, and rapidly create an epidemic curve, only by the positive lab results?

The problem is that there were positive lab results when people came into the Ebola Treatment Units, but then there were also positive lab results from among the survivors. When they said, "You're surviving, perhaps you can go home. We just have to test that you are free from the virus." So we had to have an algorithm that found out that this person had already tested positive. Then we had to look that the name was the same. But there were relatives with the same name, often, within the Ebola Treatment Unit.

With the simple algorithm in Excel we could have the names above each other and I could get the Liberians to eyeball them, because only Liberians could eyeball those names. They could say "this is the way they spell Alexander in Lofa, but this is how we spell it in Monrovia."

And someone must know how to type up Excel files and link Excel files to each other. I understood this about the 23rd, 24th of October. Who could I find who could do that rapidly? There was no one in Monrovia I could find.

So I got permission and I sent the files during the weekend to my son, Ola Rosling, in his summer house in the archipelago of Stockholm where he was alone with his kid. He outsourced the kid to the neighbor (his wife was away) and in 18 hours Ola did the curve.

He also created the indicator we used, the average number of cases per day during the last 21 days. It was a beautiful indicator because it gave a smooth curve. It was a smooth curve like a snake. It started to go down. And that curve, when we had corrected it with eyeballing, about the first or second of November, I could show in the morning meeting at the IMF, the epidemic has turned around. "It is on its way down."

But what happened then, at the IMF meeting? We had both the Chinese People's Liberation Army, which was building an ETU, and the 101st Airborne Division from Kentucky present. After my presentation, Commanding General Gary Volesky came up to me. Gary was a professional. Gary came up to me and said, "That was the best presentation we've ever seen on Ebola, what do you need?" The next day he sent his two best Excel officers, who came and joined our team. They worked 100% integrated with the ministry team, every day, during the remaining eleven weeks I was there. They worked from five o'clock in the morning to five in the evening.

The only worry I had going to Liberia for personal safety was state collapse, you know—if the state collapsed. The presence of the US Army was the safety we had and the UN also. I am very honored here that I have the very small cap of the 101st Airborne division hanging on the wall here. The last day I was sitting in their tent at the morning report, beside the general. Can you imagine the Swedish Public Health Professor becoming friends with the commanding US General? That's very special.

The full epidemic was turned around by professionalism and seriousness of purpose. Everyone had to work within their organizations and we had to accept each other's limitations. The useful thing with me, being with the Liberians was that I could speak frankly and openly in a way Tolbert Nyenswah couldn't. I could

say, "That's crap," to the US officials, "How do you know?" "I'm a member of the Swedish Academy of Science and we hand out the Nobel Prize and I know!"-- That was said in a joking way.

Then I could honor those where I could--Dr. Mosoka Fallah. Dr. Justin Mweda from Tanzania, who came through the African Union who was an absolutely brilliant epidemiological analyst. The CDC gave him an award.

We had that link, professionalism. We respected each other in whatever organization we were. There were some conflicts, but it was the seriousness of that Liberian team that made it work so smoothly in Liberia. Tolbert knew about that especially.

I introduced a daily seminar at 16:00. We had a daily meeting to review all the data that would go into the sitrep [situation report] for that day. I did the first presentations myself and then gradually day-by-day, I let others take over. The meeting was open to the technical people from any organization, the epidemiologists. It was about ten people working in the ministry centrally for the sitrep every day.

ROSLING: I asked my Liberian friends what difference did I make? They answered, "You made us think. Before you came we processed numbers, but when you came you made us think."

I filled the walls with graphs and maps. I had a friend at the CDC who found these colored stickers. I made it physical. If you want people to follow an epidemic, it has to be physical; it can't be in the damned computers.

We also had computers and we had Muhammad Dunbar, who every day filled the Excel sheet. He was Liberian. The guy from the US helped in the design but the crucial things were done by the Liberians. They improved gradually doing this. At these meetings, Dikena Jackson was in charge of the lab data--Dikena and Nelson Dunbar. Then Muhammad Dunbar, who was his cousin, actually was in charge of it. The guy in charge of the Excel spreadsheet told me how he was never employed. He was a volunteer working at the Ministry of Health throughout the epidemic, because there was no way to pay his salary.

