



The role of business in development

SESSION 4 - RURAL DEVELOPMENT: A TALL ORDER?

Maria Livanos Cattai - ICC - Former Secretary General, Former Managing Director, WEF

This next session is about rural development. And I'm going to ask to come to the stage the following people; Minister Agatha Sangma, who has been before previously minister state for rural development in the government and is in member of parliament; Robert Thompson, Professor Emeritus of Agricultural Policy at the University of Illinois; Ruth Oniang'o, Professor of Food Science and Nutrition at Jomo Kenyatta University of Agriculture and Technology; and Ajay Vir Jakhar, Chairman of Bharat Krishak Samaj.

And may I ask Professor Biswas to come and join me here. So those people that I've called, please come and sit up on the stage. Ladies and gentlemen, we're going to begin this -- yes, please. We're going to begin this session a little bit different than before.

I'm going to ask Professor Biswas in three minutes. That's what all I'm giving you, three minutes, to give us the results of a very, very interesting study that was done on the impact of Nestle's Moga factory on the surrounding area.

And I think you all have that in your material. What were the key findings from that study, Professor?

Prof. Asit Biswas - President - Third World Centre for Water Management

They key finding which really surprised all of us --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Speak closely, please.

Prof. Asit Biswas - President - Third World Centre for Water Management

Yes. The key finding that really surprised all of us is the fact that how business can contribute to rural development and poverty alleviation. That flawed me. When you went to look at the Moga, we had no idea what would be the impact of this factory. And yet, we found here is a private sector organization which acted as a catalyst for rural development of that area.

Why do we say that? Very simple. If what happened at Moga was done by the World Bank, Asian Development Bank, UNDP, JICA, USA. They will be trumpeting it as one of their most successful rural development poverty alleviation example.

And yet, this case, we found out absolutely remarkably that in an area which never had a mill culture where Nestle was given the mandate to develop a culture. What they managed to do to the lifestyle of the people around.

The facts are staggering. When Nestle went there, they had only 180 people supplying milk in the first day. Right now, there are about 69,000 farmers providing to that.

What is more important in terms of poverty alleviation in rural development which struck us? We don't know the situation in 1961 because they are not available when Nestle started. But we do know what was the situation in 1981 which must have been an improvement on 1961.

In 1981, it's the farm labor with one or two cows, no land. And people with less than 0.5 hectare, they were the majority of the suppliers of milk. By 2011, all those small farmers had graduated some to average farmers or large farmers, or very large farmers. And very large farmers in an Indian context is more than 4 hectare of land.

And their income has gone up very, very significantly, very, very significantly. The four -- the land less laborer who didn't have any land moved in to a small farmer, small farmer begin average large for a very large farmer.

The income had gone up. Their health conditions have gone up. And what impressed us also is the Nestle's commitment to them. We heard about creating share value. We heard about corporate social responsibility.

In 1958 when they went to Moga, nobody had heard of creating social responsibility or creating shared value. Nobody had heard about it. And yet, these fine years we developed Moga. We don't know their names. We couldn't find their names.

They realize if the company or the factory had to succeed, first thing they have to look after is the small holders who are providing the milk. If they don't provide the milk, the company has no future.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

So the two were inextricably --?

Prof. Asit Biswas - President - Third World Centre for Water Management

They were linked. And what impressed us that this was 50 years before all this creating share value and corporate social respond --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Already started.

Prof. Asit Biswas - President - Third World Centre for Water Management

The people up there had realized that without that, the company had no future and they went out of their way to make sure that the small holders became richer, more educated, their quality of life improved. And what Nestle did there, for all practical purposes, was not only benefited shareholders but they became a developed agency to provide --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And this material, this --

Prof. Asit Biswas - President - Third World Centre for Water Management

The result of the study, and if you want to read the full report, we have done it in our study. My team is here. The full report will be available in April. This is the executive summary. The full report for our analysis will be available in April published by Springer internationally.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Thank you very much. Thank you very much, Professor.

Prof. Asit Biswas - President - Third World Centre for Water Management

It's a pleasure.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Indeed. Please, sir, be careful moving down here. It's not very easy. Yes. Thank you very much.

So this was a small background opening for our session, and I welcome everyone here. I've called Dr. Ning. So, very much thank you for being with us indeed.

So our session is about rural development. And in fact, it has a subtitle, Is this a [toll] order? It could be. But we are going to find out what a little bit what is happening. I'd like to start, if you don't mind, I'll still call you minister, Member of Parliament. So, Ms. Sangma, you are highly involved with rural people, their access to markets, their access to livelihoods and so on.

I think I'd like to start with a question which is what are those policies in your opinion? What are those policies? What are those actions that you have seen throughout your career in government and outside of government in legislature that make a difference? Which are the ones that have actually created a sustainable livelihood in the rural areas?

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

It's a pleasure for me to be here. And I think the question, of course, is very straightforward. And the answer for me is not. I have been in the government for a very brief time, to be honest. And one of the schemes that was there, was part of the ministry, when I was in the ministry of rural development is a program called "The National Rural Livelihood Mission."

And I can speak a bit about it because that is practically the program that I was supposed nearly looking at. And I think that if that is a program that was inspired by a program, which has been extremely successful in Andhra Pradesh called the SERP, Society for Elimination of Rural Poverty.

And I think that that has been one program which has been able to link the rural economy to the urban economies, and it has been a program which has actually brought livelihood on a platform where you can link farmers to the market. And to a great extent, create a sustainable livelihood.

