Research Influence on Public Policy: A Case Study

Cleaning up the Dnipro River Basin in Ukraine

In the aftermath of the collapse of the Soviet Union, Ukraine had the dubious distinction of being the most environmentally degraded of the former USSR republics. Efforts to alleviate the situation were hampered by an ingrained reluctance of officials and decision makers to share information or to take initiative. Overcoming such attitudes was one of the major obstacles faced by IDRC researchers when they undertook a program designed to clean up the Dnipro River Basin. Patience, perseverance and the willingness of key Ukrainian actors to adapt to new ways of thinking brought fresh hope for the rebirth of a historic waterway.

Andrey Tunk

At almost 2 300 km, the Dnipro River (also called the Dneiper) is one of the longest rivers in Europe, and for more than half of its length it runs through Ukraine. More than 2,000 years ago the Greek historian Herodotus described the Dnipro as "...by far the biggest and the richest river in nutrients... with the exception of the Nile in Egypt...The water is clean and it tastes well. It is by far the most beautiful river."

The modern Dnipro is no longer a natural source of fresh and clean water according to the authors of the book *Preserving the Dnipro River*[1]. They write,"Each year, industry, agriculture, and municipalities discharge enormous amounts of contaminated wastewater into the Dnipro. Every year, 5.5 million cu meters of sewage are dumped into the water bodies of Ukraine, which includes 4.2 million cu meters of contaminated sewage, 2.8 million of which is raw waste."

Together with neighbouring Russia and Belarus, some 33 million people in 50 cities depend on the waters of the Dnipro River Basin. But they must share those waters with industrial and agricultural needs as well as hydro-electric and nuclear power facilities. In only a few places does the river still retain the bucolic appearance described by Herodotus.

It was against this background that IDRC's newly created Office for Central and Eastern Europe Initiatives (OCEEI) undertook the Environmental Management Development in Ukraine (EMDU) program in the summer of 1994, in collaboration with the United Nations Development Programme (UNDP), and the Global Environment Facility (GEF). The program was funded by the Canadian International Development Agency (CIDA).

A formidable task

From any perspective IDRC's task was a formidable one, involving a wide range of activities from environmental education and training in project and environmental management to trans-boundary pollution issues.

There were six components to the EMDU program, which continued through a second phase until 2001. They were:

- *Water pollution control:* a baseline water quality study conducted in collaboration with three Ukrainian institutes. This included some short-term training by a Canadian specialist and the provision of some critical lab equipment;
- *Water toxicology:* demonstrating six simple, inexpensive but effective tests for the presence of toxins;
- *Information systems development:* including national and regional systems as well as a national atlas of Ukraine;

[1] Preserving the Dnipro River: Harmony, History, and Rehabilitation. *V.Y. Shevchuk, G.O. Bilyavsky, V.M. Navrotsky, and O.O. Mazurkevich.* Mosaic Press/IDRC 2005, ISBN 1-55250-138-9.

- *A series of pilot projects:* ranging from drinking water treatment technology to groundwater protection and shoreline rehabilitation;
- *Environmental audits and entrepreneurship:* including both large and small industries; and
- *Public outreach:* developing various forms of media, including videos and television programs to raise public awareness of environmental issues.

It was an ambitious capacity-building program, but if it was to succeed the IDRC team needed to first overcome another kind of environmental issue – an attitudinal one. Ukraine in the early post-Soviet years was in a deep economic crisis, and the government was reluctant to pursue economic and political reforms. This was also "a period of psychological crisis," according to Vasyl Shevchuk, former Minister of Environmental Protection and Nuclear Safety, who served as chairman of the program's Ukrainian Management Committee (UMC).

Expanding policy capacities

During Soviet times, people learned that "initiative is punishable" and this lesson proved to be difficult to forget, especially under conditions where the political situation remained uncertain. "People are inert, passive, and scared. They always lived in fear. It is difficult to change our generation," explained Kostantyn Chebotko, Head of the Hydrochemistry Department at the Ukrainian Scientific Research Institute. Adding hopefully, "The next generation might be more efficient."

There were other hurdles to overcome in addition to what many referred to as the "Soviet caution,". A law dating back to 1937 decreed that information about the water supply of cities was secret. Participants in the program who revealed this information to foreigners faced possible legal action. Some Ukrainian research institutions were reluctant to share information, or insisted on being paid for it. And when it came to paying for anything, there was initially no functioning banking system. Transactions were made in cash or barter!

Ukraine was newly independent at this time and just beginning to change its political structures and processes. Not surprisingly there were the constant changes at all levels in the Ministry of Ecology and Natural Resources, including several Ministers. With every change new people appeared, with new views about what should, or should not, be done.

Remarkably, despite all of the obstacles and the constraints, the program achieved all of its objectives, and in the process established a lasting relationship between Ukrainian and Canadian scientists. It also had a positive influence on environmental policy and legislation in Ukraine. The key factor in the program's success proved to be the UMC, which from the outset involved senior decision makers from both government and the research field. This was important according to Grygory Semchuk, a UMC member who was First Deputy (equivalent to Deputy Minister) with the State Committee on Construction, Architecture and Housing Policy.

