Speech by the Minister of Science, Technology and Innovation, Marco Antonio Raupp, at the opening of the 7th Conference of the Global Network of Science Academies.

Rio de Janeiro, February 24th, 2013

Ladies and gentlemen, leaders of academies of sciences and young scientists of the world,

It is with great pride and honor that I welcome you to our country!

Brazil was made through the arrival of immigrants from a vast variety of countries and people of all races. We are a multiracial and multicultural country. Even if you are only visiting Brazil, you can feel as if you are in your own home. Welcome to Brazil!

To be here today, as a guest of IAP *(Inter Academy Panel)*, is an honor to me. To represent our president Dilma Rousseff in this solemnity doubles the honor. Our president was not able to attend this solemnity due to having just returned from a trip to Africa, where she participated in the III Summit of South America – Africa, in Equatorial Guinea.

Before she traveled, president Dilma asked me to convey her gratitude to all of you for coming to Brazil. She also asked me to convey her wishes that you all have an excellent conference and that you are able to gather the best results from here. And lastly, our president asked me to share an important piece of information, which she considers of extreme value. She said to me: "Raupp, I insist that you tell all the participants at the IAP Conference, that science, technology and innovation are all priorities of my government, for they are tools for our economic and social development".

This was the phrase said by president Dilma Rousseff.

Notice, therefore, that the performance of this VII IAP Conference in Brazil, takes place at a very appropriate moment. The theme of this meeting – "Science for poverty eradication and sustainable development" – coincides with the concerns and with the actions of our president´s government.

For several reasons, unfortunately Brazil still has a significant portion of its population in unfavorable economic and social conditions. But this is a changing scenario due to the vigorous actions being performed by the federal government. In order for you to have an idea of the extent of the changes which are occurring in Brazil, in the last ten years, 40 million people, about 20% of the population, crossed the poverty line and became middle class.

At the same time, government and society have been engaged into building a development model that meets the characteristics and peculiarities of Brazil. There is a consensus in our country, that there will not be any development per se, if this development is not based on sustainability in terms of economic, social and environmental aspects.

If a predatory development no longer fits into today´s world, on the other hand, Brazil´s size implies in a great challenge for the implementation of a sustainable development model.

We are today the seventh world economy, with forecasts of becoming the fifth by 2030 and the fourth by 2050. Our population is 5th in the world, with almost 200 million inhabitants. If in the past this was seen as a problem, today we are certain that a well educated population is crucial to maintain a path of robust growth.

We have the largest biodiversity of the planet, with about one million and eight hundred thousand species, of which only 210 thousand of them have been described by science. We harbor approximately 13% of all known species on Earth and four of the biomes with the most biodiversity in the world – Amazonia, the Atlantic Forest, the Cerrado and the Pantanal.

Brazil is the fifth largest country in area, with more than eight million square kilometers – and that is, without considering the continental shelf, with over four million square kilometers.

We are a country aged more than 500 years old, but science is a recent activity among us. Our scientific universe began to exist in an orderly fashion, however timid, during the 1930´s, with the creation of the University of São Paulo, the first Brazilian university dedicated systematically to scientific production.

A significant boost occurred in the beginning of 1950, with the creation of two federal government agencies for the financing of science. Our post graduate courses began to emerge in the decade of 1940 and gained momentum twenty

years later. In turn, research activities became associated to higher level education – that is, as a mandatory requirement in universities – in 1961.

Despite its youth and having suffered mishaps throughout the process of its creation, the crucial point is that today Brazil can count on an ample and dynamic system of scientific production. We currently have about 270 thousand active researchers. As per Thomson/ISI´s database, in 2009 they published 32.100 papers in international publications, which represents 2.69% of the world´s scientific production. In order for you to have an idea of the growth experienced in this area, in 1990 our researchers published a bit over 3.500 papers of international recognition, the equivalent to 9.63% of the world´s production. In other words, in 20 years we climbed from 0.63 to 2.69 percent of the world´s scientific production.