So I think --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

When you create a sustainable livelihood, you're talking about, of course, some very practical things.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Right.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

The produce has to be worth more, they have to be able to get it to a market. The production input has to be also, if you wish, modest and moderate.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Right.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

What are the kinds of inputs that were part of this program?

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

The thing is the National Rural Livelihood Mission has just started. We have just launched it. So, the practical results are something that we haven't been able to measure yet. Most of the states are in the process of creating that structure. What I can say is that it has been successful in Andhra Pradesh and there is another model in Kerala.

So, most of these programs are state-run programs which have given very good results, and therefore, we are scaling it up and we have converted it into a national program. So, my personal experience is that I see that there is a need to work collectively. Governments on their own often are unable to deliver unless there is cooperation between the business sector, there's a cooperation with civil societies, and a need to improve on the manpower or improve the skills of the beneficiaries.

I think that definitely is the key.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Were there any particular aspects that you feel because it's new, as you say, that you feel the most promising or that you feel are most important to emphasize?

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Well, I'm not saying this because I'm a woman, but I think one of the most promising aspects of this program is that it is specifically for women. And it is --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

You will find a great supporter over here, on the Empowerment of Women in the rural area. Yes.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

So, we've often seen that embodying a woman leads to empowerment of the entire society. So this program dug its women. And I think that is one of the key reasons why this program will be successful.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And I also understand part of it that's on the development of skills.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Right. Yes, yes.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And how about self-employment, is that part of it or not?

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Yes. It is part of it because most of the employment that gets generated from here is something that the people choose themselves. The government is not giving you the decent options, but you choose what is exactly is more feasible to your needs and to the local needs.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

So, that is part of this complex of approaches.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

One of the process, yes.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Excellent. Ajay, I would like very much to, if you don't mind, to turn to you now, a little on this, because you have a very interesting approach, which is many interesting focus. But one of them is making agriculture remunerative, making it worthwhile.

This is fundamental, of course, for small farmers. But what does it depend on? Does it depend on subsidies and aide? Does it depend on investment and capital? Does it depend on scarce resources? What does it depend on to make it remunerative and profitable?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

The basic problem with agriculture becoming a profitable profession is government policy. And that policy is influenced by people living in cities, FL, UN, various government organizations. There may be dictatorships anywhere. There may be various forms of democracy.

All of them focus on increasing agriculture production, which is completely different from agriculture profitably. And when we focus on agriculture production, we use more water, we use more inputs, and we get into a cycle that we'll never get out of.

So, the focus should be on increasing profitability off to individual farmer because if this is profitable, you will not need to give them aide, you will not need to give them subsidies. You will not need to process food and give them fortified foods. The problem lies at making the farmer profitable, making farming a profitable profession. After all, it's the largest private sector activity in the country today.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And so, how do you do that?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

We do that by better policies, by making sure that extension service is the key for making farming profitable. How do you transfer the existing knowledge that exist? Forget new knowledge, forget new research. There is a real difference between the best farm in the village and the worst farm in the village.

How do you bridge that gap? There is a real difference between the best farm in the village, and the results into how do you bridge that gap. If you're able to transfer that knowledge to the farmer, a lot of your problems could get solved.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

All right. Are there any government -- you say that there's a big part that's paid by policy also, is there any things that are obstructions, any reforms that need to be done in order to make that profitability a broader base?

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Yes, there's not much money being spent on extension services. And extension services in sector, which the government or India is abdicated since we've attained food security to some extent and all policy and private sectors looking at private sector giving extension services. At this forum, a lot of private sectors involved. I can say that private sector can complement government policies. It cannot replace government initiators.

The government has to play a role and the private sector can complement that as a private-public partnership. But it cannot change that.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

In some of your writings that I've seen and things that you've said, you talk about the cost of scarce resources being an impediment. What scarce resources?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

So in one of the panel, somebody said about oil being enough, gas being enough. Yes, there's a lot of gas, there's a lot of oil. We don't need to increase production in the oil. But this has a different economy. We have 2% to 4% of the world water supply. We have 2% to 4% of the world land supply. We have 17% of the world population.

Now, what might be true for the rest of the world is not true here. Who's going to give us oil? If there is another Arab spring that happens in Saudi Arabia, oil is going to go up to \$200 a barrel, how are we going to farm? There are going to be subsidies to do agriculture.

So, there are resources available in the world. But they are not accessible to the Indian population. And that's the problem, we are much different from the rest of the world. And same case with Pradesh, the same is the case with other fertilizers that we import. We don't want to control it.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And so, what would you compose how to make them affordable?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

India as a country has to focus on technology as a resource liberating tool. We need technology. We need to transfer the available technology and we need more technology to be given to the farmer so he can produce by consuming less inputs. And the only way to do it is through extension services. That is the key for rural prosperity for increasing agriculture production, for increasing farming profitability.

And now, the problem with extension services is it's not romantic, it's not exotic. It takes 10 to 15 years to implement. It does not translate into words in the next election. So nobody focuses on it.

And I have told this to the private sector to many companies again and again, that increasing awareness cannot be quantified. So nobody is ready doing western increasing awareness because everybody wants to invest in something that the graph can show that you have 20%, 30% increase.

It's not going to show in the next 10 years. But that's the way to go about it. And the problem is, I'll just interrupt on this once more.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Go ahead.

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

The problem is foresight. We actually are not doing any foresight planning. I was at the G-card function and it was very informative that we should be looking at foresight planning or what is required in this country in 20 years or 30 years. And solutions that we're looking at don't exist today. They will come in the next five years. And that's what foresight is, and we are missing it.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

You're missing the scenarios that forward in time. You've been listening, thus you can identify, I could say, that way in policy on rural development. You keep saying that India is spending a lot of money on perhaps on the things that are not necessarily the most conducive to doing exactly what you feel need to be done in order to make things more productive for the farmer.

