

**THE WORLD FOOD PRIZE**  
**2008 NORMAN E. BORLAUG INTERNATIONAL SYMPOSIUM**  
*Confronting Crisis: Agriculture and Global Development in the Next Fifty Years*  
October 15-17, 2008 - Des Moines, Iowa

**AGRICULTURE AND DEVELOPMENT IMPACTS OF CLIMATE CHANGE**  
**October 16, 2008 – 8:00 to 8:30 a.m.**  
***Speaker: Rita Sharma***

***Introduction***

**Ambassador Kenneth Quinn**

President - World Food Prize Foundation

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Good morning, good morning, everyone. Welcome to the start of Day II of the Borlaug Dialog. We got off to a great, terrific start yesterday with Gordon Conway's wonderful keynote address outlining the issues that we face, followed by the panels. And then last night the overflow crowd to hear Senator McGovern and Senator Dole talking, that was a sensational event. And I hope everybody here had a chance to see that.

And now this morning we're back to business, and we have several very terrific panels this morning. And the morning keynote to get us started is going to be delivered by somebody I've just met for the first time, but I'm already mesmerized by her enthusiasm and the passion that she obviously brings to her work.

Dr. Rita Sharma has worked several decades within the government of India, holding positions including Special Secretary in the Department of Agricultural and Education, Commissioner of Land Resources and Extension in the Ministry of Agriculture, and Principal Secretary and Financial Commissioner in the Department of Finance in the state of Uttar Pradesh.

She is currently responsible for the implementation of programs and projects for poverty alleviation, infrastructure creation, employment and risk management in rural areas, which account for more than 70 percent of India's population. She is known as a leader in efforts to assess climate change and mitigate its impact on rural development and the poor

When we were talking to R. K. Pachauri, the Nobel Laureate from IPCC, and we said, "Who shall we get to come and talk about this?" and the first name that he brought up was Rita Sharma. And we talked to Dr. M. S. Swaminathan, one of our Laureates who's going to be here a little later in the week, and we were talking to him and said, "Who should we get that really knows he issues of rural development?" and he said, "You should get Rita Sharma." And then I talked to some of our laureates and Council of Advisors members who are from Cornell University, and I said, "Who should we get?" And they said, "Well, we know somebody who has her Ph.D. from Cornell, Rita Sharma."

So you were the unanimous choice, and I am so delighted that you have been willing to travel this far and come and be with us. And the crucial development of what's going to happen in the next 50 years, if the world is going to be able to live at peace, will be if development can be brought to the villages and the poorest people can be uplifted. And so I'm very anxious to hear your remarks. I know everyone else is. Please welcome Dr. Rita Sharma.

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**Rita Sharma**

Secretary to the Government, Indian Ministry of Rural Development

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Ambassador Quinn, Excellencies, ladies and gentlemen, a very good morning to you. Ambassador Quinn, thank you very much for the very generous introduction. It is a great honor for me to be here today at the International Symposium for the World Food Prize 2008 that is now named after Dr. Borlaug. I would like to thank the World Food Prize Foundation and its president, Ambassador Quinn, for giving me this opportunity to be here this morning to learn from the priceless collective wisdom in this hall and also to share with you some of my own thoughts and experiences.

But before I do so, may I take a moment to reflect on the work of Dr. Borlaug and on the reason why symposiums, dialogues, fellowships, and prizes have been named in his honor. Dr. Borlaug has helped humankind to take a quantum leap towards making poverty history, by sowing the seeds and nurturing the Green Revolution. Indeed, he is fittingly recognized as the Father of the Green Revolution, a jewel in the crown of humanity. And India has awarded him its highest civilian honor, the Padma Vibhushan.

I am reminded of the words of the American writer, Henry James, Jr. And I quote, *Ideas are, in truth, forces; infinite, too, is the power of personality. The union of the two always makes history.*

Dr. Borlaug is more than a man of noble ideas and authoritative speech. He is a person of tireless action and activism who has a deep and abiding faith in human enterprise and its ability to overcome the scourge of hunger and poverty. I take this opportunity also to offer my congratulations to this year's World Food Prize Laureates, former U.S. Senators Robert Dole and George McGovern.

Ladies and gentlemen, I am not an agricultural scientist, so I have really no groundbreaking new research to present to you today. I am a rural development administrator, and what I bring to this podium is experience of development administration and rural governance in reducing poverty and hunger. I will during the course of my presentation highlight a very unique initiative which has been launched by the government of India in 2005 and which has changed the way we combat hunger and poverty.

A portrait of Mahatma Gandhi hangs in the hallway in the Ministry of Development in New Delhi, reminding me every day of his very famous talisman. And it appears fitting that in this august assembly, as we deliberate upon confronting crises, that we recall that talisman. And Mahatma Gandhi said, and I quote, "Recall the face of the poorest and the weakest man whom you may have

seen and ask yourself if the step you contemplate is going to be of any use to him. Will he gain anything by it? Will it restore him to control over his own life and destiny? And then you will find your doubts in yourself melt away.”

