***How the Human Right to Science Can Advance Development***

**Overview**

Employing the human rights frame changes not only how we think about science, but also how we think about development. Written amidst the wave of decolonization movements in the Third World, Article 15 does not address the issue of development, per se. However, Article 15 does connect economic and social rights—then being claimed not only by working-class and other movements in the First World, but also by advocates of national independence in Third World countries.

By any defensible definition, development involves the use of scientific acumen and technological expertise to address issues of urban infrastructure, agricultural productivity, healthcare, poverty alleviation and other problems that call for development as the solution.

Over time, criticism of development mounted, both within and beyond the development community. With the failure of modernization theory and other orthodox approaches to development, critical development studies emerged as an interdisciplinary field of scholarly research and policy advice. Taking stock of both the intended and unintended consequences of mainstream development, critical development studies aimed to compensate for the mistakes of a “one-size-fits-all” approach to development policy. Critical development studies moved beyond rejection of the Eurocentrism and economic reductionism of orthodox development to address such issues as cultural protection, gender relations, participatory decision-making, and environmental degradation. Advances in science and technology are crucial to re-thinking development. But questions remain about how science and technology can be mobilized for development. Article 15 offers a toolbox for addressing these questions.

**How can the human right to science advance development?**

Principles of human rights identify components of the human right to science that will foster development. The principle of universalism means that the human right to science is available to all people in the world. No matter the individual’s geographic location or socio-economic status, or her country’s history, cultural practices, and relations with other countries and their economies, all people are entitled to the human right to science. The human right to science promotes equality and advances the inherent dignity all people possess. No one should experience discrimination when it comes to the human right to science. Another component is that the human right to science is indivisible. Its value and worth are the same as other human rights; the human right to science must be protected. The human right to science has potential to foster participation and inclusion. The human right to science will help ensure that everyone can influence and access information shaping decision-making processes that affect their lives and well-being. The human right to science is interdependent and interrelated with other human rights. Each human right advances a person’s human dignity. Implementation of one right often depends on fulfillment on another right. Together, a bundle of human rights can ensure dignity and well-being of each individual.

In conjunction with other human rights, the human right to science can mobilize science and technology to foster development. The human rights to science and education can ensure that everyone has the chance to learn about science. The human rights to science and access to information can ensure that everyone enjoys opportunities to appreciate scientific breakthroughs and technological achievements. The human right to science and freedom of conscience can ensure that scientists enjoy freedom to do their research. The human right to science and freedom from exploitation can ensure that scientists are free from persecution while doing their research.

Members of society, including scientists, can deploy these rights to strengthen infrastructure. Employing their knowledge, skills, and experience, scientists can apply theory and evidence to tackling challenges facing their communities, including transitioning to a smart power grid, building advanced communications technologies and sewer systems, and organizing and establishing innovations in clinics, hospitals, and schools, which can improve quality of life and extend life expectancies.

The human right to science implies protection against abuse of scientific research and technological advances. This is important not only in development, but also in other domains. For critics of orthodox development, the need to protect populations from abuses of science and technology stems from damage to culture, gender relations, and the environment wrought by previous development projects. There is the sense that a false universalism blocks development policy-makers from seeing the need to allow for much greater popular participation in decision-making processes about development. For example, many populations in the global South wish to have contemporary medicine, public hygiene, improved infrastructure, advanced agriculture, electricity, greater access to computing and networking technologies, and relevant educational and vocational opportunities. But such populations often do not wish to become full-time wage or salaried workers in an economy oriented toward consumerism.

This bears not only on the economic and social rights delineated elsewhere in the ICESCR and implied in Article 15, but on subsequent UN efforts that affirm the environmental rights of both individuals and communities. The human right to science will bolster economic growth. Greater employment in “green jobs,” such as building and installing solar panels and other forms of alternative energy, will require new forms of education, establish new industries, and offer new employment opportunities.

Given its placement in the ICESCR, the human right to science is linked to the human right to culture. Whereas “culture” originally meant individual rights to theater, music, art, literature, and film, the term is now interpreted as referring to collective rights to speak an indigenous language, inhabit and protect ancestral lands, and other important aspects of living together. This requires proper use of scientific research and technological advances. The human right to science constitutes a major nodal point. The human rights to culture, development, health care, information, education, vocational training, and environment converge together to support and benefit from implementation of the human right to science.

**Conclusion**

To be sure, effective implementation of the human right to science will require resources, initiative, and commitment. Without meaningful commitment of resources, necessary to building infrastructure and extending internet access, to ensuring opportunities to science education are available to everyone, and facilitating scientific research and collaboration, the human right to science will be a hollow right. Initiatives of national governments, civil society organizations, scientific societies, teachers, health care professionals, and scientists and other experts, is essential to advancement of the human right to science for development. Commitments of the UN Committee, other UN bodies, and national governments is crucial to ensuring the human right to science is deployed to promote development.

Effective implementation of the human right to science will lead to development of countries and their communities, as well as improvements and stability in international relations. This General Comment is a crucial step forward in advancing the well-being of individuals and families. We applaud the UN Committee on Economic, Social and Cultural Rights for its General Comment.