



Key Learnings on Embedding Sustainability in Pay-for-Results Prize Competitions to Commercialize Agricultural Innovations

March 3, 2021

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\$152 million multi-donor initiative that uses Pay-for-Results (PfR) prize competitions to incentivize the private sector to invest in high-impact agricultural innovations that help achieve the following goals:



Reducing Food Insecurity



Improving Household Nutrition and Health



Increasing Livestock Productivity

AgResults' **theory of change** rests on the idea that, if appropriately incentivized, the private sector will respond by creating and/or scaling new technologies to benefit smallholder farmers:



Identify or source new technology



Incentivize the private sector to overcome market barriers



Achieve wide-scale adoption and scaling



Create sustainable markets



Australian Government

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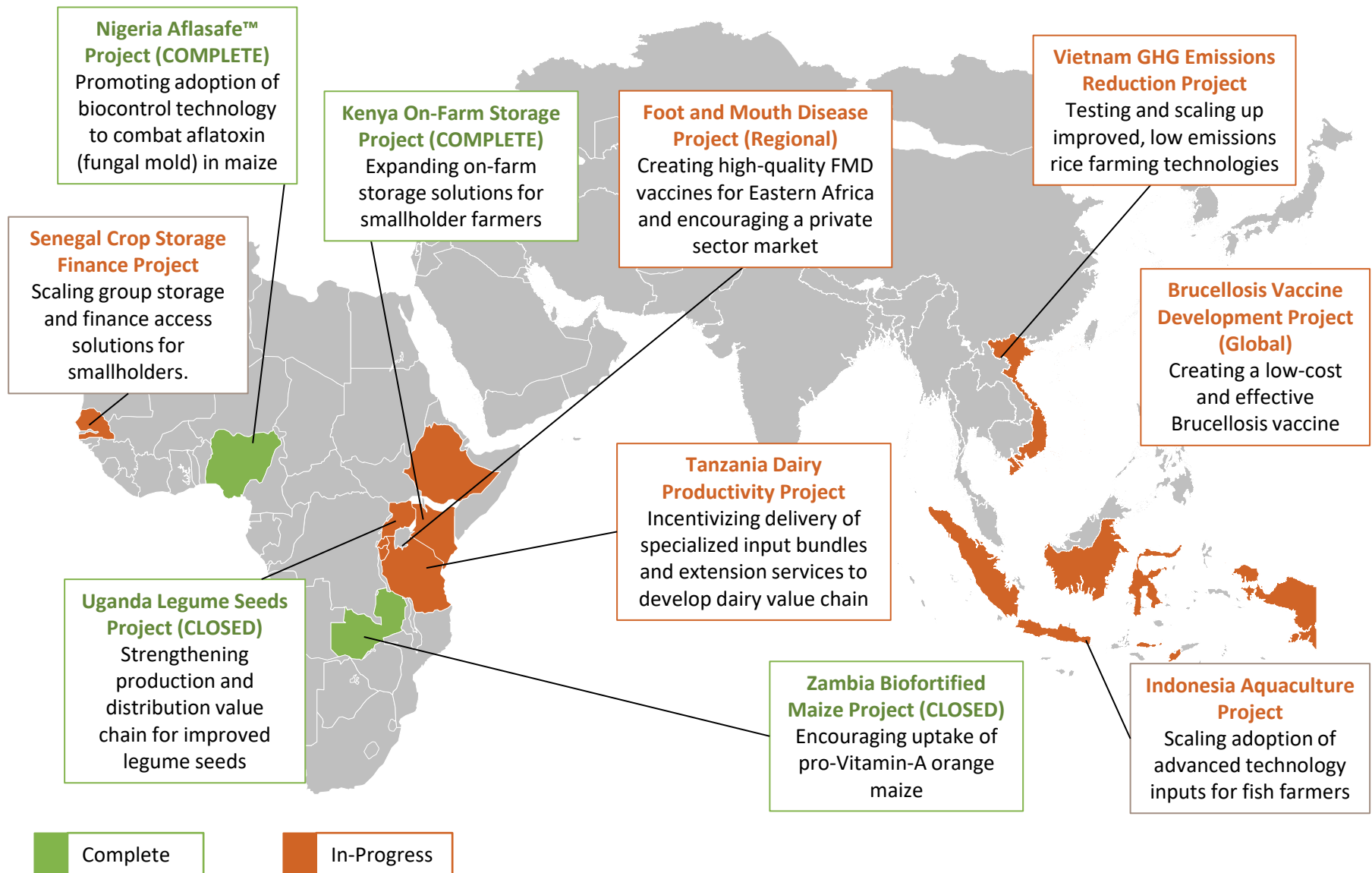


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Why Prize Competitions?

