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FORESIGHT AFRICA
PODCAST

**The Brookings Institution
Africa Growth Initiative**

Foresight Africa Podcast

“How unequal health outcomes challenge economic growth in Africa”

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Guest:

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Episode Summary:

Belinda Archibong, a David M. Rubenstein Fellow at Brookings and professor at Barnard College, talks with host Aloysius Ordu about mental health and other health challenges facing youth in Africa. She explores the nexus between health and economic issues like productivity and growth, and shares her research on using technology to help address these concerns.

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ORDU: I'm Aloysius Uche Ordu, director of the Africa Growth Initiative at the Brookings Institution, and this is *Foresight Africa* podcast.

Since 2011, the Africa Growth Initiative at Brookings has published a high-profile report entitled *Foresight Africa*. The report covers key events and trends likely to shape affairs in Africa in the year ahead. On this podcast, I engage with the report authors as well as policymakers, industry leaders, Africa's youths, and other key figures. Learn more on our website, Brookings dot edu slash Foresight Africa podcast.

My guest today is Belinda Archibong. Belinda is the David Rubenstein Fellow with us here at the Global Economy and Development at Brookings Institution. Belinda is also an assistant professor of economics at Barnard College, Columbia University in New York. Her research areas include development, economics, political economy, health, and environmental economics with a focus on Africa.

Belinda wrote a brilliant piece for us in *Foresight Africa 2023* titled "Using Information and Telecommunications Technology to Improve Mental Health in Africa," which is the subject of our conversation today. Sister Belinda, a warm welcome to our show.

ARCHIBONG: Thank you very much, Aloysius, it's much appreciated.

ORDU: For the benefit of our listeners in Africa and across the world, could you briefly share with us your journey thus far to your current position as professor of economics?

ARCHIBONG: Absolutely. So, I am currently an assistant professor of economics at Barnard College, Columbia University in New York. I'm also a Rubenstein Fellow at the Brookings Institution.

But in terms of how I got into economics in the first place, I came to the United States at the age of around 12. So, you know, in Nigeria, a lot of us that are coming to the United States, we come from oftentimes very specific backgrounds. So, you need a lot of income to be able to come to the U.S. in the first place. And so, in Nigeria, my family was pretty much middle class.

And so, when we came to the United States, it completely changed. It was very tough because now you're adjusting to a new country. It was my mom and my brothers and kind of trying to kind of adjust to the United States where you can't use the same degrees that you used in your own country in Nigeria. If you're a lawyer in Nigeria, it doesn't matter. In America, you have to start from scratch.

And so, I started thinking very much about income inequality from a very young age, and trying to understand why very random things about us and about people, right. So, think where people come from, people's nationality, people's gender, like things you didn't choose about yourself necessarily really affect your life outcomes, right. And really affect your economic outcomes in these very, almost arbitrary ways.

And so, I started thinking about why, why does this happen? And that line of thinking led me to when I got into university trying to understand what kind of subjects, what area can really help me understand this question of why does income inequality happen? Why does income inequality, again, based on just it seems arbitrary things about you like where you were born—I was born in Nigeria—affects your economic outcomes.

So, you know, that's how I got into economics. I said, Oh, this is a really great subject to learn about and to study these things. I became an economics major, started doing more research as an undergraduate in economics, and these ideas on economic inequality. And then, you know, it was like, okay, let's study this more. I had very good mentors, luckily, that said, you know, you are good at this research thing. Maybe you should consider a career in economics. You should do a Ph.D. So, I went on to do a Ph.D. in sustainable development at Columbia University and really, again, focusing on these questions of economic inequality.

And yeah, continued on that path. Became an assistant professor of economics at Barnard at Columbia University, and I am still doing that kind of research today. Right? So, my work, my research is in developing economics and really trying to understand how do historical institutions, how does environment affects this economic inequality more generally, but inequality in access to public services, to what we call in economics human capital development, right, things like education, health, labor markets, employment, that we know are crucial for living a good life. So, that is how I came to economics as a profession and what I still do today.

ORDU: That's a fascinating journey indeed. And I can relate to your remarks about your mom, parents bringing you and your siblings to the United States. And of course, in the interest of public disclosure, as a fellow Nigerian, you know, we are very resilient and hardworking people. And it's great that you essentially achieved the American Dream in spite of the circumstances you described at the very beginning. Best congratulations.

ARCHIBONG: Thank you. Thank you.

ORDU: So, when we think through the episodes of this of our podcasts, we are really, really heartened that a large majority of our listeners are youths, our youths here in the United States, youths across Africa and indeed in India as well, which shows the geographic remit of our listeners. So, for the benefit of these youths who are aspiring, Belinda, on hearing your story, aspiring to be like you and want to follow in your footsteps, what would be your two or three key advice to them?

