



# **Setting Investment Priorities for Achieving Poverty Reduction and Food Security**

## **Q & A Transcript**

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*Zachary Baquet:* Okay, so now we're going to have a question-and-answer. We're going to follow the style of in-person, and then we'll also go to the online audience and switch off. What I ask is that, when you ask your question, to give your name and organization before stating your question, and I should have done this at the beginning, my name is Zachary Baquet and I'm the knowledge management specialist for the Bureau of Food Security. With that, I open it up for questions.

*Audience:* David Bailey, Office of Afghanistan and Pakistan Affairs. My question is you mentioned infrastructure, but what research have you done with regard to investments in the value chain infrastructure specific to these countries?

*Shenggen Fan:* The infrastructure to support the value chains? Yeah, I think now the infrastructure has become so crucial if the economy is moving towards a more diversified agriculture, for example, vegetables, fruits, even animal production. For the last several years, let's say in China, in India, in Vietnam, we do see \_\_\_\_\_ sort of the private sector that come to promote the value chains linking with the smallholders to markets, and some of the constraints are indeed infrastructure: access to reliable electricity, access to \_\_\_\_\_ communications. That has become less a problem because of the rapid development of the mobile phones, and don't forget, roads are still important. You can have access to Internet through mobile phones or through any other modern telecommunication technologies, but if you do not have good roads, you still cannot move your produce from your farm to consumers in big cities, or even to \_\_\_\_\_ countries.

Africa, I'm glad to notice that many African countries realize that improving rural infrastructure is so critical. The Tanzania president was here during the G8 meeting, so he put the rural infrastructure, particularly in the Tanzania southern corridor, \_\_\_\_\_ improving infrastructure is the number one priority, otherwise private sector will not be able to come. So, that's why the rural infrastructure comes pretty high there, not only in the '70s, '80s, probably today it is even more important.

*Audience:* Good morning. Frans Hall from the Food and Agricultural Organization. I have one comment and one question. My comment is on the timing. You mention it, timing on investments, which, to me, are also key because you are emphasizing investing in research and development. For example, in Ethiopia, a country which I know quite well, I mean research has – I mean their government has invested a lot in research, and lots of seed \_\_\_\_\_ have been developed but are shelved, and farmers have not adopted these seeds, so we may be careful about the timing on these investments. My question is regarding credit subsidies. If we look back at your slides on India and China, they seem to have a

higher return than research and development. I'm not saying that we shouldn't invest in agriculture research and development, but I think credit, we haven't supported it while you're showing that it's a huge return.

*Shenggen Fan:*

Yeah. Okay, in terms of timing, we know that if we invest in agriculture research, that investment will not affect productivity or the farmers' income probably even 10 years, sometimes probably 15 years, so there is a long time lag. Rural roads, similarly, also have some time lag. You need two or three years to finish a road, and the farmers will be able to use that roads later, because when they realize, "Oh, there's a road," they will begin to develop certain products. So, we have considered that in our estimation, so a long time lag in terms of its investment, but also in terms of impact. So, one certain risk of your results have been released, then that results, or that outcome will affect poverty reduction growth for a long time, but it will come down when the new technologies, new results replace old ones. So, that time dimension has been considered \_\_\_\_\_.

In terms of credit subsidies, if you look at India's chart, credit subsidies has had high returns in the '60s or '70s, but not in the '90s, so I think it has come down a little bit, and obviously this has to be context-specific, time-specific, so when the credit subsidy would have high returns, and don't forget, you have to pay back the credit, so you have to deduct that from your returns. By the way, we are working FAO on the 2012 \_\_\_\_\_ investment. It's a good partnership.

*Audience:*

Good morning, Dr. Fan. Thank you very much. My name is Philip Steffen. I'm in the Bureau for Food Security. I agree very much with you that setting investment priorities are equally critical, as well as the amount of investment. You've outlined the lack of capacity building, such as lack of reliable data, limited capacity for policymaking, lack of support for research in some countries, and so forth. That makes me ask, in addition to some of these sectoral returns and reductions in poverty, are you aware of any studies that have looked at returns to policy research and analysis more narrowly defined?