My presentation on managing climate change, agriculture, and rural poverty is actually constructed on four related pillars.

I will briefly spotlight the linkage between poverty, agriculture, and environment, followed by impacts of climate change, highlighting the vulnerability of the rural poor.

In the third section I will describe the path-breaking and innovative intervention for hunger and poverty reduction, namely the National Rural Employment Guarantee Act, which was legislated in 2005.

In the fourth part, I will briefly look at the National Action Plan for climate change, which has been announced by the government of India in June 2008.

Finally, I will try and suggest possible approaches for poverty reduction, inclusive growth, environmental conservation, and climate change.

We are all very familiar with the figures indicated here of the 850 million hungry people. About a fourth are in sub-Saharan Africa; a fourth are in India; and 70 percent of all the poor live in rural areas. And their numbers are increasing, as we learned yesterday in the presentation which Gordon Conway had made, saying that this number has now gone up to 100 and 150 additional million people in this category. And they are primarily small and marginal farmers; they are landless agricultural laborers, fisherfolk, herders, tribal and indigenous people, women, children and the elderly.

It is this group who will be most vulnerable to climate change, as their livelihoods are directly dependent on environmental resources. Climate change will increase their vulnerability, and the rural poor, ironically, who have least contributed to climate change will unfairly bear the disproportionate impact of this climate change.

In India in the past three decades, the proportion of population below poverty line has declined very significantly. And at the rate at which this decline has occurred, we will be able to achieve the first Millennium Development Goal. But the concern is that the absolute numbers of the rural poor are still unacceptably high at 220 million in the rural areas.

And the reasons for this are very clear – that while economic growth since the 1990s, after the liberalization reforms, has risen sharply, touching 7.6 percent in the 11<sup>th</sup> plan and clocking some 9 percent last year.

The agricultural growth, on the other hand, in the last decade and a half, has declined and has stagnated at around about 2-2.3 percent. And unless the agricultural sector grows faster, growth will not be inclusive, because 60 percent of the population still depends upon agriculture, although agriculture now contributes about 18 percent to the GDP.

Climate change is further going to exacerbate the vulnerabilities of the poor. As extreme events will increase, we'll have longer and more severe drought, there will be increased water stress, and these will have an adverse impact on agriculture, water sources, forest, and coastal areas.

Several studies and simulation exercises have indicated that, as temperatures rise, climate change will reduce crop productivity, and this will be more pronounced in our rain-fed areas and further increase the vulnerability of the rural poor.

And, therefore, ladies and gentlemen, if economic growth has to increase, it must do so in a way which is inclusive, broad-based, and pro-poor so that poverty can be reduced faster. And for this to happen, if we are targeting a double-digit growth, overall economic growth, then agricultural growth must also double. And for this purpose, several steps have been undertaken.

Public investment in agriculture has doubled in the last two to three years. There's a great focus now on dry land rain-fed agriculture. Diversification of agriculture is a very major cornerstone, and we saw yesterday when Gordon Conway was making his presentation, the farmer in the Sunderbans area who had, apart from a paddy, was growing vegetables, was growing fruit, had some livestock, and had some off-farm income also in the form of a cycle rickshaw.

Of course, there will have to be much greater effort in effective input management, with special reference to water-use efficiency. Conservation agriculture, in which zero-tillage, IPM, laser levelers, and the Systems of Rice Intensification, have now become mainstreamed in the national security mission in the country. In addition to this, risk management and crop insurance and reforms in marketing will also receive very, very high priority.

But agricultural growth also is not enough to reach the poorest and the most vulnerable of the rural households. And for that, my ministry, the Ministry of Rural Development, mounts several programs which we call "direct attacks" on rural poverty. Now, I've listed them, but in today's presentation I am going to highlight one of them, namely, the Wage Employment Generation Program.

Ladies and gentlemen, the seriousness, the urgency, the resource commitments, and the political will to tackle hunger and poverty by the government of India are exemplified in this single legislation, which is the National Rural Employment Guarantee Act 2005. And in the next few slides I will try and bring to you the special and unique feature of this truly path-breaking, historical legislation, which has for the first time, on an unprecedented scale, guaranteed employment by law.

It is the government's flagship program to reduce poverty and hunger in a way that's also a safety-net measure. NREGA, as we call it, aims at enhancing livelihood security of households in rural areas by providing at least 100 days of guaranteed wage employment in a year to every household whose adult members volunteer to do unskilled, manual work. And the works which have been taken up under this act rejuvenate the natural-resource base and address the causes of chronic poverty, such as drought, deforestation, soil erosion, floods, poor rural connectivity, and so on.

The documents and the legal processes enshrined in the act are leading to strengthening grassroots processes of democracy and infusing transparency and accountability in rural government.

Here are a few glimpses of how the registration for the job card takes place. And we have here a village-level worker who is making a job card.

