



## Stanford eCorner

### Google.org's Five Core Initiatives

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After a mock trial session to whittle down the most critical causes from an applicant pool of 10,000, Google.org chose just five areas of concentration: renewable energy, plug-in vehicles, prevention of pandemics, famines, and floods, public services for the poor, and job creation. And the organization's Executive Director, Larry Brilliant, offers this overview of these pressing global issues, and pinpoints Google's resources dedicated toward finding solutions, using tools such as financing, Google Earth, and the engineering of solar energy.



#### Transcript

I'll tell you a little bit now about our five core initiatives. We started off with those 10,000 ideas. We boiled them down to 900 concrete initiatives, and then we held the equivalent of a mock court which went on for about six months, where anyone who wanted to bring forth an initiative that we should do had to bring it to trial, and the other people who thought they had a better idea were the judges, and we fought pretty hard about that. We've come up with five. One of them is to redevelop renewable energy at a price cheaper than coal, and I'll tell you a little bit more about that. Accelerate the commercialization of plug-in vehicles. To try to create systems which predict and prevent novel communicable diseases that could become pandemic; to find them early and to stop them. Then, hopefully, to develop some techniques that could be used to do the same thing for famines and for floods and for droughts; early warning systems. To inform and empower and a way to improve public services for the poor. I'll tell you a little bit more about that.

To try to create jobs, mostly in Africa and South Asia, for people living in the poorest countries. So first of all, in the last three decades, there have been 30 novel emerging communicable diseases that had not existed in the form we see them now, before. Seventy five percent of them were zoonotic diseases that jumped species because of this population and animal pressure. It has led to a whole new concept called One World One Health, where the health of the environment, the health of the animals, and the health of the insects and the health of humans are all looked at the same way, bringing veterinarian epidemiology and human epidemiology together. Do you know what an epidemic curve is? How many of you know what an epidemic curve is? OK. It's pretty easy to figure out what it is by its name, but if you were looking at the number of cases of diarrhea disease following a picnic, you would see that over time, the number of cases would go up and then everybody who could get the disease would have it and become immune and the number of cases would go down. So an epidemic curve looks a little bit like that in most instances. The actual curve for HIV/AIDS looks a little bit like that because it's still going up. It's a huge pandemic and it hasn't come down and won't for some time. Right here is where we are.

This is when we first find a few cases of a disease. The goal of this initiative is to move the epidemic curve two steps to the left so that we can find cases earlier and then even go even earlier than that and identify the hotspots where they might occur. I'll give you a couple of quick examples about that. We are funding a group that's in Palo Alto here, a group called InSTEDD which is trying to take the tools of Silicon Valley and the technology community and give it to the early responders. So right now, they're working in Burma, for example, trying to give people the tools to share information, share news reports, have shared databases, use satellite data to identify islands right now that are inundated with water where people are searching and

can't be found after the cyclone. Even better than that would be if we could find the first cases of SARS before they became pandemic. SARS is a disease of bats. Bats bit civet cats. Civet cats are a delicacy in Southeast Asia, and in the live markets where these animals are traded, the virus got loose and infected people. That's what started the almost pandemic of SARS.

Bird flu is a disease mostly of ducks and chickens, and all flu is bird flu. If you could find SARS or you could find bird flu while it was still in animals and know that that was the virus that would jump to humans, that would be one form of early detection. If you could take it a step further, you can do a complete inventory of all the viruses and all the animals in the world and apply a great search engine so you could find any similarities and learn which of them were most probable of becoming a pandemic, that would even be another step to the left. So this is one of our initiatives, and for those of you who are in public health, I think you understand this changes the game. If we can solve this problem, we have a different way of approaching public health problems. In Africa and in Asia, there's very little money that goes into the kinds of startup companies that produce jobs. There's lots of money now for micro credit, for small loans, that are used by individuals to smooth over the ups and downs of daily life in poor countries. There's lots of money for banks to fund extraction industries and to give large debt financing to oil or gas or diamonds. In between, there's a missing middle; the butcher, the baker. They're not able to get financing.

If you think of SYSCO, the one that's S-Y-S-C-O, not C-I-S-C-O, which is a food services company, how is Africa ever going to have a food services company as large as SYSCO? Where will it get the financing? Right now, today, there's a butcher in Ghana named Joseph Tackie, and he wants to buy a second refrigeration system so he can keep good clean meat and begin to deliver it to restaurants and deliver it to food stores. That may become Africa's next SYSCO if he can get financing. There's lots of money that wants to go into these small companies but there are terrible obstacles preventing the money from going in. Do you know of sovereign wealth funds, crown funds? These are the funds which Singapore started and Kuwait started where the money from commerce goes into one fund owned as part of the public service, the government. There are more than \$10 trillion today in sovereign wealth funds but it doesn't go into these small companies because there are no exit vehicles, there are no IPOs, there are no mergers and acquisitions. There are no rules governing the value. There are no generally accepted accounting principles. There's no way even to deal with the high transaction cost that it takes to make a \$50,000 investment. We're going to spend \$100 million trying to solve that problem. If we can find a way that makes it possible for you and I and our pension funds and our mutual funds and our private equity funds to invest in these small companies, we can solve a huge problem and unleash this huge torrent of capital.

The same thing is true in a little different way in public services. There's a big fight right now in the developing world. I went to Africa last year to TED, and Brook was there with me. We watched 100 African entrepreneurs who were fellows, and Bono was there. These 100 African entrepreneurs, when Bono got on the stage, they booed him. They booed him. They said, "We don't want foreign aid. If you want to make Africa get out of poverty, make me rich. Fund my company. Don't fund my government." That meeting was divided between debt financing, foreign aid, and trade.

It was almost like a mantra; trade, aid, trade, aid. Like a Michigan-Ohio state game fighting. I won't talk about the big game here. I might be on the wrong side of it. I don't know. I'm just guessing. But that's not the right thing. You talk to poor people in poor countries, they only want two things. They want a job. They want the dignity of labor.

They want to be able to send their kids to school so they can have a better life than they did. The same thing our parents wanted. They want the services that the government promised them to be delivered. They want the water. They want the healthcare, and they want education. So what we're trying to do in this initiative is take a look at the \$700 billion that are spent by governments and public sector on basic services and take account of the leaky pipe that takes money out of it through corruption, through low or poor effort, absenteeism; these wasted resources, so at the end of that pipe, governments allocate \$700 billion. What comes out of it is \$70 billion. That's the total amount of foreign aid in the world, by the way, every year, too. So if you could improve public services by 10% globally, you would be providing services greater than all of foreign aid. Let's talk now about the biggest problem that we face, I think, as a civilization which is global warming.

We've spent a lot of time trying to think about whether we should work on policy, whether we should work on conservation, but in the end, we decided that Google is an engineering company, and we should look for an engineering solution. Until and unless you can get electricity from renewables at a price cheaper than coal, no one is going to buy them. China is not going to buy your renewable energy if it costs three times what coal costs. India is going to burn every lump of coal until we find an alternative way of getting energy to the homes at a price cheaper than coal. Today, coal costs about four cents per kilowatt-hour. If you look here, right now, photovoltaic is four or five times as high as coal. As much as went to put photovoltaics on our roof, until we can get the price of solar down below the price of coal, we will not succeed. This is an unbalanced equation, so you can solve it two ways. You can get the electricity from renewables down or you can get the price of coal up. This is what cap and trade does or a tax on coal or internalizing the negative externalities of the health consequences of burning coal.