Dikena Jackson, who was in charge of the lab data, was sitting at the back of the seminar group at one meeting. We had the data from a certain county and [there were problems with the data]. A very good CDC epidemiologist said, "The government has to improve this. The government has to improve the communication between the county and the ministry." It was a good comment. We were silent, because it was a severe critique. Then a voice came from the back of the room, "We are the government."

That was our mission statement. We wrote it on the wall. "We are the government." They bought West African shirts so we could wear the colors. So I was West African. We all wore West African shirts, except the Americans who were all in uniform. It was very important to get that working spirit. At the meetings, everyone got tasked to continue past four or five o'clock. Five o'clock they should have gone home. I didn't. I was up until midnight.

: We had to reflect on what was in the Excel sheet. We used stickers [to mark the locations of new lab-confirmed cases.] I read out the information and we wrote it by hand and put it on the wall. At three o'clock, everyone was asking, "How long

is it today? How many positives are there?" They had the map with stickers on the wall. "Where is the spike from?" It was visible. It made everyone think. I turned data processors, number crunchers, into detectives!

Now that the epidemic was down, the problem started to be the contacts. They didn't make sense. The contacts didn't make sense, because what happened was what Mike Ryan called "Ebola economics." If you were listed as a contact, you got food. So many people were very willing to be contacts. They even asked the family [of a person with the disease], "Can't you put me on that list?" Because then they would get food, whereas the one or two persons in the family who really touched the patient, who transported them, they were the ones who got the money, they got work. They were selling things at the market. They were driving the motorbikes, like the motorbike taxi. Everyone wanted to be on that list because, "The disease--it destroyed my business."

This was where Mosoka (Fallah) came in and improved the quality of the contact tracing. During that Christmas, for instance, he traced that Pentecostal pastor who put hands on the sick, one of the extreme born-again evangelists. He needed more people in his church and in an effort to be ahead of the others, he ran around to everyone with fever and put hands on them and actually transmitted Ebola.

Mosoka is an anthropologist more than anything else. I have some beautiful stories about him. He has such compassion. He is so kind. He gains the confidence of individuals, the women, in a way which was absolutely fantastic. At the same time he negotiated with the gangsters. He was just perfect for that job. We had lots of data that could assist him.

Then came a time, sometime in December, when I realized I was not needed at the ministry level any longer. "I'm not needed here because they function, they can do it." I agreed with Luke that I would move to Montserrado to coordinate the work on Montserrado, to Monrovia, because almost all the other epidemic was gone.

I managed to create what we called the War Room. It was the meeting room on the first floor. I wrote War Room and put it on the door. Then I put up all maps on the walls.

At the same time or a little before actually, the Tony Blair initiative—the Africa Governance Initiative—started to help in Monrovia too.

Yes, they had very good people. I called them intellectual butlers. They were the intellectual butlers. They were the ones who assisted the President to keep the government meeting. They were just butlers. They never branded themselves. They were just 35 or 40 experienced, good people. Really professional, but when they created the IMS of Montserrado that became a little too bureaucratic. That was when I created the War Room to compensate for the overly bureaucratic system.

SCHREIBER: What does it mean it was too bureaucratic? What does that mean?

ROSLING: *The IMS of Montserrado disrupted Mosoka's organization by putting two administrative levels between him and Tolbert that hadn't existed before. Before that, he could actually report to the head of the pillar of contact tracing and then that one would report to Tolbert. Now he was moved down to be four levels below. He rightly reacted to that.*

[At this time the epidemic was spreading from Montserrado to other counties.] Classic example. An old lady died from Ebola. She said “don’t take me to the Ebola Treatment Unit. I want to be buried in the village beside your father.” The family replied, “No, no mother, you have to do this and that.” “No, I took care of you throughout the civil war, you must obey me or the devil will take you”, she said. So she died at home.