Prize competitions offer a unique value-add over traditional “push” (grant) funding:



Heighten Awareness

Opportunity to educate, inspire, and mobilize on neglected issues.



Pay Only for Results

Payments upon achievement of specific outputs.



Spur Private Sector Market Action

Solution-agnostic to allow private sector to respond in ways best suited to their business practices.



Stimulate Innovation and New Ideas

Allow for experimentation, multiple solutions, and varied paths to success.

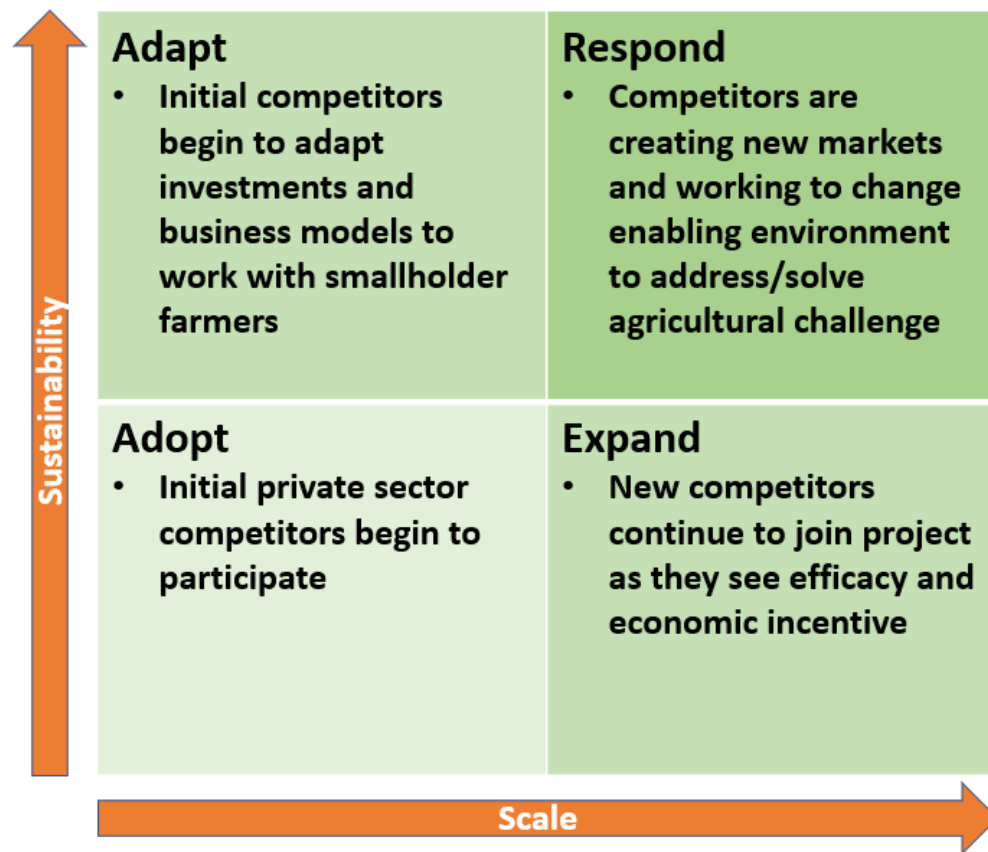


Prize competitions can create an enabling environment that drives scale-up of agricultural technologies to make markets systems more sustainable and resilient.

How Prize Competitions Create an Environment that Encourages Commercialization of Agricultural Innovations

AgResults competitions use monetary incentives to stimulate initial demand in otherwise thin markets. They show private sector 'competitors' the potential of expanding their business models and networks to scale agricultural technologies, benefiting previously excluded populations and strengthening entire food systems.