Part of this growth is due to the fact of our researchers opting to work collaboratively. In Brazil there are over 27 thousand research groups. Another parameter of evolution: Brazil currently graduates over 12 thousand PhDs per year, the double of what it was ten years ago. Our capital expenditures on Research and Development are still short of the needs of the Country, however they have grown in 85% in the last ten years.

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Well, our perspective here should be global. I cited a few aspects of Brazil only to illustrate the fact that holding this IAP conference here in our country, in the specific moment of our path as a nation, is very fortunate. We are a country of great dimensions, we have great challenges, but we also have an ample, dynamic and productive system of science and technology.

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Ladies and gentlemen, dear colleagues,

The organization committee of this 7th Conference appointed me to a task which is not an easy one. The opportunity of addressing such a distinct group brings me honor and pride, but it is also a reason for concern. I do not want to bother you with hermetic thoughts, not tire you with an avalanche of numbers and data. I will just present to you some reflections and suggestions which may serve to fuel your discussions during the meeting.

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I would like to start off by saying that my words here, are a result of my experiences as a scientist, as a manager of research institutions and as a militant of the scientific and technological policy. I intend to be modest, yet incisive in my considerations.

Our theme at hand – "Science for poverty eradication and sustainable development" -, as I have already said, is extremely opportune for Brazil today.
I wish to believe that this theme should be present – as an absolute priority – in the agenda of all the governments of the planet and among the greatest concerns of the world´s scientific community. Not that science has the solution for all the problems or the answers to all the issues, but science is the tool with which reason manifests itself, with which rationality is imposed on real problems in a way as to offer a set of information and reflections that will contribute towards the best solutions.

A basic point that needs to be observed today is the way in which the world is organized with regards to the use of science aimed at economic production, the generation of wealth and the well-being of people.

From an economic point of view, today´s scenario is very different than that of a few decades ago. Economy has become globalized. Markets are more dynamic. Technological innovation is no longer an option and is now an obligation. The concept of sustainability is no longer restricted to environmental aspects; it has also encompassed economic, social and cultural issues.

Prior to this new global context, the design of world economic power was very different. Some nations stood out for their vast territorial area. Others, because they possessed an imposing industrial sector. A third group, due to their capacity of extracting wealth from their natural resources... There were no connections between the different characteristics of wealth of the countries.
Today, there are two common and determinant aspects noticeable among rich and developed nations. These aspects are: 1) the high quality of the education offered to its population, and 2) the production of scientific and technological knowledge as a factor of wealth generation – the so-called knowledge economy.

If scientific knowledge has become an invaluable resource for the generation of wealth, and if science broadens its skills faster and faster, then we can conclude that we will indeed, eradicate poverty and promote sustainable development with the use of science.

The issue therefore is, how are we going to succeed?

Before we think about practical measures, I believe we need to standardize an issue of conceptual nature. I think eradicating poverty is a prerequisite for any sort of development. One cannot agree that a country is developed if it is harboring contingents of citizens in economic conditions which do not ensure a dignified and decent life. In the same parameter, a development model, in order to be sustainable, needs to mandatorily imply, in the eradication of poverty. In other words, poverty eradication and sustainable development are concepts which need to be added to each other.

With that said, I will now allow myself to share a few suggestions with regards to the stance of scientists in order for science to, finally, provide its contribution towards a richer and more just planet for its inhabitants. One, most certainly basic aspect, is that we should look upon the causes of poverty in a more systemic way, also in a systemic way, we need to act upon these causes in such a way as to eliminate them.

I hereby emphasize the word “systemic”, so as to enhance that science looks upon poverty as whole, as a set of deficiencies which, added together, lead to a particular status of poverty, and similarly, that the solutions for its causes be carried forward in a comprehensive and continuous way, until that status of poverty is completely overcome. Obviously I consider valid the specific and isolated actions taken to overcome this or that aspect of poverty. However, I have no doubts that one will only achieve significantly positive results be means of actions which have the capacity of confronting poverty as a whole.

