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TRANSCRIPT

"ADDRESSING THE GLOBAL FOOD CRISIS: MAIZE, FOOD SECURITY, AND CLIMATE CHANGE"

A Conversation With Timothy A. Wise

Moderator: Stephen Hubbell

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ANNOUNCER:

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STEPHEN HUBBELL:

Thank you all for coming. I'm Steve Hubbell from the Open Society Fellowship Program. I'm delighted to welcome Open Society Fellow Tim Wise to our offices. I met Tim in Asmara I think (LAUGH) in April of 1993 when Eritrea was just becoming independent. I'd been aw-- familiar with his journalism, his reportage. I knew of his work as executive director of Grassroots International.

In the-- I had not seen you for 20 years until-- until just a few months ago. Tim is now the (CLEARS THROAT) research director at the Global Development and Environment Institute at Tufts University. He has-- he's now a couple of months advanced in his fellowship work. One of the things that excited us about your fellowship was the potential f-- for your work to align in interesting and unpredictable ways with the work of our global shared framework on food security in

the wake of climate change in Africa.

Sometimes it's ironic that in an organization founded by-- one of the most subtle and sophisticated interpreter-- interpreters of markets anywhere in the world-- we sometimes-- lack-- an equally sophisticated understanding of how markets operate, in this case commodities market, and specifically with regard to-- to maize and the global-- trade in maize. Thank you all for coming-- and over to you, Tim.

TIMOTHY WISE:

Yeah, thank you all for coming. Very nice to finally get down here to-- to meet more than just the fellowship team and-- to connect on-- what I'm doing and get a better sense of how that connects and feeds into the share framework on food security and climate change and the-- and how that can feed back, because that's very much what I'm-- what I'm looking at out there in the-- in the big, bad world.

What I thought I'd do here if-- is just kinda run through what the basic framework is for this project and then a little bit of what I've been doing and seeing and reporting on. And as much as anything just to give you the background to spend more of the time answering your questions and getting your comments. I've certainly enjoyed the fellowship so far. It's taken me in four months-- in order I think to Mexico, Rome, Des Moines, Iowa, South Africa, Bali for the World Trade Organization meetings, and most recently Geneva, Addis Ababa for the AU summit on agriculture, and Malawi.

It's hard to imagine I could keep that pace up for the rest of the year but-- but it's been wonderful. The Malawi piece is really the-- the first kind of-- the first part of this that's-- that's going straight at the questions-- of the fellowship-- impacts-- food security and climate change in Africa in the context of-- the integration of global foo-- fuel, food, and financial markets. How does that all fit together, particularly in maize-producing Africa and maize-consuming Africa.

So I'll try to run through in 20 minutes or so-- what I have here. If it's too quick just as a question and-- and it will undoubtedly be t-- be too quick-- because I'll try to leave more (LAUGH) time for your questions and comments. This all started in a way with my-- work on the food crisis, that is the food price spikes of 2007 and 2008 and what-- we all-- what-- what really changed the game in agricultural policy, agricultural development policy in terms of at least at the rhetorical level, at the policy level.

So there were sud-- suddenly the questions were back on the table that hadn't been asked for a long time. How much countries grow their own food? How-- was there a problem to depend too much on imports? And the implication in it all was that there is-- there had been a structural change in agriculture and that this was the sign of the structural change. We'd gone from surplus-- extensive surpluses in the global North being exported to the South, no problem, cheap feed to the end of surplus, to scarcity related to climate change.

So how-- is that-- that a structural change and in-- have-- has public policy in any

way-- been responsible for letting the genie out of the bottle on that and causing this somewhat unhealthy connection between food and fuel and financial markets? And if so can public policy help put the genie back in that bottle. Or at least make it behave more responsibly in the world. We-- we also did-- a report related to this on-- assessing all these estimates that we're not gonna be able to feed the world in 2050.

And, you know, it's really a Malthusian story-- at least the alarms are that call for n-- double food production by 2050. It implies that you need to modernize agriculture and go straight into industrial agriculture and leave small holders by the side of the road. But what's really changed and how-- how real are those Malthusian threats-- I think the-- in general we concluded that the situation is not as bad as most people say yet at the same time it's worse, which is a very conf-- comforting conclusion I'm sure.

But what we mean by that is that the alarmism is unwarranted in that the actual predictions that have made-- been made by the F.A.O. and others are not the doubling of food production. It's a 60% increase in agricultural production, so that includes (PULSING) cotton, that includes biofuels, not food. So-- and that-- according to F.A.O. projections we can do it-- the current productivity levels and-- and-- you know, it implies a lot. But the reason it's-- it could be worse is that they don't adequately take into account biofuels and climate change.

It's very hard to model this stuff in these long-term models and-- and they really don't capture it well. They underestimate it. So both of those issues vary in the-- on the side of needing to produce more. So they could be also underestimating. And then the financialization of food, as it's been called, the issue of financial speculation on commodities markets is also not really incorporated. So the huge volatility in prices and what that means. But all of these represent structural changes and then the question is, "What can you do about it--" at least from a policy perspective.

W-- the-- the hypothesis is that they can be weakened or reversed through public policy since they were brought on my public policy. So two prices, the quick primer on the food price-- crisis. Food prices 1990 to 2012, you'll see very stable and then relatively low prices into the early 2000s and then a kind of steady rise in the underlying food price with tube (SIC) spikes-- two spikes were what got called the food price crisis, but the-- the steady rise was real too and some-- I-- th-- see the steady rise, the underlying rise in the-- in the b-- in the bottom trend as related to supply and demand and the spikes as related to financial speculation, but I'll talk more about that later.

Any case the point for developing countries and foo-importing countries is that food prices doubled basically. That reversed a trend-- this is from the previous 25 years, of generally downward-- food prices. And so that's-- that's why people point to a structural change. The import-- the impact on least-developed countries-- and I just came back from Malawi, which certainly qualifies as one of those, is soaring food import bills. They went from being the dotted line as their exports, the solid line as their imports as a group and in the mid-80s they shifted from being a small net exporter to a massive net importer now.

