PULL MECHANISMS – AN APPROACH FOR OVERCOMING MARKET FAILURE IN AGRICULTURE

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• Introduction to AgResults and pull mechanisms

• AgResults external evaluation

• Initial lessons learnt
AgResults focuses on learning agenda

- AgResults is a $150 million G20 initiative, managed by a dedicated Secretariat and overseen by a Steering Committee comprised of the five donor agencies and the World Bank - financial trustee

- AgResults has several ‘pilots’, each using pull mechanisms to engage private sector in addressing market failures that impede technology adoption or development

- Learning is AgResults’ strategic objective. Its learning agenda is to understand the effectiveness of pull mechanisms and other related questions - Abt Associates’ role as external evaluator.
AgResults Pilots

**Nigeria Aflasafe™ Pilot**
Eliminating harmful toxins in maize

**Kenya On-Farm Storage Pilot**
Expanding on-farm storage solutions for SHFs

**Uganda Legume Seeds Pilot**
Strengthening market for improved legume seed varieties

**Zambia Biofortified Maize Pilot**
Tackling Vitamin A deficiency with biofortified Provitamin A maize

**Newcastle Vaccine Pilot (on-hold)**
Increasing vaccination levels and creating market for vaccine delivery

**Vietnam GHG Emissions Reduction Pilot**
Pioneering GHG-reducing and yield-increasing technologies

**Brucellosis Vaccine Pilot (Global)**
Creating a low-cost, effective registered Brucellosis vaccine
What are pull mechanisms?

- Pull mechanisms are results-based incentives to motivate private-sector engagement in underserved markets for beneficial technology solutions.
- The incentives or prizes are designed to temporarily offset the underlying market conditions that limit private-sector investment in the agricultural value chain, thereby motivating entry into the market at scale by firms or actors that have a vested interest in developing their long-term positions in the market.
What are the potential benefits of pull mechanisms to donors?

- Make donor funds go further by catalysing the private sector to substantially increase their investment in food security and agricultural development
- Engage multiple innovators simultaneously without relinquishing resources up front (theoretically increasing the chances of success)
- Avoid crowding out the private sector by directly engaging with it
- Complement or substitute for traditional donor-funded development approaches that seek to “push” promising technologies out to beneficiaries through grants or contracts
External evaluation supports learning, a key objective of AgResults

• Are the pull mechanisms in the various pilots achieving the intended development objectives? *How do they fare compared to a push?*

• Under what circumstances are pull mechanisms likely to succeed?
  – We answer these questions through rigorous evaluations of each pilot that measure net contribution to development
  – We also contribute to continuous learning and adaptation of the interventions through our engagement with the Secretariat, Steering Committee, pilot managers, and private sector actors
Lessons learned on designing pull mechanisms from the Kenya pilot

EFFECTIVE, AFFORDABLE ON-FARM GRAIN STORAGE
Development problem

- Lack of appropriate on-farm storage (OFS) leads to high post-harvest losses

Potential solutions exist

- Improved OFS like hermetically sealed bags can reduce post-harvest loss leading to improved food security, and potentially incomes if the farmers can store until the prices are better

Yet there is low uptake because farmers are not aware, and suppliers face constraints to raise awareness and reach the hard to reach rural areas
Kenya incentive structure

• Prize structure

• Solvers with at least 21k MT in storage capacity sold share a large pot of money ($1m-$3m) proportionally distributed based on storage capacity sold to smallholder households.
Lesson learned: For which development problems are pull mechanisms a suitable tool?

Development problem

- Large-scale adoption of a technological solution offers significant potential benefit
- There is potential demand by smallholders and/or poor households
- There is potential supply of the technology by private sector actors
- There is a conducive enabling environment
- There is a key binding constraint rather than a multitude of constraints that have led to a missing market for the technology
Lesson learned: What solutions are suitable for pull mechanisms?

Solution

- The technology **solution** must be **effective** and suitable to smallholder farmers (or other target beneficiary)
- The technology solution should be economically beneficial to the smallholders

**Kenya:** Multiple effective, smallholder-appropriate OFS solutions exist
Lesson learned: Are appropriate solvers available?

Private Sector Solvers

- Market actors should see opportunity for sufficient return on investment
- Solvers should have capacity to address market constraints
- There must be an adequate pool of solvers to develop a competitive market with adequate critical mass

Kenya
- Numerous and diverse companies participating with diverse business models
- Solvers enthusiastic about developing market
- Several firms approaching initial prize threshold
Lesson learned: Can an effective incentive structure be designed?

Incentive structure should promote desired outcome

- Prizes need to be based on a clearly defined and verifiable outcome (sale of OFS in Kenya)
- The outcome, through prize parameters, should be linked to the desired development impact
Lesson learned: Does the theory of change demonstrate benefits to smallholders?

Theory of change

• Should articulate how solvers’ investments and activities will lead to development of a market for the technological solution, and how development of the market will promote the desired development impact

• Recognize trade-offs between development impact and market impact
Lesson learned: Is the verification feasible?

Verification Protocol

- Should be independent, transparent, cost-effective and tamper-proof system to verify that the outcomes were achieved.
Key elements of pull mechanisms

**Development Problem**
- A specific *development problem* that the pull mechanism can address

**A Solution**
- A specific *technology* – proven, or needs tailoring - that can address the problem with market potential

**Solvers**
- *Private sector actors* who have an underlying interest in the market for the solution, and will respond to incentives

**Incentive structure**
- A well-defined *outcome* that solvers are incentivized to achieve
- A *prize* structure – winner-takes-all, proportional prize

**Theory of change**
- A series of *causal relationships* that tie together all the preceding elements linking them to final impact

**Verification protocol**
- An independent, transparent cost-effective and tamper-proof system to verify that the outcomes were achieved
Questions?