ARCHIBONG: So, I don't know if I can give advice at this point in life, but I would try. One of the things that everyone will tell you is to work hard. Right. And that seems like a very simple thing that everybody says. But I would say work hard in combination with finding good people to support you as well. So, a lot of times, and this happened to me when I was doing I started doing my research on economic inequality in Africa, people might want to discourage you to say, okay, look, this topic, these issues, they're not that interesting to other people. Maybe you should do what's in vogue, what is popular, et cetera.

But if you have a goal, if you have an objective, you know that this is a topic I am interested in, this is what I want to do, work hard towards it. Right? And once you do, that work often will be reflected then in how passionate you are in talking about the issues that you're studying, that you're working on. And that passion will attract, hopefully—takes some good amount of luck, I will not lie—hopefully that attracts good people, good mentors to you that can help you then further work to achieve your goals.

So, work hard, choose what you are interested in, and follow that passion and find good people who are supportive of your ideas, supportive of your trajectory, supportive of your goals. That would be my advice there.

ORDU: Fair enough. Those are excellent advice. And the issue you also mentioned is about finding good people. And then this brings us, of course, to the point of mentoring, which is really, really crucial, not just for professional growth but also for success in life. We all need mentors. Any specific experience of a mentor that you've benefited from, and if so, how do you yourself approach your role as a mentor to others?

ARCHIBONG: Right. I have been very fortunate to have fantastic mentors in the course of my education and my career in terms of people that have been very good mentors and the characteristics that they've had. So, the United States, Aloysius, as you know it can be very tough. And it can be very tough also when you're a Black person and then you add if you're a Black woman in the United States, right, there are issues with racism, with sexism, with misogynoir, as it's called, the intersection of racism and sexism.

And so, once you are coming here and you're studying and you're trying to work at these goals that I mentioned, you might also face these kind of institutional barriers that exist within the society. And so, a good mentor will be someone who will help support you, someone who will take your side, somebody who will champion your ideas, even within those constraints. And the things that good mentors have been able to help me with has been to say, look, again, I have these research ideas. Some of them earlier when I started doing the research, people said, Wow, why are you doing that? That sounds crazy. That sounds insane. It won't be popular. It won't get you a job.

And I was fortunate to have good advisors at my Ph.D. level that said, Hey, actually, I think this is a very good idea. This is what you need to develop it further. I'm willing to read your research, read your papers to give you very careful, detailed reviews. I'm willing to not just do all of that, but I'm also willing to introduce you, right—and this is the finding good people—to other networks. Right? Networks that, as I mentioned, can be very difficult for people from my background, our backgrounds—you are Black, you are international, you're African, you are a woman—to access traditionally because these networks are often in the United States at least very male dominated, very white American, et cetera, dominated. And so, it can be very difficult if you're not in these groups to break into these groups.

And so, mentors and advisors have kind of helped me and introduced me to people and said, hey, like this researcher, this young researcher, her research is actually really great. I think you should read it or I think you should invite her to conferences

to present the work, et cetera. And that has been what I found to be very good mentors in my career experience and across a whole different spectrum of people. Right? Not just Africans, not just women, not just Black people, like people from all different ethnicities, races, nationalities, gender. That has been very, very valuable to me. And I'm very fortunate to have been able to meet those kinds of people in the course of my work.

ORDU: So, let's now, Belinda, turn to your *Foresight Africa 2023* essay. You chose the difficult subject of mental health, which is often a taboo subject in many cultures, ours not excluded. Right? I remember *Things Fall Apart* by Chinua Achebe, you and I. You can imagine some indications of what used to happen to youths with mental health, you can impute to that. Anyway, how prevalent is the issue of mental health amongst the growing population of our youth right now do you think?

ARCHIBONG: It's a very prevalent thing. Unfortunately, I think we don't even have good metrics on the extent of kind of what mental health looks like among youth in Africa, because it's not something that has been prioritized. And this is not just in Africa. I would say this is everywhere in the world. Mental health has always been seen as, oh, this is this separate thing that might be nice to have, but is not essential to health. Right? When we think of health, we think of your physical health, and you think of you are going to the doctor for a cold or for an illness, meningitis, whatever, is something else that I study.

And so, when we started thinking about this, we really start thinking about this, my coauthor and I, particularly during the pandemic, right, you started seeing especially with the rise of information and communication technology—everybody has a phone, you can have access to social media—we started seeing people post and be very frank about what they were dealing with in terms of mental health. Right? The struggles that they were going through in terms of mental health. Especially during lockdown. Right? People were locked at home, they were stuck at home so we can prevent the spread of COVID and were not able to access their friend networks, their family network, their social networks that they usually would be able to contact to help them deal with whatever mental issues and struggles that they're dealing with.

