

POVERTY ALLEVIATION A ROLE FOR TECHNOLOGY AND INFRASTRUCTURE?

Roma, May 11, 2015

Speech

Jeffrey Sachs

Thank you very much. Well, I was at Harvard for thirty years but I didn't realize the revolutionary down the block who wanted to overturn the existing basis of society. But I want to say that I want to join his revolution. Nicholas has made some wonderful and very important points. And it's a good way for me to start.

I'm sure that we all agree, that the goals that we share globally, to reduce and end extreme poverty, fight hunger, ensure that all children get a decent education, provide for universal health coverage,..are achievable only with a strong technological base. And indeed we can imagine them being achieved in our generation only because we have an information revolution ongoing. So it's not only the power of technology in general, it is actually also the reach of the specific technologies that we have a digital revolution and the potential of universal connectivity that makes it possible to think about the revolutionary changes that are at play.

It's also the reason why we can see, in many places, unprecedented economic development and progress. We heard of China, earlier in the meeting: there you have more than one-billion people pulled out of extreme poverty in the course of a generation – it's never been done before, of course. It's the most dramatic events of economic wellbeing in the history of the planet and it was possible only because China had a lot of room for massive technological advance and leap-frogging and it used government systems as well as cleverly integrating the Chinese economy into the world economy in an effective way that allowed for a reduction of poverty rates so dramatic.

Now our biggest goal on the planet is to help Africa to achieve the same because Africa remains the epicentre of high rates of poverty; and because there's every reason to think that with the right kind of approach and the right kinds of policies, Africa too could achieve this kind of rapid, dynamic, leap-frogging growth that would make possible an unprecedented improvement of material conditions.

We also need, I'll add quickly, a more general revolution even beyond that of ending extreme poverty. And that is technology transformation, to allow us to enjoy the high living standards which we like, in the high-income world, but in a way that can be generalized globally/environmentally because right now we are on a direct collision course with the planet. And I would say, by the way, in another tribute to MIT – MIT was the first to model that collision course back in 1972, with limits to growth. But it's also right to say that was the Club of Rome, so we're in the right place to point that out. And that wonderful study, by the way, because you look back forty-three years, it was an intellectual break-through. I could also say to Nicholas that I started at Harvard about a dozen years after you started at MIT and "Limits to Growth" was the first book that I was assigned as a freshman in Economics at Harvard in 1972. But for the purpose of my professor saying: "Look what nonsense

they're producing down at MIT! They don't have any prices in the model, don't worry about this". And I was trained in the market paradigm, which is not a successful paradigm on very many big issues.

So, we need a technological transformation both because it enables us to solve very, very deep and persistent problems regarding poverty and exclusion. And also because it is central to solving the problems of aligning economic development and environmental sustainability. Both of these are pivotal challenges of our generation. I think that for us (and I really do very much appreciate how Nicholas put it, I'm going to take a slightly different position but I think he posed the question very dramatically), the questions are in my mind **three basic questions**.

One: how do we develop the technologies that are needed for these great tasks if they are not right now available?

Second: how do we choose the right kind of technology model and at what points?

And third: how do we scale the deployment of technologies when powerful technologies exist, but for various reasons (markets by themselves won't scale the technologies in the ways that they need to be scaled?

I want to focus mainly on the third question, but let me just say a word about the first two. First on technology development there is a history that goes back, again, at least a couple of thousand years and also by patrons in this city, going back five-hundred years at least, to solve great technological problems that markets alone wouldn't solve. Markets are not great at doing basic technological breakthroughs and that's why the Internet did not arise as a market phenomenon, the semi-conductor

revolution did not arise as a market phenomenon, the computational era did not arise as a market phenomenon. Generally governments were critical at key stages, sad to say mostly governments paying for military technology because that's the one kind of public good that the public and the State recognize as "high-priority public investments". So we easily mobilize spending for military technology; we have a much harder time mobilizing public money for renewable energy technology, for example. We have a moderately hard time mobilizing public money for health – that's because most legislators know that they, too, will get sick so they're ready to spend more for that. **But in the hierarchy of things public-financed for, military applications has always been relatively the highest (in the last hundred years I would say), public health has probably come next, and applications directed towards the poor or towards the environment are usually far behind.**

But the point is that, for a lot of very deep reasons, business is much better at scaling technologies and improving on technologies than it is on making fundamental breakthroughs in technology. And for many of the systemic changes we need, we need a role of government that is much larger than it is now. And I would say that this is certainly true when it comes to climate change, for example. We've had a profound under-investment by the public sector world-wide in funding the transformation to low carbon energy.