The children washed their mother. They put on the best dress she had. They put her in the back of a taxi, sat one on each side and they drove out of the city. We had temperature controls in the city but they held their hands on the forehead of the mother so she passed with 37 degrees although she was dead.

SCHREIBER: So the people actually thought that she was alive who tested her?

ROSLING: *Yes, yes, of course, it was in the evening. Then she went and was buried in the village and then everyone in the village was at the funeral because they got food. Then they had one thousand contacts over there...or at least several hundred. So it was never an isolated Montserrado problem. So Mosoka was right.*

Now in Montserrado, you also had the problem that we called “sharks.” The unofficial name of the international organizations was “sharks.” “The sharks are coming.” But the sharks had money and they brought very good people like Kevin De Cock and so on. So we had to deal with them. But they were messing everything up.

We decided to create sectors. That was a contribution I created, the geographical sectors. No one was really thinking geographically with mapping. The problem was that case- finding had one sector system. Contact- tracing had another sector system. ETU had another sector system. Laboratories had another sector system. So we needed to have the same sector system for all the different pillars. Then we had to coordinate it. So what eventually I was thinking, why are the sectors as they were? The case-finding was more important because they went to fetch the cases. They were organized according to the garage for the ambulance. That is how you are to analyze it. You couldn’t accept the model; you had to understand why. We haven’t talked about organizations like the Red Cross and so on that went into considerable debt. They had their own sectors also. So then we adjusted and I managed to negotiate the sectors and then the idea was that instead of some international organization running the whole of it, Montserrado should bear responsibility of the sectors.

Then when we saw that that would happen and that was what they actually did they were helpful in that. I did it. Then they had me come and quickly they negotiated, at the roof top bar of the hotel, in the late evenings. Even Médecins Sans Frontières came and wanted to negotiate. But I didn’t care who took care of what. I just wanted adequate geographic borders. That was my contribution.

Everything was managerial, slow. What I managed with the War Room that had dedicated, good people from all organizations involved, except Médecins Sans Frontières.

The Warm Room was the Churchill inspiration. We had the maps and the graphs and we got the information from people all working in the same room. They put up the contacts and they went out to tea together and it was in that room in the morning that Mosoka sat in the front and we had the supervisors and they could talk about them and they could point at the map. It also increased the analytical capacity by not only working data on computers.

SCHREIBER: Could you give me a summary of the process?

ROSLING: *It was different across the country and it differed over time. It is an almost impossible task to describe, no, it is impossible to describe. You start to say that it was so dynamic. It can only be, amid all these technical innovations that came around.*

When someone got sick in the community and they called for the Ebola team to come with the caisson, that means that they were saying goodbye to their loved one. There was very little chance that they would come back and they would not have a funeral. Can you imagine? They would not have a funeral. It was so tough. It is not that they had cremations; they had collective cremations. If you have cremation, with the ashes, people would say this is terrible. We cannot deliver the ashes of your father; we couldn't deliver that. We burned bodies together, jointly.

SCHREIBER: And the people were referring to it as burning bodies.

ROSLING: *Yes. They had to accept it, because we had the best teacher on our side—death. Death is the best teacher you had—in a community, a neighborhood, a city, a village in the rural area. They had someone who dies. They arrange a funeral. Seven to eleven days after the funeral, three or four of the people who were at the funeral they die. Then the clever part of the village and the neighborhood say, "What's that? People went to the same funeral died. They have to be careful."*

Then there are four more funerals and then seven to ten days later there were about four to five people from each funeral that die. Then everyone understood. Those were the lessons. They didn't understand that this is a virus, but they understood that it was a very vicious spirit that was around.

It didn't matter so much what they called it; they got it. The ones who could do something about it, they would listen to them. In the remote communities in Lofa (county), they would draw a line around the house and say no one passes this line. You stay inside, you stay outside, and we put water and food here. You do not leave.