And so, in the absence of that, you start seeing people, you actually saw the data came out that that there was an increase in reports of mental distress. Things like depression and anxiety and all of these things that people were dealing with and people were dealing with in a more public way than ever before because of the access to social media.

And more so I would say in African countries, particularly because of the context we have, where our health infrastructure is oftentimes underinvested in and oftentimes less developed than in richer countries, right, or in richer regions, I would say.

And so, this double thing of you have this like health infrastructure that's not as well equipped, I would say, to deal with not just even mental health, but just sort of primary health care in general. Plus this growing need for mental health, mental health, and growing need to recognize mental health as health. Right? Mental health is not something that is separate. Your body and your mind are not two separate entities, they're in the same entity.

And there's growing need to understand like why is this important? Why is this important for young people? We talked about employment before and thinking about youth employment. Well, we know from research that if you are not healthy, and that includes your mental health, you're not going to get to work, you're not going to be able to work productively. Your labor productivity is going to fall. Right?

And also thinking about like your costs, not just your costs, but the costs of your household for dealing with these health issues are also going to increase, which is going to put further pressure on your finances, your budget. When you are in a situation where you are already very restricted or in a situation where maybe you have less money, less resources, et cetera.

So, all of these things are connected and this is what we are really trying to get across with this work. Thank you very much, Aloysius, for inviting us to write in the *Foresight Africa* piece. And with this kind of work that we've been doing and research we've been doing our thinking about mental health in Africa and what we can do to try and improve mental health in Africa, especially for young people.

ORDU: You also mentioned that policymakers need to leverage the near universal access to mobile phones to address the problem and improve mental health outcomes in Africa. Could you tell us about the research you did in Ghana on this particular point? What did you find and how replicable and scalable is this study?

ARCHIBONG: Absolutely. So, this was a project with my coauthor, Dr. Francis Annan, who's a faculty member at UC Berkeley, and we said, okay, look, again, almost everybody has access to a cell phone around the world and for sure in Africa. I think in Nigeria, this was maybe ten years ago, it was like 80% of people, according to the demographic and health service statistics, had access to a mobile phone; I'm assuming that number is much higher today, right? So, people have access to cell phones and you can use cell phones for a number of different things. Clearly, they, you know, use them to call, stay in touch with your friends, your family, your employers, and also access the internet, access information, et cetera.

And we said, okay, particularly when 2020 hits, and I mentioned the lockdown before, everyone was stuck at home, you couldn't move around as easily, you couldn't meet up with your social networks as easily. So, governments in Ghana, the Ghanaian government, passed a communication service tax reduction where they were reducing taxes on communication services. Many ICT companies, like information and communication technologies like Verizon, I think was one of them, started giving free data access, free phone for limited amounts of time.

So, it seemed like both the private sector and governments were realizing that, hey, communication is important to people, communication is very important to people's mental health. And also making or reducing barriers to communication might then have some impact on improving people's mental health. So, we said, okay, if that's true, let's test this idea.

And so, my coauthor does work a lot of work in Ghana and had been working in Ghana previously on some research. And so, we said, okay, let's work in Ghana. Let's try and understand are there very low cost ways to improve mental health by leveraging this fact that you mentioned that everybody has a cell phone? And so,

what we did was to say, let's make it cheaper for people to use their phones to be able to make calls, to be able to call their family, their friends, their employers, and to maybe to access the internet.

So, what we did was we then said, we're going to do an experiment, right, where we are going to issue just free phone credit to people in the treatment group, as we call it, in an experimental lingo. We had two different treatments. In one treatment we were giving out around \$3.50 worth of phone credits to people. And in another treatment, we just gave them repeated installments—so, \$7 in total, but two repeated installments over two months of \$3.50 in phone credits. Why did we choose that number? This is about half of what people are spending on their phone, communication, data, et cetera. Usually we had that data in these households in Ghana.

So, we did that and we said, okay, let's then measure their mental health outcomes and see how they, using traditional metrics, traditional outcomes in psychology, let's see what people's reports of mental distress are after receiving these phone credits. We did this in the fall of 2020, so lockdown had been lifted. But, it was still in the pandemic end of 2020.

And what we found was that you saw remarkable improvements in mental health, remarkable reductions in people's reports of mental distress. And this was across the general population in the study. And also slightly stronger effects for women in terms of reductions in reports of mental distress. And also more or stronger effects for people who are getting these repeated installments instead of the people who got just a lump sum transfer of phone credits for one time. Right? So, people who got their \$3.50 regularly versus the people who got just one installment or one transfer of the phone credits.