And if I'm not mistaken, one of those, of course, you have talked about for a long time are things like fertilizer, subsidies, water electricity that we talked about in the last session. So tell us a little bit about the unintended consequences of policies that end up not helping the rural farmer, what we should be doing instead?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

Yes. Well, in the last session, we heard a lot of about the adverse impacts of farmers not only not having to pay for water by giving free electricity to pump it out of the ground. So, I don't think we have to go into that into more detail.

But one of the largest expenditures of the government of India is the fertilizer subsidy which has the potential to cost pollution problems as farmers over utilize fertilizer. And when the really high potential pay of investments rather than subsidies, we'd be investing in things like rural roads.

The rural infrastructures are tremendous impediment to agriculture development not only in South Asia, but in many other parts of the low income world, particularly Sub-Saharan Africa. So, I would put the highest priority on investing in public goods like rural roads, like rural education, rural healthcare, training, creating the enabling environment so that not only agriculture can develop but also the non-farm rural employment opportunities within those communities.

There's no way you can solve the problem of poverty and agriculture on a hectare of land. You can raise productivity, you may be able to shift a higher value per hectare crops, but you just can't grow enough of anything at one hectare of land to solve the poverty problem.

Every country in the world has solved the problem overall poverty has done it by creating non-farm employment opportunities within commuting distance of where the people are. It may be cottage industries, it may be jobs. We heard a wonderful example of the Moga project where by Nestle putting that milk processing plant in the rural area, it created enough a lot of employment opportunities which did wonders for increasing the earning potential of a lot of rural families.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

A lot of what you're saying is that rural development does not just mean agricultural productivity. It also implies a great deal more of non-farm jobs.

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

Yes. You've got to have both. You need to raise productivity and agriculture, produce the most valuable crops you can, but don't exaggerate the potential for that to solve the problem with rural poverty. It's going to take both.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

It's going to take both. One of the problems that I would like to ask you is about the obstacles to achieving this. What are they? We always talk about red tape and the difficulty of creating jobs outside of the urban conglomerates. Is that your experience in most parts of the world or how does it --?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

It's just too difficult to get a business licensed are authorized to start out in so many parts of the world, and India is notorious for the amount of red tape that it takes to start-up businesses that will eventually create the jobs that will ultimately solve the problem of overall poverty. So, yes, red tape is a huge barrier.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And can I ask you, Agatha, is the approach of getting non-farm jobs part of this general legislation that has been put through, is that part of it or it's not a very big part?

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Which legislation is this?

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

The program, sorry. The programs that you put through.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Actually, the programs under Ministry of Rural Development are primarily infrastructure-oriented.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Okay.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

So, it doesn't really target creating jobs or employment.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Non-farm jobs, right.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Or any form of employment.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Or any other. Okay.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

It is primarily creating infrastructure in rural areas.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

The infrastructure to enable it. Exactly. So, we're back again on the possibility of, first of all, extension education, training, preparation, knowledge. But how about all the other things that are required in order to make rural life sustainable and desirable even? What are the things have been done elsewhere, Bob, that keeps people to make livelihoods that they really want? Because once they go off the farm, they don't come back again, do they?

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

I think the first thing is young people are going to have to be able to earn as much in agriculture as people with comparable levels of education where if they would have other lines of work. They needed quality of life in the rural areas. So until and unless we see a significant improvement in the quality of life, the access in these communities through the infrastructure, the quality of schools, the quality of healthcare services. You will have flight of bright young people away from agriculture. So, young people have got to see the future.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And it's only from agricultures from the rural areas even if they're just small industry, there's a slight worldwide on this.

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

Absolutely.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And you see it practically every developing economy around the world.

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

Yes.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

So, what is your answer to that?

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

Well --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

They could work --?

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

No, in those high-income countries that have significantly reduced rural poverty. We've created enough non-farming employment opportunities within commuting distance so people can or in a comparable level of living if they can't get access to more land.

Now, East and South Asia have more than twice as much of the world's population of the land. There's not a lot of possibility for everybody who's being born small holdings to become a farmer. And in fact, if everybody tries to, you have further and further and further fragmentation of those units and you'll have a downgrade spiral of increasing poverty as a result. So, we have to break that cycle by making it more attractive for people to stay within their rural areas.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

I'm going to announce switch over rule to something completely different, which is you maintain or come from part of the world where rural life is perhaps as important as it is in India. You'll have enormous populations across Africa that are rural. And you say that it cannot happen without the involvement of everybody including the often neglected group of women and girls.

Why? What's going on?

Ruth Oniang'o - Professor, Food Science and Nutrition - Jomo Kenyatta University

Thank you, Maria. First of all, let me say how happy I am to be in Delhi for the first time. I have to bring a bit of Africa here. But those who would say that Africa is really north in India, we have about 54 countries, Sub-Saharan Africa. The population put together where, I have to say, less than the population of India, so.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Right.

Ruth Oniang'o - Professor, Food Science and Nutrition - Jomo Kenyatta University

So I really applaud this country and the enormous challenges they face just given this year, side of the population. But some of the issues, actually, sort of cut across, except that for Africa, Sub-Saharan Africa, the rural population is much, much higher. We continue to have challenges and we continue to have challenges of food, challenges of governors, challenges of water that have been discussed here, challenges of red tape, especially between countries in Africa and trade and so on.

And then we also have known that when you educate women, actually, it makes things a lot easier in terms of saving lives of the children, nurturing them properly, getting farming going, conservation efforts going on and so on, because most of the men in the past have gone for white collared jobs and it's the women who are left behind.