Imports now at tw-- you know, like, $27 billion and trade deficits at $17.5 billion. And again, I saw the effects of that on-- in Malawi that I'll-- I'll talk about. That's largely because-- structural adjustment programs, financial-- fiscal arrangements changes, and government policies-- reduced the investment in domestic agriculture-- in a lot of the least-developed countries on the theory you can import the food you needed cheap on the international market. That was-- and that was relatively true for a long time but it's clearly not true now.

FEMALE VOICE:

Can I just ask a question?

TIMOTHY WISE:

Yep.

FEMALE VOICE:

Is that an explicit piece of advice that was coming from the bank and other kind of development experts who were actually also controlling their financial flows and their access to--

TIMOTHY WISE:

Yeah--

FEMALE VOICE:

--development aid?

TIMOTHY WISE:

Yeah. I mean, it was-- yeah, I mean, it's the basic comparative advantage argument. In other words, we grow corn cheap, why do you need to grow chorn-- corn? You can buy it from us cheap. You should do "fill in the blank" that you can do more effectively. I mean, the difficulty being that in a place like Malawi it's not clear what they can do more effectively that they could export.

But r-- result, and just because I've done a lot of work on Latin America I pulled this example-- is a rising import dependence, in this case for corn. And so you see in Central America as a whole it went from under 20% to nearly 50% of corn came from mostly the U.S. in this case and in Guatemala from about 10% to about 40%. So that-

- that's a generalized trend that you also see in-- in Africa. The oddity about it and the thing that from-- an economic development standpoint is I think underappreciated is that if you look at the-- so look at those two lines for consumption and production for Central America, the red lines.

So consumption is demand, right? So that's the internal demand in Central America for corn. Production is completely stagnant and instead of having the demand for corn feed the market for domestic corn, the demand for corn is feeding the demand for imports. And so the question from a development standpoint is why can't countries capture that-- demand as a stimulus to their own domestic found production. And again, I will come back to Malawi, but that's what I saw them trying to do in Malawi.

Okay, the brief primer on the structural changes in glorb-- global agriculture. There's a lot written on this and actually I found the people in South Africa have-- mostly when I talk about this in the United States people go, "Oh, food, fuel, finance, really? They're linked how?" And in-- some of the colleagues I met in South Africa I was-- they're like, "Oh, you mean the triple F?" (LAUGH) It's, like, they're there. I mean, they-- so they've been talking about it for a while and that was really interesting to see.

But essentially what you're looking at is there've always been a connection-- an increasing connection between food and fuel prices, just because food is dependent on-- chemical inputs that-- that are-- rely on petroleum-based products. It-- there's transportation involved, et cetera, et cetera. That's changed and gotten more intense and this graph I think shows that. The red is the oil price and the blue is the food price. And you can see that the spikes are following each other, the-- the trends are much more closely related.

And that's even more in the context of climate change. In part that connection is more intense 'cause of the rise in biofuels production. This is global biofuze-- biofuels production of all kinds. Biofuels quite directly links the price of fuel to the price of food. A lot of it's using the same crops, like corn, and a lot of it is-- is using-- and it's all using the same land.

So the demand for land, even if it's not corn-based ethanol but it's sugar, even if it's-- if it's jatropha trees it's-- it's still demanding land and that's making land scarce and that's pushing prices up for anything that you need the land to produce. So-- so that dramatic rise and i-- most people don't appreciate just how recent and sudden that was. I mean, you look at that trend. It's really since 2005 and it's really the product of U.S. policy.

In the U.S. that was corn-based-- incentives to corn ethanol, the renewable fu-- fuel standard, s-- subsidy, a blender tax credit for-- for-- for using ethanol, a 10% mandate to use it in gasoline, a-- a tariff protecting the ethanol industry from U.S.-- from Brazilian-- corn and ethanol imports. The-- the only thing that's left of that, this is good news, is the renewable fuel standard, but that's still a significant driver of demand and-- and the-- and the oil price is a significant driver of demand. If oil

prices are high ethanol looks like a good deal, right? It's fairly simple.

But that directly ties corn-- markets to petroleum markets in an unhealthy way for food production. This is the ethanol share of U.S. corn production. Again, how dramatic it is. It went from about 10% of U.S. production all the way up to 40%. And-- and just to appreciate, that's-- 40% of U.S. corn is 15% of the global corn supply. We were the-- are the largest corn producer, largest corn exporter in the world, and so what we do affects global markets and what the ethanol policy does-- did has affected global markets.

Again, it's not projected to get better. This is projections through t-- 2021. That's not all corn ethanol. Most of that is actually sugar-- which is a different story. It's not a direct food crop, a stable food crop, and-- it has different implications for the environment. But still the-- the implications for the land are similar-- and the question is whether that's-- is that really a good thing for the climate, how good a thing is it for the climate? So you're dealing with the climate issue with this biofuels policies. And then what are the costs of that to-- to food markets?

Then there's the financial speculation piece. And this really links both food and fuel into one big, unhappy-- derivative. If this-- I don't much like this graph. I'm gonna find a new one for it in the course of this fellowship, but let me just explain it very briefly. This i-- the size of the circle is the amount of-- money in the futures markets. So again-- you're-- the first circle is in 2000, so again you're looking at a sudden and meteoric rise. It rises most when the financial crisis hits in the United States because money-- speculative money flowed out of those markets and into commodities, which were considered safe.

Within those circles the blue is the traditional hedgers. That's the people who have an-- an interest in the actual physical commodity, the people who are the-- the-- Petroleum Association of New England who's buying oil futures to guarantee their access during the winter months, the-- the corn producer who's get-- who's taking a futures-- sale so that he gets-- a guaranteed price in the-- after harvest. Now the green are the traditional speculators and those are people who have always been in these markets but have been generally overshadowed by the-- the actual tradition hedgers, those with a physical interest.

