

International Development

“In today's increasingly interdependent world, industrialized and developing countries are linked as never before. The growing economic and demographic weight of countries like Brazil, China, and India is having a major impact on employment, trade, travel, immigration, and other areas. The global marketplace blurs the lines between national economies; the communications revolution brings together cultures, knowledge, and information. Issues that all countries must deal with -health, the environment, and peace and security-are increasingly global. And the ongoing tragedies of persistent poverty, disease, and conflict have become not just humanitarian concerns, but shared problems as they spill over borders and affect countries around the world.

International development cooperation is increasingly viewed as a necessary response to these global challenges because it is within this context of shared interests, and complex and profound inter-linkages that efforts to pursue sustainable development take place. The dimensions of sustainable development encompass the full range of economic, social, environmental, and governance activities, and they too are interdependent and mutually reinforcing. [...]



Indian Villager Collects Fresh Water in Chandwara, courtesy of Reuters News Picture Service

In 2002-2003, Canada's aid budget was \$2.3 billion. The February 2003 federal budget increased this by an additional \$1.4 billion over three fiscal years (2002-2005), the first increment toward an eventual doubling of the budget by 2010 as proposed in the September 2002 Speech from the Throne.

Since 1970, several of the main indicators of human well-being have improved:

- **Economic development:** In the 1990s alone, the proportion of people living in extreme poverty dropped from 30 percent to 23 percent. This was most pronounced in Southeast Asia, where per capita income quadrupled and national economies grew by 6 percent a year, on average, from 1976 to 1999;
- **Social development:** Worldwide, life expectancy at birth rose by eight years, and illiteracy was cut nearly in half;
- **Environmental sustainability:** Some 800 million people gained access to safe water supplies, 750 million more now have better sanitation services, and there has been improved international cooperation to reduce harmful substances such as persistent organic pollutants. [...]

However, major challenges remain:

- **Economic development:** There is an increasing gap between the rich and poor in a world where the richest 5 percent have incomes 114 times those of the poorest 5 percent. More than 54 countries, mainly in Africa, actually became poorer in the 1990s. Progress on trade issues is slow, notably in the reduction of agricultural subsidies that protect Northern markets from developing-country products;
- **Social development:** Women represent 70 percent of the world's poor, at least two thirds of the world's illiterates and [only] 10 percent of the world's decision-makers. More than 42 million people have AIDS today, and that figure will more than double by 2010. More than 130 million children are still out of school, two thirds of whom are girls, and 250 million children are forced to, or need to, work;
- **Environmental sustainability:** Soil degradation affects the livelihoods of up to one billion people, and a third of the developing world's population live in countries facing water scarcity. Deforestation rates continue to be high in many developing countries, reducing biodiversity and contributing to climate change.”¹

¹ CIDA, “Sustainable Development Strategy: 2004–2006 Enabling Change”, Canada 2004

Key players:

The **Canadian International Development Agency (CIDA)** supports sustainable development in developing countries. Working with partners in the private and public sectors in Canada and in developing countries, and with international organizations and agencies, CIDA supports foreign aid projects in more than 100 of the poorest countries of the world. <http://www.acdi-cida.gc.ca/index.htm>

The **International Development Research Centre (IDRC)** is a Canadian public corporation that works in close collaboration with researchers from the developing world in their search for the means to build healthier, more equitable, and more prosperous societies (Canada-based international centre of innovation in international development). <http://www.idrc.ca>

The **United Nations Development Program (UNDP)** is the UN's global development network with offices in 166 countries that links and coordinates global and national efforts to reach the Millennium Development Goals, including the overarching goal of cutting poverty in half by 2015. UNDP's works in six thematic areas: Democratic Governance, Poverty Reduction, Crisis Prevention and Recovery, Energy and Environment, Information and Communications Technology, HIV/AIDS. <http://www.undp.org>

The **United Nations Environment Program (UNEP)** provides leadership and encourages partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. <http://www.unep.org>

The **World Bank's** mission is to fight poverty and improve the living standards of people in the developing world. It is a development Bank which provides loans, policy advice, technical assistance and knowledge sharing services to low and middle income countries to reduce poverty. <http://www.worldbank.org>

Several developing countries have space agencies that have undertaken significant work of high relevance to development activities, notably the Indian Space Research Organisation (ISRO): www.isro.org

"Hot" issues:

The Millennium Development Goals were prepared by the United Nations Secretary General as response to the Millennium Declaration that was issued by 147 world leaders gathered in New York in 2000, outlining their collective commitment to sustainable development and poverty reduction:

- Eradicate poverty and hunger: halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day; halve, between 1990 and 2015, the proportion of people who suffer from hunger;
- Achieve universal primary education: ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling;
- Promote gender equality and empower women: eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015;
- Reduce child mortality: reduce by two thirds, between 1990 and 2015, the under-5 mortality rate;
- Improve maternal health: reduce by three quarters, between 1990 and 2015, the maternal mortality rate;
- Combat HIV/AIDS, malaria, and other diseases: halt by 2015, and begin to reverse, the spread of HIV/AIDS. Halt by 2015, and begin to reverse, the incidence of malaria and other major diseases;
- Ensure environmental sustainability: integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources. Halve, by 2015, the proportion of people without sustainable access to safe drinking water. By 2020, achieve a significant improvement in the lives of at least one hundred million slum dwellers; and
- Develop a global partnership for development: develop further an open, rules-based, predictable, non-discriminatory trading and financial system. Address the special needs of the least developed countries. Address the special needs of landlocked countries and small-island developing states. Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term. In cooperation with developing countries, design and implement strategies to create decent and productive work for youth. In cooperation with pharmaceutical companies, provide access to affordable and essential drugs in developing countries. In cooperation with the private sector, make available the benefits of new technologies, especially in information and communications.