The second question is the technology model. I think Iridium (mentioned by Nicholas) is a fascinating example, which I'd love to hear more about. Many early deployments are not the final stage of the story and one could say: "Well, that's another white elephant or that was a bad investment". But, generally, you go through waves of technology and the questions are how to keep making progress and to avoid a lock-in effect, which could hamper reaching the kind of stage that one wants. There always is a difficult policy choice and partly a market choice and partly a public

policy choice of when you scale a technology or when you continue a range of experimentation to try to understand: are we there yet? is this the real one or do we scale this one up? or do we continue with a variety of approaches? But that is an ongoing challenge.

But I really want to talk about the business model issue because this is one where I've had a lot of face-to-face experience and want to make a couple of points that amplify what Nicholas has said. I think the most important is that try as we may and as clever as we can be, markets will not rescue the poorest people in this world. So whether we're looking for social businesses or social marketing or ways to make markets address the bottom of the pyramid (as it's been called) – take it with a grain of salt how far one is going to get with that approach, unless there's more public purpose behind it.

We live at a time where market ideology tends to dominate our thinking and governments are delighted with the idea that the markets will take on problems that governments don't have the will (or the budgets) to solve right now. So there's a lot of desire to find market solutions. And there's a lot of bravado among entrepreneurs also that we can find market solutions to certain problems. My experience is that this is vastly over-stated for certain kinds of issues. **Very poor people do not have money to be good customers. They may have a little bit of money, in some cases they have almost no money, and in many cases the issues are life-and-death of getting technologies to them.** I had a long run of experience from around 1995 until now on trying to scale-up proven technologies for public health in very poor settings. And most of the difficulty came from two points. **The first obviously was that the poor could not afford even very low-cost life-saving interventions.** My favourite example for ten years was the insecticide-treated bed-nets to fight malaria. But

certainly the same is true with the anti-retroviral medicines for AIDS, for many vaccines and so forth.

But the second obstacle was the absolute persistent belief or just policy insistence of the U.S. government and others that these technologies should be scaled through market solutions. And a resistance to the idea that what was required was direct distribution of these life-saving technologies to those that needed them. In the case of bed-nets, we went for ten years while USAID tried to market bed-nets. They would of course give subsidies. They gave, spent a tremendous amount of money on public information on billboards, on skits, on plays in villages. And the coverage, after ten years of this, was about 3% in the villages. I fought, as Kofi Annan's advisor on this issue, for many years for the U.N. to create a mechanism to simply fund a free distribution of the bed-nets. That finally started in 2007. Once it started, about 600-million bed-nets were distributed over the next four years. And malaria deaths came down by 60%. And coverage reached 70 or 80% of the population. Very straightforward. I always use the test: would I allow my daughter (one of whom is sitting right here) to spend even one night in a village without a bed-net. I couldn't even imagine it, I would never dream of it. So how could we, as responsible human beings, allow hundreds of millions of people to have their children living day after day, year after year, on our philosophy that markets were going to somehow finally solve the problem? It was just a misplaced approach. And it was an inhumane approach, in my view. And it came from a fundamental laziness of thinking, that Pope Francis has recently called "the globalization of indifference". It just came from the fact that we weren't very urgently trying to think about how to solve the problem. Because when you looked at what was urgently needed, it was so low-cost (a few billion dollars a year) which, again, if you scale it by \$2-billion a day on the Pentagon, you start to get an idea that that's just not a lot

of money to bring malaria that's down in large amounts. So we're blinded by our hopes that these problems can be solved that way.