But the-- the red is the index speculators. That's people who have been-- who bundled their money into commodity index funds. And commodity index funds are essentially a weighted listing of futures market investments that notably have food-- many food crops in them, but most importantly have fuel crops at the top of them. So fuel crops dominate and again, it's so-- be-- it creates a structural lag between fuel and food prices. When oil prices go up, the-- the value of those-- goes up as well and drags the food price up as well. So it creates this speculative-- that's where people feel the speculative bubble is-- most clearly seen.

Finally as-- we all know greenhouse gas emissions come significantly from forestry and agriculture. About f-- according to this way of measuring, about 31%. There are others who calculate that it's probably more like 51% if you count all-- all the

throughput costs of agriculture and food-- including processing and the rest. So-- so from a mitigation standpoint it's huge and-- and from an adaptation standpoint to climate change it's absolutely essential, and I'll talk about that looking at Malawi. This was one of the more stark representations that people gave of this trend where some interesting systems modelers in-- in Cambridge did-- came up with a model that was just kind of astonishingly close to these food price trends.

They-- the dotted line is what they say-- what I called earlier the underlying ri-- trend upward in food prices from supply and demand and the spikes-- they attributed to-- speculation. And again, the model fit very well. I mean, I think there's some issues with this study but I think-- I do think they-- that's their underlying-- food price increase due only to corn ethanol. So that's-- they say corn ethanol in the U.S. is the problem. So again, interesting from this perspective that I'm taking on the role of corn markets-- in-- in global food security.

Shifting a little bit to Africa. The interesting thing is that prices here transmit even to maize-exporting countries. And this is-- this is Uganda-- in the food price spikes again where the red line is the global maize price, the blue line is the Uganda retail maize price. And-- and this shows-- a pattern that I'm going to-- I'm going to argue with a lot of people about o-- in the course of this project. In fact, I-- on the plane to Malawi I ended up sitting next to a guy who did the study that said this wasn't true-- (LAUGHTER) so--

(FEMALE VOICE: UNINTEL)

TIMOTHY WISE:

Go figure, it's a small-- Malawi's a small country. But the-- so people look at this-- some economists look at this graph and say there's no correlation between these prices. And I look at this graph and say there's an absolute correlation between the upward spikes and these prices. You notice that with a short time lag the red upward slopes transmit to the blue in both cases of the price spikes, and then unfortunately for Uganda they stay high and economists have a name for this. It's called prices being sticky high. And it means that-- it usually means that speculators on local markets are there and can-- and can manipulate prices knowing that there's a scarcity and a fear-- about shortages.

So-- so it's actually worse than prices transmitting, right? It s-- means that the price transmits and it goes up locally, even if you're a net exporter of maize, and then they stay high. So from a food security perspective it's actually not comforting that they-- prices don't transmit completely. It's actually worse, so that's one of the stories yet to tell and yet to look into. But for a place like Uganda, 65% of their income is spent on food and 20% of urban calories come from purchases maize, so you're talking about big food security impacts.

So can you put the genies back in their bottles? Well, that's-- that's really one of the key questions-- for me in this project. Biofuels and financial speculation were created

by policies and they can be weakened by policies in the sense that financial speculation came from the deregulation of financial markets in the early 2000s and, you know, a lot of the Dodd-Frank regulations are intended to try to tamp down the-- the-- the amount of-- speculative capital going into-- into food commodities.

Those-- some of those are very good reforms if they're allowed to be implemented, if they're not litigated away by the-- by the financial industry then they-- that could make a difference and we could see that weakened. Biofuels is driven significantly by these mandates-- and it's a-- at this point countries all over the world are putting in place these mandates, so that's-- so that's a challenge. U.S. corn ethanol program is one of the most obvious problems here.

But-- but underlying it all is the need to invest in developing country food production whether you believe you can put these genies back in their bottles or not 'cause if you're dependent on these international markets that see huge volatility and high prices you're paying way too much for your imports and you're-- and you have no idea how much you're gonna need to pay year to year for your imports-- and how you're gonna s-- insulate your population against-- against high prices.

And then with climate change in the mix-- you have a need for both mitigation and adaptation and for poor countries like Malawi the adaptation piece is critical. It's like they are already experiencing climate change and all over the world, but notably in some of the poorest parts of the world they're already experiencing climate change in the form of shorter rainy seasons. That's-- that's their whole agriculture, that's their food security base is-- is-- that rainy season and-- and it's gotten much more unreliable.

So what am I doing? (LAUGHTER) Basically documenting those U.S. policy distortions-- and I call 'em policy distortions 'cause from an economic perspective they are distorting global markets-- biofuels, financial speculation, and U.S. agricultural and trade policies. Hopefully you won't ask me too much about the new Farm Bill, but-- (LAUGH) 'cause that'll be-- that'll be a piece of the story. But the-- it's really to identify how those-- those impact-- those policies are rippling out of the United States and into-- developing country markets and impacting food security.

In Malawi the government has invested in a maize self sufficiency program and it's shown the limits of sort of the high-input, fertilizer-based model. So what are they gonna do? That's what I just came back from on Thursday-- looking at. In Tanzania land acquisitions, otherwise known as land grabs by some people, are driven significantly by global biofuel demand. So if you can decrease the demand you can decrease the-- impacts on land tenure and food security.

But how are-- how are countries dealing with those pressures, right? That's the question. So I'll look at that in Tanzania. In Uganda the price volatility I showed in the context of climate chain, and then African governments have made a very strong commitment to increase their spending on agricultural development, which is noteworthy, impressive, lagging behind what they committed to, but very significant. And there're citizen-based efforts. Very interesting citizen-based efforts to better

direct government investment.

To monitor how ag-- r-- budgets are spent and to intervene, to lobby for-- both cleaner government, right-- so there's-- there's a clean government piece of that and there's huge corruption in a lot of these ag policies. They just are designed for that particularly in-- in-- in Malawi. But the-- but there's a need to-- to lobby for how that money gets directed. Is it gonna be directed to large-scale industrial agriculture? Is it gonna be directed to small holders? If it's directed to small holders is it gonna be all trying to get everyone doing high-input seeds and fertilizers and high-- and the rest?