So, we said, okay, we can do all your cost effectiveness metrics. And what you find is this is a good deal for the government, right? If a government or if a policymaker wants to do this, it's not very expensive. The benefits way outweigh the costs of investing in these programs. And this is one very simple, easy to implement low cost way of improving mental health by leveraging the access to ICT, or the access to cell phones that people have currently.

So, we think this is great. This was in Ghana, but we think it's definitely generalizable across not just Africa but across the world. And something that we saw that companies and governments were already trying to address communication constraints during the pandemic. So, it's something that people are recognizing, policymakers, private sector are recognizing that is important.

But we were able to then put some numbers and some research into this to show that, ah, this is very important, actually. This can really improve people's mental health with these very low cost interventions.

ORDU: So, Belinda, as you know, in issues of technology, ICT as you mentioned, which is the basis for these findings, data privacy and security are important considerations, right? So, how can African policymakers ensure the protection of individuals' privacy and the use of data and implementing this type of technology as a mental health solution?

ARCHIBONG: That is a very, very important question. And it's something not just African policymakers, but policymakers around the world have been trying to address. Right? So, you have this thing of new age of people are calling, like, the Fourth Industrial Revolution, like new age of data. We have so much technology that can gather pretty much any data that you are looking for, and large amounts of people's personal data is also then being collected, being stored by various authorities.

And so, this is where I think the very first thing to do is make sure that we have regulation in place that guarantees data protection of residents, of citizens of countries that says your data, whoever is collecting it, will be protected, it will not be shared. There is privacy, there is confidentiality. We know that when the regulation is passed that your data will not be used for any purposes that will be harmful to you or shared without your consent, and that we will fully inform you, right, any time your data is being used or being collected by these parties.

And so, for example, Nigeria, I think just introduced the data protection bill, I believe, and that's something I think is a very important, very good step. The EU countries have also, a few years ago, introduced data protection policy. So, when, you know, when we go online now, your browser, you often see these pop ups that say, we are collecting these cookies that track you, we are collecting, et cetera, are you consenting to this or would you like to turn it off?

So, I think that should be standard practice everywhere, including especially in African countries. Right? Everyone should be informed of what they are agreeing to when they access a website, when they access their phones, when they access whatever it is that they are accessing technology-wise and should be able to give full informed consent or not if they do not want to, to that data collection. And then the policymakers should have laws in place that prosecute people, firms, private sector, et cetera that violate data privacy, data confidentiality laws as well.

ORDU: Belinda, given the headwinds facing finance ministers, not just in Africa, across the world, inflation and debt overhang, fragility, unemployment, climate change of course as well, what would your advice be to a health minister on how best to make a compelling case for resources to be channeled to mental health in our countries?

ARCHIBONG: It's a good question. I think this is something that even not just with mental health, health generally is severely underfunded across Africa. Government spending on health generally in Africa is much lower than in the rest of the world. People are spending more out of pocket than in the rest of the world. And so, so this is a very big and important issue that all health ministers, I think, in Africa are facing.

I think one thing that is important for health ministers, policymakers that are trying to kind of address how do we get more funding despite all these constraints that countries are facing, is to highlight that, again, mental health is health, right? And health is not some sort of external outside social spending thing. Health is an important part of economic development. It's a crucial part of economic development. I would say one of the most important parts of economic development.

So, you need investment in a healthy population, including mental health, to be able to get populations that can work more and not just work more, but work more productively, which is the more important thing. And a more engaged population in the labor market means hopefully then you get more productivity in your economy, you get more firms working more productively, citizens, people working more productively, which might translate or should translate into more GDP growth, more economic development as well. All of these things are tied.

I think there's definitely issues with just the share of government spending that has been devoted to health has been very low, and has actually gone lower in the last decade in many countries over the past few years. And that's a concern again, because mental health is health and health is an important part of economic development.

So, I think making that case very strongly is something that health ministers can do and showing how intrinsically connected health, education, employment, climate right is very, very important to kind of get more of this financing, get this as a priority for governments, and also improve economic development as well.

ORDU: Belinda, gender plays a significant role in mental health, as you know, because women and girls often face unique challenges. Did your studies show any gender specific interventions to address the mental health concerns of young women and girls?

ARCHIBONG: So, this is a good question. So, in this particular study, we had not addressed targeted interventions. So, we looked at outcomes by gender, but we didn't do any targeted intervention interventions by gender. But what we have found in other research we've done on thinking about gender inequality in health and the drivers of that is that, as you mentioned, women are often even more disproportionately affected and negatively affected when it comes to health. And for sure, when it comes to the things that affect mental health.