And so, the development that has going on in the past has actually left women behind. And so, someone like me I'll spend a greater part of my professional life even just as I was in academic and then became a member of parliament, then I started my own NGO just talking about women should be involved in, the kinds of support they should have and then no wonder we are fully secure because the knowledge goes to the man who don't farm and leaves out the women who do the farming. They don't even get credit, they don't get appreciated. And we expect to have a small order from us with no support feeding us.

So, the issue of incentives and getting to value the small farm who in Africa, in Kenya particularly, is the women is so crucial. So I have my own small NGO where I do, like, my experimental round where we get these issues and then I bring them to national level and I bring them to the international level.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

But some things had happened in Africa that might be of interest also here in India. Can you give me an example of what was going on in Ethiopia?

Ruth Oniang'o - Professor, Food Science and Nutrition - Jomo Kenyatta University

Yes. What has happened is I share this to the board where we walk in four countries, Ethiopia being one of them. And that Ethiopia really owns the basket case. In 1984, they have mega farming, one million Ethiopians died. And so, this organization, Sasakawa Africa Association, was started. I shared the board of it.

And the governance issue, the prime minister took it up and said, "As long as I'm still prime means of this country, I never want to see a repeat of this hunger in my country." And so, what has happened is now lately he just died, Prime Minister Meles.

But what happened was that he just took up the only show of agriculture put it up front. He set agriculture first, food security first. He got an extension staff to train them. And next to China, they have the largest number of trained extension staff, and actually now, even Kenya imports maize from Ethiopia.

So he just set food first. We have to make sure we do this and --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And the women --

Ruth Oniang'o - Professor, Food Science and Nutrition - Jomo Kenyatta University

The economy is actually growing. And so, what we have done as an organization, we realize that women was still very much held behind. Culturally, they can't come upfront to be involved in development issues. When you went to support them, the men come and say, "Yes, we are supporting our women," but you don't see them.

So now we actually have women-supported demonstrated plots and women deliberately supporting women farmers. And we are realizing that when you actually do that, and do your agenda training in a good way so you don't create disharmony in the community that the men can also support these efforts. Plus, you need the culture, really, not to turn against the women.

But we are finding that when you actually focus on women, the yields actually begin to go up. And so, now we are looking at value chain. When you look at the value chain, you create different kinds of jobs for the youth, you get the women doing processing but in a quality manner. And you can actually get their produce to a supermarket because it is of high quality. So it's just a different way of rural development.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

From your Ajay, does this make sense?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

Yes, 70% of the farmers in the country are women in India, discrimination of Indian agriculture. Exactly what you're saying because men are working on jobs, off the field they're working in cities, they're working elsewhere.

One of the basic problems, what I missed out was adding value to the agriculture produce to increase profitability.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Yes.

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

So one way is that what the farmer produces, he puts in all the hard work. But at the end of the day, the money is made by the middleman or something. So, that's why reforms are required. But having said that, Wal-Mart is not to win necessarily because I read in this book Inequality that Wal-Mart family together owns as much, controls as much wealth as 30% of America.

That inequality is coming into India also. And we are looking at the top 100 business families in the country owning as much wealth as 50% of India, and most of them are farmers. Now, that's absolutely unacceptable to the farming community and if the government does not act on it, we are not going to get any development in rural areas, we're not going to go anywhere.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Well, also, I'm going to go and ask one or two people who are in the audience because there are some interesting work that's been done on the integration of farmer households and urban areas. So, let me go and ask a few of you here to add to that discussion. I'll come down.

Prabhu Pingali, where are you, Prabhu? There you are. Prabhu is the Deputy Director Agricultural Development of the Bill and Belinda Gates Foundation. And you sent me yesterday your blog, which I read. And it said that you're right, the rising middle class populations, as you have here in India, are providing actually an opportunity to integrate even small farm households into the growing retail world.

Now, how does that work? And is that helping them?

Prabhu Pingali - Deputy Director Agricultural Development - Bill and Melinda Gates Foundation

I think it could. There's a huge potential there. We talked earlier this morning about the rapid growth in organization across the world, and that more than 50% of the global population is now in urban areas.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Right.

Prabhu Pingali - Deputy Director Agricultural Development - Bill and Melinda Gates Foundation

Organization is expanding very rapidly in India also. Indian cities of more than \$10 million people are growing. And as urban populations in India increased as middle class populations in urban areas increase, the demand for food, the demand for diversity of food, better quality food, fresh food, et cetera, will be growing quite rapidly.

And the big challenge is how do you feed these populations? How do you get food to these urban populations? That's why the retail sectors coming in the supermarket sector is moving in into the country.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And you think this is a good development for small farmers.

Prabhu Pingali - Deputy Director Agricultural Development - Bill and Melinda Gates Foundation

I think the process is inevitable. The challenge is how do you get small rural households to benefit from that and how do you create an opportunity for small farmers to be able to link in to this retail change? And I think that's where a lot of the effort needs to be done in promoting small hold of agriculture system, small hold of dairy system, small hold of poultry system. And then figuring out ways in which they can link in --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And we must not forget that still India is not at the 50% urbanization. The majority is still in the big urban areas.

Prabhu Pingali - Deputy Director Agricultural Development - Bill and Melinda Gates Foundation

Well, 50%, 40%, it doesn't matter. The small towns are just as much of the demanders of produce that can be transferred in rural areas and the retail system will start moving into those areas also.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Ajay Vashee is the former President of the International Federation of Agricultural Producers. I would assume that you very much agree with Ajay Vir Jakhar on this. Do you have anything you'd like to add to it?