1. Prizes motivate the private sector to venture into untapped markets and **adopt** new ways to solve existing problems.
2. Prize-driven actions encourage competitors to **adapt** current business models and create new partnerships.
3. As the economic benefits of technology delivery emerge, the broader market landscape shifts and **expands** to strengthen relationships and scale the use of agricultural technologies.
4. Over time, mutually beneficial interactions along the value chain position competitors to better **respond** to changing market demands, transforming the entire market system to be sustainable and resilient.



Adapted from Nippard, Hitchens and Elliott, "Adopt-Adapt-Expand-Respond: a framework for managing and measuring systemic change processes." The Springfield Centre, March 2014.

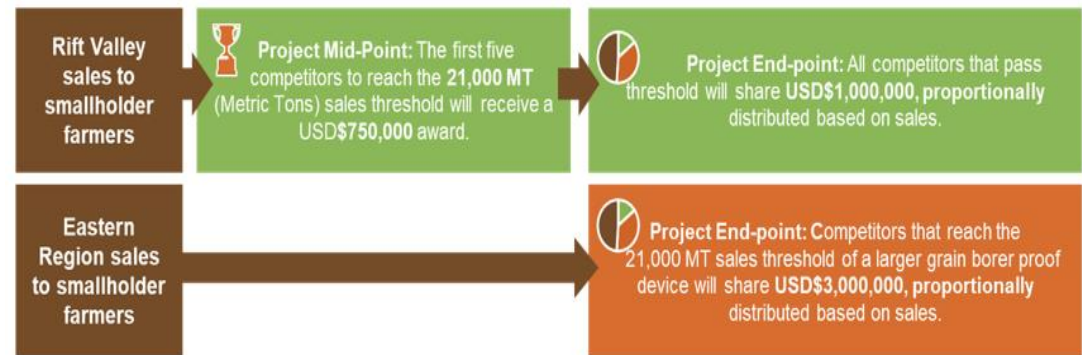
A Closer Look: The Kenya On-Farm Storage Challenge Project

Problem: Eastern Africa suffers from post-harvest grain losses that cost about \$US1.6 billion annually, but many smallholder farmers cannot access on-farm storage technologies and are forced to sell their crops immediately after harvest or use insecticides or less effective methods to store their crops.

Solution: US\$12 million prize competition incentivized private sector companies to develop, market, and sell on-farm hermetic storage devices to smallholder farmers in Kenya's Rift Valley and Eastern Regions to overcome storage challenges and reduce post-harvest loss.

Prize Incentive and Structure

- Competitors qualified for prizes by selling a minimum of 21,000MT of storage capacity to smallholder farmers.
- Mid-point prizes of \$750,000 each and proportional prizes totalling \$1M or \$3M (depending on the region) incentivized storage providers to invest in new distribution channels to rural areas.
- Smallholder farmers increased use of hermetic devices to reduce post-harvest loss.



Results (2013 – 2019)