Or is it gonna be-- what people sometimes call climate smart agriculture, climate resilient agriculture with lower inputs-- and less dependence? And then finally Mexico, where I've done a lot of work. It's really looking at the false promise of genetically modified maize in the center of origin for maize. Sort of the agrobiodiversity risks that are inherent in that and then also the-- just the whole question of, you know, if the point is to-- for Mexico to grow more of its own maize, well, they can do that. They don't need genetically modified maize to do it.

But that whole-- it relates to the larger question of what's become the model for agricultural development in the developing world, which is public/private partnerships-- as a way to get-- to leverage-- in theory to leverage private capital into-- agricultural development projects that are government driven. That's the idea. And-- that can bring the technology, the knowhow, the expertise, and the capital to bear on-- on these e-- efforts. Again, there's a lot of controversy about that in the region.

I've written a lot already. Like I said I've-- you guys have already sent me all over the world-- well, not all over the world, but the a lot of the world-- which has been great. So I-- I put the link down there, which Steve certainly has. We sort of-- we created a fellowship page at my research institute just so that there would be one place where-- where publications and interviews and things like that were-- are collected. So if you want to-- you know, we can put you on our list to get notified when new things come out. Just give me your-- your email and I can do that-- or you could collect emails and send 'em to us and we'll-- we'll do that.

What's-- what's-- what makes this project particularly exciting for me-- and I think-- I hope it's exciting for you all too is that these issues really are front and center, right. When I went to the World Trade Organization meetings in Bali, it wasn't obvious before that the Indian food security program was going to be the topic of debate. The issue that hung out-- that threatened to-- to derail an agreement there, but it was.

Now what is the Indian food security program? It's a commitment by the government to buy grain from farmers-- small farmers at a-- at a slightly supported price, a guaranteed price, and distribute it to-- poor Indians-- and a program that's destined to reach 65% of Indian people with food distributions. And the U.S. objected to it on the grounds that it was an illegal subsidy-- under W.T.O. rules. There's an arcane way of calculating it that I won't go into-- but it put the issue right

at the center of the agenda and that food security law in India was the product of probably the world's most advanced right-to-food campaign in the world.

The Indian right to food movement is astonishing. It's a grassroots movement of-- sort of coming-- really trying to empower-- use the right to food as something that can be enacted in legislation and it has been, upheld by courts and in India it has been, and used then by citizens to demand-- progressive realization of the right to food. That's what the right to food means in the world. That-- that has interesting-- that's an interesting new wrinkle in the last-- again, in the last five years that-- that makes this-- makes the entry of those concerned with rights-- (LAUGH) into this discussion very important.

It really do-- it really is resonating around the world, that approach, and I saw it in Malawi where there's a Malawian right to food network as well. So onto Malawi very briefly. So here's what Malawi-- Malawi's really looking at small holders and the right to food because they only have small holders basically and they almost only grow food. They actually almost only grow maize-- which is-- one of their problems. I was there during the rainy season. They're experiencing climate change in a serious way. The rains usually start in late October.

They start later, then end earlier, they're erratic-- that's the main experience they have of them. This year they didn't start till mid-December, so that's a month and a half late. That's serious for this country. They w-- they were good rains while they were r-- while it was raining as you can tell by the lush landscape here. This does not look like a country that is starving or that has had famines, but it is a country that has 1.8 million people now in serious food security straights out of 18 million people and that has experienced famine in its recent past.

But the government has invested heavily in-- maize production. It's-- stealing Michael Pollan's term it's the cornification of-- he talked about the cornification of our diets-- in United States, but it's the cornification of Malawi and much of corn-producing Africa. Did you know that Ethiopia now products-- it's largest grain crop is Maize. (MURMURING) It's astonishing but this is where-- this is what high-input agriculture knows how to do is maize. They don't know how to do teff in Eth-- in Ethiopia.

And the a-- Alliance for a Green Revolution in Africa is all about-- well, it's not ab-- it's about a lotta things, but it's significantly about improved seeds, improv-- more fertilized, and-- getting-- getting those into the hands of small holders and larger farmers, preferably more larger farmers than small holders and ramping up food production. So-- there's huge incentives to grow corn. And you see this in Malawi because Malawi adopted a fertilizer input subsidy program a-- against the advice of the World Bank.

They became famous because they-- even though donors give them 40% of their government budget, they said no to the donors and said, "We don't care if you don't think we should be using input subsidies, we're gonna use them 'cause we're not gonna have another famine." And it worked. They grew a lot more corn. They

actually grew enough corn that they declared themselves self-sufficient in corn for the-- for a year or two, I mean, they have good and bad rains, and they even exported some corn.

So everyone kind of acknowledges that that worked and it's kind of broken down the resistance to such programs in interesting ways. But it's shown the limitations of that high-input model because it's incredibly expensive. So if you-- so what's happened to you if you've decided, "We're not gonna import any more corn, we can't afford it. We need to grow more of our-- own food." And so you start using a lot of fertilizer to-- to-- to grow your-- to grow more corn yourself, what are you importing? Fertilizer.

You are not actually (LAUGH) creating a huge level of independence from international markets and you've actually tied yourself more closely to fuel markets 'cause fertilizer is most definitely dependent on fuel. So that's the big contradiction of it all. So the question is sort of-- one of the questions I looked at and got a lot of insights into is whether the-- whether improved seeds and the fertilizers that you need to make them work are a savior or a dependency trap.

And I visited in Monsanto in Malawi, which was very interesting -- they control about 50% of the-- of the seed production in-- in-- in Malawi. And I kept asking people, you know, how much for-- for small farmers, who can't always afford all the fertilizer, how much-- how much better are these seeds? Like, are the yields that much better? And everyone said they're better but they're only a little better. And they have to buy the seeds every year, so that's a cost, but it's subsidized by the government. But that means the subs-- the government's subsidizing seed companies, right, the purchase from seed companies, so that's tricky. And then they're subsidizing the fertilizer, which if you don't use it, the f-- hybrid seeds don't do too well, right.

