

Prof. Walter Dorn (United Nations Representative, Science for Peace):

Mr. Chair, thank you for giving me the opportunity to appear before this committee.

[English]

Albert Einstein advised his physics students that concern for humanity must form the chief interest of all technical endeavours. This would equally apply to all of us here. The call for science and technology to be practised with conscience is the basis of our organization. Science for Peace and its sister organization, the Canadian Pugwash Group, are devoted to both reducing the negative impact of science and technology and increasing the positive peaceful role.

Last Friday, the draft cluster bomb treaty was adopted by 111 nations in Dublin. It provides a much-needed step in limiting human barbarity caused by those sophisticated tools of destruction. We hope Canada will pass laws to implement the strictest export regime for parts that could be used in cluster munitions and find ways to make the treaty robust and effective. More generally, we urge Canada to apply science and technology to arms control, peacekeeping, and humanitarian causes. For instance, we suggest that the government's arms control verification program be re-established and that treaty verification research be incorporated into the work of Defence Research and Development Canada, or DRDC.

Our country's most advanced global monitoring asset Radarsat-2 could help these causes. We thank the committee for any influence it might have had on the decision to stop the sale of Radarsat-2 to U.S. arms manufacturer Alliant Techsystems, whose munitions, incidentally, include cluster bombs.

Canada must now give support to MDA, MacDonald, Dettwiler and Associates Ltd., develop the Radarsat constellation of satellites, and space reconnaissance generally. We advise that the Government of Canada help the UN by providing it with the results of Canadian science and technology.

Your fellow parliamentarian, Senator Roméo Dallaire, complained about being deaf and blind in the field when he was force commander in Rwanda. New technologies can help immensely, serving as the eyes and ears of the United Nations as it tries to solve complex conflicts in some of the world's greatest hot spots.

The figure you see in this handout illustrates the range of Canadian technologies that should be explored in peacekeeping. At the top we see aerospace systems, helicopters, UAVs, planes, and balloons that can give a bird's-eye view, while ground surveillance, like video and radar, can be used to protect UN camps. Night vision devices can be used to detect perpetrators who use the cover of darkness to commit atrocities and use the night to hide their weapons.

As the Canadian Forces acquires a new set of UAVs, or uninhabited aerial vehicles, at least a few of these should be deployed to assist the UN in its peacekeeping operations. As the UN waits for help in places like Darfur, Congo, and Haiti, with so little technical capability—and lives are being lost—can Canada afford not to help?

As Einstein reminded us, concern for humanity should be our primary motivating force.

Please include in your report the ways in which science and technology can be used properly as a great boon and not a curse for humanity.

My colleague, Derek Paul, will now address other threats and aspects of science and technology.

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Mr. Derek Paul (Treasurer, Science for Peace)

Thank you.

I'll begin in French.

[Translation]

The limits to the planet's resources and a predictable limit to world population will consequently require a limit on industrial production and a halt to the growth of the world economy. At the moment, no one knows how to create an economy that is sustainable and does not grow, but we absolutely have to buckle down to that task and dedicate ourselves to a new way of thinking. As we describe in our brief, we have to adopt a new paradigm.

[English]

I will continue in English.

This call for new thinking and a new paradigm, which is in the written brief, has led to the following, much abbreviated recommendations:

Enhance mechanisms whereby government and members of Parliament can dialogue with independent scientists. You've heard that from Scott Langen and Ian Rutherford.

Act on reports of the National Round Table on the Environment and the Economy. Do not ignore them.

Set up a council to study the paths to a sustainable civilization. That's very important.

Become informed or educated in the concept of an ecological footprint. I welcome questions on that. There's a useful reference in our written brief.

Recognize climate change as a world emergency.

Limit water usage in any district to the amount that is replaced by precipitation.

Initiate plans to halt the ecological ruin of the province of Alberta or of any other threatened area.

Prevent inappropriate ethanol production. A very useful reference in our brief will explain what is inappropriate.

Set in motion a comprehensive study for the development of a new electrified railway system for Canada with extension to all North America to be encouraged.

Oversee nanotechnology to prevent pollution and the effects of ill health and set up the necessary lab facilities to achieve this.

Label genetically modified foods.

Make strong efforts to prevent poor technological choices. This is very much a thing for Industry Canada.

Reduce and eliminate subsidies to sunset industries, and start to reverse the trend toward commercializing universities.

We welcome questions on all these recommendations.

Thank you. *Merci, monsieur.*

  [\(1130\)](#)

 

The Chair:

Thank you very much, Mr. Paul.

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Ms. Peggy Nash:

Thanks very much.

My question, and perhaps we'll have to wait for the answer, is to the Science for Peace representatives. This committee was very involved around the Radarsat-MDA sale. I think there's a perfect example of technology designed for peace that could have been used for not-so-peaceful means. Part of the challenge now is for our government to invest in the space agency and therefore offer alternative work. We've missed the Mars Rover. It could have had a Canadian flag on it, but it didn't.

What would you recommend in terms of the future of the Canadian Space Agency?



The Chair:

Mr. Dorn.



Mr. Walter Dorn:

You're quite right, Radarsat-2 has an excellent ground moving-target indicator, which could be used to track trucks in Iraq or it could be used to help peacekeeping forces. It's an example of a technology that's competitive worldwide. It can make a big difference in the field and for the UN. We're just starting to explore that. I'm a consultant to the United Nations on the use of technology in the field.

Fifteen years ago we briefed the interdepartmental committee on space, before the Canadian Space Agency was created, to ask for it to have a mandate to be able to provide assistance to the United Nations in the reconnaissance field. This would be in addition to the kind of work the CSA is doing with DND, but it would also be a link to increase the capacity of Canada to funnel that kind of information.

We've had problems with MDA, which now has a systems contract at the UN for reconnaissance satellite information, but it hasn't worked out very well. Geographic information systems people in the UN have had complaints, so we want to see that improved.

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Mr. Robert Vincent:

Thank you.

Mr. Paul, you mentioned the ecological footprint. What is that?



Mr. Derek Paul:

We refer to that in our brief. The concept was developed by William Reese, a professor at the University of British Columbia. His theory is that it is possible to measure the land area needed to sustain a given population, Canada's, for example, and to partially assimilate the amount of waste it generates. Basically, there must always be somewhere to bury or convert waste. Then, you must calculate the area that you presently have in order to meet these needs.

In almost every country in the world, this footprint has been exceeded. In the Netherlands, for example, which is a very small country, it has been greatly exceeded. The factor varies according to the source you are reading. I have seen references to a factor of nine to nineteen times. So, a much greater area of productive land is needed to sustain a population like that of the Netherlands.

Because our land area is so vast and our population is quite small, Canada is one of the only countries in the world that has not reached this dangerous threshold.

What does passing the threshold, or living on too small an area, mean? It basically means that we are borrowing from what we should be leaving to our descendants. We are borrowing from our grandsons and granddaughters, our great-grandchildren and so on. We must keep checking our ecological footprint from year to year to see if it is getting bigger or smaller.

One of our recommendations is to urge everyone in Parliament to understand this principle and to read what Professor William Reese has written. His most recent document is a chapter taken from a book published in 1996. You will find the reference in our brief. I implore everyone to read that document.

**Standing Committee on Industry, Science and
Technology**

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CONTENTS

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