9 companies participated



1,390,777 devices sold



413,265 MT storage capacity created



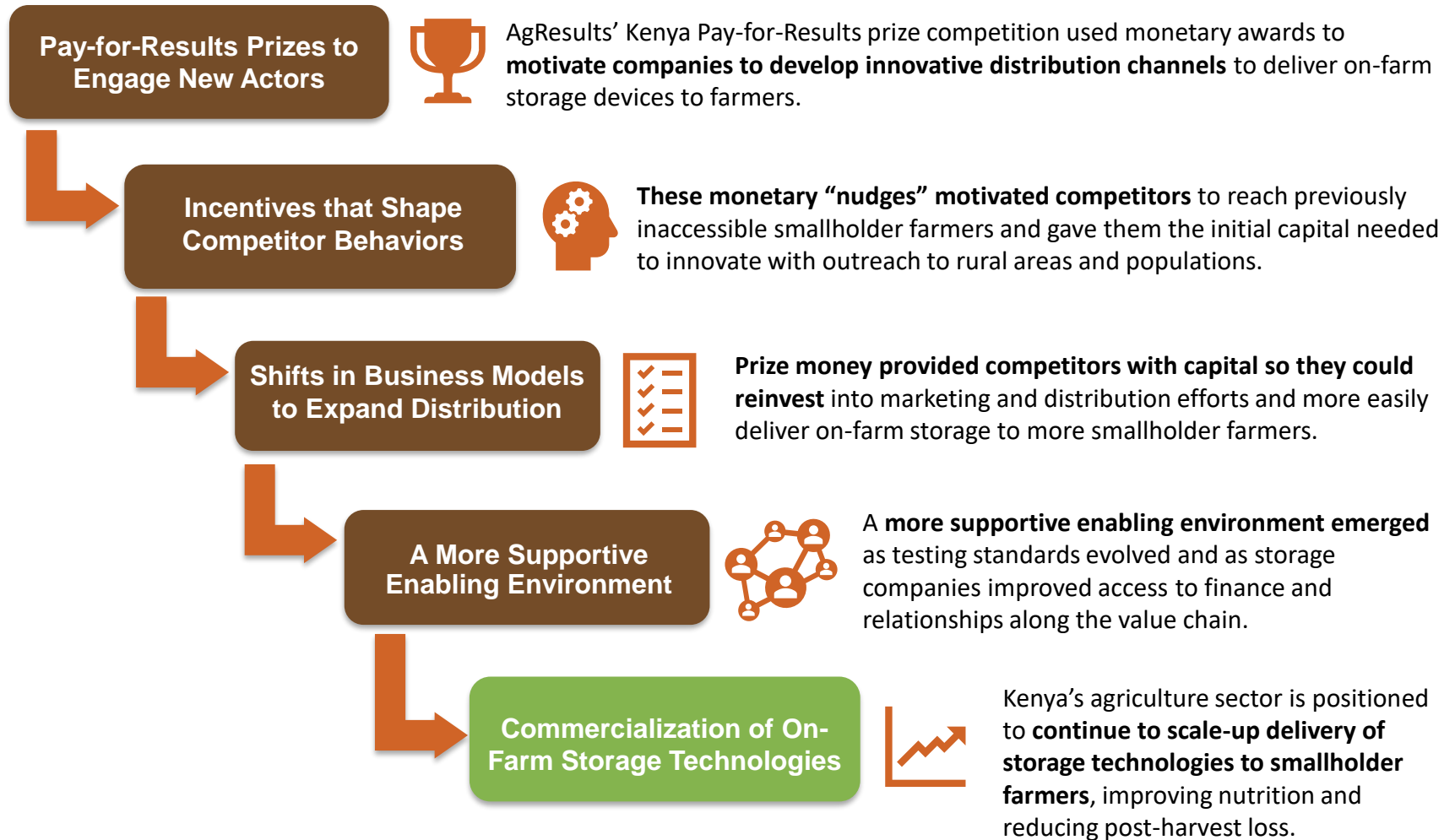
300,000 farmers reached



\$4.85M in competitor investments leveraged

Prizes and the Enabling Environment: Driving Scale-up in Kenya

In Kenya, prizes for on-farm storage device sales encouraged companies to rethink their distribution approaches. As they adjusted their business models and strengthened partnerships along the value chain, they successfully delivered storage technologies to smallholder farmers to reduce post-harvest loss and improve nutrition.



Summary: Embedding Sustainability via Scale-up in Kenya

Initial Hypothesis:

- Could or would SHF purchase hermetic storage solutions?
- Were these solutions affordable?
- Could these solutions improve prices through storage?
- Benefits of offsetting insecticide use in stored maize?

Challenges:

- Lack of existing standards for hermetic storage devices
- Development of testing standards and protocols, especially effectiveness against LGBs
- Access to finance

Outcomes:

- Competitors leveraged the prizes to obtain resources/investments.
- Demand exceeded expectations.
- Competitors created new distribution channels to reach end consumers.
- Competitors created links with actors in the value chain.
- Demand for on-farm storage among smallholder farmers continues to increase.
- Leading companies have diversified into the region.