And so, one of the things that we've suggested in other work is saying that we should have targeted interventions to women. Right? Targeted financial interventions to women. We've shown that phone credits work, so maybe an intervention would be that you have more phone credits directed to female-led households or you have households with more women or you have cash grants also. Right? Because a lot of the mental health issues that African populations—the populations around the world, not just Africans—face often are tied to economic circumstances.

And so, having more interventions that target like cash transfers to women, in particular in households that has been shown to work in other research to improve human capital outcomes. And so, that could be something that from a policy point of view is straightforwardly implemented to address the kind of gender disparities that we see in health.

ORDU: Moving away from mental health, Belinda, you've also done a lot of research on gender gaps in the labor markets, particularly in Nigeria and elsewhere in Africa, of course. What are some of your key findings and policy recommendations to promote women's economic empowerment?

ARCHIBONG: Yes, so, we have been doing research particularly in Nigeria for a few years now, that has been trying to kind of document the extent of unemployment and the kind of employment challenges that are faced by people, especially by young people in Africa. And also then also document the kind of gender disparities in employment that we see in particularly in Nigeria as well.

And so, we've been working with these online labor markets—think of LinkedIn type platforms—and trying to understand how does the labor market in Nigeria and also, you know, hopefully generalizable to the rest of Africa look like through these platforms.

So, one thing to note is that the market we've been studying is very high-skilled markets. And so, I'm going to tell you some facts, but noting that this is a very high skilled market, so you can even think of anything I'm telling you now is worse for the median population, because these are the people that are the well-to-do, or at least from the education they're the very educated, over 90% of them have completed tertiary education. So, these are very high-skilled people in the labor market.

So, despite this, one of the things we see are quite high rates of unemployment. In the surveys we did in 2021, 30% of them report they are unemployed having no job. Again, very shocking, given that these are the most educated, most skilled people. And then even for gender disparities, that number looks worse for women. So, women are much more likely to be unemployed than their male counterparts.

Another thing is that when we look at application patterns and we look at hiring platforms, again, you don't see women applying to as many jobs as the men. You don't see women applying to as many senior level positions as men. And then you don't see women getting hired at the same rate as men either. Women are less likely to get hired, and these are qualified women, these women that are qualified for the education by their education, by their years of experience to apply for these jobs.

So, before everyone says, oh, well, this is the women that are doing this, I think this is where we then say, okay, look, actually this is a function of the institutions in this labor market. And this is where we have been really trying to understand both the patterns, application patterns of jobseekers and also the hiring patterns of employers as well. And so, we've been doing interventions to increase applications from women. The interventions are working—when we provide more information to women on the jobs, they apply more.

But despite that, if they are applying more and hiring managers are not hiring them, then they are wasting their time. Right? Which we don't want to happen. And so, what we've been trying to do is also understand, like, how can we get hiring managers to hire more women, more of these qualified women? Why isn't it better to hire qualified women? There is research showing that you have more gender diversity, you can improve your firm performance, you can improve your firm value. It is research that we've seen from EU, North America context that I think is generalizable to the rest of the world and to Africa as well.

And so, what we've been really trying to do is address the kind of biases that maybe employers or hiring managers have regarding to the qualifications of women. Maybe they think women are less qualified, which again, is not true because we have the

data on the qualifications, very high-skilled portion of the labor market. And trying to say, okay, what interventions can we do that will, again, be low cost? That will leverage the fact that everybody has access to a cell phone and hopefully can access jobs more easily. Right? You can go on your LinkedIn or your online hiring, labor market profile, create a profile. Employers maybe can match or can find applicants more easily. Hopefully, if we can get that match between qualified candidates, qualified women and good jobs that will help reduce these relatively high unemployment rates that I mentioned for women.

And also, of course, then you're reducing for women and reducing it for the whole country and for whole regions and the continent as well. So, this is what we've been really trying to focus on over the over the last few years.

ORDU: Belinda, as we wrap up in this area, I wanted to take you back to one of your earlier studies where you highlighted the impact of disease burdens on gender gaps in educational attainment, specifically focusing on the 1986 meningitis epidemic in the Republic of Niger. Could you tell us about that particular hospital and what lessons were learned from that experience?

ARCHIBONG: Absolutely. So, meningitis epidemics are actually something that are frequently pretty common in Africa, right? So, there is a whole region of African countries called the meningitis belt. So, these are around 23 countries that extend from Senegal to Ethiopia. And Nigeria is one that is included in that belt as well. This is a designation from the W.H.O., the World Health Organization. And these are countries that are frequently exposed to meningitis epidemics. Right?