Now, what is unique about NREGA? We have had wage-employment programs in the past, but NREGA is different because it provides a rights-based framework. It's guaranteed by law. The guarantee is time-bound. Employment has to be provided within 15 days of the demand; otherwise, an unemployment allowance has to be paid by the state. The work has to be provided within five kilometers of the village, or an extra wage of 10 percent will have to be paid for the transportation. Wages are to be paid according to the notified minimum wage, and disbursement of wages has to be done on a weekly basis and not beyond a fortnight. The legal documents require unique job cards with photos, master roles, and date of receipts. Transparency and accountability is the backbone of this program through proactive disclosure and the use of the ICT platform to put all information in the public domain.

Here are a few glimpses of women with a job card, which entitles them to this work. This is creating awareness about the rights of the people. There are writings on the wall also which highlight the rights which are bestowed under this act.

Just to give you a feel of what is the scale of operation: NREGA last year, 34 million households were employed on some 1.8 million works, and the expenditure which was incurred was \$4 billion USD. This year 45 million households impacting on some 225 million people will receive wages under the act. And on an average a household will expect to work 60 days, earning a minimum wage of about 85 rupees, which is about \$2, and can expect to earn about \$113 for working for those 60 days. Considering that the official poverty line in India is \$22,000 rupees, approximately \$440 USD, work of about 60 days brings in \$113 on an average. There are certain areas where the wage rates are higher, and people work for a hundred days and are able to earn almost \$300 from this scheme.

It's a very self-targeted program, and so we have a large number of the very vulnerable tribal and women who participate in it. Here are some pictures of wage payments being made through post offices, using the biometric smart card, which is a new financial product taking the doorstep of banks, bank services to the workers in their village. It's not possible to make brick-and-mortar banks everywhere, so using the mobile ATM and the biometric smart card, they are able to do this very quickly. And this is being pilot-tested, and it is now going to be replicated all across the country. The village assembly and the social audits are a very important part of this, as is the decentralized planning, the Citizen Information Boards at various levels.

And the impact on poverty has been very, very significant. One of the very visible impacts is the reduction in distress migration. This has reduced very visibly. In fact, in many cases the traditional labor which used to migrate from Bihar to Punjab has not gone this year, with the result that the price and the wage rates of labor have gone up very, very significantly in the Punjab.

Equal wages for men and women under the act; increased bargaining capacity; a financial inclusion on a totally unprecedented scale. And 38 million savings bank accounts opened in the banks because it has been mandated that there will be no cash payments. To reduce leakages, all payments have to be made through banks.

What is the impact on the natural-resource base? Thirty-four million households were employed last year on 1.8 million works, of which 50 percent were water conservation works; 19 percent were micro-irrigation, and 15 percent were land development, and 15 percent rural roads.

NREGA – basically a poverty alleviation program – yielded major co-benefits for adaptation to climate change. And here are some glimpses of water conservation, rejuvenation of traditional bodies, women workers, water conservation, desilting of irrigation channels, plantation work, tree plantation, and rural road construction.

This is NREGA in the news. There's never a day when NREGA doesn't make the national newspapers, looking at the issue of reduced migration and unprecedented number of bank accounts and so on.

Very briefly I will now highlight the National Action Plan on Climate Change, which focuses on sustainable rural livelihoods, poverty eradication and sustainable development being the best form of adaption, and promoting development activities which have co-benefits for climate change.

The National Action Plan has eight national missions, of which five are adaptation and three are other missions on energy efficiencies, solar energy, and strategic knowledge for climate change.

My last two slides, ladies and gentlemen, are looking at the way forward. The first one deals with and highlights the elements of changing the way we combat poverty. And in this we look at the creation of rights, which we think is one of the most fundamental and most important dimensions of addressing hunger and poverty.

Setting up well-defined systems; a decentralized planning and implementation with adequate financial resources; social audits, which are to be conducted; access to information, which is the backbone to this program, and in India we've also legislated the Rights to Information Act, which gives it more teeth; an IT platform for placing all information in the public domain; and innovations in ICT for financial products; effective grievance redressal; and a court and a judicial system which enforces the rights against the state's violation. The state government is, the government is also getting sued wherever we are falling down on our legal guarantee.

In this second slide, I would like to recall what the former prime minister, Indira Gandhi, said in 1972 at the Stockholm Conference when she said, "Poverty is the worst polluter." And therefore poverty eradication becomes our first and foremost challenge.

In the way forward, we need to first and foremost promote sustainable agricultural growth, to recognize that suitably crafted sustainable development and rural livelihood strategies are the best form of adaptation to climate change. Look at direct interventions for poverty alleviation that simultaneously reduce poverty, promote sustainable agriculture, and enhance adaptation. And finally, call for integration of climate-change concerns into the planning process.

In conclusion, I would like to remind ourselves, ladies and gentlemen, that the human race has never been richer or better qualified with knowledge, the technical ammunition and intellectual firepower needed to overcome poverty and hunger. If we have the will to do it, innovative and effective pathways will emerge.

And yet a word of caution – that lasting solutions can only be found if we promote sustainable lifestyles all across the globe. In the global vision, which was inspired by Mahatma Gandhi's wise dictum, *The earth has enough resources to meet people's needs but never will have enough to satisfy people's greeds.*

I end on this note, and I thank you very much for your patience.