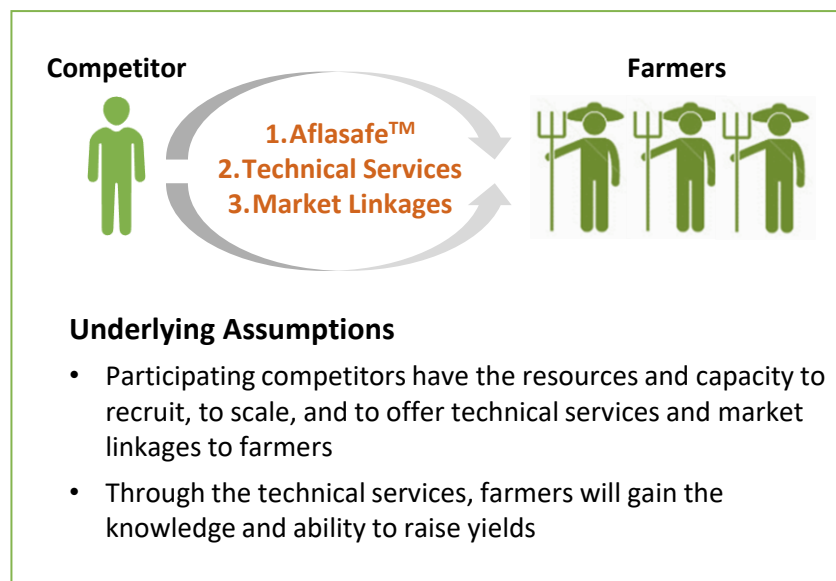
A Closer Look: The Nigeria Aflasafe™ Challenge Project

Problem: In Nigeria, the high prevalence of aflatoxins in maize produces a toxin that is carcinogenic and is associated with childhood stunting.

Solution: US\$12.68 million prize competition that incentivized private sector aggregators and grain traders to work with smallholder farmers to adopt Aflasafe™ and improve the quality of maize.

Prize Incentive and Structure

- Competitors worked with farmers, providing them with value-added services (including access to and training on using Aflasafe™ and other inputs) and market linkages.
- Competitors received a premium payment of \$18.75 per MT of aggregated maize with a >70% prevalence rate of Aflasafe™.
- Smallholder farmers benefited from higher yields, linkages to premium markets for aflatoxin-reduced maize, and consumption of aflatoxin-reduced maize.



Results (2013 – 2019)