So the very interesting thing on the-- came on my last day in Malawi. So really this was Wednesday of last week sitting in the ag-- ag minister's office and I f-- I f-- I was asking him these questions like, "Well, you have these seeds that-- that the Malawi-- that the government developed that are open pollinated, which means you can replant them year to year, and they don't do much worse than-- than these hybrid seeds, and they're much more tolerant of in-- of inconsistent fertilizer application, so-- and of inconsistent rains. So aren't they a better risk? You know, why would you do that?"

And he said, "Well-- when we privatized-- when we were forced to privatize-- some of our national industries in the 1990s-- under a structural adjustment program from the World Bank and the I.M.F.-- we had to private-- we privatized the national seed company. And-- and Monsanto bought it." So you have Monsanto with an interest in selling its own seeds essentially capturing all of the intellectual property that had been generated by years of innovation by the Malawian government, public investment, not pr-- not patented, not anything, tweaking those varieties, making them hybrids, and marketing them through the government subsidy program. (SCOFFS)

Favored by the subsidy program because, again, the donors intervened, U.S.A.I.D. in

particular intervened, and said you shouldn't be-- the government shouldn't be the ones distributing the seeds, the private sector should distribute the seeds. Monsanto's share went up to about 75% of the government's seed distribution and suddenly you have this-- what it think is-- is the beginnings of a dependency trap-- where you lose the native seeds, partly 'cause companies are shelving them and not reproducing them, and part-- so they don't remain a choice, and partly because-- you-- the dependency you have on those seeds includes dependency on imported fertilizer.

So that's the real interesting dynamic of the-- of sort of how this plays out in Malawi in a government-- with a government that's incredibly committed to increasing its food independence. And the alternative exists right in Malawi too. And including in this fertilizer subsidy program where they distribute seeds they actually lobbied-- the farmers and-- and others lobbied to get legume seeds distributed with maize seeds so that they could be intercropped. And if they're intercropped they fix nitrogen in the soil. You can see if you look closely-- I think you're seeing pigeon peas, which is a local crop-- intercrop between the maize plants.

They fix nitrogen in the soil and-- reduce the need for chemical fertilizers-- and build soil quality. This guy is standing in front of his insanely healthy maize field, which is actually planting a variety of open pollinated orange maize, which I hadn't seen before. It wasn't-- there were no cobs so I couldn't really see the maize yet on this one, but really healthy plants. They're trying to encourage orange maize because of the high vitamin A and vitamin A is one of the main deficiencies in the diets in a lot of parts of-- a lot of poor countries.

So-- it's open pollinated so you can replant it. It does not requ-- it's tolerant of low levels of chemical fertilizer application and-- and his field-- he said this was the first year he'd used no fertilizer at all. Again, just from intercropping. He really wasn't doing anything else much more sophisticated than that. So that's the-- is that-- could Malawi do that as a country and where would that leave them? Fertilizer is the second largest import cost after fuel. So you can't actually get along without fuel and they have no domestic sources of fuel. That's not one-- you know, that's not a discretionary spending i-- item but fertilizer could be.

So that' an in-- that's the other interesting dynamic. Just to close, this is-- the African Union-- I was in-- its headquarters in Addis before going to Malawi where the-- in the spanking new building donated to the African Union by the Chinese government-- those buildings are all over Africa. (LAUGH) But this quote I think is telling, "African countries are not looking forward to depending continuously on external supplies that will remain uncertain in prices and quantities.

"Actually our ultimate, unquestionable ambition is to develop our agricultural markets. In our opinion we must rely on our own production to meet our food needs. In fact, importation is not Africa's goal." So that is where they're commit-- their stated commitment is. The question is whether they can really get there, so. Hope I didn't take too long.

STEPHEN HUBBELL:

That was-- no, thank you, Tim. I-- (CLEARS THROAT) I sense that there is pent up demand for more-- (LAUGH) for more information here. I might start the questioning off-- as far as responses are concerned-- there exists as we know many voluntary guidelines-- concerning ethical investment practices, sustainable agriculture, et cetera.

Are there any that are targeted specifically at undercutting the three Fs, particularly the speculation in-- in-- in commodities like maize and that have e-- enjoyed any level of success? I mean, what-- what sorts of approaches, if any, among those lines that you've seen would you think--

(TIMOTHY WISE: UNINTEL)

STEPHEN HUBBELL:

--offer the greatest promise?

TIMOTHY WISE:

I mean, there are-- there are sustainable biofuels-- guidelines and codes of conduct. They're-- they-- they don't have the best reputation for being-- you know, sort of a sustainable soy initiative. There's a sust-- you know, you can find initiatives like that. There's a lot of privately-generated standards that can be good and are often really bad because they essentially, you know, put a green stamp on-- on a bad practice. 'Cause people realize that there's a demand for-- for green practices.

So I would say not-- not-- not at this highest level of-- you know, at the level of the food, fuel, finance issues. And at the-- it's very hard to do-- to do fair trade type stuff in commodity crops. They're just too big and diverse and complicated.

STEPHEN HUBBELL:

Questions?

MALE VOICE:

So I-- I have many questions I could ask but I'll limit myself to-- to just-- just one. I'm interested to know if in your-- your research and your various trips, have you heard from folks talking about or investigated at all some of the environmental effects? So the two, for example, that you didn't mention were deforestation and how that ties into the-- the lack of land-- and also contributes to climate change.

And also, for example, with all this heavy use of fertilizer, their runoff and how that

affects water supply and clean water and things like that. So has-- you know, how-- how that affects communities, you know, for their own water supply for example-- and also greater issues of-- of climate change, lack of water, et cetera.