Now let me say on the other hand, because I don't want to go so far to neglect the role of markets. And Nicholas said it, but I want to amplify it. Markets are brilliant at scaling things when there's a profit to be made. Unbelievable. Never turn it over to the U.N. when a market can do it. That's for sure 100% true. Don't turn it over to a bureaucracy what a market can really provide. Because people are insatiable in their quest for profits. It's amazing. And if there's no barrier, from a moral or a distributional or access point-of-view, markets can do wonderful things. And it is basically, it is not even basically, it is truly the markets that have brought 7-billion people mobile connectivity over the last thirty years. Governments could never have done that. So there are multiple models for business, but we have to think very clearly what we're after. And very clearly where the real limits are and what the real moral implications are of choosing one versus another. **Markets are not good for the poorest people. You have to think explicitly about how the poorest people are going to be reached with the technologies and not believe that you are going to drive the business model down all the way to be able to provide the health, the education, the connectivity, the safe water, the sanitation, the other basic needs.** For that we need a collective action for the common good. And we need an approach that can make that happen.

Markets are also not good for the global commons of the environment, of course; or for looking after the next generation. Nobody's very good at that – neither government nor markets. And so we have to absolutely focus our attention on the things that won't get done and are not getting done in our society right now.

So let me bring this up to the case of connectivity and electrification because it's completely relevant and very practical. We're going to have sustainable development goals in three months' time. **They will be adopted on the morning of September, in the afternoon of September 25th, 2015. Pope Francis will open the session, this extraordinary session of world leaders.** World leaders will adopt sustainable development goals. They will call for, among other things, universal access to health coverage. They will call for universal access to education, from pre-primary through secondary level education. They will call for sustainable agriculture, sufficient to end hunger. We should take the goals seriously – that's the first piece of advice. Do the analysis: what would it really mean to achieve these? By the way, governments do not do that kind of analysis. Governments do the analysis: is it okay for me to sign this declaration? what will the press opportunity be the next day? what will our government processes be? They do not ask the question, literally they do not ask the question: what would it take to achieve these goals? I live and breathe these processes for the last three years. Nobody asked the question: how would you actually achieve them? Only: how should they be phrased? It's just the way our governments are. They are not problem solvers. They are framers of issues, perhaps. They are channellers of issues. But they don't know how to solve problems like this. Even to do the planning, the budgeting, the analysis, the technology. So that's why we need many processes to produce documents to show: here's how it can be done. Here is a strategy. Here is a pathway. Because governments will not do this internally. Nor will U.N. agencies, by and large. It's a different kind of thinking. It's easy to state goals, it's not so easy to plan for them, it's even harder to achieve them because that requires a mix of models. For a lot of government processes, stating the goal is the big deal. Not actually how to achieve them.

So when I come to the question of how to achieve them, there's a lot that's known actually. You can say very, very interesting things about how to help the poorest of

the poor get health coverage. I've been doing it with my team for ten years in ten countries. In Africa we've learned an enormous amount. We know what the costs are of providing basic health services. We know that connectivity is absolutely essential. We know that community health workers can do things when there aren't doctors and nurses available. We know that tele-medicine or distance reading of the imaging or distance diagnostics is now transforming the way that health can be delivered, and so on. There's just a lot known.

There's a lot known and a lot more that could be known about how education can be brought to very remote places that don't have teachers because now you have a screen, you have online materials, you have the possibility of connecting classrooms. There are many wonderful things that can be done. Many wonderful things. So this is a kind of pathway analysis to figuring out how to do that. But when you start to then look at the pieces: how much does it cost? how can it be implemented? what would a rollout mean? what can be paid for commercially? what can be paid for out of the budgets of countries? what is going to need other kinds of financing? That's where the problems begin.