"The work of the Committee was not given to people who did not have power, who did not have influence. This provided a positive result. There was a psychological aspect as well. While considering a project, we discussed it and expressed our views with no fear," Semchuk said, adding that discipline and a systematic approach were also important. "The Committee worked systematically, therefore there was a positive result. Everyone knew that each last Friday of the month the meeting at Shevchuk's office should be attended. If a person did not attend a meeting he would be removed. There was a discipline." As chairman of the UMC, Vasyl Shevchuk was credited by many of the participants for the much of the program's success.

Almost all the projects (as well as the EMDU program as a whole) presumed policy influence from the very beginning. Including the active participation and involvement of decision makers was important, and resulted in a higher potential of influencing the relevant policies. And just as the involvement of government increased the potential for policy influence, the involvement of senior research people facilitated the links between researchers and decision makers.

Affecting policy regimes

One important effect of the projects funded through the IDRC program was the revival of institutions that were failing because of lack of government funding. The protracted economic crisis in the Ukraine had seriously affected scientists – salaries were not paid, equipment not purchased, and in winter many worked in offices that were only a few degrees above freezing! "The

international programs, and the IDRC program in particular, gave us hope. These programs allowed us not to fall into despair," said Konstantyn Chebotko.

Another participant, Olexander Kolodiazhny from the Space Research Institute, added that "this program allowed us to achieve a higher level of professionalism. We had to study GIS technologies and the Internet more precisely, and we learned remote sensing."

The program also brought together institutions that had never before collaborated, says Anatoly Yatsyk, a UMC member and director of the Scientific Research Institute for Water and Ecological Problems. "Everyone worked separately – my institute was working on water issues, other institutes dealt with different issues... Within the IDRC program all of us united to provide a complex approach to resolve the problems of the Dnipro River, " Yatsyk says.

The revival of the scientific institutions also stimulated an influx of post-graduate students and resulted in the publication of a series of textbooks based on the work done under the program. The textbooks continue to be used in universities and for training and re-training professionals in the field, according to Vasyl Shevchuk. For example, a textbook on hydroecology that is now widely used in university programs in Russia and Belarus as well as in Ukraine, was prepared and published as a direct result of the EMDU program.

For more general audiences, a series of videos was prepared illustrating the problems facing the Dnipro River basin and the work that is being done to clean up the river. Several of these have been broadcast on national television, and at the instigation of Dr Shevchuk hundreds of copies of the videos have been distributed to schools and ecological centres for young people across the country.

Broadening policy horizons

The program also provided support for some innovative projects, such as the production of organomineral fertilizers from the sediments that result from drinking water treatment. Many countries burn these sediments, or dump them into the ocean, but Ukraine became the first country to develop a technique to convert them to fertilizer, according to Konstantyn Chebotko, who managed the pilot project. The project would not have been successful without IDRC's financial support and the high level of professionalism required under the EMDU program, he adds.

Bringing the results of such projects to the attention of the international scientific community initially presented difficulties because Ukrainian research institutions did not use internationally recognized standards. Working with IDRC on the EMDU program reinforced the necessity of introducing international standards in Ukraine. Learning international standards also enabled Ukrainian researchers to enter the international scientific community. Several researchers who were active in the EMDU program have had their work published in international scientific journals and presented their results at international conferences.

Closer to home, the researchers have had the satisfaction of seeing the results of their work used as the basis for two pieces of national legislation: the National Program on Ecological Rehabilitation of the Dnipro Basin and the law on Drinking Water Improvement. The program was recently adopted by Ukraine's Supreme Council, the Verhovna Rada. "This was our greatest political achievement," says Anatoly Yatsyk.

In addition, numerous regulations supporting the National Program – such as one for estimating surface water quality – were developed within the EMDU projects. And the work of implementing the National Program continues as an increased environmental awareness brings closer cooperation between Ukraine's scientific and government institutions.

Summing it all up, the program's then-Regional Director in Kyiv, Myron Lahola, comments: "What I know for sure is that IDRC left a legacy here that Canadians are people that are easy to work with, are not only friendly but also diplomatic ... who do things using a process of consensus building. I have heard this not only from Ukrainians but from other donor organizations. On a global scale, one of the most important things you can develop is trust and friendship between countries."

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The Canadians Are Coming! The Canadians Are Coming!

The perils of lack of communication were illustrated during an early phase of the EMDU program when Canadians were briefly seen as unscrupulous invaders. It happened during a riverbank stabilization project. In true soviet style there was no public involvement. The project manager simply brought in heavy machinery and set his crew to work on 5 km of riverfront. He didn't even bother to inform the local authorities.

Somehow the word got out that "Canadians are buying up our land here…soon they are going to build buildings and we will never get to the river anymore." The furious locals turned out with pitchforks to defend their land, the Ministry received official complaints, and the resulting confusion delayed the project for almost a year. It was a valuable lesson on the importance of public outreach.