AgResults Initiative:
Innovation in Agriculture Financing, Research and Delivery

Multilateral Trusteeship and Innovative Financing
Concessional Finance and Global Partnerships

Agriculture and Environmental Services
Social Development Network

March 12, 2013
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This paper was developed by a technical working group drawn from across the Bank. Susan McAdams (CFPMI) and Juergen Voegele (AES) provided oversight to the development of the paper. Grahame Dixie (AES) and Derek Strocher (CFPMI) served as joint Task Team Leaders under the guidance of Priya Basu (CFPMI) and Mark Cackler (AES). Significant contributions were made by Kitty Cardwell, Erick Fernandes, Nancy Morgan, Eija Pehu (AES), Indira Ekanayake, Andrew Mwihia Karanja, Lucas Kolawole Akapa, Steven N. Schonberger, Rehana Valley (AFTA), Kundhavi Kadiresan (CD Zambia), Shirmila Ramasamy (LEG), Kwaw Andam, Mei Leng Chang, Sophia Drewnowski, Mariz Carbonell-Dugayo, Jane F. Kirby-Zaki, Michael F. W. Koch, George Mokaya, Bertrand Murguet, Carol Palmer, James Parks, Deborah Schermerhorn, Roberto Tarallo (CFP); Lydia Kruse Tietz, Monika Weber-Fahr and Grace Yabrudy (SDN). We gratefully acknowledge the many external stakeholders and partners, along with colleagues around the World Bank Group, who participated in discussions and consultations over the past two years providing ideas and feedback that helped shape this initiative.
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AgResults Initiative:
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I. The AgResults Initiative: Introduction

1. Seventy-five percent of the world’s poor are rural and most of them are farmers. Without more and better investment in agriculture, especially in smallholder farming, the World Bank Group’s overarching objectives of eradicating extreme poverty and promoting shared prosperity cannot be achieved. Yet the livelihoods of smallholder farmers throughout the developing world are constrained by market inefficiencies. Limited market return for innovation dampens exploration of needed technologies, while small market size, poor information, and demand uncertainty make it hard to get innovative products and services to smallholders.

2. AgResults is a donor-funded initiative designed to overcome market inefficiencies adversely affecting smallholders and harness the financial resources, dynamism and flexibility of innovators in the private sector, in NGOs, in research institutions and beyond, to explore, develop, and put into use technologies that could help smallholders in developing countries. The initiative will support a portfolio of pilot projects tackling a mix of agriculture and food security issues, testing different types of pay-on-results “pull mechanism” approaches, using both adoption of existing technologies and research and development of new technologies. The confluence of these factors in any given pilot will be a major determinant of which innovator(s) (e.g. private sector, NGOs, research institutes, or others) is most likely to attempt to produce the desired results.

3. The overall objective of the AgResults initiative is to improve the lives of the smallholder farmers it touches. The initiative will incentivize and demonstrate breakthroughs in agricultural technologies and practices especially adapted to smallholders, to help provide a pathway out of poverty for farmers, improve food security and nutrition outcomes, and promote climate-smart agriculture. The first three pilots will focus on improving quality and reducing losses of maize in Sub-Saharan Africa, where maize is a vital crop in terms of both food security and income generation. They will spur development of varieties of maize with enhanced Vitamin A, reduce post-harvest losses through improved on-farm storage, and help control aflatoxin. A fourth pilot is under preliminary design to address the inefficiencies of the critically important fertilizer cycle. Additional projects will be explored related to increasing crop yields, decreasing post-harvest losses, increasing livestock productivity and improving nutrition.

4. The AgResults initiative will use “pull mechanisms” – making payments after the achievement of specific results. A financial pull mechanism pays for desired products, processes, services and technologies after they are successfully produced or completed. When tailored carefully to specific desired outcomes, a pull mechanism can tip the balance to spur the engagement of innovators – while focusing the use of scarce grant funding on payment only for success. The pull mechanism instrument has shown success in the health sector. For example, the Advance Market Commitment for pneumococcal vaccines provided incentive financing for the development of additional vaccine production capacity for an affordable vaccine against pneumococcal diseases.

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1 See Annex 2; pilot #4
tailored to the needs of developing countries. Delivery of vaccines in poor countries began in late 2010; the AMC is on track to save an estimated seven million lives by 2030.2

5. **Rationale for WBG involvement**: The pilots proposed for AgResults are well aligned with the WBG’s core objectives: eradicating extreme poverty and promoting shared prosperity, in sustainable ways.3 These objectives cannot be achieved without more and better investment in agriculture, or without removing market inefficiencies adversely affecting smallholder farming. The WBG is one of the few institutions able to develop an innovative global initiative like AgResults, using its multisectoral, multilateral, operational as well as innovative financing experience, analytical capability and convening power.

6. **The goals of the pilots are well aligned with those of the World Bank Group Agriculture Action Plan**, most notably in reducing vulnerability and risk, enhancing productivity, and linking farmers to markets. The implementation of the pilots will also serve to strengthen non-farm rural economies. The proposed fertilizer pilot is strongly aligned with the WBG “Climate Smart Agriculture” strategy, with significant potential to break the prevailing logjam that impedes improvements to fertilizer production and application.

7. **AgResults will fill a gap in the continuum of WBG solutions around developing and supporting adoption of needed agriculture technologies**. AgResults will provide pull mechanism funding in the form of grants; the Private Sector Window of the GAFSP Private Sector Window, managed by IFC deploys donor funding provided at concessional terms to blend with funding at commercial terms; the Bank and IFC provide debt and equity funding to clients for agriculture development and investment.

8. **The three initial AgResults pilots are in areas where traditional WBG lending/financing instruments are unlikely to be effective**. For example, West African countries have not used regular development financing to experiment with high risk/high-return technologies for aflatoxin control, even though aflatoxin control is critical. The WBG’s support for the innovative financing approaches of AgResults can help the WBG facilitate participation by innovators where they otherwise would not get involved, leading to development outcomes that could be more broadly replicated.

9. **How will it work? – A fertilizer prize example**: Fertilizer is a key component in the global quest to ensure food security and sustainable agriculture. However, the fertilizer cycle, from sourcing through production, distribution, application and utilization, is inherently wasteful, costly, and harmful to the environment. An AgResults “fertilizer prize” could be structured as a public offer to innovators around the globe to develop new technologies and/or processes that improve the manufacturing efficiency, agricultural productivity, or environmental footprint of the fertilizer cycle. The AgResults Steering Committee would consider the pilot proposal, which would define the

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2 Pilot Advance Market Commitment for Vaccines against Pneumococcal Diseases, R2009-0051, March 11, 2009

3 The AgResults Fund Framework defines the initiative objectives as: to overcome market failures impeding the establishment of sustainable markets for developmentally beneficial agricultural innovations by offering results-based economic incentives (pull financing) to participants to develop and ensure the uptake of new agricultural technologies; and to test the effectiveness and efficiency of pull financing by comparison to alternative approaches to supporting the development and uptake of innovative agricultural technologies.
applicable terms and conditions of the prize. Participants would submit their innovations which, depending on the category, might follow a specific timeline or be open-ended, e.g. for technological breakthrough. Prize winners would be selected for submissions that are verified to demonstrate the greatest improvement in the fertilizer cycle, as determined by a panel of expert judges. The Secretariat would instruct the Bank as trustee to pay prize amounts to the winners.

10. **Expected benefits of the AgResults initiative to the WBG will also arise from its “innovation lab” character** and the ability to explore and develop pilots of specific interest to the WBG. WBG staff will learn firsthand about the effectiveness and best practices of the pull mechanism instrument as a potentially important innovative financing tool for development. AgResults will generate measurable information and results that can feed into the design of future proposals, as well as insights about pull financing used to overcome market failures in agriculture. An overarching impact evaluation framework is being defined for the initiative as a whole, to analyze results and lessons related to the initiative’s design and effectiveness. Additionally, separate impact evaluation frameworks are being put in place to benchmark, monitor and assess each pilot and its results, highlighting approaches that can be replicated and/or taken to scale.

**II. Role of the WBG**

11. **The Board’s approval is sought for the WBG to play the following roles.** All roles are described in further detail in section III (c), and legal aspects of each role in Annex 3):

   a. **Trustee** (CFP) for a Financial Intermediary Fund (FIF). The AgResults initiative would be supported by a FIF. As Trustee for the FIF, once funds are disbursed, the Bank would no longer be responsible or accountable for the monitoring or supervision of those funds.

   b. **Steering Committee member** (AES/CMGAF) in a non-voting capacity. A World Bank Group role on the AgResults Steering Committee would provide AgResults with the benefit of the WBG’s expertise in the agriculture sector and financing instruments, help ensure that results remain aligned with the World Bank Group Agriculture Action Plan and with relevant country programs, and enable the WBG to learn firsthand on-the-ground lessons of the initiative. As a non-voting member, the WBG would not be responsible for decisions taken by the Steering Committee, would not have a formal say in the allocation or use of funds, nor be responsible for performance, management or oversight of the pilot proposals, or the activities of the Secretariat and other contracted entities. If the WBG were to propose pilots, seek to become a pilot manager or be closely associated with a pilot proposer, the WBG's non-voting member of the Steering Committee would recuse him or herself from committee deliberations. As a non-voting member of the Steering Committee, the WBG would avoid potential conflicts of interest and would not itself be eligible to receive prize awards.