We have a nice initiative called Sustainable Energy For All, for example. This is one of those worthy U.N. goals. But nobody's done the analysis of how to actually achieve it. Sad to say. I had arguments with the wonderful first director, Kandeh Yumkella, for many years. I said: "Kandeh, you cannot achieve this unless there is public money behind you. Because if it's only private funding – sure, you'll get the next billion, just like Nicholas said, but you won't get the last billion. It won't truly be Energy for All. It will be energy for more, but not energy for all". Well, the Board is filled with commercial bankers – that's fine. But commercial bankers are not organized to think about the last billion; they are organized to think about the next billion. So nobody asked the question 'til now of how this is really going to get

done. I mean really. And when Vijay Modi and I sit down and we look and we do the budgets and we look at how poor people are and what they can do, what they can't do, what their governments can do, what their governments can't do – we see where the gaps are. It's not so hard. It's certainly not as hard as the things Nicholas and his colleagues do of figuring out how to make these technologies work. It's budgets and budget models and financing. But it requires a certain kind of honesty to say: “You know, we have gaps and we need a new institutional approach”.

So I'll just conclude with a couple of observations. Back in 2000 I advised the then Secretary-General Kofi Annan and Dr. Gro Brundtland, who was Head of the World Health Organization, that we needed a new fund to be able to fight AIDS successfully. And, lo and behold!, a miracle occurred named Bill Gates, Bill and Melinda Gates. And they became the new funders of (Health at Scale?). So they started putting in several billion dollars a year that wasn't there before. And I helped to design in 2001 The Global Fund to Fight AIDS, TB and Malaria because I knew, from my research and experience, that you wouldn't get those diseases under control. Then, as I said, I had to fight five years against USAID to allow free distribution of bed-nets because they said that was a bad idea. And, in 2007, WHO finally relented because it was under pressure from DFID and from USAID: “Oh, don't go with that radical thing. We should sell these bed-nets”. They finally relented, it became official policy and, as I said, malaria is under control more than it's ever been in Africa actually, in recent years. Similarly, we have about 14-million people on anti-retroviral, starting with zero in 2001 in Africa and low-income countries, who couldn't afford ARVs even though they were available.

So the money made a huge difference. Governments came to like that because it was very successful for them. But they resisted it a long time. And it was only because one big philanthropic force (Bill and Melinda Gates) put in the first few billion to

really get GABI and the Global Fund started and enable this non-commercial model to take hold.

So if I come fast-forward today, the recommendations I'm making so far landing on deaf ears among governments, but I'm saying we need a global fund for education that could enable governments to scale-up IT solutions because it won't happen otherwise, it won't happen by a series of wonderful individual demonstrations all over the place. It will happen in middle-income countries, but it won't happen in poor countries. So unless we have a global fund for education, we don't have a chance to achieve the SDG for education. I'm advocating a global fund for health systems, to enable the scale-up of IT-empowered community health workers because they've been proven (time and again) to be enormously effective of saving lives and connecting communities with facilities. And they depend on connectivity. But you can't do this for free and you can't do it as a business model. So we need the funds. They don't exist right now within the countries because the budgets of the poorest countries can't fully fund even rudimentary health systems.

I'm recommending a global fund for small-holder agriculture because, again, with information technology... just take, for example, solar power and irrigation. It's possible to do amazing things now in the poor dry-land areas of the world. But that is not a commercial venture at the beginning – this will require five or ten years of pre-commercial scale-up, systems improvement, learning and so forth. We need a fund for that. The money is dry in the international system, on all of those things. And we need a fund for distributed electrification to make possible the connectivity. And, again, SE Aide For All is the home for that. But because of this tremendous bias towards finding market solutions alone, they haven't touched it. And this is a big mistake because SE Aide For All will not succeed unless there is a way to ensure that it reaches the poorest billion people in the world that really need it.

So, this is my humble hope. I'm always looking for the next Bill Gates, if I could put it that way, because really we have the potential for mega-philanthropy to jump-start these processes. **They can make a vast, vast difference of showing what can be done and then we need skill, collective action, we need our governments, we need funding, we need to bring new governments into the funding – not only the so-called “traditional donors”, but we need China, we need Korea, we need the Gulf countries, we need others playing a larger role. But we need to recognize that markets will not solve these problems, but technology, markets, the public sector and a moral purpose can.** Thank you.