Faced with the challenges which are posed by the theme of this Conference, it is clear that we, scientists, will have to make a commitment not only to the success of the future of science itself, but also to the success of the future of humanity. Instead of thinking about science for science, we will need to ensure the engagement of science in the causes which we are proposing to address and resolve. If you will allow me a free thought, the image of a militant scientist comes to mind, one who performs science without thinking about himself, but thinking about those who need that science in order to resolve the basic problems of their own survival.

I would also like to highlight, that science´s contribution towards poverty eradication and sustainable development should not occur exclusively by means of efforts developed in laboratory or publication of papers. We need to collaborate, with an emphasis on determination, on formulation of public

policies in the several areas of governmental actions, especially those related to the problems of poverty, such as health, education, housing etc.

We need to engage in a political action. I am not referring to partisan politics, but to the participation of scientists in forum where political decisions are made. We need to engage with all actors who define or influence the policies which lead to the use of science to resolve problems dealing with people or the nation. We also need to teach and encourage our students, future scientists, to identify problems related to poverty and act upon the solutions. On the other hand, it is also our role to contribute towards the scientific literacy of our population. The population needs to acknowledge the importance of science and view it as an ally to the solution of their problems.

Specifically regarding eradication of poverty, I believe we need to increase the cooperation and collaboration among scientists of a same country and of different countries. We all know that science has no geographic boundaries; for the specific issue being discussed here today, it should be made clear that science should indistinctly serve all populations.

With that in mind, it is crucial that science does not reflect the global economic hierarchy. If there are differences between the science produced in wealthy countries and the science produced in countries under development, its´ benefits should be equally offered to both wealthy and poor countries.

In view of this scenario, and aiming at contributing towards the practical results of this Conference, I would like to present the suggestion that we take to the United Nations (or to the Organization of the United Nations for Education, Science and Culture), the proposal of the creation of a World Commission of Scientists for the Eradication of poverty.

Some of the objectives of this Commission would be:

- ✓ Encourage and coordinate the creation of global or regional projects, to overcome poverty;
- ✓ Enable the international and/or local funding of these projects;
- ✓ Subsidize governments in projects and initiatives to overcome poverty;
- ✓ Disseminate scientific knowledge aiming at defining public policies for poverty eradication.;
- ✓ Organize a worldwide network of scientific institutions and/or scientists for overcoming poverty.

This worldwide network would, among others things, have the purpose of:

- Promoting the cooperation among its participants, including mobility of human resources and the sharing of infrastructure for research, such as laboratories and libraries;
- Enabling the creation and execution of collaborative projects aimed at overcoming poverty;
- Enabling an ample use of international scientific knowledge focused on poverty eradication.

Thus my friends, this is the suggestion of creating a World Commission of Scientists to Overcome Poverty. I ask that you discuss this idea during your meetings.

To conclude, I would like to thank the Global Network of Science Academies for the opportunity of us being here today. I would also like to thank you all for your patience in listening to me.

I am positive that the discussions which will occur here within the next two days will bring us knowledge on how to improve our public policies and our governmental actions aimed at poverty eradication and sustainable development.

And lastly, I would like to remind you that next November we will host here, in Rio de Janeiro, the sixth World Science Forum, with the theme “Science for Global Development”. The prospect of the Forum will be to conduct a pact among the nations in overcoming the exclusionary and unequal access to the results of scientific and technological processes.

Holding the World Science Forum, for the first time outside of Hungary, further increases our responsibilities, but nevertheless provides us with an undeniable sense of pride. A pride not due to vanity, but as a reward for the efforts being made in Brazil for the science that is produced here to earn the merit it deserves within the context of world science and becomes a protagonist of the sustainable development of our country.

I would like to invite you all to return to Rio de Janeiro in November!

Thank you very much to all of you!