

Needed: a New Generation of Problem Solvers

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Amid the global economic crisis dominating policy makers' recent attention, the world faces many other equal if not greater long-term challenges that will require concerted and highly skilled policy efforts in coming years. Those interwoven challenges include the mitigation of climate change, the control of emerging diseases, the reduction of extreme poverty, the development of new and sustainable energy sources, and the sustainable management of water and food systems. Higher-education administrators and faculty members should not focus so much on today's financial concerns that they lose sight of such pressing issues.

The problems are complex and interconnected, spilling across academic disciplines and often across national borders. Solutions will require theoretical knowledge and practical problem-solving skills, including the capacity to build and lead teams drawn from a variety of disciplines. They will require leaders who can cross boundaries of science, policy, geography, theory, and practice. In other words, they will require a new generation of sustainable-development practitioners.

Unfortunately, however, at a time when so many of the world's most-challenging issues require solutions drawing from across academic and professional disciplines, colleges remain overwhelmingly focused on single-discipline studies. While specialists are still essential, and nobody can master all the relevant interconnected areas of expertise, vastly more professionals should have basic knowledge spanning crucial areas like natural science, health science, engineering, public policy, and management. That basic knowledge is needed to harness and coordinate the insights that are constantly emerging from a relevant range of fields.

Over the past two years, we have worked with colleagues around the world as part of the International Commission on Education for Sustainable Development Practice, convened by the Earth Institute at Columbia University and supported by the John D. and Catherine T. MacArthur Foundation. Inspired by the "Flexner Report of 1910", which revolutionized and standardized systematic training for medical doctors in North America, the commission was established in early 2007 to analyze and diagnose the current state of education for sustainable-development professionals and make recommendations for improvement.

After extensive consultations on five continents, the commission published its final report last October with recommendations for building a new field of "sustainable-development practice." The report calls for establishing the core competencies of development

practitioners — natural sciences, health sciences, social sciences, and management — and identifies a critical need for "generalists" who can bridge the work of specialists through knowledge of those four pillars of sustainable development. To train such generalists, the commission has presented three key recommendations.

First, a new form of graduate-degree program should be created around the globe, the master's in development practice. The commission found that while many programs have a "development" label, they tend to focus heavily on either social science or environmental science and do not prepare their graduates with the interdisciplinary skills or training required to meet a diverse array of development challenges. Furthermore, programs vary greatly in terms of their prerequisites, core curriculum, and length of study, leading to a pool of graduates with inconsistent technical skills and experiences.

To resolve those shortcomings, the recommended M.D.P. program requires at least two full years of training and rigorous study of health sciences, natural sciences and engineering, social sciences, and management. In addition, some universities may also choose to provide supplemental tracks for discipline-based specialization or regional concentration. That course of study should also be complemented by cross-disciplinary case studies and fieldwork to provide students with a holistic "clinical" training experience. Moreover, programs ought to give students practice working across borders and time zones to solve problems.

M.D.P. programs around the world should therefore be linked to one another through shared, "open source" curricula; Web-based interactive courses; and student and faculty exchange programs. As a pilot, the commission created a "global classroom" that has bridged a dozen institutions and time zones — from France to Malaysia to China to the United States — for live weekly seminars on the challenges of sustainable development. With Webcams and cheap, modern software, students are practicing the basic elements of global discussion, reflection, and problem solving that will guide them for a lifetime.

While the master's in development practice is designed to encourage the career of a well-trained generalist practitioner, the commission's second key recommendation is for cross-disciplinary training throughout the career of a professional. A policy manager in 2010 should not be working from the epidemiological, agricultural, or climate evidence of 1990, let alone 1970. New training programs, anchored in the core disciplines, should be developed to train current professionals and empower them with knowledge on the most up-to-date evidence, best practices, and technologies available in the field. Those courses can include condensed, midcareer M.D.P. programs or virtual-learning and certification programs.

The third core recommendation of the commission is to establish a Global M.D.P. Secretariat to coordinate the network of participating institutions around the world. The secretariat will set standards for the core competencies of sustainable development, coordinate the M.D.P. global network of universities and partner institutions, and manage the development of curricula. Academic institutions will need to work together to develop common curricular materials in fields as diverse as agriculture, epidemiology,

climate science, and economics. That is particularly important for universities that might not initially have faculty expertise in a component of the curriculum but are otherwise well suited to begin a program.

The recommendations are being put in motion with tremendous speed. The Global Secretariat was established at the Earth Institute last October. The MacArthur Foundation has also committed \$15-million over the next three years to provide seed support for the creation of M.D.P. programs at up to 12 universities around the world, including funds for the first M.D.P.-inspired program at Columbia University's School of International and Public Affairs, starting this fall.

Columbia's program will draw upon the strengths of many parts of the university, including the Earth Institute. It will also place a premium on practical education through internship programs linked to the Millennium Village project sites in Africa, providing students with firsthand exposure to the holistic nature of sustainable-development challenges and solutions. Although the application period was short for this first year, student interest from around the world has been tremendous, and indeed outstripped the number of available program spots by severalfold.

Other universities around the world have also shown extraordinary interest in starting their own M.D.P. programs. Within less than two months of the MacArthur Foundation's announcement, more than 100 academic institutions from all regions had communicated their interest. Many senior international policy makers have shown similar strong interest in carrying out the recommendations. Although the MacArthur seed money will be able to support only a portion of the interested universities, the goal is for that early investment to create a critical mass for the global network, such that all interested institutions can join as local resources are mobilized over time.

The financial crisis has certainly created a challenging budgetary environment for many universities aiming to begin new efforts. But if anything, the common crisis has placed a spotlight on the world's interconnected fate, and the importance of farsighted, cross-disciplinary decision making as a basic need for a more prosperous future. With the support of academe, international organizations, and current development practitioners, a new generation of problem solvers can be empowered to meet the sustainable-development challenges for our common future.

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Volume 55, Issue 40, Page A64
