

# Concept Note on Food Security

## *Agriculture Pull Mechanism Initiative*

Submitted by Canada, Australia, United Kingdom, United States

### *Proposed deliverable*

- **The Agriculture Pull Mechanism (AGPM) Initiative is designed to bridge the gap between public and private investment in the agriculture sector in support of global food security.**

The AGPM is a new multilateral initiative seeking to enhance smallholder welfare and improve food security for the poor and vulnerable through the use of "pull mechanisms" that overcome market failures in agriculture by encouraging private sector innovation. The AGPM directly delivers on past G20 commitments and will be formally launched in the Spring of 2012.

- **A launch event would be held at the G20 Los Cabos Summit to announce this new, funded initiative of \$XMM.**

The event would:

1. Unveil the AGPM pilots for increased agricultural productivity;
  2. Highlight G20 collaboration with civil society and the private sector (including the B-20) to unlock investment in key agricultural sectors and improve long-term food security for the world's most food-insecure and vulnerable populations; and
  3. Link this work to Gates' Report recommendations on innovative finance (i.e. extending pull mechanisms to the agriculture sector, building on the success of related mechanisms in the health sector to develop and deliver vaccines).
- **The launch would also demonstrate the G20's delivery of a key commitment and ability to mobilise partners toward action.**

The launch event would seek to bring together several heads-of-state, multilateral representatives and prominent figures in the areas of food security and nutrition to convey G20 Mexican priorities for food security, the vision of the AGPM and the commitment made by donors to the new initiative. A one-hour launch event would bring together several key-note speakers with a shared endorsement of the initiative.

## Background

**Improving the productivity of farmers and achieving food security for the world's poorest is a major global challenge.** Last year alone, 925 million people worldwide suffered from chronic hunger (FAO, 2010). Growing and urbanizing populations, combined with an increasing demand for higher-protein foods, are placing new pressures on land use and agricultural yields.<sup>1</sup> As we move towards a projected population of nine billion in 2050 -- an increase of almost 2 billion people on current UN estimates -- there is an urgent need to identify new and innovate ways to address global demand for food.

**Increasing agricultural productivity is a critical part of the international response to this challenge.** The FAO has estimated that meeting this challenge would require a total annual net investment in developing country agriculture of USD 83 billion -- or a 50 percent increase on current investment levels. This requires a new approach to public and private sector engagement in the agriculture sector aimed at address key bottlenecks to investment in research and development, as well as in extension of new agricultural products. In many developing countries, markets for agricultural inputs, services and outputs are either underdeveloped or nonexistent, limiting private sector investment and slowing technological innovation. Publicly funded research and extension services cannot adequately compensate for the investment gap. To address this challenge, public funding mechanisms can help overcome market failures and "pull" the private sector into undertaking innovative work to improve the developing world. These innovative financing efforts have already delivered good results in the health sector in the development and extension of vaccines in developing countries through one subset of pull mechanisms (advance market commitments).

**At the 2010 G20 Summit in Toronto, Leaders recognized the need for greater private sector investment in agriculture, especially in developing countries.** Specifically, Leaders committed to "exploring the potential of innovative, results-based mechanisms such as advance market commitments to harness the creativity and resources of the private sector in achieving breakthrough innovations in food security and agriculture development in poor countries." G20 Leaders subsequently reiterated this commitment at both the Seoul and Cannes Summits. In addition, Bill Gates in his address to G20 Leaders in Cannes stated "I believe this concept of pull mechanisms has real promise in the agricultural sector", applauding progress on advancing this concept.