Ajay Vashee - Former President - International Federation of Agricultural Producers

Perhaps a slight divergence from what my namesake is proposing. I think the most important issue which we have to realize, I mean, you've used it profits. But I think the key issue is commercialization of small scale, of small producers.

Now, the most important thing when you're doing commercialization of small producers, you have to get them to work with the market mechanism to be sustainable producers. And what is likely to happen is that the more efficient or more productive farmers are likely to succeed in the market base and you're going to have unfortunately a fallout with some of the farmers that don't adapt to this nearer way of doing things are not going to be able to participate. And they will require special assistance.

But coming back to this Wal-Mart argument, it's not going to benefit every small scale farmer anywhere in the world. But those farmers that I indeed able to participate and work with them will certainly find a situation where their incomes and their profitability is going to go three, four, five, four times because they're going to be closer to this retail consortium which is having a bigger market.

So, the point here is that I think farmers organizations also will have to accept that there's going to be a possibility that we will not have everybody farming in the near future. They are going to be producers that will be able to function and work in the market. And then we can take special measures or precautions to help them mitigate this development.

The other point I quickly wanted to make, Maria, if you allow me is that nobody mentioned farmer centered policies. I mean, this is a critical issue when you're talking about rural development and sustainability.

And the need to organize small scale farmers into groups or organizations so that they can articulate the issues and take on new technologies due to awareness and advocacy, you mentioned, I think this is another critical part that has to happen. Otherwise, you won't get the rural development and sustainability you're looking for.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

We also have to remember what Professor Biswas told us on the study at the beginning that large industry, when you're talking about large company, such as Nestle and others that can bring together and actually develop an entire farming community because it raises both the value, and, of course, the quality.

I'll leave the floor open. If anyone would like to intervene, we have a few. Raise your hands so that I can see you. Thank you very much.

Unidentified Audience Member

Dr. (inaudible).

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Oh, all right. Just hold on a second. I'll call you one by one. No, no, that's okay. We'll start over here. Please.

Unidentified Audience Member

I'm [Nagraj] I work with Mother Dairy. I'm indeed proud to be here and thanks for the invitation, an old Nestle island. And it's nice to see what's being said and heard. Thanks once again to Nestle for this.

I have a couple of issues or other comments to make not so much in terms of direct question. When it comes to rural development, I believe the small dairy farm is the example of Moga.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Right.

Unidentified Audience Member

We deal with basically with milk and farm produce, which is fruits and vegetables. We deal with almost close to 200,000 small farmers, almost 90% of them are small farmers. So we do aggregate.

The issues as we see are the food processing industry needs to pick up because as you keep adding value at the consumer end, then you can plow back money back to the farmers into rural development.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

So you're talking about the food processing industry within the areas.

Unidentified Audience Member

Not necessarily in the areas, but it has a huge fill up.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Right.

Unidentified Audience Member

The second one is the price discovery mechanism, you see if at all dairy has done well today is because there is a declared price, which is almost known to the farm in terms of what he's likely to get for the produce.

You have an MSP for various agriculture produce, but not good enough because there is nothing which the farmer can stand back on or rely on in terms of what the price I'm going to realize for all my produce. So, that also brings in a lot of opaqueness in terms of where is the livelihood, what is the real business for him to get into economics.

I believe if you deal with a couple of these issues, rural development can get a larger fill up. And while it might not, it'll be more like a transfer of money from the urban areas to the rural areas. That's how I really see this.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Very interesting. Let's take a few more comments and then go back to our panel. Yes, please.

Unidentified Audience Member

Dr. (inaudible), consultant developmental pediatrician and child development center, (inaudible). My comment is about women empowerment. It is known that countries index of improvement depends on its index of women empowerment. And there's a biological explanation for that.

And in India, I think we are not doing so badly because according to BBC, India is the only success story of the British realm. And I think a lot of it is actually linked to our women empowerment policies and general ethos that we hold. We definitely need to do better.

Women have x chromosomes; men have y chromosomes. Y chromosomes are shorter than x chromosomes. So, people have looked into it and they have actually figured out that probably in our early evolutionary faces when men needed to fight not thinking very hard what they're doing and try to defend and develop societies that shorter chromosomes was doing well.

Now, we need to --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

I'm totally sure of this one, but anyway, go ahead.

Unidentified Audience Member

It's linked to rural development.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

You've got to get there. Yes.

Unidentified Audience Member

That's what I'm saying. So there's a biological basis to all this, and biological basis is also intrinsically linked to a nutrition. So you need to understand that.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

We have one over here and then I'll move over to this side. Yes, please, go ahead.

Unidentified Audience Member

(Inaudible) has been working for more than six years now in India with scattered small holder farmer's projects. And like Mr. Jakhar said, I fully agree with him that the state run agriculture extension services have become non-existent more or less. So we tried out methods and we found out that if you create a very effective mission, then you have technology transfer, you can increase productivity. That's possible. That can be demonstrated.

The next very big challenge that comes up is the question of halogen. How do you bring money to the farmers? Like you said, profitable, making profit.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Yes.

Unidentified Audience Member

And as we all know that the average land holding size in India is constantly declining. What was small holder farmer? Ten years ago, it's even smaller today. And so, the biggest problem is how do you -- with a very small landholding size, farming is not viable.

It has to have some size in order to become a business like this. So China is worried about it, Vietnam is worried about it, India is worried about it. We heard Professor Robert Thompson talk about it one month ago at CII food security index seminar here in New Delhi that the 12th five-year plan is going to have us scheme for aggregation of small holder farmers.