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4 “Financial Intermediary Fund” is the phrase used to describe multilateral trust funds that pool contributions from multiple donors or sources, provide for transfers for agreed development purposes to organizations and recipients outside the WBG, and which may involve financial engineering or customized financing structures.

c. The WBG would be eligible to be appointed as a **pilot manager** by the Steering Committee for specific pilots. Pilots that the WBG designs and proposes in this capacity will follow all WBG operational policies and procedures (e.g. performance standards, fiduciary management, risk management) would be prepared and, if the WBG is appointed as pilot manager, implemented by WBG staff in accordance with the WBG’s fiduciary, safeguards and other policies, standards and processes.

12. The Bank is also in the process of **conducting the procurement of the Secretariat** on behalf of the AgResults donors, using Bank procurement policies. This process is underway, consistent with existing Bank policies and procedures. The Bank has undertaken this role on behalf of the Steering Committee donors. The Secretariat will be directly accountable to the Steering Committee for all of its roles and responsibilities under the AgResults Fund Framework. The Secretariat’s activities are expected to be conducted consistent with a set of internationally recognized procurement standards and requirements, together with any special requirement the Steering Committee may require. The Bank will have no responsibility for the Secretariat’s activities including monitoring the compliance with any internationally recognized standards.

13. **AgResults will fill a gap in the continuum of WBG financing solutions around developing and supporting adoption of needed agriculture technologies.** AgResults will provide pull mechanism funding in the form of grants to encourage activity in unproven technologies where uncertainty about the applicability, rate of adoption, and/or profit potential restrain private sector activity. The GAFSP Private Sector Window deploys donor funding provided at concessional terms to blend with funding at commercial terms to de-risk greenfield and the expansion of existing private sector agricultural companies with a demonstrated SME and smallholder farmer component and increased reach. Moving out of the blended and concessional finance space, the World Bank lends to governments for basic agricultural research and development. IFC provides debt and equity to private sector private sector businesses taking commercial risks with agriculture technology.

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6 The objective of the Private Sector Window of GAFSP is to support the financial sustainability of private sector companies in agriculture as well as to crowd-in other private sector investment to support models that are inclusive for SME and smallholder farmers and improving their livelihoods through the increased access to finance, access to inputs and access to markets. This approach is designed to minimize market distortions while encouraging companies to adopt and expand inclusive business models, to promote greenfield entrants into agriculture and to support private sector solutions to address issues around climate-smart agriculture as well as the adoption of new technology to increase production, and thus increase the income and livelihood of SME and smallholder farmers.
14. **Cost Recovery.** The AgResults FIF would operate on the basis of full cost recovery for the Bank as Trustee and, if so appointed, pilot manager. In FY2013, costs involved in the Trustee function would include the costs of establishing the FIF, receiving and investing funds, accounting and reporting, and the legal, communications, systems and overhead costs associated with these activities.

15. Since the permanent Secretariat has not yet been selected, as an interim measure the Bank has been performing some of the initiative’s functions that would eventually be assumed by the Secretariat. The Bank has arranged peer review and assisted in overseeing the three initial pilots, at the request of and in consultation with the donors. It has been important to keep the projects moving forward so that the private sector interest, activity (e.g. R&D) and support is not lost. To date, the Bank’s upfront support, design and consultation work has been fully funded at cost by donors. Under the AgResults Fund Framework, any additional costs and expenses incurred by the Trustee for providing these services prior to the establishment of the FIF and the appointment of the Secretariat will be charged to the FIF.

16. **Selectivity.** Reflecting its concerns about complexity and fragmentation of the aid architecture, the WBG is selective and cautious with respect to its engagement with or support of new funds and initiatives. AgResults meets the selectivity test, having benefited from substantial work on how best to structure the initiative to achieve its objectives. Initially, partners explored whether a single existing entity operating in the agriculture space would be well placed to provide the AgResults platform. Dozens of entities were contacted and surveyed by donors, the Bank and independent consultants, including multilaterals, UN organizations, bilateral aid agencies, public-private partnerships, foundations and CSOs.  

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7 Entities considered/surveyed included African Development Bank, African Union, Alliance for a Green Revolution in Africa (AGRA), Comprehensive Africa Agriculture Development Programme (CAADP), CGIAR, IBRD, IDA,
17. There was particular interest in the International Fund for Agricultural Development (IFAD), and in two existing agricultural FIFs, the Consultative Group for Agricultural Research (CGIAR), and the Global Agricultural and Food Security Program (GAFSP) as possible platforms for AgResults. In consultations, several CGIAR centers confirmed their interest in the initiative, but given their focus on agricultural research and on possible proposals they were less interested in providing the platform/secretariat role. In different ways, the project-based operating model of IFAD and the GAFSP does not mesh well with the pull mechanism approach of AgResults. (Entities such as IFAD and CGIAR centers would also have been welcome to bid for the secretariat role in the ongoing procurement process, but chose not to do so.)

18. The Private Sector Window of GAFSP managed by IFC has well aligned goals and uses distinct innovative financing tools to support private sector investment in IDA countries and in conjunction with countries benefitting from GAFSP Public Sector Window programs. It provides both advisory services support and investment financing, including short- and long-term concessional debt funding, guarantees and equity investment. The GAFSP Private Sector Window has expressed an interest in exploring the possibilities of following up on successful AgResults pilots by providing investment and Advisory Services support to companies that demonstrate the potential for financial sustainability.

19. The combination of supporting a deep learning agenda, capacity to extend pull mechanism financing under internationally recognized procurement standards, and adequate infrastructure to deliver a series of tailored pilot projects globally does not seem to reside in one place. In the end, AgResults will be put in place through a set of contractual arrangements including an external secretariat, external evaluator, the WBG in the roles detailed above and other roles as described below. A financial intermediary fund structure, to fulfill donor objectives and at the same time benefit from the WBG’s expertise in agriculture and innovative finance, is seen as the best way forward for the WBG.

20. AgResults satisfies the principles of selectivity applicable to new engagement by the WBG in partnerships and financial intermediary funds.

   a. The WBG’s engagement furthers its own strategic priorities: AgResults will contribute to the goals of the WBG’s Agriculture Action Plan, and at the same time develop and refine an innovative financing instrument that incentivizes needed action by private sector and other innovators to resolve market failures. In addition, the goals of the WBG “Climate Smart Agriculture” underpin the preliminary work on a fourth pilot designed to address the inefficiencies of the critically important fertilizer cycle.

   b. The WBG’s supporting roles in the initiative are based on its comparative advantage. The Bank has strong capacity to support the development and implementation of an innovative global initiative like AgResults, using its multisectoral, multilateral,

IFAD, IFC, FAO, GAFSP, United Nations Industrial Development Organization (UNIDO), United Nations Development Programme (UNDP), AusAID, DFID, Bill & Melinda Gates Foundation, UN Foundation, Global Alliance Livestock Veterinary Medicine (GalvMED), Meridian Institute, Technoserve, X Prize Foundation and a number of smaller organizations.]
operational as well as innovative financing experience, analytical and financial management capabilities and convening power.

c. *AgResults will not be duplicative, and it will not be created as a new institution.* It will function as a program, without separate legal personality. Its progress and impact will be comprehensively and regularly assessed. If it does not succeed, it will wind down. If it does succeed, ideas and lessons learned will be picked up by other institutions, including the WBG, and scaled up or replicated.

d. *AgResults is aligned with the priorities of WBG client countries*, where the initial pilots as the pull mechanisms instrument are seen as promising, useful and additive to regional and specific country programs as well as aligned to overarching AES strategy. The Bank’s Kenya, Nigeria and Zambia country offices were engaged during the design of the initial pilots, to ensure that what was developed is aligned with the priorities and policies of client countries and the WBG. Bank task team leaders involved in this process are keenly interested in developing new tools which can enable them to capture the dynamism of the private sector for development goals.

III. AgResults Design: An “Innovation Lab”

21. *AgResults was launched at the G20 Summit in Los Cabos in June 2012*, following up on the commitment of Leaders, at the June 2010 G20 Summit in Toronto, to explore innovative, results-focused ways of harnessing private sector innovations in food security and agricultural development in developing countries.8

22. *AgResults benefits from the fact that payments are made only for measured and verified results, which provides for a robust and cost-effective business model.* The initiative is designed to test and learn about different types of pull mechanisms, constructed in a variety of ways, in different parts of the world, and with innovators of varying size and sophistication. The initiative is meant to address problems relating both to needed technologies and to adoption of new or existing technologies. Pilot proposals will attempt to engage innovator activity to deal with growing populations (i.e. the need for more food), suboptimal nutrition (i.e., the need for better food), and the sustainability of smallholder farming (i.e. the need for local food and economic benefits). Accordingly, information gathering and evaluation, including whether each pilot provides a springboard for scale-up, sustainable dissemination and uptake of the technology, product or service, are cornerstones of the pilots and the AgResults initiative as a whole.

23. The *AgResults design process benefited from the lessons of the AMC for pneumococcal vaccines*. In terms of process, this included extensive reliance on outreach and consultations with experts globally, and an early acknowledgement that crafting a proposal designed to resolve a market failure is by necessity an iterative process. In terms of substance, for each problem and each market, pragmatic assessment of the barriers to a well functioning market, including private sector risk and uncertainty, must underpin careful design, tailoring, vetting and peer review of a possible solution.

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8 A draft concept note for the AgResults initiative was prepared by the Australian Agency for International Development on behalf of the interim AgResults Steering Committee (June 2012).

http://siteresources.worldbank.org/CFPEXT/Resources/AgResults_concept_note.pdf
In each case, the requirement of sustainability as well as the possibility of replication or scale-up must be addressed. Clear and verifiable targets must be established, along with an oversight system to track progress within a monitoring and evaluation framework.