TIMOTHY WISE:

Great. No, that's-- that's a really good question and it's-- yeah, that's exac-- that's-- I'm looking at a lot of that. I mean, my institute is called the Global Development and Environment Institute for a reason. And we've looked a lot at tho-- those-- those issues in maize. Interesting on the fertilizer question they-- there have been environmental impact studies-- ex post environmental impact studies on-- on Malawi's fertilizer distribution program and they found very few-- negative environmental impacts from things like runoff because it's an-- it's an indicator that they-- they still aren't getting the optimal amount of fertilizer, never mind an excess. 'Cause runoff means what's not absorbed.

So it's really not enough to get into the water supply. And so they're not getting that kind of impact. Land is a huge problem in Malawi. Malawi is the most densely populated-- country in Africa. And it has the fastest population growth rate, coming on the heels of one of the worst-- AIDS epidemics. There's an estimated 500,000 AIDS orphans in Malawi. 18,000 people and 500,000 AIDS orphans. It hit Malawi really hard-- heterosexual transmission was huge-- in ways that surprised people. But it devastated the country about ten years ago and-- but that said-- I mean, and related to that is this high growth-- high birth rate, which stays high.

And a fairly compressed-- a sm-- relatively small landmass-- and a fast-growing population. So-- so plots are getting subdivided and subdivided and that's a huge problem. Deforestation is an issue but they've done a pretty good job of deforesting already. (LAUGH) Unfortunately there-- there's-- I mean, Malawi's-- I mean, actually the-- I mean, you could see in those photos they're-- I was sh-- I was astonished. I'd never been anywhere where sm-- small holders had food planted absolutely everywhere you looked. In the city-- I mean, the city of Lilongwe, the capital city, is planted in maize.

Like, the median strips are planted in maize. Everything is maize. And that has environmental issues actually. The-- the concern-- one of the-- biggest complaints I heard was about ur-- what they call urban agriculture. We think of urban agriculture and it's like, "Oh, those nice rooftop gardens." It's, like, no. We're talking about-- deforestation of the urban settings and the hillsides and they have now huge flooding problems in a lot of the cities because of that kind of deforestation, so.

STEPHEN HUBBELL:

Erica?

ERICA:

Thank you for this, first of all. It was-- really powerful and extremely depressing. (LAUGH) But-- I-- I appreciate it very much. I'm wondering--

TIMOTHY WISE:

I'm not depressed, if that helps you.

ERICA:

That's goo-- okay, that's good. (LAUGHTER) That is (UNINTEL). I'm wondering-- I have a zillion questions but I guess-- maybe to sort of limit it to a few, one, is-- is the focus of your work gonna be-- mostly on U.S. policy because-- because U.S. is the big corn producer and that's the lens you're looking through-- or might you also be looking at other major commodities markets, for example Switzerland and-- deregulation in other-- in those other markets as well?

And then the second question is you mentioned that-- the-- there's just been huge corruption in the way a lot of this privatization and-- sort of contracts have happened and I wonder if you'll be looking into those deals or-- like, anything that might come out of your research in terms of identifying particular entities or actors that might-- that we might be able to take some action on.

TIMOTHY WISE:

Yeah. No, I m-- the-- I mean, in answer to the first question it's not just U.S. policy and it's really not just maize. I mean, I think that's the-- the lens through which this is a re-- I'm finding it very useful to not look at the whole world and not look at every crop but just kinda focus it on this, but it-- that mainly plays out in the form of looking at maize-producing Africa and maize-consuming Africa. And so that links in a more direct way those markets to U.S. and Brazilian and Chinese markets, to all global markets.

But one-- that's one in which the U.S.-- U.S. policy plays such a decisive factor. I mean, the largest discretionary policy that has contributed to high maize prices is the biofuel program in the United States. So right there you've got the starting point. But-- but no, I really do-- I-- I hope to look at the ways-- essentially it's-- I mean, I-- when I describe this project to people-- when I was in Malawi I described it more as, "How has the new environment in the post-food crisis world playing out in your country?"

And I'm looking-- I-- I'm looking much more at how the national governments are responding to those challenges. 'Cause they are. I mean, that's the-- and that's why I s-- don't think you should be so hopeless. No, I mean, look, Malawi has just made

itself maize self-sufficient when it had th-- what, three serious famines in the last 15 years. And they did it like (SNAPS) that. It's like-- and they ignored World Bank advice to do it. So what's the good news? They ignored World Bank advice and they did it.

And now it's brought a whole host of other contradictions, but they actually have the solutions right at their fingertips if they can find the political will, the donor-- the space from the donor pressure and all the rest to do it. Tanzania has a wide range of creative policies going on. Africa as a whole, it's like-- you know, it's like they can't-- you know, the-- the whole Comprehensive African Agricultural Development Programme, CAADP, is the commitment they made ten years ago to increase agricultural spending to 10% of budgets-- of government budgets and-- and this is the year of agriculture in Africa.

And, you know, a lot of it's rhetoric but-- but it's not-- citizens are empowered to act on those commitments and they do. So that's what you see. The right to food movement actually rises in that context. So I think that's-- that's all very positive. Your second question was about?

ERICA:

Just about--

TIMOTHY WISE:

About the--

ERICA:

--the fact that you identified corruption in-- these private/public partnerships and if-- if your research would sort of be identifying particular actors or deals that were--

TIMOTHY WISE:

Maybe. It's a little hard to tell right now. I mean, I'm-- I'm dying to go l-- back and look at the privatization terms that Monsanto gobbled up the Malawian seed company for. Be-- just because I really got that news on the last morning of my visit to Malawi and I haven't had a chance to look into it.

You know, the-- I-- I think-- the corruption I was mentioning is-- actually relates to-- you have a fertilizer subsidy program and they-- it's-- it's a-- it's considered now politically untouchable because whoever's in power drops coupons for subsidy and-- for fertilizer and-- and-- and-- seeds into the hands of voters with an election coming up in May and nobody has yet invented a better formula to buy votes than that.