### *Concept: Pull Mechanisms and the AGPM Initiative*

*"Pull mechanisms overcome market failures by incentivizing the private sector to develop and market innovative products or services through ex-post, results-based rewards"*

**Pull mechanisms are results-based incentive payments designed to overcome market failures through encouraging innovation.** Well-crafted pull mechanisms can be used to close the gap between the demand for socially desirable goods and services, and their supply by the private sector in developing countries. These mechanisms utilize demand-side approaches to incentivize investments and reward successful innovations with *ex post* payments unlike traditional "push mechanisms" that award potential innovations *ex ante*. To date, a substantial share of innovative financing efforts have focused on global

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<sup>1</sup> By 2050, based on the UN's projected population increase to 9 billion people globally, demand for cereal production (net of biofuels) is expected to increase by 70 percent and meat production is expected to increase by 220 percent. Over the same period, the level of urbanisation is expected to increase from 50 percent to 70 percent.

health. For instance, the Advance Market Commitment (AMC)<sup>2</sup> for pneumococcal vaccines has spurred delivery of new, effective vaccines to poor countries at a dramatically reduced price and will be rolled out in 58 countries by 2015. It is expected to save the lives of seven million children by 2030 (GAVI Alliance).<sup>3</sup>

**Pull mechanisms are tailored to the specific market failures, industry structures and policy environments targeted.** Pull mechanisms can foster sustainable market development by addressing obstacles such as positive externalities that are not being captured, information asymmetries, or imperfect competition. Agricultural markets in the developing world are characterized by many market failures where pull mechanisms could be effective in catalyzing action and achieving food security and positive social outcomes.

**Pull mechanisms have the potential to be a powerful tool for resolving food security issues and improving smallholder welfare in less developed countries.** The advantages of using pull mechanisms to address market failures – as opposed to other development tools – include paying only for results and achieving sustainable solutions that are tailored to specific markets. Pull mechanisms also generate competition and allow companies and other actors to self-select as interested participants – without the need to pick winners in advance. Pull mechanisms are not seen as a replacement for other development tools but as a complimentary, new tool that can be refined over time to tackle long-standing challenges that have eluded traditional tools.

**The AGPM Initiative seeks to pilot the use of pull mechanisms in agriculture.** The AGPM Initiative will test the use of pull mechanisms in a variety of agricultural and food security market contexts. A strong emphasis on monitoring and evaluation throughout the pilot process will increase the potential for effective use of pull mechanisms, both initially and with regard to future pull mechanism development.

### *Process: Developing the AGPM Initiative*

**Since the 2010 G20 Summit in Toronto, the Canadian and U.S. governments, with the support of the World Bank and the Bill & Melinda Gates Foundation, have been collaborating with like-minded donors on the Agricultural Pull Mechanism (AGPM) Initiative.** The AGPM Initiative is convening experts across a variety of fields and collaborating with a diverse set of stakeholders including governments, private companies, non-governmental organizations, and civil society organizations with a view to developing a short list of potential pilot concepts, formulating the architecture for the underlying pull mechanisms, and launching these pilots to stimulate private sector investment in agriculture.

**A Steering Committee<sup>4</sup> was formed to oversee the development of the AGPM Initiative.** One key aspect of the development of the AGPM was to build a set of pilots for launch. In 2011, the World Bank convened an independent Expert Advisory Group, comprised of 11 globally renowned experts from a variety of disciplines, to recommend potential pilots to the Steering Committee. The Expert Advisory Group reviewed 38 ideas for pull mechanisms, which were generated by four Thematic Groups (24 experts) focusing on the areas of (1) Inputs/Increasing Yields, (2) Outputs/Post-harvest Management, (3)

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<sup>2</sup> Advance Market Commitments are one subset of the a range of different “pull” mechanisms.

<sup>3</sup> Other well-known examples outside the developing world include the Orteig Prize for the first flight from New York to Paris and, more recently, the Ansari X Prize for the first nongovernmental reusable space craft. Both prizes led to private sector research and development investment far outweighing the prize value itself.

<sup>4</sup> Note: The AGPM Steering Committee is chaired by the Canadian and U.S. governments, and includes representatives from other donor countries including Australia, the UK, France, Finland, Italy, as well as representatives from the Bill & Melinda Gates Foundation.

Livestock, and (4) Nutrition. The Expert Advisory Group recommended a subset of these proposed to the AGPM Steering Committee based on a robust set of criteria including production impact, market sustainability, scalability and environmental sustainability.