A. Pull Mechanisms

24. **Pull mechanisms overcome market failures by incentivizing innovators to develop or market products or services through ex-post, results-based rewards.** Pull mechanisms emphasize ends – results – rather than means, to achieve the engagement of innovators for the benefit of smallholders.

25. **Pull mechanisms act as a catalyst or incentive to encourage innovation,** as well as increased the participation of innovators, by altering their risk-reward proposition. Each pull mechanism pilot will seek to break down a critical barrier to the efficient functioning of a specific market, opening up the path for investment and creating an improvement (risk/return) in the investment proposition for innovators. At the same time, the donors limit their risk in supporting that investment by paying only those participants who produce the desired results.

26. **Well-crafted pull mechanisms can help to close the gap between the need for socially desirable goods and services and an inadequate supply response by innovators** in developing countries. The credible promise of relatively small payments is expected to be effective in spurring innovators into action to produce socially desired results. Pull mechanisms work best when one of more of the following conditions exist:

- **Positive externalities are not being captured:** Markets do not adequately reward innovators for their investments because the products they invest in generate benefits beyond the buyer – for example for society at large or the environment. Pull mechanisms can help to turn these “positive externalities” into cash for innovators, drawing innovators into the market.

- **Information gaps, asymmetries, uncertainties** prevent supply and demand from coming together in a market. A pull mechanism can help to mitigate uncertainties that producers may face with regard to the size of demand or the ability or willingness of a target market to pay for new products by providing a form of guarantee for the investor. They can help to tackle consumer information gaps by providing the target user with a lower price or with assurance that the product or service has met or exceeded specific performance benchmarks. Resulting demonstration effects and product experience can help to incentivize end-users to use a product or service, creating better consumer information. These would help close information gaps, supporting the development of a sustainable market with producers offering products that consumers pay for because they both know the value of the product.

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9 Pull mechanisms address market failures in innovation by stimulating demand for new technologies. Unlike traditional “push mechanisms”, which seek to stimulate the supply of new technologies by providing funding ex ante, pull mechanisms provide incentives for innovators to develop and market new technologies by providing ex post payments triggered by results. See also Elliot, Kimberly, “Pulling Agricultural Innovation and the Market Together,” Center for Global Development Working Paper, June 2010. http://www.cgdev.org/content/publications/detail/1424233
• Markets do not function because of imperfect competition. Research and development of new technologies may be discouraged when one or a few companies dominate the market (monopolies, oligopolies). Pull mechanisms can help alleviate this situation by reducing entry barriers in markets. For example, a patent buy-out that makes intellectual property public can pull in new producers, resulting in lower prices.

• Innovators are willing to accept some of the outcome risk. Pull mechanisms generate reward financing only if a target product actually benefits end-users. A pull mechanism can be effective only when innovators are able to bear the initial out-of-pocket and capital costs (for example for R&D) that occur well before the final product produces results for end-users.

• The pull mechanism has credible backing. In order to convince innovators to participate in a pull mechanism, it is important that they trust the promise of the financing agency (e.g. national governments, multilateral institutions, etc.) to fulfill its obligations in the future.

27. To be effective, pull mechanism structures need to be tailored to the specific market failures they are designed to mitigate. For example, a pull mechanism can be structured around a standard prize that rewards achievements in a technology development contest; or around a proportional prize where rewards are for innovations in proportion to their impact. Using an advance market commitment, incentive payments are made available for goods and services needed by target beneficiaries; under a patent buyout, private holders of an existing patent are paid to transfer ownership to the public domain. For each pilot, the nature and characteristics of a specific market failure will be assessed. If a pull mechanism can provide well-targeted incentives that could move the market toward efficiency and sustainability, a proposal can be explored for submission into the AgResults process.

28. Sustainability is a critical issue, and how it is handled will depend on the specifics of each pilot proposal. For the first pilots, each pull mechanism has been designed to overcome the initial market failure by demonstrating concretely that the specified agricultural technologies can be delivered effectively (i.e., profitably and sustainably) by the private sector. Future pilots will follow this approach, with pull mechanism structures designed to overcome market failures by demonstrating economic viability to innovators. There may be pilots for which the goods or services sought have a public goods element, or that seek to address issues connected with high levels of poverty resulting in a need for some on-going public support (e.g. PPR vaccinations in the horn of Africa). In other pilots, AgResults may be used to play a critical role in initiating a technology breakthrough (e.g. new fertilizer production processes).

B. AgResults Initiative Development

29. Since early 2011, at the request of Finance Canada, the Bank has provided administrative, technical and coordination support and advice to the AgResults donor group to help identify and design the first few pilots as well as the overall structure within which the initiative would operate. Figure 1 shows a summarized timeline of the process.

30. From the outset and throughout the design process, the initiative made extensive use of independent experts, both to obtain objective, knowledgeable input and to explore as many different ideas and approaches as possible. A Selection and Oversight Panel comprising senior representatives from the Food and Agriculture Organization, the Center for Global Development (CGD) and the
African Development Bank was convened by the Bank to select 11 global agriculture, nutrition, legal and innovative financing experts to form an Expert Advisory Group (EAG). The Panel made its selection of EAG members (Annex 2) in June 2011, following an extensive outreach and consultation process.

31. **The Expert Advisory Group was tasked with establishing rules of the game for the initiative.** It decided to limit the initiative to four Thematic Groups related to a broad area of agriculture, which they defined as 1) Increasing yields, 2) Decreasing post-harvest losses, 3) Nutrition; and 4) Livestock. The EAG debated and agreed on “entry criteria” for pilot proposals: “Pilot innovations must be:

- A pull mechanism – rewards/payment must be made *ex post* not *ex ante*;
- Targeted to address specific market failure(s);
- Focused on enhancing food security and/or improving the welfare of smallholders, the poor or vulnerable, in developing countries;
- Technically and operationally feasible within a reasonable timeframe.”

32. **The EAG assessed the qualifications of subject experts from around the world in each of the four fields and selected 6-10 members for each Thematic Group.** The Thematic Groups worked collaboratively to source and develop concepts for potential pilots with a diverse set of stakeholders, including governments, private companies, non-governmental organizations, and civil society organizations. These experts also worked to structure the underlying pull mechanisms to stimulate activity by innovators in agriculture most effectively. To facilitate the understanding and development of specific pull mechanisms, a day-long tutorial was created with experts from the CGD, X-Prize and the Bank.

33. **By October 2011, 38 ideas for pilots using pull mechanisms were generated by the TGs.** These were diverse, creative and primarily focused on new agricultural and food technology. Through iterative deliberations of the EAG, Steering Committee and TGs, this set of concepts was filtered down to the first three pilots (On-farm storage, Vitamin A, and Aflatoxin), with a fourth pilot for fertilizer held in reserve, to allow time for the development of a large scale pilot which could operate globally and incentivize a broad range of new technologies.

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10 Food price volatility and climate-smart agriculture were dropped on the basis that each was the subject of considerable work in other fora.

11 Agriculture Pull Mechanism Initiative: Expert Advisory Group Meeting June 29-30, 2011, Discussion Summary
C. AgResults Governance and Roles

34. The AgResults Fund Framework provides a framework for the AgResults initiative that will be agreed by donors and the WBG and adopted by the Steering Committee. It will set out the relationship between each of the Steering Committee, Trustee, Secretariat, Pilot Manager, Verifier, and Independent Evaluator in the initiative (see Figure 2). The Steering Committee is the decision-making and oversight body, and the Secretariat is at the center, reporting to the Steering Committee, and managing the sourcing, design and oversight of pilots. Amendments to the AgResults Fund Framework will require approval by the Steering Committee and by the Bank as Trustee.
35. **Steering Committee:** Under the AgResults Fund Framework, a Steering Committee comprising representatives of donors will oversee the initiative. The five AgResults donors, who together have pledged over $100 million (in USD equivalent) in contributions to the AgResults Fund, are Canada, the United Kingdom (DFID), Australia (AusAID), the United States, and the Bill & Melinda Gates Foundation. The Steering Committee will be responsible for endorsement of key management decisions, including the appointment of a permanent independent Secretariat and independent Evaluator, and for pilot management and independent verification arrangements, on the recommendation of the Secretariat. It will approve concepts, business plans and resource envelopes for proposed pilot activities, agree on operational policies, and closely monitor the progress of the pilots and the initiative. Decisions of the Steering Committee will be made by consensus.

36. The WBG (CMGAF/AES) would be a non-voting member of the Steering Committee. It would not itself be eligible to receive awards/prizes. If the WBG proposes pilots, seeks to become a pilot manager or is closely associated with a pilot proposer, the WBG's non-voting member of the Steering Committee would recuse him or herself from committee deliberations regarding any such WBG-associated proposal.

37. The WBG will not have responsibility for decisions taken by the Steering Committee. It will not direct the use of funds nor will it be responsible for the performance, management or oversight of the pilot proposals, or the activities of the Secretariat and other entities engaged in the operation of the program. At the same time, the WBG will be able to use its operational experience in the field of agriculture to help guide the Steering Committee in its decision-making process as part of its non-voting role on the Steering Committee.

38. **The Secretariat:** The AgResults Secretariat will be responsible for overall management of the initiative. The Secretariat will manage the sourcing of new pilots for consideration by the
Steering Committee; assist with the design process for creating new pilots; and oversee the development process for approved new pilots. The Secretariat will approve selection criteria for pilot managers and verifiers, contracting with internationally recognized procurement standards and requirements, with prior approval of the Steering Committee.