*Shenggen Fan:*

Well, that's really, really a challenging question. This is a question we try to answer every day, because IFPRI is a policy research institute, so how can we assess our own impact. We have done some sort of ad hoc studies. A certain program, for example, we evaluated our impact in Vietnam. We did a study in Vietnam to look at the trade policy in the rice sector, so how Vietnam can reform its trade policy in the rice sector in order to promote more growth and more poverty reduction. The Vietnamese government was very reluctant to reform the rice sector in the beginning because they thought, "Oh, if we increase – " their old policy was they have some sort of export ban for rice to

keep the domestic price low, so lower prices means that poor people will be able to afford, so that was their assumption. By doing that, the farmers will not have any incentive to produce more rice. I mean this is the same thing in China in the '70s and '80s.

So, we did a study to show them if you gradually, gradually lift your rice export bans, then your farmers actually will benefit from higher prices, and the majority of the poor, hungry people in Vietnam was rice producer, so they will benefit from that. The minister – at that time, it's not minister, it's a director \_\_\_\_\_, now it's the minister of agriculture, so he really pushed very hard to gradually lift the rice export bans. So, we did a study to quantify that impact, and the returns are quite high. \_\_\_\_\_ imagine by increasing rice export a quarter from one million to four million tons, and then three million more, the international price is, I don't know, 20 to 30 percent higher than domestic prices, so that economic gain, you are talking about \$100 million a year.

It's tricky to measure the policy impact, particularly while you add all this together. Let's say, for example, IFPRI today spends about \$80 million doing policy research, and can you come up with a number of poor people helped by IFPRI? It is a challenge, so we are working on certain methodologies and certain ways to measure that impact. While we move to other policy research, or the policy research done by other institutions, like Stanford Food Policy Institute, or Michigan State Food Security Policy, again, they are facing the same issues, the same problem, so I don't have an answer for you. The only thing I can say is it's a very important topic, and the returns are very high.

*Zachary Baquet:* I've got a question from online.

*Female:* Question from Colleen Bramhall from Green Mountain Coffee Roasters, who asks, "Regarding the investment priority of agricultural R&D, can you please define what this encompasses a bit more, perhaps with some examples, and comment on whether the investments you studied achieved scale or were mostly smaller initiatives, for example, pilots?"

*Shenggen Fan:* Well, that's another study \_\_\_\_\_ agriculture, what type of investments have higher returns, for example, the rice \_\_\_\_\_ versus \_\_\_\_\_, or even \_\_\_\_\_ rice \_\_\_\_\_ versus crop protection, or the GMO versus traditional \_\_\_\_\_, so all these are good questions to ask, and it's a good question to be answered. I don't have answer here yet, but some of these studies in Africa, like in Nigeria, the Nigeria Agriculture Research System, Nigeria Agriculture Research Council, recently have done some studies to look at their potential returns from different types of agriculture research investment, and

when I was working at ISNAR, or International Service for National Agricultural Research, another CGIAR center, maybe 20-something years ago, that was some of our research. That was our bread and butter. But today, that type of work has sort of disappeared a little bit. I really think it's time to look at that issue again. Yeah, sometimes it's not just a big program that have high return. Smaller initiatives could have very high returns. However, when you continue to increase your investment to that small initiative, then your returns will come down dramatically, \_\_\_\_\_ will come down dramatically. So, when you scale up certain initiatives, you have to take in consideration diminishing margin returns.

*Audience:*

Hi. Jed Silver from Public Citizen. When you were talking about roads, I know that I was thinking the whole time about how in countries like Rwanda, a lot of Chinese private-sector firms are investing in getting contracts to build roads in rural areas, and also export corridors. I was just wondering if you think that the foreign private sector is a valuable tool for achieving the same goals as the government spending, and if you'd just elaborate on some of the constraints and opportunities that go into that.