And that's very necessary. You know, you have to treat like a number of small farmers like a big farmer. And then only you can make a commercially viable unit and then only you can make agriculture viable and then only you can have rural development more effective. Thank you.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Thank you very much. And we'll come over here, we have this lady over here and then I'll take someone over there and a gentleman at the back. It's okay. Just speak, they'll turn it on.

Unidentified Audience Member

My name is [Amatha], and I work with the civil society organizations. I have a few questions for the Moga study. I wonder what it has done for the status of women in Moga, the wives and the co-farmers. And for those status of children, I mean, the (inaudible) which is pretty high in Punjab.

And furthermore, I wonder what it has done in the context of Punjab itself. I mean, let's not go international; let's go local. Punjab and the rest of the country know as other countries is in the group of an agrarian crisis that is (inaudible) heard about that in the last presentation.

Because when we talk about Moga, we also -- let's listen to what [Nana] said about benchmarking best practice. So what lessons does it have with the state and for the country as a whole? And we know in addition to all these problems that in Punjab itself does a problem of drugs and water and cancer express, a whole district affected by cancer due to pesticides.

So, other lessons that Nestle is bringing in terms of organic farming, in terms of water practices? What can it be to the country? Because milk production, come on, India is the land of the white revolution. We need lessons that are bigger than that for a company the size of Nestle and your skill.

We expect global lessons and standards and best practices. And therefore, my questions are what are these practices that you're bringing to India as a country, as a company that is global? Thank you.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Thank you very much. We have, yes, over here.

Unidentified Audience Member

Hi. My name is (inaudible). I just have a brief comment here, which is primarily about measurement. And we've been talking since morning about water and rural development. And it is great to see the place which are in place. But frankly, company decisiveness may generate reports. But your foreign paper would probably fill up this role right now.

What are we doing to track or what are we doing to quantify the amount of work that the government is doing today? What are we doing to measure it in terms of what's actually going on? I think that's just the only question I have.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

All right. I don't know if anyone is ready to give us some indications on the measurement part, but please keep in mind, we'll come back to it. Yes, at the back.

Unidentified Audience Member

My name is (Raman), I just finished my assignment with the World Food Program 15 years. My comment is that farmers are not the only ones who have to be dealt with in the context of rural development.

As one of the speakers said, the farm holdings is coming down by today and there are lot of people who are landless and agriculture is not the only issue that will determine the success or failure of rural development.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Right.

Unidentified Audience Member

And a country like India, some of the topics have been taken up; water, very important; sanitation; education; health. All those issues need to be done. But most importantly, what do we do with people who have no land or landless? And how do you complete rural development without those people?

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Thank you very much. I think we're going to turn back to our pane. Sorry, is Professor Biswas still in the room with us here? Oh, there you are, sir. Perhaps I'll just ask you, do have the microphone please. On the Moga study, I know that the results are not yet completed and these are going to be larger.

Are some of these issues going to be raised and measurement of some of them are going to be raised in the --?

Prof. Asit Biswas - President - Third World Centre for Water Management

Very much so. You can get the detailed information on what it has done in terms of women's health, education, training and also for the girls and boys as well.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

And has that impact even before you have the final measurements? Is there any general ideas that you can give us in that respect in terms of women and children and other development areas?

Prof. Asit Biswas - President - Third World Centre for Water Management

I think one of the best thing Nestle has done is to give tremendous amount of information to the women, especially in terms of health and nutrition and also animal health because it's the women who look after the animals and they have given them tremendous amount of information on how to improve the animal health as well as the human health.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

So it's a larger impact.

Prof. Asit Biswas - President - Third World Centre for Water Management

It's a much larger impact than what you've seen in the executive summary.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Excellent. Well, I think that that would answer the lady who asked it. We'll have to wait for the final results to come out. Thank you very much.

So I'm going to turn back to our panel here, unless there's anybody else who has a burning question. I will turn back to them. Sorry. We do have one. Thank you very much.

Simon Maddrell - Director - Excellent Development

Hi, Simon Maddrell from Excellent Development. So I'm very interested to hear the views of the panel on two points. One, in the world, 90% of the agricultural land in Africa is rain-fed agriculture, even in sanitation, it's 60% on what they believe that impact has on rural development.

And secondly, we've been talking about water, energy, no one has been talking about soil. And that's 24 million tons of fertile soil disappear every year, 53% of the land used for agricultural is moderately or severely affected by soil degradation. So I'm interested in the panel's view of how the issue of soil will also affect rural development.

Thank you.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Thank you very much.

Let's have a look at a few of these things. First of all, just to ask you on a general play, mostly to you, as economies develop, we see everywhere in the world a reduction, of course, of the agricultural sector in terms of population involved in agriculture.

In your experience, Bob, around the world, how does that work out? We were talking here a great deal about the smallness of land holding, about from your side, Ajay, about the fact that it's been very profitable on these small holdings. But the integration and the knowledge that is passed on the extension issues all of these.

How has it worked out in the rest of the world? What do you expect will happen in India in that respect?

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

Yes. India, like China, has a huge challenge with having so many low income people on so little -- on such small land holdings. But I think the challenge is going to be greater than many other parts of the world. But it's going to be necessary to create non-farm jobs so that both those who leave farming, as well as those who stay behind and have access to more land, have the opportunity for higher incomes.

There's no alternative to that that at some point, first, the percentage of the population that farming must decline. Eventually, the absolute number of people engage in farming will have to decline. And so, probably the highest priority in the near term is to be equipping this generation of young people who are growing up on farms with skills that will serve them well in giving them social and economic mobility, but also get the opportunity to be better farmers themselves if they're among those who stay in agriculture.