39. **The Secretariat will ensure that the Trustee receives the necessary information and authorization for payments** to pilot managers, verifiers, and award recipients; coordinating semi-annual meetings of the Steering Committee and other meetings as required, and preparing supporting documents for these meetings; as well as responding to Steering Committee inquiries between meetings.

40. **The Secretariat will also be responsible for supporting pilot proposers** in their design and development of new projects, managing a peer review for each pilot, proposing selected pilots for approval through the use of standardized business plans, and launching new approved pilots until all donor funds are committed. The Secretariat will propose to the Steering Committee and manage the initiative budget, including what is required by a pilot proposer to design and develop a pilot proposal. The Secretariat will take account of lessons being learned throughout the initiative to help new pilot proposers develop their pilots, and facilitate outreach efforts relating to the AgResults initiative.

41. **The Secretariat will be tasked with developing an AgResults communications plan** to proactively communicate about the initiative. The strategy will address the resources needed for communications throughout the lifecycle of the endeavor and will be coordinated among the Secretariat, donors, the Bank and other partners, as appropriate. The strategy will also ensure that the roles and accountabilities of all partners are clearly articulated. Additionally, the strategy will raise awareness of the development benefits of the initiative and its variety of pull mechanism pilots; address misunderstandings of or opposition to its concept and implementation; and demonstrate that the benefits of changing the nutritional, productive capacity, environmental impact, and sustainability aspects of agriculture for smallholders in the developing world far outweigh any potential risks. Preliminary communications materials, including those on the AgResults website, were developed and shared among the AgResults stakeholders during the design phase. Responsibility for existing materials will reside with the Secretariat.

42. Secretariat selection is in process through a competitive bidding process supported by the Bank AES and CFP teams and managed by the Bank’s General Services Department (GSD), at the request and on behalf of the donors on the Steering Committee. Over 20 firms expressed interest, of which 11 were long-listed and four shortlisted. The Bank will enter into a contract with the Secretariat, on behalf of donors, when selected in March. The AgResults Fund Framework, which is a schedule to each contribution agreement to the AgResults Fund, will include the necessary authorization from the donors to the Bank to appoint the successful candidate from the procurement process as Secretariat. As part of the AgResults Fund Framework, donors also acknowledge their responsibility for the performance, management and oversight of the Secretariat and other entities involved in the AgResults initiative.

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12 Pilot proposers are not a formal aspect of the governance. Pilots can be proposed by anyone to the Secretariat, including from within the Secretariat. In order for the Steering Committee to opine on a pilot proposal it will need to be presented in a standard and complete manner to the Steering Committee. The Secretariat will oversee and assist in this process, including acting as an initial filter of ideas. As part of the proposal, a pilot manager will be identified to manage the pilot once approved.
43. **Trustee:** The Bank has been asked by donors to serve as financial Trustee of the AgResults Fund, which will be structured as a Financial Intermediary Fund (FIF). The FIF structure was seen to be the most flexible to support the pull mechanism structure, with payments to a potentially wide range of recipients (e.g. the Secretariat, Trustee, pilot managers, independent verification, and Evaluator, as well as recipients of AgResults awards). Other possible facilities were explored; the one considered most closely was the private sector window of GAFSP. It was ruled out primarily because GAFSP’s existing charter and governance were not designed to support pull mechanism instruments, and trying to combine the two was seen as adding complication rather than efficiency.

44. The WBG as a non-voting member on the Steering Committee and as Trustee will have no responsibility to recipients of awards/prizes or to the AgResults donors for the use of these funds over and above those responsibilities contained in the AgResults Fund Framework (see below), and relevant procedures, guidelines and policies. (The Secretariat will be responsible for the use of funds transferred by the Bank as Trustee and will be directly accountable to the Steering Committee.) Trustee responsibilities include: (i) receiving and managing financial contributions from donors; (ii) making payments to the Secretariat, the pilot managers, and the verifiers upon receipt of a funds transfer request from the Secretariat that will be supported by appropriate evidence of Steering Committee approval and/or authorization related to such transfer; (iii) making payments to award recipients upon the receipt of positive verification results from the Secretariat and authorization from the Steering Committee; (iv) providing quarterly financial status reports to the donors with respect to management of funds; and (v) arranging for the single audit of the AgResults FIF as part of the single audit of the overall trust fund pool at the Bank.

45. **Evaluator:** An independent Evaluator is being engaged to help the Secretariat and the pilot managers develop benchmarks and execute strong monitoring and evaluation (M&E) strategies and a framework for each pilot and the initiative as a whole, and the Evaluator’s role can be divided into four parts. The first is to work with pilot managers to develop rigorous impact evaluation processes for each pilot. Second, the Evaluator is tasked with generating, as the pilots progress, the lessons learned from the ground, so these can better inform the choice and design of future pilots (Figure 3 below). Third, the Evaluator will establish whether the pilots do indeed provide a launch pad for the on-going and sustainable involvement of innovators, without additional aid funding. Finally, for the initiative as a whole, the Evaluator will focus on comprehensive assessment of performance relative to its goals – including the objective of testing the effectiveness and efficiency of pull financing compared with push financing. The Evaluator reports directly to the Steering Committee and will provide the Steering Committee with analysis, reporting and insights throughout the life of the initiative, supporting its impact and performance evaluations for the Steering Committee.

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13 DFID, on behalf of the donors, will appoint an independent Evaluator. DFID ran the procurement exercise under its procurement processes and appropriate standards of performance on behalf of the Steering Committee.
46. **Pilot managers:** The pilot managers will be responsible for (i) conducting on-the-ground management of pilots, including promoting the pull mechanism’s potential prize/payment, engaging local participants (e.g. farmers to grow new maize varieties; consolidators to buy aflatoxin free crops; SMEs to build storage alternatives or smallholders to purchase such alternatives), managing expert review and quality control processes; (ii) providing quarterly reports to Secretariat on pilot progress and use of AgResults funding; and (iii) supporting site visits by the Steering Committee and/or the Secretariat. The pilot managers will also assist in the learning objective through the dissemination of information on their specific pilots to other stakeholders including the Independent Evaluator and Secretariat (who in turn will inform the Steering Committee).

47. Unless otherwise agreed to by the Steering Committee, pilot managers will be contracted by the Secretariat for each pilot depending on the needs (required expertise, size, complexity, geographic dispersion) of the pilot. These entities could be individual sole proprietors, SMEs, larger firms, local or international development institutions (including the WBG), that have demonstrated expertise in the area associated with the pilot. For each pilot, an independent verifier will confirm results on the ground. Where verification requires scientific processes, it may be conducted by a laboratory or other specialist firm.

IV. **Initial Pilots**

48. **The three initial pilots will:**

(i) Incentivize the adoption of on-farm storage technology for smallholder farmers (detailed below) ($9 million);
(ii) Encourage innovative distribution of a breakthrough technology to reduce aflatoxin contamination ($20 million); and

(iii) Build a market for new vitamin A-enhanced varieties of maize ($4 million).

Each pilot is chosen, in part, for its potential replicability or scalability. The first three pilots are focused initially in specific geographic locations. Once the business model and market acceptability can be demonstrated, it is expected that the technologies are likely to be scaled up elsewhere. Lessons learned from the Zambia pilot for bio-fortified maize will be applicable in Malawi and Zimbabwe in the next two to three years. Aflatoxin control experience in Nigeria will be relevant across Africa – although new strains of Aflasafe may need to be developed. On-farm storage issues in Kenya are equally applicable in Uganda and Tanzania. The demonstration effect of successful pilots will enhance the speed of technology introduction (i.e., the time to reach scale) and likelihood of success.

49. As noted above, a fourth pilot focusing on fertilizer innovations is in the preliminary design phase. The prize target would not specify a particular technology, but could bring about and incentivize significant improvements in the ratio of Green House Gas emissions to production. With substantial expertise in the field of fertilizer and an interest in building capacity in the field of prize delivery, combined with the convening power to include external expertise, the WBG is well placed to create this potentially high impact proposal. It is anticipated that the WBG would complete the design phase with the assistance of the Secretariat, and propose the final pilot plan to the Steering Committee for approval.

50. As a detailed example of the pilot design process, the AgResults On-Farm Storage Pilot focuses on improved storage of maize in Kenya. The objective is to improve food security through the widespread adoption of some of the new post-harvest technologies that are emerging. Post-harvest grain losses in Sub-Saharan Africa are very significant. Overall, they are estimated at $1.6 billion per year, or 13.5 per cent of the total value of grain produced. There is, however, considerable variation and losses can reach 90 per cent, especially in locations where a particularly difficult pest called the Larger Grain Borer (LGB) has gained a foothold. The importance of smallholder maize production in East Africa is illustrated by the facts that maize provides around one third of all dietary calories and more than half of usable protein.

51. Why on-farm storage? Because of high post-harvest losses, individual farmers in Kenya attempt to store only small amounts of maize. For a typical smallholder farmer, this will be about 180 to 220 Kg, enough to feed her family for about two months. Her surplus maize crop will be sold at harvest time at low prices. However, when she has exhausted her own stored product, she will then have to buy maize at retail prices. This costs 15 to 20 cents more per kilo. Improved on-farm storage systems thus offer the possibility of not only reducing unnecessary losses, but can provide the user with significant savings in family food expenditure.