And that's what people in Malawi would tell you, which is that a lot of them wish that program didn't exist, but they figure the only way to deal with it is to change it, is to reform it from within. The donors now-- a lot of them hate it. (LAUGH) So-- but they hated it to start with because it went against free market principles. But-- but I do think there are going to be interesting opportunities to look at some of these. I really wanna look at the public/private partnership thing.

You know, it's all under the framework of the G8s-- G8 nations' new-- New Alliance for Global Food Security and tr-- and Nutrition. That program to me to-- was a huge disappointment because in 2009 internatio-- the G8 countries made-- a significant in-- commitment even in the wake of the financial crisis to increase their public support for agricultural development in the developing world. The so-called L'Aquila Commitments made in L'Aquila, Italy. A three-year commitment of $22 billion, which was a significant increase over previous aid levels.

And not just to-- you know, to safety net programs, but t-- productivity programs for agriculture, agricultural development y-- based on small holder development. That was new and that was significant. It came time to renew that in tw-- in 2012 and unfortunately President Obama led the charge in declaring the New Alliance for Food Security and Nutrition as a private-sector led initiative that-- that has signed onto it the largest agribusiness firms in the world-- and-- and the idea is really for-- for the public sector-- I mean, you know, so that-- I guess that Monsanto purchase of the Malawian seed company was a public/private partnership in some way.

Some of them are p-- I visited one in Malawi that was-- that was great. Malawi mangoes, look for it on your supermarket shelves someday soon. Apparently they're-- some British investors came in, irrigated a section of-- of land was irrigable-- started a production of high-quality of bananas and mangoes on a plantation. A small plantation but with-- commitments and contracts with outgrowers, so with small holders in the area. Technical support to them to become suppliers for a guaranteed price, their workers seem to be paid decently, Rainforest Alliance certified project. I mean, you can get-- some of the stuff can be really good.

But there-- Malawi signed on to the new alliance very recently and one of the things that happens when you do that is that you si-- the government signs-- an agreement that is really like a contract to make the country safe for private investment. And that involves all kinds of change-- permanent changes in the law that are tricky-- so.

(STEPHEN HUBBELL: UNINTEL)

FEMALE VOICE:

I struggled with this framing of this question even though we keep trying to do it and it's-- it's-- should be obvious but it doesn't seem-- I think that we historically as an organization-- to take the example that we've just been talking about, say corruption, that just-- we start from the assumption that all corruption is bad and where we see an opportunity we might want to get in there and try and do something about it. But

you just gave a perfect example of where it might be a really bad idea to make fertilizer-related col-- corruption the target of your effort. Because the unintended consequence would be to undermine a good initiative that has changed the game for Malawi's food production.

And with that example in mind, what we're struggling with I think as we think about what this food security and-- shared framework is for, is what are the virtuous circles that you could get moving that don't just target one problem? Seeds or corruption or-- and we-- we-- we conceive that what-- and you've just beautifully illustrated the interconnection between a number of different policy initiatives which essentially are not necessarily-- in fact often are not responsive to each other. They're being driven by a set of logical-- propositions that don't-- will need lead to a virtuous circle on their own.

So-- and we say that OSF has a bunch of different tools. It can do behind the scenes government advice and-- and has some leverage in some spaces. It can do out in the front of the palace protests, it can do financial investment, it can of-- a bunch of stuff.

So the logical question for an organization like ours is couldn't we affect two or three different things at once and-- applying the simultaneous pressure on those things start-- a new virtuous circle working that would actually pay the Malawians not to sign onto that agreement, pay them nationalize or build a new seed company, pay them to-- but y-- I'm-- I'm just riffing. I don't really know anything about that. I'm just-- I-- I guess what I'm trying to say to you is how far is your work able to help us tackle that problem which essentially is a sort of downstream problem for us as we try and figure out what to do with this project.

TIMOTHY WISE:

No, I talked a lot with (UNINTEL) people about that and actually with-- Cedric de Beer at the-- from-- SADF. We had a interesting meeting about the-- about what they were doing, which is-- in Southern Africa not so much on agriculture. I mean, at this point they're looking at other types of things, so-- but where there are opportunities for things that in agriculture for SADF is interesting. SEDF, sorry. The-- I mean, this Malawi mangoes project was interesting in that regard. He talked about a similar project actually in-- I forget what country it was in. It might've been South Africa. It was-- it was-- it was--

(MALE VOICE: UNINTEL)

MALE VOICE:

No, it's the--

FEMALE VOICE:

It's Ghana.

VOICES:

Ghana. Ghana.

TIMOTHY WISE:

Was that the sugar-- the-- well, there-- he was talking about a sugar-- a sugar plantation-- private investment sugar plantation with an outgrower scheme that would bring the infrastructure of milling--

(OVERTALK)

TIMOTHY WISE:

--into the community--

FEMALE VOICE:

Rice.

TIMOTHY WISE:

Oh, is that rice?

MALE VOICE:

Yep. In Ghana--

TIMOTHY WISE:

It wasn't sugar?

MALE VOICE:

Rice.

TIMOTHY WISE:

It was rice, you're right. Oh, so that's the one I'm thinking of. Yeah, so that one sounds a lot like the Malawi mangoes project in a way. And that seems like it has lots of-- lots of virtuous circles built into it.

FEMALE VOICE:

But relatively small in the sense that if you-- if we-- if we were trying to mobilize not just SEDF but simultaneously SEDF, OSF, George Soros, what's the big thing that we would put all of those three to work on doing separately but in parallel so that we would-- we would reward different behavior. That's the question. And is it hubris anyway? That may be craziness. But I think if we don't ask ourselves that question I think we can do lots of things which are good in principal and show that our heart is sewn onto our sleeve. But if we really wanted to shift the logic of some of what you're talking about, then what would it be and how would we do that?

TIMOTHY WISE:

Yeah, I don't know that I have that answer but I-- but--

FEMALE VOICE:

You don't?