But there's no escaping, the number of farmers has to decline.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

From your side, Ajay, how do you see that?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

See, what's happening in India and it's documented is that the number of operating sizes of farms are decreasing while the number of ownership of land is increasing. So there is a consolidation happening in the sense of renting out the land. I'm not talking about private sector contracting of funds. It's happening in Punjabi, it's documented.

And there's a lot of talk in India and abroad of retaining youth in agriculture. And I think it's absolutely wrong. We don't have to retain youth in agricultural. We're already too stressed. We need jobs in the villages of the farm.

And there are a lot of policy issues, I'll just take up one because there's less time, is mechanization as the population pressure increases and labor becomes expensive, people will go in from mechanization. Now, when you go and buy a machinery in India, you can only buy one if you own the land.

So if the policy was to change that landless people could own the machinery and lease it to the farming community, the land owning classes, there would be generation of employment and agriculture that's set forth become profitable. It would help in profitability because any size of land that you may all buying a machinery is not a liable operation. You just pay interest and you repay the loan. It doesn't make sense.

So, there's no one solution to this. There are lots of small, small solutions which we need to fit in together in this.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

This is all part of a complex process of economic development, of course. I mean, many countries have gone through this. But in answer to some of the questions we have of the current situation, the scenario is that we're looking at it as things move forward. But in the current, are there things right now in the current environment where there is a huge population of rural farming that you would suggest would make a difference beyond the extension and knowledge?

Would you argue for a very rapid increase of job opportunities or making of jobs in the rural areas themselves?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

Yes, I definitely agree with that. But it's not so easy by saying create jobs. It's the most difficult thing to do as to create jobs. And you need to create jobs in villages because you don't want people migrating in the city at the end of the day. And it's only the residual people who are the most unskilled, who are not resourceful, who are being left in the farms today. And it's absolutely wrong.

And let me tell you, don't underestimate extension services.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

No.

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

And the question of soil, again, it's got to do with extension because if you tell the farmer how much pesticide or fertilizer there is to use and what kind of subsidies, particular fertilizers have that line of using more. It's an integrated solution. It's like jigsaw puzzle until all doesn't fit in, it's not going to make sense.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

No. But, also, this is part of, if you wish, an infrastructure. This is a human infrastructure that's needed. Is that in the books on major, what, somebody here called farm-centered policies, farmer-centered policies.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Like I said, especially if I speak specifically about the ministry that I was in, it was, yes, a very infrastructure-oriented ministry. But we did have certain aspects in our programs which concentrated on incentivizing farmers.

I think one very important change that took place in REG, which is the National Rural Employment Guarantee Act. And it also happens to be the largest employment generating program, which is funded by the government.

So, in this, there's an aspect now, it says that the durable assets that get created in the process of employment, you can now work not only in public lands, but you can also work in private lands. So small farm holders can also work in their own farmlands, say, create water bodies or create a fencing because a lot of the times cattle destroy their foal production.

So in these areas, you work in your own lands and then you also earn wages for working in your own lands. Also, there's an aspect in the NRLM which is specifically for women farmers. And this is a very, very important program because it is a program that is also specifically focusing on organic farming. So instead of fertilizing intensive farming, there is an incentive to work on organic farming. And it has been a huge success in Andhra Pradesh.

So I would say that there are certain aspects for farmers are being incentivized. I think there are many comments here about how non-farm sort of employment must be generated, but I have the opinion also that I think farming has to be made in turmoil lucrative employment. At this point of time, we do not see farming as something that is important.

I think the youth want to go into IT. They want to go into other forms of employment. And for them, staying on in their farms means not developing.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

I think this is a great deal of what Ajay is trying to say is that also the combination of non-farm and farm jobs might also increase the profitability of those who do stay on the farm.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

And a part of few months back, I'd actually read an article in Times which said that in 30 years, the richest people are the people who will be driving the Ferraris will actually be the farmers because food production is going to be the most crucial challenge.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

I think I've been waiting around the world for that one. Yes.

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

(Inaudible).

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

But I'll turn to you, Ruth, and then ask you each of you to conclude. When we talk about rural development, we're not just talking about farm development. We are talking about the interplay in the rural areas between farm and non-farm employment. And I don't know if this has happened intensively in any quite unique the size of the rural population and of the area, and of the total population in India so we don't have comparable examples on this.

But that has been the experience, has it not, of most of the other countries that you have studied in the environment.

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

Every country in the world has made significant progress at reducing world poverty. It has turned most small holders into part-time farmers. Those who couldn't get enough more land to be able to generate in an income from agriculture itself. At least someone in the family got a source of non-farming income.

So creating the enabling environment so that it maximizes the likelihood that those farm jobs will be created is probably the most important function of government that's partly legal and public policy. But it's also roads, schools, it's basic healthcare.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Ruth? Give us some final thoughts from your side and perhaps examples of your experience.

Ruth Oniang'o - Professor, Food Science and Nutrition - Jomo Kenyatta University

I just want to say that more and more African countries are realizing that there's no way we are going to move forward without proper agriculture, without forecasting on it, without translating the policies into actual. And so, I see in the last two years, there's more focus on agriculture and also on women, food security. You can't go on hungry people. I mean, you can't go on begging for food from the market when soon they'll be none.

So, I believe that today is still are huge opportunity to invest in agriculture, in small hold agriculture on African continent. And if you don't commercialize agriculture, make it attractive, young people will not want to go into it.

So things will sort of begin to work on their own as long as our government realizes that they need to focus more on agriculture and do the right policies. So, it helps more from us.