52. Where is the pilot located? The pilot will target Rift Valley Province and Eastern Province. Rift Valley Province produces 60 percent of Kenya’s maize production. Eastern Province is third in maize production and known to experience very significant losses from the LGB – a pest which was accidentally introduced from Central America and is now becoming rampant across large areas of East Africa.
53. **Technology challenge.** Until recently there had been little development in on-farm storage systems, particularly by the private sector. However, some new technologies are now emerging. One is storing agricultural products in hermetically sealed plastic bags, which now come in sizes from 90 Kg to 200 tonnes. They work by asphyxiating the pests brought in from the field at harvest, as well as preventing the entry of other pests and stabilizing the crop moisture content. In Argentina, for example, large bags account for about 60 per cent of soybean storage. The technology is making some limited progress in Africa, primarily for storage of higher value cash crops (e.g. coffee, cocoa and cow peas). Some sales have also been made to Governments. However, it has not been promoted for on-farm staple crop storage, where the unit values of the product are significantly lower. The Bank report on “Missing Food in Africa”\(^4\) identified that most African smallholder farmers had a strong preference for storing their crops within their own farm house. There are at least two other post-harvest technologies being developed in Eastern Africa which are based on rigid systems, such as small plastic containers and metal silos. These have higher unit costs but much longer useful lives (the cost of rigid systems is about six times as much as bags per unit stored, while their useful life is five to seven times as long).

54. **Overcoming Market Failure.** This pilot is intended to address market failures related to the slow dissemination of these new technologies in Africa, the preference of the private companies to focus on market opportunities with easier entry points (i.e. cash crops and sales to Government and aid agencies) and, as yet, limited awareness of the positive economic benefits that small scale on-farm storage systems can generate. Producers of storage solutions possess the strongest financial resources to innovate, produce, and distribute storage solutions. The AgResults pilot does not attempt to specify the technology, its delivery or distribution systems. Instead, its purpose is to stimulate the private sector to develop technologies and working business models to be able to market these technical solutions to small-scale producers.

55. **Target Results and Likely Returns.** The proposed pilot is projected to reach approximately 480,000 smallholder farmers and create 172,000 MT of new storage capacity for grain in the Rift Valley and Eastern provinces of Kenya over a four-year period. The target is to increase average storage per household to 360 Kg. These figures assume a market penetration of 18 per cent and 6 per cent in the Rift Valley and lower Eastern provinces, respectively. Assuming that an average smallholder is willing to spend $12 on four bags ($3 per 90 Kg hermetically sealed bag) to store 360 Kg of maize, then over the next three seasons the technology would save her $70 to $90 in food expenses and post-harvest losses, and the cost-benefit ratio would be between 1: 5 to 7. Experience shows that this type of return is well within the range that poor farmers require to make an investment. Aggregate financial savings from using enhanced storage solutions are estimated at $20 million over the four-year pilot period, and projected to yield an Internal Rate of Return (IRR) of 54 per cent. This is between two to three times better than traditional agricultural projects. Because payments are only made for verified results, the sensitivity analysis set out in Figure 4 below demonstrates how robust the business model is. For example, if the project hits 75 per cent of its targets, the IRR will be 37 per cent and 23 per cent at 50 per cent. The reverse is also true. If the delivery exceeds the targets, the IRR continues to improve, while the AgResults payments are capped at $5 million.

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14 Missing Food: The Cast of Postharvest Grain Losses in Sub-Saharan Africa, April 2011
Figure 4

Sensitivity Analysis of Costs and Benefits & IRR at Different Levels of Delivery

56. **Background on Incentive Structure.** A key element in the design of an AgResults pilot is how to capture the initial interest and involvement of innovators, while at the same time keeping the rewards proportionate to the level of social benefits generated. The incentive structure should not prescribe the technology, but needs to specify precisely the result that must be delivered. In the case of this particular pilot, the rewards must be sufficiently attractive to entice the private sector into planning and implementing an innovative marketing strategy that aims at selling innovative post-harvest storage systems to smallholder farmers. The general rule in all three initial pilots is to use a relatively generous initial prize with the unit payments tapering down as the market develops.

57. **Project Incentives.** This pilot has three incentive payments. There is both a standard and a proportional prize in the Rift Valley, and another proportional prize for sales of effective on-farm storage in the LGB infected Eastern Province. The standard prize amounts to $750,000 and will be paid to the first five participants creating 7,000 tonnes of improved on-farm storage, adjusted for the useful life of the technology. This prize will be paid when the target has been reached and is independently verified. The intention is that this prize is sufficiently attractive to bring in several on-farm storage producers into the marketplace and to generate vigorous competition for the second-stage prize and beyond. The standard prize amounts to about half the social benefits that the technology is likely to generate. In order to maintain participant interest and so that the benefits of
the alternative products can more properly play out, a proportionate prize of $1 million will be
distributed at the end of the project. Payments will be proportional to the amount of additional on-
farm storage created, over and above the 7,000 tonnes of storage volume counted in the standard
prize category. The reward is capped at $20 per metric ton. This is one fifth of the unit value of the
standard prize.

58. In the Lower Eastern Province of Kenya only a proportional prize is being offered. It aims to
catalyze innovation for LGB-proof on-farm storage solutions. The prize is a fixed pool of $3 million.
This will be awarded to private sector parties that have made sales of over 2,500 metric tons of on-
farm storage, again adjusted to the useful life of the technology. This will be assessed at the end of
the four year project. The rationale is that, in order to reach this level of sales, farmer customers in
Eastern Province must perceive that the technologies do indeed offer value for money and can
control the LGB.

59. **Potential Partners and Implementation Structure.** The reaction of the private sector has
been very positive. As of February 2013, seven private companies have expressed interest in
participating. All are based in Africa, five in Kenya. The excitement generated by the AgResults
initiative has led five companies to start to explore innovative solutions for the LGB control. A pilot
manager will oversee all the activities in Kenya. The pilot manager will establish the systems to run
the pilot, screen participants, make requests for funding, and report on pilot progress. The pilot
manager will be responsible for coordinating the inputs of the local advisory board and will respond
to any requests for information and support from the Secretariat, the supervisor, and the donors. An
independent verifier will perform audits of sales data, provided by the participants, and validate the
figures that will be used to calculate prizes. Additionally, a local advisory board will be formed
consisting of a range of stakeholders to provide advice, assist in supervision and political cover
during implementation. Seven locally based organizations have expressed interest in becoming the
pilot manager, a further six as verifiers, and five individuals with appropriate expertise have been
identified to form the local advisory board. The selection of these service providers will be among
the first actions of the Secretariat, once it is appointed.

60. **Learning its Effectiveness.** The key lessons that need to be learned from this pilot are (i) its
impact, (ii) the economic benefits for the users, and (iii) whether the pilot provides the launch pad for
sustainable market development by one or more of the private parties. This will be the role of the
AgResults Evaluator. Counterfactual areas have been identified, although, particularly if successful,
these results could be affected by spillover effects. Impact will be measured based on whether the
pilot has meaningfully contributed to the amount of on-farm buffer stocks created and the pilot’s
overall contribution to reducing food expenditure. The Evaluator will also assess whether this pull
mechanism succeeds in establishing a competitive system of delivering on-farm storage technologies
through the private sector, and whether the private participants have used their experience gained in
Kenya to expand their geographic distribution of post-harvest systems. Finally, the Evaluator will
distill what the On-farm Storage pilot teaches us about success and failure factors in this type of
project to help inform future project design.
V. Risks

61. Risks arising from the WBG’s support to the AgResults initiative were analyzed using the Risk Taxonomy from the World Bank Group Integrated Risk Management Framework.15

A. Strategic Risk

62. The WBG may face risks arising from conflicts of interest related to its multiple roles – as Trustee, non-voting Steering Committee member, procurement agent for the Secretariat, interim secretariat, and potentially pilot manager. To manage this risk, a key requirement will be clear separation of roles and responsibilities in the AgResults Fund Framework, and ensuring that separate management chains are in place for the Trustee (CFP), procurement agent (GSD) and non-voting Steering Committee member (AES) roles. For the interim secretariat role, the Bank established during the interim engagement that no Pilot Managers or verifiers would be hired, and the sole purpose of the interim role would be limited to building and maintaining momentum with potential innovators. As procurement agent, the Bank’s risk is limited because Bank procurement of the Secretariat is on behalf of donors (to whom the Secretariat reports): donors are responsible for approving the selected firm and for the terms of the contract.

63. The Bank’s multiple roles and conflict of interest aspects were reviewed by the WBG’s Ethics and Business Conduct Vice Presidency (EBC). EBC considered that the risks associated with conflicts of interest are low with respect to the WBG’s roles as trustee and non-voting steering committee member, and its involvement in the secretariat selection process. This conclusion is in light of the WBG's robust internal processes for trust funds and procurement, and the fact that these functions have separate management chains.

64. EBC did see a possibility for conflicts of interest risks should the WBG decide to become a pilot manager. Although the WBG would not have a vote on the Steering Committee, the consensus approach to committee decisions could lead stakeholders to conclude that the WBG was involved in such a decision through an active participation in committee deliberations. Following EBC’s recommendations, to avoid this conflict, should this role for the WBG emerge, the WBG's non-voting member of the Steering Committee would recuse him or herself from committee discussions regarding such an appointment. Additionally, should the WBG have a close relationship with a proposer (e.g. through funding or deep partnership), the WBG would evaluate at that time whether the WBG's recusal from committee decisions related to that proposer would be appropriate. EBC will be a continuing resource in such reviews.

B. Operational Risk

65. A key operational risk arises with respect to the design of the initiative as a whole and of each pilot specifically. The initial design of the initiative itself may be flawed (e.g., the process selected by the Secretariat for sourcing pilots may be ineffective at uncovering the real issues for smallholders), and the result of that flaw may be public criticism of the WBG for poor outcomes, or for paying the private sector for needless activity. This risk exists for each pilot as well if the specific design of the pilot is defective (e.g. incentive payments are designed to attract innovators in one part

15 http://go.worldbank.org/ZX CZ7W3HK0
of the value chain, and that selection turns out to be ineffective at creating a solution for smallholders).