TIMOTHY WISE:

(LAUGHTER) I don't. Not yet. I mean, I'm only four months in here. Talk to me in a couple months, but-- (LAUGH) no--

FEMALE VOICE:

Well, I guess I'm trying to put it on your agenda but--

TIMOTHY WISE:

No, it is--

FEMALE VOICE:

--that's actually what we really, really want out--

TIMOTHY WISE:

I hear you--

FEMALE VOICE:

--of this process--

TIMOTHY WISE:

--no, I think each really interesting way to put-- way to put the question and it's helpful 'cause-- no, I think you guys have put a lot of thought into this shared framework and sorta what-- so levers of change, which is really what I'm looking at too. How do you put the genies back in the bottle, how do you-- sorta where is-- where the-- I-- for developing countries policy space is the issue, right? In other words, you can't-- so you can't go in and make developing countries do what you want them to do, right.

But democratically-controlled developing countries should have the policy space to make a choice to, for example, not import fertilizers and use their own seeds. And Malawi effectively doesn't have that choice right now. I mean, or the-- the choice is constrained. It's not that they can't do it, it's that there's-- be a huge cost to doing it. They get 40% of their government support for international donors. The largest contributor is U.S.A.I.D. If anybody says, you know, we're pullin' out 'cause you're not doing what we want, they have a huge problem.

So-- so policy space is huge and-- and what I found encouraging-- and again, to get back to the not being too depressed about all this, so I-- one of my-- the great thing about this trip to Malawi was that even the meetings that I thought I wasn't gonna be interested in turned out to be invaluable. I mean, there's just so much interesting stuff going on. And somebody set up a meeting for me with the Millennium Villages project in southern Malawi. And, you know, it's-- it's not interesting to me to see what you can do with unlimited resources (LAUGHTER) just because-- the last thing Malawi has is unlimited resources.

On the other hand they can think outside the box and they do. But the most interesting thing is that the guy who heads it, Andrew Dowdy, is now-- was the ag minister for-- for-- for Malawi for ten years during this whole fight over the su-- fertilizer subsidy program. And when I posed my questions to him I was like, "Why hybrid seeds that you have to buy from foreign c-- foreign firms? Why fertilizers when you can't afford it?" He said, "Well, starting this year we're not recommending that to our Millennium Village projects. We're remend-- we're-- we're recommending open-pollinated varieties 'cause they're-- the risks are lower and the costs are lower.

"And we're experimenting with ways to stretch fertilizer by mixing it with-- if you

really wanna know one part fertilizer, two parts chicken manure, and two parts composted corn husks." And their results have been excellent. So short of the organic alternative, the non-chemical alternative, there's ways to stretch. Reduce dependence, increase output, and increase independence from, what, outside markets, outside forces. I think that kinda stuff is really-- there are-- there are really a lot of marginal improvements you can make in agriculture.

You know, it-- I alway-- I-- I end up getting in fights with people on both sides of this. Actually I had a really good conversation with the head of the F.A.O. mission in Malawi about this 'cause she felt the same way. Like-- like there's too many dogmatists on both sides of this debate. It's not about being agroecological and organic and it's not about rejecting agroecology and organic and adopting high-input agriculture. It's about finding ways to marginally reduce your costs and dependence on external import-- puts that come from scarce resources.

And petroleum-based fertilizer is a scarce resource. Sorry, but it's-- it is. In the long run. If you're planning for 2050 don't plan on lots of chemical fertilizers. That's not a smart way to go. So if you're-- if you're looking at marginal improvements and you could reduce-- like, do what they're doin'-- gonna do at m-- Millennium Villages and reduce your fertilizer dependence to one fifth of its previous level, that's huge. There's a project in the United States that was kinda buried in the-- they took a corn/soy farm-- typical corn/say-- soy farm in Iowa and-- and used it as a control and did two other far-- two other farms.

One, they introduced a hay crop as a third rotation and the other they introduced a hay crop and animals f-- foraging in the field, grazing in the field and leaving manure in the field. And they found that in both of the-- of the experimental cases, with the animals and without, they reduced fertilizer dependence-- chemical inputs by 85% just from that simple rotation and profitability was the same.

So even in the United States you could do that. But again, the-- where you come up against is the-- the vested interests in agribusiness who clearly have a certain amount of policy captured, certainly in a place like Malawi but arguably in a place like Washington. And where-- where there's-- yeah, so wh-- what's the path from here to there is-- you know, what's the-- I mean, that's what you're asking and I think that's a-- I mean, for Malawi it's an economic crisis. They can't afford their imp-- to import. You know, you forget that developing countries that are that poor-- you can't import more than you export.

You don't have ha-- the hard currency from your exports. And you can't import. Monsanto can't import if Malawi doesn't have foreign currency. And they told me they'd lost some markets 'cause they couldn't get the hard currency. Malawi doesn't export much, they're not going to export much. They export tobacco, that market crashed. That's-- caused the crisis. So reality will impose itself on Monsa-- on-- on Malawi's government in-- in-- in the terms of foreign exchange limitations. They've just experienced-- a devaluation in their currency that drove prices like fuel, electricity, and food prices doubled in the last year in Malawi.

Any other country would be rioting. I don't quite know why they're not but-- but it's dramatic and that kind of reality-- governments face that, they face it at the ballot box, they face it in the fields when they're dealing with farmers. And that forces changes like-- you know, we can't afford to import so much fertilizer. So are there alternatives? Yes. That might be what you see. That's--

(FEMALE VOICE: UNINTEL)

TIMOTHY WISE:

--that's my hope anyway.

STEPHEN HUBBELL:

We have reached the end of our time. But-- you know, I think I speak on everyone's behalf to-- in saying that that was-- an unusually informative-- hour and ten minutes or hour and 15 minutes and-- a lot of food for thought--

(OVERTALK)

TIMOTHY WISE:

Thank you all for coming.

VOICES:

Thank you so much. Thank you. Thank you. (APPLAUSE)

* * *END OF TRANSCRIPT* * *