Space and International Development:

“Recent innovations and new sensors and technology have dramatically changed the nature and structure of space-related development applications in recent years, making space a more versatile tool for the development community. Much has been accomplished in this area, but little is known about these successes. Developing countries cannot afford not to adopt certain space tools, as failure to do so will lead them to fall even further behind in a growing ‘digital divide’. Space applications must be a tool for the development community, not an end in themselves. They should only be used when they improve a development project and offer a veritable path to sustainability.”²

Space-based Earth observation (EO) can play key roles in Canada’s international development activities – both bilateral and multilateral:

- providing Canadian space-based EO products and services – information outputs – to assist other sectors of development, such as agriculture, energy and water, biodiversity conservation, urban planning, marine resource management, transportation, etc;
- enhancing the level of space-based EO activities themselves as integral parts of social, economic and environmental development.

Canada’s space sector contributes to these roles both on its own, and in cooperation with colleagues, companies, and sister agencies in other countries.

Providing and using EO inevitably has policy implications beyond merely efficient use of the technology. It may be used for cooperation, or for competition. For example, space-based EO information is sometimes made available to all, as a common information resource base. In contrast, it is sometimes used to maintain or gain strategic positions for the development of certain countries or regions. For example, EO may be used:

- To detect ground water resources and support drilling;
- For crop monitoring, globally;
- To monitor changes to developing countries climates and ecosystems, particularly desertification and deforestation;
- To monitor foreign fishing presence in coastal African and Asian waters;
- To monitor polluting ship traffic to protect coastal environmental resources; and
- A host of other relevant applications.

Persistent mid- to long-term strategic issues include

- Ensuring EO data and product continuity, to match the timescales required for effective development; and establishing common frameworks that allow sharing and exchange of information.
- Data policy - common ground is needed among and within countries in policies for both sharing and restricting access to EO information;
- The relation between donor countries’ development assistance policy and their foreign and trade policies. These two are often in tension with each other; effective development assistance depends on what’s best for the recipient; trade policy sometimes protects only what’s best for the donor’s commercial interests. There is perennial debate about the balance between ‘tied aid’ that serves the donor’s other interests and aid that leaves recipients free to choose the best suppliers.

Issues for the CSA:

Regarding EO products and services:

- Designing and producing space EO outputs relevant to development goals (social, economic, environmental);
- Making the outputs available, affordable, timely and appropriate for use on a case-by-case basis;
- Considering the mix of local-technology and high-technology in the products and services and how they fit best in different economies and cultures.

² Space Applications for Sustainable Development, CIDA-CSA Conference under the patronage of the UN Program on Space Applications, Ottawa, Canada, May 2002.

Regarding the role of EO activities themselves as part of development:

- Building capacity (education, training, institutions) in the specific regional or national society;
- Enhancing the region's self-directed use of space technologies and products;
- Development of space EO technologies & applications as components of a society's own economy and governance;
- Evolution of 'small sat' and lower-cost/quicker start-up space EO technologies and applications.

Regarding Canada's national interests:

- What space EO capacities should Canada itself develop in relation to the developing world? Do we have a development niche?
- Balancing gaining and reinforcing Canadian competitive advantage in and through particular EO areas vs. what common capacities Canada should encourage to be developed as part of multilateral facilities.

Related themes:

Biodiversity & Ecosystem Conservation
Climate change & Variability
Coastal & Marine Ecosystems
Disasters
Environmental Factors affecting Health
Sustainable Water Resources
Sustainable Agriculture
GMES
GEO

References:

Background information:

Athena Global for CIDA, *Conference Report: Space Applications for Sustainable Development*. May 2002.

Athena Global for CIDA, *Space Technologies for Sustainable Development: A Short Project Anthology*. 2002.

CIDA, "Sustainable Development Strategy: 2004–2006 Enabling Change", Canada 2004 http://www.acdi-cida.gc.ca/cida_ind.nsf/0/F395F90E46BEEF1285256E3500699F9F?OpenDocument

Latest update:

CIDA <http://www.acdi-cida.gc.ca/index-e.htm>

UNDP <http://www.undp.org>

USAid <http://www.usaid.gov>

Closer look:

The European Space Agency (ESA)'s Space Contribution to Sustainable Development
http://www.esa.int/SPECIALS/WSSD_CEOS/index.html

FAO, "A view from space helps Azerbaijan plan for the future"
<http://www.fao.org/News/1999/991107-e.htm>

ICT Development Group to Implement Bangladesh's Environmental Monitoring Information Network:
http://204.239.89.180:8080/ict/view.jsp?id=7&page_id=7&posting_id=58