66. **To manage this risk at the initiative level, a wide array of experts has been involved throughout the design phase of the initiative.** The focus of expert discussions was on smallholder issues and market failures preventing their resolution. It was determined by the Expert Advisory Group, and the initiative managed accordingly, that four thematic groups of carefully selected members should explore four categories of smallholder issues in the developing world. Out of this process came both the initial pilot ideas and endorsement of the pilot sourcing design as a method for the sourcing of future pilots by the Secretariat.

67. **At the pilot level, the design risk is managed by a rigorous process of quality control, again using inputs from experts and independent peer reviewers for both pull mechanism and agricultural expertise.** Each pilot will undergo a process of outreach and investigation, seeking out the interest of innovators and other stakeholders in the target area. Each will be subject to ongoing oversight and periodic supervision missions by the Secretariat or pilot managers contracted to provide these services. The communications plan will focus on these areas of success to avoid misunderstanding or unsubstantiated criticism, and to demonstrate proactively the achievement of development objectives.

68. **There is a risk that pilots could be poorly executed and therefore deliver poor outcomes.** Poor execution could manifest itself as a failure to engage and incentivize key innovators to participate, or to bring consumers to purchase target products. It could also arise if innovators act in undesirable or unintended ways because the pilots are not being managed effectively. Finally, it could occur because verification was not conducted appropriately, leading to payments for false or partial results.

69. **The key factors that aid in managing pilot execution risks are: the supervision role of the Secretariat; the requirement for all participants to adhere to internationally recognized standards; and the evaluation framework.** With its responsibility for oversight to pilot managers and verifiers, the Secretariat will manage the risk of those entities not performing their roles well. Moreover, in the selection of those entities, the contract terms will stipulate the method of performance according to a specified internationally recognized standards. Finally, the evaluation framework helps to manage the risk of execution by providing an avenue for learning and incorporating lessons that can improve the activities at the pilot level.

70. **Legal liability is a risk wherever the WBG performs its duties.** As Trustee, the Bank’s role is limited to accepting donor contributions, managing them, and passing donor funds on to the recipients. The Bank has a strong track record in performing these functions, and it has sound fiduciary policies, performance standards and capacity, and robust internal controls, to manage these functions and the associated legal risk. Once funds are disbursed, the Bank as Trustee would no longer be responsible or accountable for the monitoring or supervision of those funds.

C. Stakeholder Risk

71. **Donor relations:** Steering Committee members are the initiative’s donors. Thus, the interactions within the Steering Committee and between the WBG and the Steering Committee will be crucial to maintaining donor support. The WBG’s non-voting seat on this committee will
foster consistent and timely communication with donors. It will facilitate the committee’s interaction around technical agricultural matters and support for the initiative’s objectives. Alignment of expectations is embodied in the details of the Steering Committee’s functions, rules and roles specified in the AgResults Fund Framework.

72. **Partnership and business relationships:** The Secretariat, Evaluator, Pilot Managers, and verifiers are key partners to achieving the WBG’s objectives. If the relationships between the WBG and these partners, which perform a number of key roles, (e.g. assuring the quality of the standards applied by the Secretariat), are not effective then there is a risk that neither the initiative nor the WBG will achieve the objectives of development assistance or learning about the new aid tool. Here again, the WBG’s non-voting Steering Committee seat will aid in aligning interests between the WBG and all partners, and in managing potential risks of relationship fallout. The AgResults Framework will also help manage this risk by clearly setting out the expectations for interaction.

73. **Other external relationships:** AgResults is a highly visible, G-20 sponsored initiative. It has attracted and will continue to attract the attention of a variety of interested parties: the press, innovators, civil society organizations, think tanks and others. The WBG’s relationships with these actors will also be important to facilitating the initiative’s objectives. Poor relationships could affect whether or not objectives are met (e.g. lack of interest by innovators required to provide solutions). The AgResults communication plan will be a key risk management tool to bring cohesiveness to the messages being delivered across AgResults, clearly articulating the roles of each stakeholder, the results of the pilots, and the lessons being learned. To help manage the risk of messages being ineffective or inconsistent, the Secretariat will be responsible for the plan and will be required (by the terms of its contract) to work collaboratively with the Trustee and Steering Committee on communications.

D. **Financial Risk**

74. There is no material financial risk to the WBG arising from its participation in the AgResults initiative. While in some FIFs there are financial risks (e.g. currency exchange risk), these are not present in AgResults. There are no WBG funds invested in the initiative.

75. The financial risks of the initiative (e.g., the potential to spend money ineffectively) are reduced by the very nature of the pull mechanism structure itself, as payments occur only on the delivery of pre-defined, independently verified positive results. If funds flow out of the initiative, results have been achieved.

E. **Additional risk management**

76. Ultimately, in the event that the risks to the WBG are determined over time as being too burdensome, the WBG has the option to scale-back or exit its engagements in the partnership at any time. In the standard provisions agreed between the WBG and donors in relation to the Bank’s Trustee role, the Bank has the ability to terminate its engagement as Trustee upon providing six (6) months prior written notice.

77. In addition, the WBG’s experience and the success and risks around each element of the WBG’s engagement in the initiative will be assessed periodically as part of an internal review.
of AgResults. This assessment will feed into decisions on the desirability of maintaining or changing the WBG’s responsibilities in the initiative. It will also provide an opportunity to examine and share lessons learned and opportunities for scale-up, replication or adaptation of AgResults pilots across the WBG. As an example, over the last year IFC has taken a number of steps to move closer to farmers as evidenced by:

1. The start up of the private sector window of GAFSP which allows greater absorption of incremental risk in return for high development impact;
2. A greater focus on increasing agricultural productivity by easing access to critical inputs such as irrigation and fertilizers; and.
3. Current development of an agricultural technology platform that can support new innovation.

Therefore in time IFC may identify the means to move AgResults forward on a larger scale more consistent with its own operations, or through the Private Sector Window of the GAFSP.

VI. Conclusion and Recommendation

78. The AgResults initiative is a carefully designed initiative with strong potential to achieve development results as well as useful lessons learned on the use of innovative financial instruments. It is housed in a unique structure and may bring associated risks, primarily reputational in nature. AgResults has been structured with strong support from the Bank and with the benefit of lengthy consultation and input from a wide range of independent actors with extensive and varied expertise. The initiative relies only on pull mechanisms, market-based incentive structures designed to enlist innovators from the private sector, NGOs, research institutions and beyond in delivering development results in general, and agricultural technologies in particular. As an innovation lab for the use of pull mechanisms, AgResults provides an opportunity to leverage change in ways that are beyond the development community’s current modus operandi.

79. It is recommended that the Executive Directors approve the WBG’s engagement in support of the AgResults initiative as described in this Memorandum, including serving as Trustee to a newly established financial intermediary fund, serving as a non-voting member on the AgResults Steering Committee, and acting as pilot manager if appointed and in the WBG’s interest to do so.
Annex 1: First Set of AgResults Pilot Projects

The development of the pilot proposals is described in Section IV. For each of the final pilots, full business plans were developed by joint teams (World Bank staff working with independent consultants from Dalberg Global Development Partners) beginning in January 2012. The Bank played a leading role in designing two of the initial pilots: on-farm storage and biofortified maize. The Aflasafe pilot was led by Dalberg. A costed action plan was developed for each and presented at a Steering Committee meeting in March 2012. All pilot business plans were further refined with a focus on effective incentive structures. They were tested in country with day-long seminars with the private sector, potential pilot managers and representatives of the Government attending. The draft business plans were then put through a World Bank peer review process. The final three pilots were accepted by the Steering Committee in time for the June 2012 launch at the G20 Los Cabos meetings.

Pilot #1: On-Farm Crop Storage

Background

Post-harvest losses of grain are extensive and a major threat to food security for smallholder farmers in the developing world. This problem is particularly acute in sub-Saharan Africa, where on-farm storage solutions are either not widely available or poorly adapted to local needs, with inadequate protection against insects and pests that consume stored crops. Overall post-harvest losses in sub-Saharan Africa are estimated at 13.5 per cent of the total value of grain production, or $1.6 billion per year. These post-harvest losses occur at a number of different levels of the value chain, e.g. in the field, whilst drying, shelling or being transported, as well as in the store. Moreover, insufficient on-farm storage solutions lead farmers to sell immediately after harvest and receive lower prices when the market is flooded with grain: research suggests that the difference in price between selling at farm-gate during harvest time and buying back from the retail market just months later is on the order of $150–200 per metric tonne ($14–18 per 90kg bag). Improved smallholder access to storage solutions could therefore lead to a meaningful economic benefit if more grain was stored for sale or consumption after harvest.

Overview of Pilot Business Case

The AgResults On-Farm Storage pilot will focus on Kenya, a nation reliant on grain production, and on maize in particular, as maize is grown by 96 per cent of Kenya’s eight million smallholder farmers and is a crucial staple of food security in many developing countries. The pilot aims to stimulate improved food security through the widespread adoption of improved on-farm post-harvest grain storage systems to: i) reduce smallholder expenditure on staple grains in non-harvest periods; and ii) provide access for smallholder farmers to sell some of their crops at higher prices in non-harvest periods; and iii) lower post-harvest crop losses suffered by smallholder farmers. To meet these objectives, the pilot will offer prizes for storage capacity sold and technology innovation in two target regions: the Rift Valley and Eastern Provinces of Kenya. In the Rift Valley, the pilot will be structured in two components: i) a standard prize of $750,000 offered to participating storage providers that sell 7,000 tons of storage capacity meeting pre-specified criteria to smallholders; and ii) in order to maintain participant interest and so that the benefits of the alternative products can more properly play out, a proportionate prize of $1 million will be distributed at the end of the project. Payments will be proportional to the amount of additional farm storage created, over and
above the 7,000 tonnes of storage volume counted in the standard prize category. The reward is capped at $20 per metric ton. This is one fifth of the unit value of the standard prize. In both parts of the AgResults pilot, it is expected that three to five storage solution providers would participate. The pilot is expected to begin in 2013 and run for four years.