*Shenggen Fan:*

Yeah. For rural roads, it is a public \_\_\_\_\_, so it has to come from public interventions \_\_\_\_\_ not necessarily public investment. Some of the experience from Asia is private sector can also contribute to public goods, but they have to be able to make money. So, certain local governments – Vietnam, China, \_\_\_\_\_ India – borrow the money from private investors and banks – the World Bank, ADB, Asian Development Bank. They improve the roads, then they set up the tollbooth to collect the fees. This is one way you can look at, but again, they really depend on contacts. You have to really analyze whether there is any economic growth potential. In fact, I did a study on the returns to roads in China, but different types of roads over time funded by Asian Development Bank. Initially, when the freeways were built in certain parts of the country, the first two years, you don't see many cars at all, and then the government \_\_\_\_\_ were very worried and said, "Hey, look. Can we really get our returns back but wait for three or four years?" Then, after four or five years, all these highways, freeways are experiencing traffic jams. So, there is a time lag for the business or the private sector to come to invest around the roads using that roads.

So, I think partnership between public sector/private sector will be very critical, and also you've got to consider the time dimension, so time dimension probably is even more important in this case. So, in many Asian countries, they will be able to get all their returns back in ten years, if not less than ten years. For Africa \_\_\_\_\_ Rwanda, you've got to look at their economic growth

opportunities, whether using that roads, they will be able to transport coffee, tea, fruits, vegetables out of the country. If they can, good investment. If the government can mobilize resources from the private sector, the private sector will be able to get their money back from fee collection, so probably they will be able to do that.

*Zachary Baquet:* We have a question from online.

*Female:* Michael Weber from Michigan State University asks, "From the example of India, do you have any insights into what helps the political leaders to change or shift their investment priorities over time?"

*Shenggen Fan:* Well, thank you, Michael. Glad to hear from you online. This is another issue we have been working for a long, long time, the political economy of government spending, political economy of subsidies. We have a couple of research reports, so Michael you are welcome to access our website. My personal view is, particularly in the case of India, communication of our results to normal citizens will be critical in those democratic countries. Politicians will respond to citizens, their voters, so we keep pushing politicians to change their priorities. The vice chairman of the planning commission, Montak \_\_\_\_\_, said, "I agree with you, but my point [*break in audio*] wants me to get the vote, get the support from farmers, from others." So, if we can educate farmers, educate a normal citizen to realize the benefits, costs of different investment, then they will push the political system. So, I think this is the lesson we learned. If we just keep pushing academia, pushing the politician, they're not going to respond \_\_\_\_\_. So, education, communication to normal citizens is critical.

*Zachary Baquet:* Any other questions?

*Audience:* Jeanne Downing, USAID. I think it's really useful to see what kinds of investments have what kinds of impacts, but a challenge for us donors relates to the pathways between an investment and the outcome. So, investing in R&D, we're looking for increases in ag output, increases in yields, and yet that pathway can be very complex. It can be affected by policy, it can be affected by market collusion, rents; it can be affected by so many things. I wonder if IFPRI thinks about, in terms of your research, looking at what are those pathways and which pathways are more fruitful than other pathways.

*Shenggen Fan:* Well, that's a good question. Look at the results from Ethiopia. You will see, probably the results from, I don't know, 2000-2001, why investment in agriculture is very low. \_\_\_\_\_ indeed, we have to analyze why, whether they have the clear impact pathway, or the right impact pathway, but even before that, whether they have the right conditions for that investment to have

high returns. So, for example, investment in agriculture R&D, to have high returns you need a good extension system, you need educated farmers, and probably you need a good marketing system, so that helps the farmers to market their maize – corn – or their coffee, tea, sesame \_\_\_\_\_ exchange \_\_\_\_\_. So, conditions, as well as impact pathways, and from our study, from our own experience, particularly in CGIAR, the whole international agriculture research system, partnership is critical to have a clear impact pathway, otherwise we will not be able to move to impact. We have to depend on our partners, national partners, the private sector, and donor agencies.