At the end of the epidemic, Lofa treated the outsiders like that. When someone came back from Monrovia and came to the remote village now it is the other way around, "You stay in one of those three houses over there and you stay there for 21 days before we let you enter the village."

They learned the system. What happened was that when the case finders said yes, this is a suspected case or a probable case or whatever, [the ill person] had to be transported to the Ebola Treatment Unit. Then another form was filled in. Then they had to get admitted, not to the red zone, but to the suspected zone. The problem was when you were in the suspected zone you were exposed to Ebola.

ROSLING: *So if they found out, after one, two, three four days you recovered, you were healthy, you were negative, you went home, but you were a contact. That was very confusing for people. You said we didn't have it and now you come visiting every day.*

SCHREIBER: But the difference between a contact and a suspected case was that the suspected case had to go to the ETU while the contact had to stay at home for 21 days.

ROSLING: *The suspected case had symptoms; the contact didn't have symptoms. That's the difference. And you could become a contact because someone in your family or your neighbors or your work place got sick. Or you could become a contact because you have been sitting in the Ebola unit for 48 hours until you were released. That was very bad. You should have had isolation so that everyone spent their time in the isolation and then when they went home they had been in no contact. Then they would be easier to recruit, because if you send someone to the Ebola Treatment Unit either they would be admitted to the center and then would die or then they'd come home with stigma, and rightly so it turned out.*

That has changed over time so much. At one of the Ebola Treatment Units, the forms piled up for three weeks because they forgot to send them to the ministry. It was never a system that worked smoothly. It worked more or less and we worked on improving and improving and improving it. Now they are good, what I see now. There is an ongoing aspect just now in Liberia. So why couldn't we put a band on the wrist of the patient? Because culturally that would be marking them for death when we picked them up. It was culturally offensive. It is not like a normal disease.

Cholera is a piece of cake. Someone has cholera you put them in the back of the car and you put the family together with them and a nurse and you go and you give them a little oral rehydration. Ebola is extreme. You just have to stop Ebola. You can't have it in your country; it brings the country to a stop. It brings health services to a stop. You can't have it. It slipped in from the animal kingdom and now it is among humans. Now it is being perpetuated by survivors in urban areas. Before it was in rural areas with very few survivors and the chief survivors are so stigmatized that they had had Ebola. In the urban area that is not the case. That is why we may have this boiling for five to ten years. They must keep up their organization.

The WHO budget is 16% core budget and the rest is soft money. Margaret Chan had to declare an emergency to get to raise the money. When she declared an emergency, she stopped the economy of these countries. She brought havoc in the economy. Every contractor went home that day. She knew that.

Can you imagine the embarrassing situation? In order for me to get money to stop this epidemic, I have to break the economy of these countries. And that's why they started to cry wolf and say that they were bad. They could have handled it slightly differently. Margaret Lamuno was on her way to Liberia, but there wasn't money to pay her ticket.

Bruce had to reorganize this. He went with his wife and his children to the airport to fly on holiday to Greece to the island. After the check in—passed the check in he told his wife he was not going with them. Then he went back and took charge.

Kevin was another one. Kevin was back within a week. Kevin was another. It was persons like that.

Let me end by telling the story Miata told me. I asked Miata what was the toughest moment of this response which was obviously during September, before I came. She was thinking. "There were so many" she said. "But perhaps it was when I was negotiating with the USAID on a cell phone. That was multi,

multi millions, the biggest contract I had ever handled. Then my private cell phone phoned and it was my cousin crying that my aunt was lying on the street outside the Ebola Treatment Unit dying because there was no place for her. So I had the nation in one cellphone, in one hand, and I had the dear aunt that took care of me throughout the civil war in the refugee camp in the other hand and I had to make a choice and I picked the nation. My aunt died.” The heroism and seriousness of purpose—she said, the ministry worked every single day.

