

WHEN CITIZENS HOLD A MIRROR TO THE SCIENTIFIC COMMUNITY

The scientific community at large takes for granted the notion that citizens consider science and technology to be essential for socioeconomic development and individual well-being. This perception seems obvious to the scientist, a self-evident truth. How true is it?

In preparation to the *Grande rencontre de Science et Société*, which recently took place in Montreal, the *Association francophone pour le savoir* (ACFAS) and the *Centre interuniversitaire de recherche sur la science et la technologie* (CIRST) of Québec organized a survey on citizens' expectations towards the research community. In parallel, a reciprocal survey was conducted on the attitudes of scientists towards the expectations of citizens by a polling company (CROP), *TéléQuébec*, a television network, and *La Presse*, a wide-circulation daily. The survey was conducted by telephone on September 18-29, 2008. A final sample of 1002 respondents (29% of all individuals surveyed) was analyzed, providing reliable results 19 out of 20 times, with a confidence interval of 3% (see www.acfas.ca for details). The answers to the questionnaire, designed by Quebec and France experts, show that Quebec citizens are more favorable to scientists than French citizens.

The results and conclusions of both surveys are quite relevant to the *Interciencia* readership as they offer avenues to implement action plans for any association involved in the advancement of science, and for individual scientists.

The survey clearly indicates that citizens highly trust scientists (84%); this level of trust is even higher (92%) for professors (most scientists teach). The percentage of support to other professions will bring a smile: 80% to policemen, 74% to judges, 59% to journalists and 20% ...to politicians. Another important data: there is no fear of scientific progress, as 84% of the respondents believe that scientific progress results in socioeconomic development and brings more good than evil to humans. This figure is better than that of 68% obtained in a similar survey conducted in 2002 by the *Council of Science and Technology of Québec*. This appreciation of science is confirmed by a majority of Quebec citizens (52%) who consider that scientists should get more involved in public debate and be more visible in the media, as they think that science coverage is insufficient (56%).

The Ivory Tower image is caricatural: citizens believe that scientists try generally to address their expectations and interrogations (77%) and are aware of the potential risks and side-effects of their discoveries (64%). On the other hand,

53% of respondents would like scientists to get more involved in public outreach of science and technology. Indeed, 68% consider that they are insufficiently informed about scientific progress and new knowledge, and therefore unable to ask the right questions to scientists. Of note, only 8% believe that citizens' involvement in scientific development could improve research quality.

Citizens with a lesser level of education have less confidence in scientists and scientific progress, and have different priorities. They deem immediate applications of research findings as more important. Better educated citizens prioritize the advancement of knowledge and the management of society's issues; they prefer to rely on experts to set research orientations while the less educated citizens have greater trust in the laymen.

Although a majority of respondents (81%) agrees with the support of university research by the private sector, this is more readily acceptable if it has no strings attached (92%) rather than serving exclusively the private partners (63%) or improving their competitiveness (58%).

ACFAS concluded that this data clearly indicates a need to implement, in a more systematic way, scientific vulgarization, transfer of knowledge and research dissemination. We believe that the same conclusion applies for all the countries of the Americas. However since those activities are generally not recognized in Academia, incentives must be provided to foster scientists' participation in the public debate and the dissemination of scientific culture, as citizens demand. This recommendation should also be accepted and implemented by all member societies of the *Interciencia* Association.

In this context, it is interesting to recall the Declaration of Panama, subscribed by the Association (*Interciencia* 30: 393, 2005), where it is stated that science illiteracy is associated with poverty and bad hygienic conditions, being a cause of unemployment. Without easy access to S&T information it is difficult for local entrepreneurs to innovate and create jobs and, hence, to deliver the benefits of science to workers and their families. Democratic governance requires the participation of citizens with good access to information, which is to be considered as a new human right. Decision-making processes, be it by governments, non-governmental institutions or the people, requires a science input.

PIERRE NOREAU / President, ACFAS

MICHEL BERGERON / President, *Interciencia* Association