*Zachary Baquet:* We have a question from online.

*Female:* This question is from Rick Gilmore from GIC Group in the U.S., who serves as an external advisor to USAID in grow Africa countries, and he asks, "Have you studied those Ag Sectors where investment in new technologies would have the greatest impact, and would you highlight the priority technologies for Ethiopia?"

*Shenggen Fan:* For Ethiopia? That's the \$1 million question. For Ethiopia, this is a country donors have invested so much. This is a country international organizations – WFP, the World Bank, IFPRI, as well – IFPRI set up a program there in 2005. Right now, technology obviously is very important, but more important is some of the – it's a combination of social protection and productivity enhancement investment. In 2010, 2011, the horn of Africa experienced severe drought, so 13 million people suffered from hunger, and 30,000 children died because of malnutrition, but if you look at the country difference, Somalia suffered the most, Kenya also suffered, but Ethiopia didn't suffer much. The reason was Ethiopia invested in setting up their social protection, so they had a system there already, so when the drought come, they can use that system to target their relief to pour support through the system. The system is already there. That's one.

Second, the social protection is also linked with productivity enhancement, so not just giving food to them. While the farmers receive food, receive aid, in the meantime they're required to build their long-term productivity assets, so that return is particularly \_\_\_\_\_ assets building, including some small irrigation, access to agriculture services, so that investment has very high returns. For Ethiopia, I have not done a study, but to me, in terms of technology, somebody mentioned that they already have some research results on the bookshelf. Good seeds, good varieties; the question is, how can we move these seeds, this technology to farmers. For the last several years, Ethiopia launched a very large-scale effort to push extension agents to farmers, and I don't know, like 50,000 to 60,000 going out.

That number could be debated or could be exaggerated, but definitely that effort really helped to improve Ethiopia's agriculture productivity, \_\_\_\_\_ agriculture production is more than six percent per year for the last five or six years. So, \_\_\_\_\_, the returns are very high, but to do a proper priority setting, you need good data and some effort to analyze that for the whole agriculture research system. So, this is just two examples I picked up that have worked for the last two or three years.

*Zachary Baquet:* Do we have any more questions from online? With that, I would like to just wrap up with one last question. I was wondering – this is Zachary Baquet at USAID – you split out various sort of investment opportunities, but I was wondering if there was any sort of research looking at synergies, sort of relating back to Jeanne's question, the complexity. There's multiple factors that are going to come into play. Is there any sort of set of investments that actually are ideal or fairly close, like if you're putting R&D in with roads or with extension or something like that, that you're going to get even more optimal returns?

*Shenggen Fan:* Yeah, it's doable. For example, in the case of India, we know there are returns to different type of investment. We also know that if you increase an investment to one of the, let's say, items there, the margin return will come down. It's called diminished margin return. So, let's say if the Indian government has \$1 billion to invest in agriculture, where do they invest? Okay, the results do not mean you have to put all your money in agriculture research. No. You actually try to analyze a portfolio. It's an India program, an optimization program, so you optimize your allocation, and your objective function is either to maximize your agriculture GDP or maximize your poverty reduction, so the priority settings are derived from this optimization. So, there you can really say, "Hey, maybe agriculture R&D should receive maybe 300 million, roads maybe 600 million, and the rest maybe is 100 million." So, it really depends on where you are in terms of your \_\_\_\_\_ production function, so where are you in terms of diminishing margin returns.

*Zachary Baquet:* Okay. With that, I'd like to thank Dr. Fan again for joining us today.

*[Applause]*

*Shenggen Fan:* Thank you very much. If you have time, you can click on our website, IFPRI.org. We have all this kinds of information there, beyond my own presentation.

*Zachary Baquet:* Also, there's Agrilinks.org, which will have the related resources and where the screencast, so the recorded event here today synched with the –

*[End of Audio]*