They are too small to operate on their own, like I did put it up there. In Kenya, we have them in cooperatives, in groups. There's no way they can sell small things on their own. So, really, it's good governance. And they normally say, the minute we realize and put value on small holder farmers for now, I make them the leaders rather than being at bottom of the ladder, the poorest of the poor.

If we continue doing that, I mean, we're just creating trouble.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Yes. And I think that this is also the result in some of the outcomes of the Moga factory study. Is this ability to make collective around a certain value enhancing proposition that makes the difference.

Can I ask you if there was -- you're in the parliament now?

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Yes.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Member of Parliament. If there were one or two policies that you would like to see translated in legislation, what would they be? New ones. What would you want?

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

I think here, I do have a background in environmental management. So, I think one of the reasons why I would think so is I would like to see that subsidies, you know, for fertilizers be reduced for sure because of the contamination that it is causing.

I think before this, I had an opportunity to listen to the previous talk about water contamination.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Yes.

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

And I would like to say that previously, I was also working in the Department of Drinking Water and Sanitation. And one of the challenges that we had was that 80% of water is consumed by agriculture, 10% by industries, and about 3% is for drinking water.

But the entire responsibility of cleaning up whatever is being contaminated by the industry or the agriculture is done by the small department called the drinking water and sanitation. So, I think that that is a huge challenge.

So unless industries or the agricultural sectors a lot more responsible about water and how you use that water and how responsible it is towards cleaning up the water that is using, I think we will face a huge challenge in water. And at this point in time, I think one of the main challenges I see for not just this country but for the entire world is the availability of clean drinking water.

So, it's very, very important for us too.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

So, that's the area that you would like to concentrate on the most?

Agatha Sangma - Member of Parliament, former Minister State for Rural Development - Government of India

Yes, issues of water.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Excellent. Ajay, if you had your wish and you were in-charge, what are the things that you would like to see and what would be the first steps you would take?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

That's like a daydream. But --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Yes, it's a daydream. But you have your wish, I'm giving your wishes. So, what would they be?

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

But before I tell you my wish, I'll tell you the background for it.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Yes.

Ajay Vir Jakhar - Chairman - Bharat Krishak Samaj

The government of India spends around 60,000 crore on food subsidies, around 60,000, 70,000 crore on fertilizer subsidies and around 40,000, 50,000 on employment generation. And where does subsidies put together come to around INR152,000. I don't know how many billion dollar, somebody can calculate.

Now, all I'm saying is, they allocate 10%, so the (inaudible) in the country. And if you were to put one agriculture development officer in every village, that would not amount to more than \$2 billion. That's around INR10,000 to INR11,000 a year. And over five, six years, we could reduce inputs, we could save us oil, we could reduce water consumption.

You can't expect the industry and consumers to reduce water consumption when 80% is being used in the farm. So, we could change everything with extension services, and that's what my one wish would be to allocate money and put men on the ground. ICT is not the solution. Somebody said you could use ICT and give extension. It doesn't work. It's good paperwork. It's good brochures, but that's where the story ends.

You've got to put people on the ground telling farmers how to farm. And that's how green revolution is a success. And I'll just continue because lots of people are blaming Punjabi for green revolution problems, for swell problem, it's all wrong because when green revolution happens, there was extension services after we became complacent, there are no services available to the farmer.

And about profitability, this is a debate, this has not been brought up yet. But I should just tell you this that today nobody wants to be a farmer and no farmer wants his son to marry -- no father wants his daughter to marry a farmer. And it's because the minimum support price, which is supposed to be the ultimate, has become the market price today.

And beyond in India, let me just -- and this is documented again. Anyone who wants facts on this, I can send it to you. That beyond in India, if a small farmer was to make the same amount of money beyond in India, the MSP for wheat would have to double. And I'm just telling you it's not possible. At one side, CSEP is saying that you're not going to increase the MSP for wheat.

On the other side, just to bring parity to the laws, the government, you need to double the price of a producer. It's not going to happen. So, solutions are going to be right out of the box and extension is where you stop.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Very clear. Now, Bob, from your side, you finish up. I know you're not Indian. You're not here. But if you, from your experience, across the world have seen two or three interventions, points of intervention because that was brought up also, where is the point of entry, the point of intervention here? What would you suggest?

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

Rural roads I think I would put at the number one priority.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Sorry?

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

Rural roads.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Rural roads?

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

To reduce the --

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

Which is what the --

Robert Thompson - Professor Emeritus of Agricultural Policy - University of Illinois

It reduces the cost of inputs by the time they get to the farmer. And it reduces the cost of getting the product from the farm to the market. So, it's win-win in the side. Farmer's net income can increase if the same time as urban consumers can get their food at lower cost.

The other thing I would be very careful about is I think India is heading down a path of unsustainability with respect to water use. I really am concerned about the end of energetic play and withdrawing that was a great vast of the country.

But drawing down the water table with the over pumping of water with the zero pricing of water and then the free electricity to pump it out of the ground. If India is going to be able to feed itself in the future, it's got to improve the sustainability of its water use in agriculture. Water will probably become a bigger constraint in the future global food supply than land availability.

Maria Livanos Cattai - Former Secretary General, ICC and Former Managing Director, WEF

So, ladies and gentlemen, there isn't a country in the world which hasn't faced the problem of its rural populations. And here, this is not a minor issue, this is a major issue. It is a very difficult one and I want to thank this panel for having even tried to attack it and to get their arms around some of the approaches that might be necessary.

It is difficult and it is lengthy and we hope very much as some of your recommendations and approaches will succeed. So, I ask you to thank them all for tackling this difficult subject. Thank you.