**From the subset of proposals recommended by the Expert Advisory Group, the AGPM Steering Committee prioritized three pilot ideas for development of full business plans in advance of the June G20 Summit in Los Cabos.** Two other pilots have been prioritized for development after June 2012 as part of the pipeline of future AGPM projects. This selection process placed key emphasis on the viability of the pilots and the potential for stability and global impacts, beyond the initial pilot regions.

**In the lead up to the G20 Summit in Los Cabos, the AGPM Initiative will be finalizing design of its funding structure and pilot initiatives.** This work will be completed by the World Bank under the guidance of the AGPM Steering Committee. In tandem, the Steering Committee will build on the significant funds that are already being finalized to consolidate funding plans for announcement in Los Cabos along with the pilot programs.

### *Next Steps: Leading Up to Los Cabos*

**The AGPM Steering Committee met on March 8-9 in Washington, DC and will meet again on May 2<sup>nd</sup> in Los Cabos to finalise preparations for the launch of the AGPM.** An information session could be planned for other interested G20 members at the third Development Working Group meeting in Los Cabos on May 2-3<sup>rd</sup>. This information session could provide an overview of the AGPM initiative, an update on the development of pilot programs and funding plans, and an opportunity for discussion about the objectives and launch plans of the initiative.

**The AGPM Steering Committee is conducting outreach to the G20 Presidency and other interested stakeholders to confirm a launch event at the G20 Summit in Los Cabos on June 18-19<sup>th</sup>.** The proposed one-hour event would seek to bring together several heads-of-state, multilateral representatives and prominent figures in the areas of food security and nutrition to speak about the case for action, the vision of the AGPM and the commitment made by donors to the new initiative.

## Annex

Three pilots that have been shortlisted for detailed business plan development in advance of the June G20 Summit in Los Cabos:

 <p>Bio-fortification</p>	<p><b>Bio-fortification of crops</b> <i>Providing African farmers access to pro-vitamin A maize</i></p> <p><b>The concept:</b> The proposed pull mechanism will facilitate the dissemination high pro-vitamin A maize in order to address micronutrient deficiencies.</p>
 <p>On-farm storage</p>	<p><b>On-farm storage</b> <i>Reducing smallholder loss through sustainable markets for storage systems</i></p> <p><b>The concept:</b> Small holder farmers suffer significant post-harvest crop losses in many parts of Africa. The proposed pull mechanism will encourage the use of effective tools, such as on-farm storage technology, to reduce post-harvest losses.</p>
 <p>Aflasafe</p>	<p><b>Aflatoxin control</b> <i>Making a public good profitable for African farmers</i></p> <p><b>The concept:</b> Aflatoxin, a potent carcinogen produced by the fungus <i>Aspergillus flavus</i>, infects an estimated 25 percent of global food crops. The proposed pull mechanism will reward the production of toxin-free crops.</p>

Two pilots have been identified for development after the June G20 Summit as part of the pipeline of future AGPM projects:

 <p>EF Fertilizer</p>	<p><b>Fertilizer</b> <i>Advance innovation in the fertilizer industry</i></p> <p><b>The concept:</b> Current nitrogen and phosphorous fertilizers rely extensively on an inefficient method to absorb oxygen from the air. The proposed pull mechanism will stimulate research and development for improved fertilizer production and promote adoption of enhanced fertilizers to enhance smallholder livelihoods and reduce the extensive environmental impact of the agricultural sector.</p>
 <p>PPR Control</p>	<p><b>PPR vaccine</b> <i>Progressive control of PPR through access for marginalized livestock keepers</i></p> <p><b>The concept:</b> <i>Peste des petits ruminants</i> (PPR), a virus that affects sheep and goats, can devastate the livelihoods and food security of poor farmers in many parts of Africa and Asia. The proposed pull mechanism will incentivize vaccine development and/or distribution in target countries to enhance regional efforts to control the virus.</p>