The reasons that they are exposed has to do partly with the climate. So, the environment, we have the dry season in the Sahara Desert, which will bring dust and high winds that allow people or make people sneeze, make people cough more, which allows the bacterium that causes meningitis epidemics to spread.

So, just for a background that people who don't know what meningitis is, it is an infection of the lining of the brain. Very nasty illness. You get it, you can get in the worst cases neurological damage and then you die. And it's often very the most vulnerable populations are young people. So, children and teenagers are often the most vulnerable from a health perspective population for meningitis.

So, we said, okay, this is something that is very important to study, right? Not just because it's clearly a very nasty disease. There are a lot of countries that are affected by this disease. Almost 700 million people living in those countries I just mentioned, those 23 countries. And it's something that we think with climate change might also get, unfortunately, more frequent in the future. Right? We're seeing this with pandemics, right, epidemics getting more frequent in the future.

So, what I really wanted to understand as a first stage was to say, okay, how do these epidemics affect economic development and particularly how do they affect gender inequality? Right. Given I just mentioned, oftentimes when these catastrophes, negative events happen, women, because of historical, institutional, and current institutional reasons, are often most harshly affected by these events.

And so we said, okay, let's look at one country as a case study. So, we looked at Niger. In Niger, which is in West Africa, we had one of the worst epidemics, meningitis epidemics in history happened in 1986. So very, very high levels of cases of the disease. And we said, okay, let's look at what happened to gender inequality and particularly to gender inequality in education. Right? Which is an important part of economic development when this epidemic hit. And so, what we found was that when the epidemic hits, you actually saw a widening of the gender gap in educational attainment. Which was very surprising, bad, et cetera, because this was, again, before we had to start talking about the pandemic with COVID. And we are now understanding like what the broad impacts of COVID are on gender inequality and economic development.

Why was this happening? You saw that despite, again, Niger and many African governments at the time investing a lot in trying to get enrollment, school enrollments up to close gender, not just get school enrollments up, but to close gender gaps in not just school enrollment, but educational attainment. So, completion of education. When something like the epidemic hit, this is a huge income shock to households. Right? So, this is a huge hit to household budgets. These are already poorer families, more low income families. And so, they already have relatively less income, relatively less resources.

And so, once the epidemic hit, parents were now having to decide, okay, all my health costs went up. So, on average, people are spending like 34% of per capita GDP in treating not just the direct effects, health effects of the of the epidemic, but also indirect effects. Right? Because now I can't I can go to work. I'm sick or somebody my household is sick. Now you can't go to school. All of these negative outcomes that affect or increase your costs of just maintaining your life.

And so, when households when parents are faced with these increased costs, what do they do now? They're having to decide, okay, where can I cut costs? Am I going to invest in my boys' education? Am I going to invest in my girls' education? If I know, again, this is all very rational decision-making, at least rational as economist think of it, right? If I know that my boys are much more likely—going back to the employment issue—to get jobs because my girls are less likely to be hired in the labor market, I am thinking forward, I'm like, okay, let me invest in my boy's education because the girls are less likely to get jobs anyway when they graduate. And so, what we found is that parents then reduced investment in the girls education.

And that was why you saw the widening of the gender gap, and only with parents reducing investment in the girls education. Because remember, many African countries have a tradition of bride price. So, when the woman gets married, there's a transfer of wealth from the groom's family to the bride's family. So, parents, are saying, Okay, why also don't I marry this girl earlier? So, that since we are income constrained at the moment, her marriage can be to a transfer a bride price that will help the household's finances during this epidemic emergency. And so, that's what we found, there was a widening of the gender gap in education and we also saw lowered age at first marriage for girls as well by almost a year. Right. So, from an average of like 15 to 14, which is huge, especially for the people who know this health education literature and how age of marriage affects education in particular, one year of reduction in age of marriage means that the woman is less likely to die in

childbirth, and also then future outcomes for her children are lower in terms of their educational outcomes. So, it affects a whole subsequent generation of people when this happens.

So, this is what we found from that research and really started getting us thinking about, again, what are the policy things we can do, thinking about the importance of gender-focused policy interventions so that households don't have to make these kind of difficult choices when epidemics hit and thinking of policy interventions, for example, that target cash transfers at households with daughters or girls in the household or female-led households. Right? To help make sure that parents are not making these difficult decisions of do I marry my daughter younger? Do I remove my daughter from school or prevent her from going to school when an epidemic hits. So, this was what we found from that research.

ORDU: Fascinating indeed. I'm sure it's not just Niger Republic where this sort of decision-making at the household level, I think across northern Nigeria and many sorts of the Sahel and elsewhere, it would be exactly the same thing.