Now there is one thing more I have to tell you which I forgot. I came there as a result of my foundation that I founded with my son and his wife and we do these nice things. Philanthropists approached us when I was going to the Ebola epidemic from Sweden, within just a few days. Do you need money? I said, “Yes, because we may be supporting ourselves by making nice visualizations. So we had some money which we put like in an Ebola fund. What I found in the Ministry of Health was that the entire team that was running the epidemiological surveillance did not have access to cellphones. They had to pay themselves.

So I introduced the Ebola epidemiological data support fund. We wrote the contract that Luke and I signed. We sent a copy to the Department of Finance, everything correct. I do everything correctly. Then we had a woman who was part of the Pentecostal Church who used to take care of accounts, who was good at that and considered very honest. She took care of the money. I took cash out of the Visa money machine at the hotel, as much as I could from the cards I had, and I handed it over to her. I got the receipt and then she bought phone cards for everyone. We had a small speech. We said this is for professional use but you are obliged every evening to phone all friends, all families, all people you know around the country and ask for information and rumors about Ebola. That is, you can use this freely for God’s sake, but you can’t sell the card; you can’t sell the air time. That is fraud. But you can use it as much as you can yourself. They could make free telephone calls.

I got them a free internet connection so they can work from home; that is why I could put them to work in the evenings. I had given it to them. We bought printers and old small things they could have and then in December and January we got them their salary for overtime pay.

SCHREIBER: So this is the team of ten people?

ROSLING: *Ten or twelve, Luke may have made [Indecipherable], fully transparent, everyone knew it. No one did this. They came with all these apps and everything; all the stupid suggestions of apps to stop poverty. 90% to 95% are ridiculous, 5% are good. It is overwhelming out there. When I was young we were collecting old medicines to send to developing countries, and now they send apps.*

That shows you by working inside and having that little extra, it was a good match, you can make a difference. I paid \$150,000 Swedish Krona, not more, and it made the system work. They could phone, they could talk.

SCHREIBER: The most basic things. It was the same in the IMS when they didn’t have internet connection in the beginning.

ROSLING: *We didn’t have internet connection. That is why e-health was interesting. E-health is an organization based in Congo, an American IT guy who is doing good things with polio. He came from Nigeria and we tried it but it never came into use. But he wanted to promote this app. I took him aside and said why don’t you fix*

the internet for the ministry. Then he did that during the weekend with a commercial supplier there. We put in the internet so we got to use it.

ROSLING: *I was nominated a chief. I got a Lofa chief name, Tauma. I got this beautiful dress from a Lofa chief with metal threads, very, very beautiful and everything.*

The way they said good-bye to me was deeply touching. This is what I learned if you go and work on the government side, we are the government. Then with a good government you can make use of the support of the private sector. You can make use—even if not in the core business, there are good things. You can deal with all these organizations. If there is not a government in the center you will never win a war, you will never control an epidemic, you won't stop a bush fire, you won't get your country to function. I am very much for market economy, but you-have to have a government to function.

Every second Saturday I presented at the President's meeting. Four minutes, it was four minutes. Then she [the President] asked questions. What is the opinion of the professor? So I said, "Open the schools; they're just scared. Open the schools. You won't get any transmission. You have to open the schools; it is too high a cost for the country to have the schools closed. You can never, never catch up with the semesters lost." I calculated the effect that would have economically and so on in the country losing schools. So I contributed to get an early opening of the schools.

When the vaccine should be tested the Ministry of Finance said, "We want a share of the profits. We are taking all the risks here, politically, letting this be tested, we are taking that—we must renegotiate this. What do the professors say?"

I said, "There is no country in the world that needs the vaccine more than Liberia, because this epidemic will kill, will continue to boil in your neighboring countries and because you are the best at stopping it. You will stop it first, but it will be coming back. You will desperately need it. The international community will fund it for you, because Ebola kills the rich and they are scared. Do not delay this for one more hour."

When the discussion was over she said, "The President said it was very nice, they all listened and they did their task as politicians. Then the civil servants—the group you are talking to, they did their task." It is very interesting to know. They did the right things.