Rationale for Pilot Design

The pilot is designed to encourage innovators (from the private sector in particular) to develop on-farm storage technology, while addressing a range of issues faced by smallholders in accessing appropriate on-farm storage solutions. The pilot will be technology agnostic with the goal of promoting any form of effective on-farm storage solution that is suitable for the Kenyan market. The pilot design has been grounded in an extensive process of market research and stakeholder consultation to understand both the unmet needs among smallholders and the potential engagement of private sector on-farm storage providers. Potential participants include both incumbent and emerging storage technology providers, and the parallel pilot tracks in Rift Valley and Eastern Provinces in Kenya have been designed to generate innovations in both on-farm storage adoption and technology. In addition, the prize amounts are set at levels to compensate participants for incremental costs in three categories: i) R&D costs associated with product innovation; ii) marketing and distribution costs for reaching individual smallholders; and iii) value created for the farmer through the use of storage solutions. These incentives have been calibrated to encourage meaningful participation among on-farm storage providers, while delivering development impact to smallholders.

Expected Results

There are three primary objectives of this pilot. The first objective is to increase the economic welfare of smallholders through improved access to enhanced storage solutions that minimize crop losses and enable smallholders to store maize throughout the year. The second objective is to help catalyze a sustainable long-term market for storage solutions in Kenya, with the potential for spillovers as the cost of producing smallholder-specific storage solutions falls through economies of scale. The third objective is to test an innovative model of engaging the private sector to serve smallholder needs, with potential future applicability to the delivery of other goods and services to smallholders.

Pilot #2: Biofortification Pilot

Background

The “hidden hunger” of a diet lacking in essential nutrients is oftentimes overlooked in the fight against food insecurity. Poor quality diets characterized by high intake of staples that are energy dense but lacking in essential micronutrients like iron, zinc, vitamin A, and iodine can lead to a number of different forms of malnutrition. Issues like vitamin A deficiency (VAD), for instance, lead to significant health problems in developing countries, with up to half a million children going blind every year due to VAD. Vitamin A-deficient children also face a higher risk of illness and stunting. This problem can be widespread at country level and is particularly acute in sub-Saharan Africa: for example, in Zambia the government's National Food and Nutrition Commission reports that more than half of under-five children are affected by Vitamin A deficiency. A high-potential solution to this problem is the biofortification of staple crop seeds with micronutrients. While the technological solutions for biofortification exist today, there is an unmet need for developing models that generate
sustained demand for biofortified foods among end-consumers in developing countries where biofortification remains nascent.

Overview of Pilot Business Case

The AgResults Biofortification pilot aims to support the rollout of ProVitamin A (PVA) maize in Zambia by stimulating the grain market for the new hybrid varieties through incentives aimed at industrial millers. While the developer of PVA maize, a non-profit organization called HarvestPlus, has programs aimed at introducing new seed varieties into the market and supporting smallholder adoption, the AgResults pilot will aim to stimulate long-term demand for new PVA maize products in mainstream secondary markets. AgResults pull mechanism incentives would be structured around two stages: i) a prequalification stage that will select five to seven millers for further participation; and ii) an annual proportional prize offered to prequalified millers that source, produce, distribute and sell PVA maize products according to standards. A $35,000 to $50,000 grant is being considered for prequalified millers to offset initial marketing costs and between $3 to $4 million in awards are being considered for stage two incentives. HarvestPlus would potentially be the pilot manager and detailed plans are being developed to ensure alignment between programs. The AgResults Pilot would be formally launched in 2013 and run for four years.

Rationale for Pilot Design

The design of the AgResults Biofortification Pilot has been underpinned by extensive market analysis and in-country research and consultation. In discussions with HarvestPlus, it was revealed that HarvestPlus programming could drive registration, initial multiplication and adoption of new hybrid varieties. However, this left a gap in stimulating urban demand to anchor the product in the formal grain market. Analysis of the grain market suggested that industrial millers were the only actors in the maize market that are able to "source product at scale" and "influence demand" for the new varieties. There are currently 35-40 industrial millers in Zambia who collectively process approximately 900,000 metric tonnes of maize meal annually (approximately 60 per cent of domestic maize consumption). The milling industry is highly competitive with a number of new entrants over the past five years and stiff competition for market share, often based on product branding and differentiation. Incentives have been designed to suit the competitive dynamics of the market, creating competition between millers and a collective interest in embedding new PVA maize varieties as a mainstream product for the long term.

Expected Results

There are three primary objectives of the AgResults Pilot. The first objective is to extend the health impact of the new PVA maize varieties through expanding consumption beyond smallholder households to urban areas through industrially milled and marketed product. The second objective of the AgResults Pilot is to create a sustainable market for new varieties through stimulating urban consumer demand and creating formal secondary markets for smallholder producers to sell a proportion of their grain. The third objective of the AgResults pilot is to learn from the use of pull mechanisms to support the introduction of new products. If successful, the AgResults Biofortification pilot will have established a “new model” for stimulating sustainable demand for new products, a model that could be used in future biofortified seed introductions and in other development contexts.
Pilot #3: Aflatoxin Control Pilot

Background

Aflatoxin contamination is a global problem. Aflatoxin is a potent carcinogen produced by species of Aspergillus fungi, most commonly found in maize and groundnuts. The Food and Agriculture Organization estimates that aflatoxin affects up to 25 per cent of the world’s produce, with harmful health effects and negative economic consequences. Chronic ingestion of aflatoxin contributes to increased risk of liver cancer in both humans and animals, and it is associated with immune-system suppression and stunted growth in children. In addition, concerns about aflatoxin levels, among other contaminants, have greatly reduced demand for grain exports from developing countries. New regulations in the EU alone have cost African traders an estimated $400 million annually in lost export revenue. Aflatoxin contamination is particularly threatening to the poorest and most vulnerable smallholders who consume much of the food they produce with limited available alternatives, and this problem can be substantial at a country level: for example, an estimated 40 to 60 per cent of Nigeria’s maize had unacceptably high and unsafe levels of aflatoxin in 2010. While there is currently some mitigation of aflatoxin contamination done in developing countries, a range of barriers hold back the adoption of promising solutions that have been shown to control aflatoxin more completely.

Overview of Pilot Business Case

The AgResults Aflatoxin Control pilot will focus on incentivizing smallholder farmer adoption of a particularly promising aflatoxin control technology called Aflasafe™. This technology has been shown to reduce aflatoxin contamination of maize grain by 80 to 99 per cent in field tests in Nigeria, and the AgResults pilot will focus on demonstrating a successful model for increasing smallholder adoption of an aflatoxin biocontrol. The pilot will focus on maize in Nigeria, as the country is the largest producer and consumer of maize on the African continent, and is furthest along in registering Aflasafe™ as a biocontrol product. The pilot aims to address persistent barriers that hold back the widespread adoption of biocontrol technology by Nigerian smallholders through a premium per-unit payment for maize that is verified to contain a high proportion of Aflasafe™ (a strong predictor of low aflatoxin levels) at designated maize collection points. Participating smallholders will be eligible for a premium of approximately 5 per cent above the market price of maize, roughly an expected $50–150 premium per smallholder per harvest, depending on actual levels of smallholder output. Target participants in the pull mechanism program are managers of contract maize farming arrangements that involve smallholders in Nigeria. Initial participants in the program would include two major input suppliers, Premier Seeds and Maslaha Seeds, which currently work with thousands of smallholder maize farmers (0.5–5.0 hectares per farmer). These input suppliers are well-positioned to provide support to these farmers in the form of access to key inputs to production and some technical extension services, while also acting as the main buyers of these farmers’ output. In the first year of the pilot, the pull mechanism would involve a total of 2,500 contract farmers from these two organizations at a minimum. In subsequent years, the program would involve additional farmers, both from these organizations and others with similar contract farming arrangements in maize.

Rationale for Pilot Design

While Aflasafe™ has been shown to significantly reduce aflatoxin contamination, the upfront cost of the product and absence of an established market for aflatoxin-free maize have made Aflasafe™ adoption prohibitively expensive for smallholders. The AgResults pilot has therefore been designed to make adoption of this aflatoxin control technology more economically attractive to smallholders.
by setting a per-tonne award that reflects market participants’ expectations about the premium that is likely to exist for aflatoxin-free maize when the market has been further developed. Pilot incentives have therefore been calibrated to ensure that successful smallholder adoption of Aflasafe™ in the pilot is likely to reflect incentives faced by smallholders when a market for aflatoxin-free maize has been built. Finally, because smallholders and their families bear the brunt of the health burden of aflatoxin contamination, the pilot incentive structure and verification protocols are designed to ensure that smallholders and their families benefit from reduced levels of aflatoxin in maize consumed at home, in addition to the incremental economic benefit they receive from selling aflatoxin-free maize in downstream markets.