Let's now turn to Nigeria specifically as we wind up. You have also published on the historical origins of persistent inequality in Nigeria. What would be your top three recommendations to the new administration to address these problems?

ARCHIBONG: Absolutely. So, in that paper, we were trying to understand, again, we see very unequal regional access in Nigeria. The big one is North-South, but even within the South—southeast, southwest, south-south; the geopolitical zones within the North the same thing: north central, northwest, northeast. These geopolitical zones are, Nigerians on the call will know, are very aligned with ethnicity. And so, essentially the inequality that we are seeing regionally is also a reflection of ethnic inequality as well.

We don't want that type of inequality because it leads to all sorts of negative outcomes, especially around conflicts. Right? We are seeing a lot of security issues around a lot of conflicts. Historically, in Nigeria, we had a civil war. But also presently over our resources. And so, what we said is like, look, from this research, it's very clear that this category of spending that we often refer to as social spending, I just did my air quotes, in Nigeria is not actually social spending. This is essential spending. This is a spending on health and spending on education and spending on infrastructure services like electricity and sanitation. This is crucial spending for economic development of course, but also crucial spending for thinking about equity issues that might lead to all of these conflict, et cetera, security concerns that I just mentioned.

And so, having governments devote a larger share of the budget to this type of infrastructure spending around electricity, especially in Nigeria—we've been having electricity problems for a long time—around sanitation services, which is, you know, also health services, and around thinking about access to water, and doing all of these not just for households, but for schools. Right? Because we're looking at schools, so, education more generally— is crucially, crucially, crucially important for maintaining stable, secure economic development and welfare outcomes in Nigeria. So that's one.

And then, two, thinking about the kind of fiscal services that are needed to invest in these in these services I just mentioned. Right? So, thinking about how do we make our tax policies more equitable? I am not going into our whole fiscal federalism in Nigeria. Nigeria has a very interesting and complex system of tax collection and redistributing tax revenue to its different regions. But we also need to evaluate those equations regularly that we use to redistribute fiscal resources to different regions that the regions don't use to spend on their infrastructure services. And make sure that there is local buy in that people feel that the fiscal equation that we are using to distribute these resources are fair. Right? This is very important.

And there needs to be not just saying that the governors are having a say or the local government councilor is having a say, but saying that citizens also as Nigerians can directly see where is my tax money going? What is my local government's area? Right? Which is our smallest unit of administration in Nigeria. What are they using my money for? What is my state governor using my money for? This is, it's so easy to do. Again, we all have access to phones. We have access to the internet. Put it on a website somewhere, let us all see in every quarter what our governments are using our money to do, and let us make sure that they are using our money to spend on these crucial infrastructure services that I mentioned are necessary, are crucial for our economic welfare, for our economic development.

And then three, related to two, having local buy in is extremely important. Having a citizenry that is informed and that consents to the spending of its government, right, to the legal, the regulatory environment that the government is setting up, what the laws are the government is making is important. So, you cannot just say I am autocratically as the president, or being the authoritarian as the governor, making choices without informing your citizenry, without getting buy in from your local population.

And that's what we found from this research was essential also in ensuring that you had an equitable distribution of resources and you also had the reduction of conflict that leads to people losing their lives needlessly. Right?

And so, these three things: so one, investing in infrastructure services—these are not social services, these are essential services, electricity, sanitation, water, your education. Right?

Two, having more equitable distribution of fiscal resources and a transparent distribution of fiscal resources that informs the local population what their fiscal resources are being used for, what their tax revenue is being used for.

And three, our federal governments, our local governments need to put in the work to ensure that there is local buy in where the population is not just informed but also consulted and their consent is gotten for whatever policies, whatever spending is being done in their communities.

So, these are the three things that that came out of that work. And a lot of the work that I've been doing, thinking about how, again, do you address these historical origins of inequality in Nigeria.

ORDU: Those remain valid till this day, right, and the issue of infrastructure, so, so critical—electric power, water, sanitation, broadband access, as you mentioned, roads and bridges, of course. And the leadership, the leadership of the type that is committed and on the agenda and the informed citizenry is important, but active participation by the citizenry. I couldn't agree with you more.

Now, as we wrap up, from the very outset the new administration in Nigeria has eliminated fuel subsidies and liberalized the exchange rate. Do you have any comment on these two measures?

ARCHIBONG: Yes. So, it's an interesting and contentious issue in Nigeria, as you know. We had published a *Journal of Economic Perspectives* paper, with my coauthors, where we tried to say, okay, these policies are not new, so you used to hear in the '80s and '90s this term "structural adjustment programs," which are these kind of market-oriented reforms, reforms like removing subsidies and reforms like exchange rate liberalization.

