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Advancing Human Security: The Role of Technology and Politics

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Report on Working Group 5
New Technology For Human Development and Security

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Summary of Discussions

Forgotten or suppressed issues. The topic of the discussions in working group 5 was*New Technologies for Human Development and Security*. In the first session it was suggested that the topic of the working group be changed to *Risks and Threats of New Technologies: Identifying Crucial Forgotten and Suppressed Issues*. The argument behind this suggestion was that the working group title left out a crucial issue: that technologies can be a source of new problems.

Downside impact of nanotechnology. The commissioned paper on nanotechnology recommended that Pugwash consider endorsing the call of other groups and organisations for a moratorium on certain types of research into molecular and atomic engineering, specifically research into self-replicating and self-assembling "nanomachines," to allow for adequate reflection and debate. The call for such a moratorium was motivated by a range of concerns about the possible social, health and environmental impacts of such technology, most importantly, in terms of Pugwash tradition, the potential emergence of a new category of weapons of mass destruction.

The paper gave rise to a vigorous discussion. Some participants contested the description of the present and potential nature of these technologies. The adequateness of the proposed moratorium was questioned.

The grassroots scientist. Three presented papers discussed the links between science, technology and grassroots issues. A clear distinction between science and technology was emphasised. Science differs from technology with regard to the norms guiding its practitioners. Also the driving forces behind science and technology are different. Science is curiosity driven. Special -- commercial or

military -- interests are usually the impulse to technological production. It was believed that grassroots problems currently seem forgotten by mainstream science and technology. The idea of the grassroots scientist emerged. This concept refers to a person who uses the scientific approach to grassroots issues. It was mentioned that scientists should be better trained in analysing complex systems and thinking in new ways.

GMOs and food security. A paper presented on the effects of genetically modified organisms (GMOs) on food security of developing countries stated that more attention should be paid to international attempts to regulate and mitigate the risks of GMO-technologies following the example of the Cartagena protocol on biosafety and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). It was argued that the role of profit oriented research and development on techno-scientific 'progress' and its ability to address human security issues be addressed.

AIDS as a security issue. A presented paper advanced the argument that the already known characteristics of the present (southern African) and impending waves of HIV/AIDS pandemic indicated novel and grave threats to global security. Noting the unsatisfactory record to date, it explained how this situation had come about and suggested that there was a precise and urgent task of definition and analysis that was prerequisite to more successful policy to combat the pandemic. Security consequences for the "next waves" of HIV/AIDS countries were outlined, and concrete scenarios regarding Nigeria, Ethiopia, Russia, India and China given. Most immediately, Nigeria and Ethiopia will be the hardest hit with the social and economic impact, as they have the highest 2010 estimates of adult prevalence rates: 18 - 26 % for Nigeria and 19-27 % for Ethiopia. Both countries are key to regional stability, have important geo-strategic implications
(west African oil, for example) and the rise of HIV/AIDS will strain their governments, as that of Zimbabwe already is being strained.

Health and sustainable development. A paper dealing with the complexity of nutrition in health, disease and sustainable development was put forward. It dealt largely with two of the top-10 world health risks, malnutrition and obesity, and aimed at providing some insight into and understanding of these pathologies. The paper concluded that health is not an isolated problem, but one of environmental, societal and global concern; humans need healthy environments in which to live in order to be healthy themselves. Robbing communities and nations of their greatest wealth -- the health of their people -- drains the human and institutional capacities that fuel sustainable development.

Myths of ICTs. Two papers on information and communication technologies (ICTs) were presented and discussed. Myths related to ICTs were pointed out, e.g. that the use of mobile phones per se offer the poor in developing countries crucial

information that will help them or that information transmitted through the internet (e-newspapers etc.) helps us make more rational choices.

Concerns were raised about the 'scientific positivism' currently surrounding ICTs inside and outside scientific communities. It was generally agreed that ICT does have impacts, of course, but that their depth as well as their nature was still not well analysed, and gave no grounds for complacent assumptions such as the presented paper challenged. In discussion, some argued that the manner in which the two-edged sword of ICT might cut depended less upon the technology, more upon the context in which these technologies are used. It was suggested that this is a common feature of all technologies.

Of positive effect of ICT, it was put forward that ICTs might potentially facilitate the rise and / or growth of social movements and hence promotion of their aims (e.g. public awareness of the nuclear threat). The life-saving roles of modern telecommunications, for example in surgery, were described. On the downside of ICTs the group was alerted by the potential risks that accidental disclosure or surveillance pose to human security and privacy, in particular as a consequence of the war against terrorism. This was in turn countered by noting the reassurance which comes from a capacity to track individuals in circumstances of criminality.

Recommendations to Pugwash

An important theme underlying the paper-discussions was recommendations for future Pugwash activities related to new technologies. Many potential areas of concern for Pugwash emanate from the application of new technologies. Even though many of these issues have implications for human development and security, Pugwash cannot take on all of them. The group considered criteria that could be used to select the issues for Pugwash to take up. It concluded that Pugwash must be able to add value to or 'tip the balance' on such issues. Meeting the security criterion is axiomatic in selecting issues for action by Pugwash. Some specific guidelines were identified:

a) If science or technology creates a circumstance that poses potential threats to global / human security then we, as scientists, have a responsibility to do something about it.
b) If a complex problem is emerging, or a simple problem has to be looked at in a complex context, and engagement with it is not possible without thinking in a new way.
c) If new technologies are required to deal with a problem.
d) If issues are systematically forgotten or suppressed.

The issue of what constitutes the target group of Pugwash endeavours was raised. There was general agreement on the principle: "horses for courses;" a principle

historically well rehearsed. Pugwash's audience is, for some causes, decision-makers; for other causes the general public is the target group.

Based on a careful consideration of the various issues raised in the papers presented, followed by the application of the guidelines mentioned above, the group made three recommendations:

1) A Pugwash focussed study group entitled "Threats without enemies: security implications of 21st century health problems" should be established. Pugwash will set up an expert forum where the visibility and potential impacts of the HIV/AIDS pandemic upon global security will be analysed by experts from different disciplines, who will then formulate policy support advice for decision-makers. The model in mind is that of the successful series of focussed meetings on intervention and sovereignty.

This recommendation fulfils criteria b), c) and d). Health issues are very complex, and connected to environmental, societal and global concerns. The fact that no one else is doing something similar supports setting up the proposed Pugwash focussed study group.

2) A working group at the next year's Pugwash conference in South Korea on the topic "Early warning and preventive action on emerging technologies" should be established. Topics within such a working group could be: the character of the early warning institutions, and the scientific analysis of examples of potential threats from emerging technologies - downside consequences of nanotechnology, biomedical technology etc., and security and privacy issues related to ICTs (Echelon etc.). The analysis should include contextual aspects (commercial, religious, and ideological etc.) surrounding emerging technologies, as well as account for the epistemological and historical meta-assumptions on which they are built.

There was agreement in the group that this recommendation fulfils criteria a), b), and d).

3) Put on the Pugwash agenda a consideration of "a new relation between science and grassroots."

This recommendation fulfils criteria b), c), and d). Understanding of and solutions to grassroots problems were considered forgotten issues within mainstream science and technology. Discussions of this topic need to be initiated.