Expected Results

Successfully delivered, this AgResults pilot will achieve sustained health benefits for populations across Nigeria by controlling the level of aflatoxin contamination in maize. In addition, the premium per-tonne payment for high-Aflasafe™ maize gives participating smallholders a powerful incentive to increase yields, supported by improved access to yield-enhancing inputs and downstream market linkages. To the extent that this increases smallholder yields, the pilot will enhance smallholder economic well-being, making the long-run control of aflatoxin among smallholders more economically viable. In addition, because the problem of aflatoxin contamination disproportionately affects the poor and vulnerable in a number of developing countries, the AgResults pilot aims to establish a new market-driven model for aflatoxin control that can be adopted elsewhere. There will be a strong learning agenda to understand the drivers of Aflasafe™ adoption, and the results may be generalized to development interventions in other contexts involving new product introductions.

Pilot #4: Fertilizer

Background

Fertilizer is a key component in the global quest to ensure food security and sustainable agriculture. Fertilizer use over the last century has been a major contributor to the increased productivity of the world’s agricultural land. Synthetic nitrogen fertilizer alone has raised this productivity by over 125 per cent from 1.9 people fed per hectare of farmland to 4.3 people. With growing populations coupled with shrinking farmland, the need for even greater productivity, and potential for fertilizers, is substantial.

However, there is a dark side to an over reliance on fertilizers as we know them today. Fertilizers and their sourcing/production methods have remained essentially unchanged for 50 to100 years and are inherently wasteful, costly, and harmful to the environment. Not only does fertilizer production consume around 1 per cent of total global energy, but fertilizers have also been linked as a major cause of “dead zones” from farm run-off in critical waterways across the world. Simply increasing fertilizer usage to improve agricultural productivity, as we did last century, is not the answer any more – down that path lie global climate change and the destruction of the environment.

An urgent overhaul of the fertilizer sector from production through application is needed to position the industry to contribute in a more economic and sustainable manner to food security. The way forward lies in taking full advantage of emerging technological breakthroughs and actively pursuing new technologies via state of the art R&D – this is the focus of the AgResults Fertilizer pilot.
Rationale for a Prize Pilot Design

Prizes, unlike other forms of pull mechanisms, need not define any of the space between the problem and the solution. Prizes are uniquely placed to create an incentive without barriers to entry, open to all innovators, open to any form of technology, and any path that can be imagined to achieve the best solution. Where a technological breakthrough is required, overcoming the barriers of inadequate attention to R&D; and a lack of knowledge sharing and transfer; the ideal pull mechanism is a prize structure – this describes the fertilizer industry and accordingly makes a prize structure the best fit for this pilot.

The design team has begun research into the structure of a prize for fertilizer innovation which will focus on two aspects of the problems noted above: i) increasing productivity of agriculture output linked to fertilizer at an affordable price; ii) reducing harmful environmental effects of the fertilizer cycle. Experts are being assembled to evaluate the problem definition which will govern the prize winning selection, including deriving the best method of assessing the trade-offs between productivity and environmental protection.

Expected Results

It is expected that one or more prizes will be awarded that provide game changing innovations to the field of fertilizer, resulting in improved crop yields to feed the developing world without the currently projected harm to the environment from fertilizer use. Because this is a significant change to the industry and to the technologies in place, it is expected that this program will run for several years before any prize is awarded.
## Annex 2: Expert Advisory Group

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<tr>
<th>Name</th>
<th>Title and Affiliation</th>
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<tbody>
<tr>
<td>1 Craig Courtney</td>
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<td>2 John Hamilton Dodds</td>
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<td>3 Michele Veeman</td>
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<td>4 Peter B. R. Hazell</td>
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<td>6 Monty Jones</td>
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<td>10 David Spielman</td>
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<tr>
<td>11 Elizabeth Jean Woods</td>
<td>Chief Scientific Officer, Department of Employment, Economic Development &amp; Innovation, Queensland</td>
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Annex 3: Summary of WBG Roles

The WBG has two primary roles in the forthcoming AgResults initiative. First, it acts as Trustee of the AgResults Fund, a financial intermediary fund held at the Bank. Second, the WBG will have a non-voting seat on the AgResults Steering Committee that governs the initiative. The Bank also has a support role in conducting the procurement of the Secretariat on behalf of the AgResults donors - a process carried out consistent with existing Bank policies and procedures. The WBG could potentially be a pilot manager for a pilot proposal if so identified by the Steering Committee. The implications of each of these roles can be summarized as follows:

Trustee

Three donors currently hold funds in their donor balance accounts prior to transfer to the AgResults Fund upon its establishment - these donors are Finance Canada, AusAID and The Bill & Melinda Gates Foundation. The Bank as Trustee will be responsible for the disbursement of funds to the Secretariat and other key participants upon receiving a funds transfer request from the Secretariat that will be supported by appropriate evidence of Steering Committee approval and/or authorization related to such transfer. Once funds are disbursed by the Bank, the Bank is no longer responsible or accountable for the monitoring or supervision of these funds.

Non-Voting Steering Committee Member

The Steering Committee is the main governing body in the AgResults structure. Each of the contributing donors will have a voting seat on the Steering Committee and will be directly responsible for reviewing and approving pilot concepts, pilot proposals for development, as well as pilot funding under the AgResults Fund, including responsibility for activities of the Secretariat and other implementing entities. The Steering Committee will make decisions on a consensus basis.

The WBG will have a non-voting seat on the Steering Committee to provide critical agriculture expertise as well as input regarding use of the AgResults prize versus other possible avenues for Bank Group support that might be available where necessary and as requested by the Steering Committee but it will not direct the use of funds nor will it be responsible for the performance, management or oversight of the pilot proposals, or the activities of the Secretariat and other entities in the structure.

The standards of performance to be applied by the Secretariat in relation to each pilot in the initiative are a set of internationally recognized standards as agreed to by the donors. The Steering Committee is currently discussing the precise scope and application of these performance standards, including how compliance with these standards will be certified and monitored. Unless performing the role of pilot manager, the WBG will not be responsible for any monitoring, supervision or compliance activities related to these performance standards.

Pilot Manager

The WBG may in the future be appointed to act as a pilot manager for specific pilots, beginning with a fertilizer prize pilot\textsuperscript{16} which it is now designing. Pilots that the WBG designs, proposes or manages

\textsuperscript{16} See Annex 2; pilot #4.
would be prepared and implemented by WBG staff in accordance with the WBG’s fiduciary, safeguards and other policies.

Annex 4: Proposal Evaluation Criteria

The Expert Advisory Group established evaluation criteria for the initial pilots, and identified primary areas for evaluation of pilot proposals, as detailed below.

I. Impact
The proposal must outline expected impact in one or multiple of the following categories:

A. Production impact
1. Quantity of production: what improvement in productivity is expected?
2. Quality of production: how will the quality of the product/service improve?
3. Smallholder impact: how and why will the product/innovation be adopted by the target market?

B. Consumption impact
4. Quantity of consumption: how will the proposal result in increased availability of the target output or service to poor (including rural, urban and landless poor) or vulnerable populations?
5. Quality of consumption: how will quality increase, with what impact?

C. Cross-cutting impact
Note: These criteria are included in order to demonstrate that the EAG takes an affirmative interest in proposals targeting impact in these areas. They are also included in Section IV below, as a separate criterion designed to ensure that the proposals are socially/environmentally responsible and “do no harm”.

6. Gender: does the proposal focus on improving or addressing gender issues?
7. Externalities: does the proposal address and capture positive externalities or cross-sector benefits? (e.g. sustainable intensification of the use of natural resources, enhancing beneficiary capacity to adapt to climate change, solutions to soil degradation, climate change mitigation, provision of public goods, etc.)
8. Value chains: does the proposal address value chain gaps which particularly affect smallholders, the poor, or the vulnerable?

II. Market stability and sustainability
9. Market size and capacity: is the target market large enough to support the pilot project and growth? Does the target market have uptake capacity for the innovation?
10. Market improvement and/or disruption: does the proposal address the possibility and mitigation of large-scale disruption to the market that would negatively impact the poor or vulnerable (e.g. increased volatility in local prices)?
11. Value chain: is the proposal workable (or does it create an improvement) with respect to the flow of goods from suppliers to producers to consumers?
12. **Competition**: does the proposal increase the health and operations of target markets?
13. **Operating model**: does the proposal delineate a clear operating model for delivery of the innovation and demonstration of participation that indicates economic viability (e.g. no long-term institutional financial subsidy)?

**III. Scalability and replicability:**
14. **Scalability**: will the proposal be able to be extended and scaled up within the target markets and populations?
15. **Replicability**: can the proposal be replicated in other target markets?

**IV. Stage of commercial viability:**

Does the product/deliverable (or producer) have access to other sources of bilateral or multilateral development financing, or grant or commercially priced finance (including from WBG financing windows) that differentiate it from other potential candidates?

**V. Environmental and social sustainability**
16. **Cultural appropriateness**: is the proposal well adapted to the target market cultural and social norms?
17. **Market preferences**: is the proposal adapted to meet local market needs and preferences?
18. **Environmental effect**: does the proposal have a positive impact on the environment by mitigating climate change or enhancing climate adaptation?
19. **Environmental, Health and Safety standards**: is the proposal consistent with World Bank Group environmental, health and safety standards?

**In addition to these primary areas, pilot cost must be taken into account** in the assessment process. These costs include, but are not limited to:

- Size of prize or payout
- Price per beneficiary
- Monitoring and evaluation costs
- Administration costs
- Costs need to be evaluated in light of the overall benefit as defined by the ranking criteria
- Costs should be evaluated over time measured against the proposed implementation timeline as well as the timetable for benefits to be realized
- Applicable discount rates will be specified.