

Global Dialogue on Nanotechnology and the Poor: Opportunities and Risks

International Workshop on Nanotechnology, Commodities, and Development

DRAFT AGENDA

29 - 31 May 2007
Rio de Janeiro, Brazil

BACKGROUND

The term “commodities” often refers to “undifferentiated, widely traded raw materials and agricultural products that are traded principally on the basis of price.”¹ Ninety-five of the 141 developing countries derive at least 50 per cent of their export earnings from commodities.² In 2003 fifty-four of those countries depended on non-fuel commodities for more than half of their export earnings (e.g., copper and zinc account for 61 per cent of Zambia’s export earnings; cotton makes up 72.7 per cent of Mali’s earnings).³ UNCTAD estimates that a total of two billion people—a third of the global population—are employed in commodity production, half of those in agriculture.⁴

Although the use of natural resources and production of commodities may contribute to economic development and enhanced public welfare, many developing countries that are highly dependent on commodity exports as a primary source of revenue appear low on the United Nations Development Programme’s Human Development Index. Reliance on revenue from a narrow range of commodities can be risky for countries and producers because international commodities have shown long-term price declines and sharp short-term price fluctuations.

Nanotechnology applications are being developed that could impact global demand for agricultural, mineral, and other non-fuel commodities.⁵ Some applications of nanotechnology could increase global demand, while others could lead to a decrease in demand for specific commodities. Applications that result in reductions or increases in the demand for commodities could have potentially far reaching socio-economic and other effects in developed and developing countries.

The dependence of many developing countries on only one or two commodities is likely to accentuate the socio-economic effects resulting from changes in commodity markets in comparison to countries with more diversified economic bases.

¹ T.F. O’Herron, editor, (1999) “Terms of Trade: the Language of International Trade Policy, Law, and Diplomacy,” International Advisory Services Group, Washington, DC.

² South Centre, (2005) “Problems and Policy Challenges Faced by Commodity-Dependent Developing Countries (CDDCs),” Geneva, Switzerland.

³ O. Matringe, (2006) “Commodities at a Glance: Definitions and Importance of Commodities for Developing Countries.” INFOCOMM, Commodities Branch, United Nations Conference on Trade and Development (UNCTAD), Geneva, Switzerland..

⁴ United Nations Conference on Trade and Development, (2005) “Trends in World Commodity Trade, Enhancing Africa’s Competitiveness and Generating Development Gains.” Report by the UNCTAD secretariat for the 2nd Extraordinary Session of the Conference of African Union Ministers of Trade, 21–24 November, 2005, Arusha, Tanzania.

⁵ South Centre, (2005) “The Potential Impacts of Nano-Scale Technologies on Commodity Markets: The Implications for Commodity Dependent Developing Countries,” Geneva, Switzerland.

Meridian Institute is convening the International Workshop on Nanotechnology, Commodities, and Development to explore the linkages between the development of nanotechnology applications, commodities, and international development. The workshop is part of Meridian's Global Dialogue on Nanotechnology and the Poor: Opportunities and Risks (GDNP).⁶ The GDNP is supported by the International Development Research Centre (Canada), UK's Department for International Development, and The Rockefeller Foundation (US). This workshop is co-hosted by the Brazilian Agriculture Research Corporation (EMBRAPA) and the Museum of Life/House of Oswaldo Cruz/Fiocruz.

Given the complexity of the linkages between the development of nanotechnology applications, commodities, and international development, this workshop will focus primarily on agricultural, mineral, and other non-fuel commodities. Meridian Institute plans to convene a separate workshop on nanotechnology, energy, climate change and development, which will include discussion of issues related to energy commodities (e.g., oil and natural gas).

MEETING OBJECTIVES

The International Multi-Stakeholder Workshop on Nanotechnology, Commodities, and Development will:

1. Examine nanotechnology applications that are effecting or may effect demand for agricultural and mineral commodities;
2. Identify mechanisms to anticipate, measure, analyze, and address the impact of nanotechnology applications on commodity-dependent developing countries; and
3. Catalyze actions that could proactively address potential opportunities and risks associated with shifting demand for commodities resulting from nanotechnology research and development.

AGENDA

29 MAY 2007

18:00 Reception

19:00 Dinner

- Welcome
 - Meridian Institute, co-hosts, and financial supporters
- Introductions
- Agenda Review

30 MAY 2007

09:00 Agenda Review – Day 1

Theme 1: Nanotechnology Applications

Sessions in Theme 1 will provide participants an opportunity to share and discuss information about specific nanotechnology applications that may affect demand for agricultural, mineral, and other non-fuel commodities. This information will help establish the context for dialogue about economic, trade, and other issues in subsequent Themes.

09:15 Presentations and Discussion – Nanotechnology Applications Relevant to Demand for Agricultural, Mineral, and Other Non-Fuel Commodities

⁶ For information about the GDNP, please see: <http://www.merid.org/showproject.php?ProjectID=9233.4>.

Presentations and discussion will focus on the following topics.