And back then, when we look at the growth rates in the 1980s and 1990s, when these reform passed, people said they failed, right? You saw lower growth, you saw lots of food insecurity, unemployment in Africa. And so what we did in that research was to say, okay, let's look at those same policies, but let's look at the countries who adopted those policies in the 2000s. Because if you look at African countries, and Nigeria included, that adopted those policies between 2000 and 2019, you actually saw remarkable economic growth. So, growth increased from 0.6%, I think, percent. Real GDP growth rates in the 1980s and 1990s to around 1.6% between 2000 and 2019.

And we said, okay, do those type of policies, did they actually make a difference? Did they make a difference in improving economic growth? And what our research showed was that there is a lot of actually evidence to show that it did seem that when you adopt these types of policies that are kind of one we think of as, let's use the word free market oriented, it can actually improve economic growth provided that the government then uses the resources, right, attained from those policies to invest in pro-poor legislation, pro-poor policies. Policies that I, again, I'm going back to infrastructure, investing in health, in education, in electricity, and sanitation, water—those policies that are necessary to improve the human capital of the population and improve economic development. Right? Social welfare that makes it so that people have the health insurance and are not having to worry about do I invest in my girl's education or my boy's education, do I marry off my daughter earlier because we don't have money?

These are the kind of the kind of things that the government tends to use the fuel subsidy money to invest in to ensure that the population actually benefits from the implementation of these policies.

Same with exchange rate liberalization. Right? Again, we have research, not just our research, but research showing that this can help improve economic development. So how does it do that? We need the government to actually say, okay, from the resources you gain from implementing these these policies invest it in these kind of pro-poor legislation, pro-poor policies around those infrastructure services, around that human capital improving services I mentioned before that will help the local

population. Otherwise we don't want to go back to the '80s and the '90s in terms of economic growth. Right? We want to have welfare-improving investments coming out from getting the subsidies and the resources and the subsidies and from the exchange rate liberalization as well.

ORDU: The savings in the federal coffers of just the fuel subsidy removal is 10 to 12 billion U.S. dollars, U.S. dollars. Imagine the ability to channel that, as you say, to pro-poor investments, particularly infrastructure, which is a binding constraint in our country. That would be really, really fascinating to watch and see.

Belinda, as we wrap up, so what's next for you in terms of your research focus and why?

ARCHIBONG: I mentioned the ICT, I think I'm very cautiously optimistic about the potential of this information and communication technology. Right? The internet and the tech around it. And so, what we are really trying to do going forward is saying how do we leverage not just ICT but also encourage collective preferences—I'll explain what I mean by that—of people around the world to work towards better welfare-enhancing outcomes from everything from education to labor market to climate change to health.

And by collective preferences, I mean ... in economics, we have these very individualistic views of how people behave. Right? We say, okay, you have individual preferences and you work to maximize your individual utility, which I think, again, is a rational model. But I also think that people can work collectively. Right? And we have historical incidents and current incidents, you know, examples of people trying to work collectively towards a goal. We know that when you are part of a group, the outcomes, the preferences, the actions of your group can also affect your individual outcomes as well.

So, how can people think more from this kind of, We are trying to work collectively towards a more positive environment, a more positive health situation, a more positive employment outcome. How do we do that? We use our formal institutions through the laws. We use our informal institutions, what we call culture. And we try and change those to have people think more collectively about working towards a better—I know it sounds, like, very optimistic, but I'm an optimistic person—a better future. Right?

And so, that's what we've been really trying to do, so, like, leveraging access to ITC to work towards improving these economic outcomes that I mentioned, reducing inequality in these outcomes, reducing gender inequality, ethnic inequality, et cetera. And everything from thinking about our new work is on online labor markets, I mentioned before, but also mitigating the negative effects of air pollution from oil and gas. Right? Nigeria's very big in oil and gas, the oil and gas activities which are important for climate change.

And also then also trying to think very carefully about where did we come from historically, like, what are the effects of our colonial era, post-colonial era institutions on our current economic development outcomes and how can we leverage our institutions and our access to ICT to change our trajectories for the better going

forward. So, that sounds like a lot, but I promise it's all very linked. But this is what we've been, my research agenda moving forward is like.

[music]

ORDU: It does not just sound like a lot, it is a lot. And I as a steadfast follower of your research, I can't wait, I can't wait to read the products coming out of the research you do. Sister Belinda, thank you very much for your time today.

ARCHIBONG: Thank you very much, Aloysius. Thank you.

ORDU: I'm Aloysius Uche Ordu, and this has been *Foresight Africa*. To learn more about what you just heard today, you can find this episode online at Brookings dot edu slash Foresight Africa podcast.

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