35 companies
participated



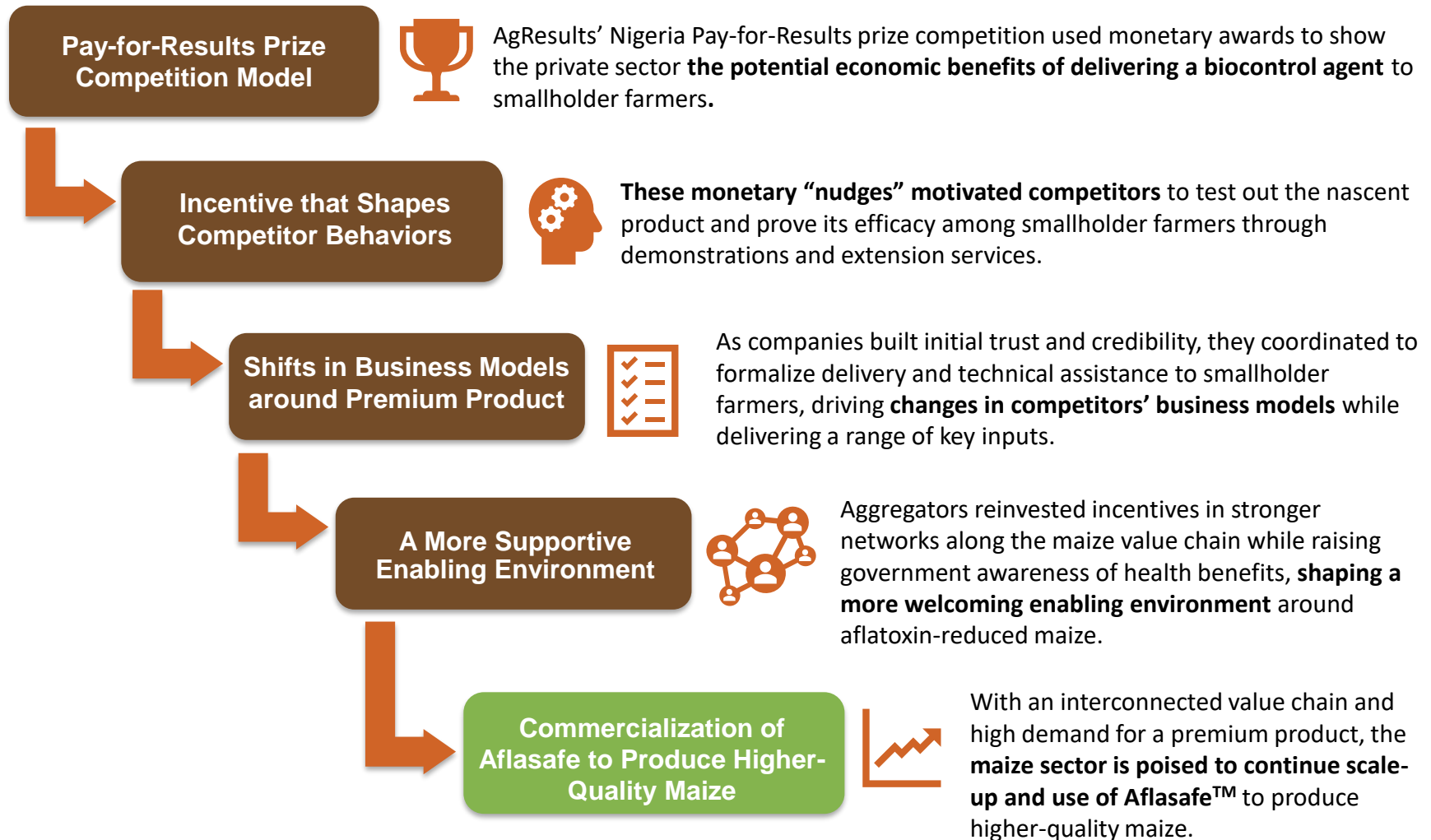
213,510 MT of
Aflasafe-treated
grain aggregated



75,788 farmers
reached

Prizes and the Enabling Environment: Driving Scale-up in Nigeria

In Nigeria, prizes for aggregated Aflasafe™-treated maize encouraged companies to teach best practices in Aflasafe™ application to smallholder farmers while raising public awareness of the health benefits, creating an enabling environment that drove up market demand and market prices for a higher-quality product.



Summary: Embedding Sustainability via Scale-up in Nigeria

Initial Hypothesis:

- Would provision of Aflasafe™ and inputs improve yield and produce aflatoxin-reduced maize?
- Was there demand in human, poultry, and swine markets for aflatoxin-reduced maize, and would a price differential develop in the market?

Challenges:

- The private sector is cautious about cash flow, and it will move slowly and cautiously towards innovation if it puts their capital at risk and deviates from their normal operations.
- Competitors and their associated farmers required 1-2 years of start-up to test the product and develop confidence in its use.
- Access to finance was critical but limited, and some competitors delayed scaling due to credit unworthiness. They eventually grew by reinvesting incentives and profits, but this slowed scaling. Only when they achieved sufficient volume did they become credit-worthy.
- Scale-up of delivery required competitors to develop trading and consolidation networks.

Outcomes:

- Market recognition of the product and nutritional value of aflatoxin-reduced maize emerged.
- A sustainable market developed with a price differential for a premium product.

Key Success Factors: Using Prizes to Facilitate Commercialization

- Pay-for-Results prize competitions should tackle two or three main challenges and not try to address too many issues at once.
- Competitions should not try to influence market supply and demand at the same time.
- In both cases, specific policies were not required, to the contrary, successes occurred in areas that didn't require specific policy changes or that were subject to political whims.
- Profitability must exist *after* the incentive goes away.
- The food safety or nutritional benefit must be clear to competitors as well as consumers.
- Market awareness is necessary to allow for uptake, continued growth, and future demand.





Thank you!

For more information and resources, visit the AgResults website:

<https://agresults.org/>