- Understanding the range of nanotechnology applications relevant to commodities, including convergence of nanotechnology and other technologies (i.e., nanotechnology as part of integrated solutions). Special emphasis will be placed on applications likely to affect demand for agricultural, mineral, and other non-fuel commodities. Presentations will include an overview of existing frameworks for understanding and categorizing nanotechnology applications in terms of their complexity or stage of development.
- In-depth information and discussion about a cross-section of specific nanotechnology applications that are particularly relevant to demand for agricultural, mineral, and other non-fuel commodities.

Background materials that provide information about nanotechnology applications relevant to commodities, especially those that may affect demand for agricultural, mineral, and other non-fuel commodities, will be provided in advance of the meeting.

10:30 Tea and Coffee

11:00 Presentations and Discussion – Nanotechnology Applications (continued)

12:00 Lunch

Theme 2: Commodity Markets and Nanotechnology

Sessions in Theme 2 will allow participants to begin exploring the complex linkages between commodities, development, technology (including nanotechnology), and a range of contextual issues. Discussions will be informed by a background document distributed in advance of the meeting.

13:00 Discussion – Commodities, Development, and Technology

Issues for discussion include, but are not limited to:

- Commodity markets;
- Commodity dependence;
- Technology and commodity dependence;
 - Opportunities and challenges
 - Lessons from history
- Implications of nanotechnology for commodities; and
- Other factors (e.g., intellectual property rights, trade, risks) affecting commodity production and markets.

15:00 Tea and Coffee

Theme 3: Mechanisms for Anticipating and Addressing Fluctuating Demand for Commodities

Building on the preceding discussions, sessions in Theme 3 are designed to identify mechanisms and strategies that help developing countries anticipate and address changes in demand for commodities. Discussions will begin by focusing on assessing the robustness and applicability of existing mechanisms and then shift to identification of gaps and the possible need for new mechanisms. Based on these discussions, participants will identify specific actions and

strategies that could help developing countries anticipate and adjust to changes that may result from nanotechnology applications affecting demand for agricultural, mineral, and other non-fuel commodities.

15:30 Discussion – Mechanisms for Adjusting to Changes in Demand for Commodities

Discussions will focus on mechanisms for anticipating and addressing increases and decreases in demand for specific commodities. Participants will discuss both existing mechanisms and new mechanisms that may be needed with the emergence of nanotechnology.

Background material about existing mechanisms will be provided in advance of the meeting.

16:15 Small Group Discussion – Strategies and Actions to Address Nanotechnology's Effects on Commodities and Production

Helping developing countries prepare for potential increases or decreases in demand for commodities, which are linked to nanotechnology applications, will require monitoring, analysis, forecasting, and research to understand the impacts of nanotechnology on specific commodities and production processes.

Participants will break into small groups and discuss specific monitoring, analysis, forecasting, research, policy development, and other needs and identify actions, strategies, and mechanisms that might be needed to address these needs. Participants will specify whether the actions, strategies, and mechanisms identified are applicable at the local, national, regional, and/or international levels. Possible issues for discussion include:

- Trade mechanisms, agreements, and regimes;
- Research programs;
- Education and training programs;
- Product development initiatives;
- Monitoring and forecasting (i.e., early listening and early warning systems);
- International collaboration; and
- Public engagement and dialogue.

18:30 Reception and Hosted Dinner

31 MAY

08:30 Small Group Discussions – Strategies and Actions (continued)

10:00 Reports and Discussion – Actions, Strategies, and Mechanisms to Address Nanotechnology's Effects on Commodities

Breakout groups report back to the plenary and participants discuss the specific monitoring, analysis, forecasting, research, policy development, and other needs and actions, strategies, and mechanisms that might be used to address these needs.

10:30 Tea and Coffee

Theme 4: A Framework for Action and Next Steps

Sessions in Theme 4 are aimed at consolidating and refining the actions and strategies identified during the small group discussions into a framework for action that could proactively address potential opportunities and risks associated with shifting demand for agricultural, mineral, and other non-fuel commodities resulting from nanotechnology research and development.

11:00 Discussion – A Framework for Action

Based on the breakout group reports, participants will begin to develop a framework of strategies, interventions, and other actions that address the potential effects nanotechnology might have on demand for commodities. The framework could address issues such as:

- What are the priority issues that need to be addressed?
- What existing resources and systems are already available to help countries address these issues?
- What additional strategies, interventions, and actions are needed?
- Who is best positioned to pursue these actions at local, national, regional, and international levels?

Participants will be asked whether proposed actions are broadly applicable across sectors or specific to individual sectors and whether they are applicable at the local, national, regional and/or international levels.

12:30 Lunch

14:00 Discussion – Next Steps

Participants will review the framework and discuss steps they and the GDNP can take to ensure that the appropriate individuals and institutions are briefed about and engaged in pursuing the strategies identified during the meeting.

15:30 Tea and Coffee

16:00 Closing Plenary

17:00 Adjourn