



# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

## Prize Call Innovator Handbook



A useful guide for prospective applicants  
of The Fall Armyworm Tech Prize





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# Acronyms

<b>AI</b>	Artificial Intelligence
<b>BCC</b>	Behavior Change Communication
<b>BFS</b>	Bureau for Food Security (USAID)
<b>CIMMYT</b>	International Maize and Wheat Improvement Center
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FAQ</b>	Frequently Asked Questions
<b>FAW</b>	Fall Armyworm
<b>GDP</b>	Gross Domestic Product
<b>GNSS</b>	Global Navigation Satellite System
<b>GPS</b>	Global Positioning System
<b>HCD</b>	Human Centered Design
<b>ICT</b>	Information and Communications Technologies
<b>IoT</b>	Internet of Things
<b>IPM</b>	Integrated Pest Management
<b>MEST</b>	Meltwater Entrepreneurial School of Technology
<b>ODI</b>	Open Data Institute
<b>OFAC</b>	Office of Foreign Assets Control
<b>T&amp;Cs</b>	Terms and Conditions
<b>USAID</b>	United States Agency for International Development



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# Glossary

**Agricultural Value Chain** is a concept that refers to the whole range of goods and services necessary for an agricultural product to move from the farm to the final customer or consumers.

**Artificial Intelligence (AI)** is the simulation of human intelligence processes by machines, especially computer systems.

**Behavior Change Campaigns** work to understand individual or group knowledge, attitudes and practices, as well as barriers related to the adoption of alternative practices deemed more positive and appropriate relative to setting. By creating a supportive environment for positive behaviors, people are enabled to initiate, sustain and maintain desirable behaviors.

**Co-creation Event** is a workshop which offers the possibility to co-create a solution with the target audience. This provides a great opportunity to test and refine the product based on the views and interactions of the people that are intended to use it.

**Fall armyworm (FAW)** is the larval life stage of a fall armyworm moth, known for its large-scale invasive behavior and propensity to consume over 80 different kinds of crops. Originally found in the Americas, African incidence of FAW was first reported in early 2016.

**Global Navigation Satellite System (GNSS)** is a system that provides autonomous geo-spatial positioning with global coverage and can be used for providing navigation or for tracking the position of something fitted with a receiver (satellite tracking).

**Global Positioning System (GPS)** is a satellite-based radio navigation system. These systems are extremely versatile and can be found in almost any industry sector. They can be used to map forests, help farmers harvest their fields, and navigate airplanes on the ground or in the air.

**Human Centered Design** is an innovative method of designing processes or tools in which people, and in particular end users, are placed in the center of the planning and the design by involving them directly at each step of the concept and product/service development.

**Integrated Pest Management (IPM)** is a broad approach of carefully monitoring the incidence of pests populations, weighing all appropriate measures, and carefully deploying interventions that minimize damage to human health and the environment, as well as keep pest damage below levels that compromise farmer incomes.

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**Internet of things (IoT)** is the interconnection via the Internet of computing devices embedded in everyday objects, enabling them to send and receive data.

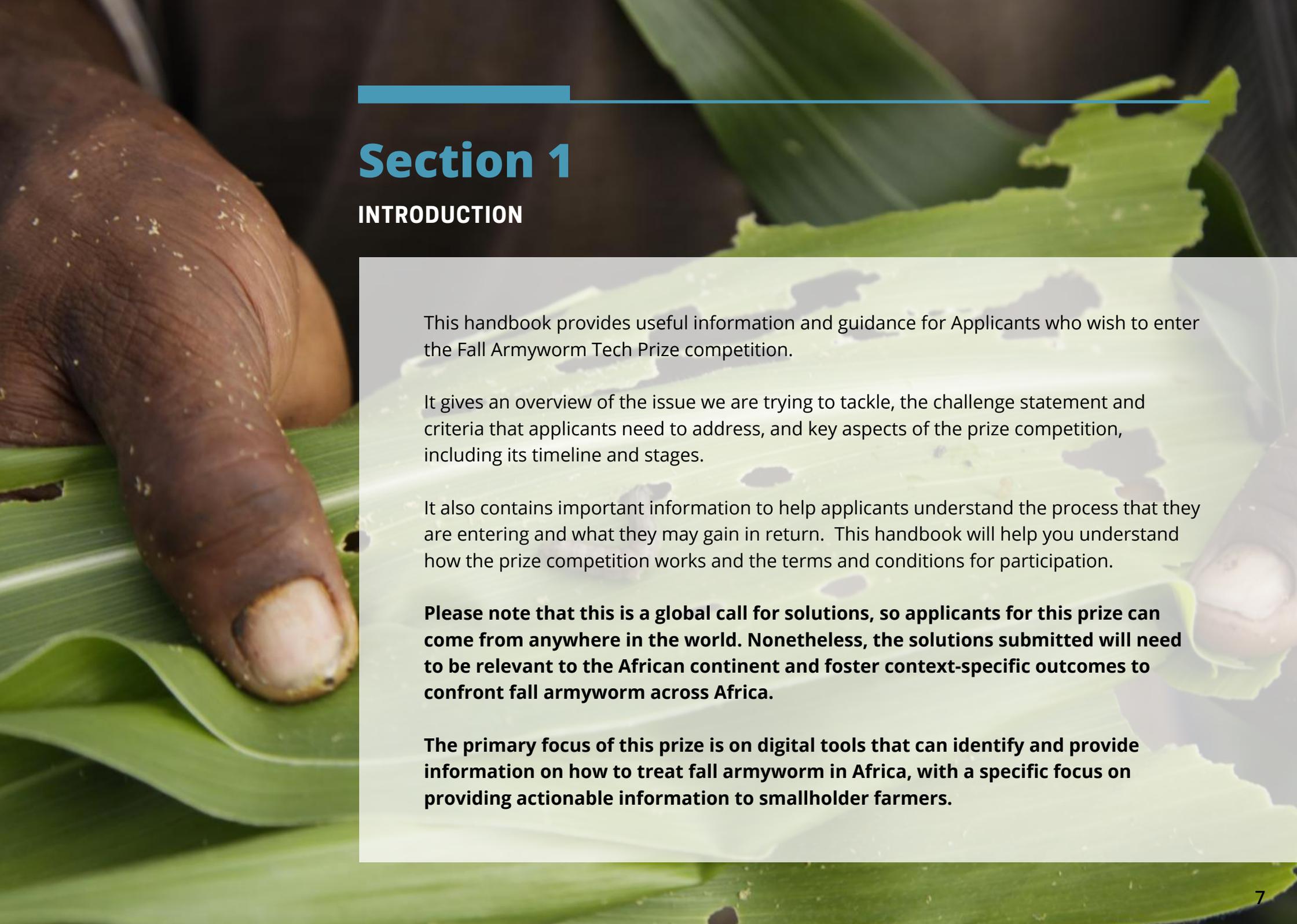
**Machine Learning** is the science of getting computers to act without being explicitly programmed. In the past decade, machine learning has given us self-driving cars, practical speech recognition, effective web search, and a vastly improved understanding of the human genome.

**Modelling** is the testing of design ideas to see if they can contribute to a fit-for-purpose technological outcome. There are two types of technological modelling: Functional modelling is the ongoing testing of design concepts. Prototyping is the realisation of a fully functioning model. In respect to behavioural modelling, this is the procedure that demonstrates a particular behavior, thought, attitude or action that you may want a user to acquire or change.

**Personally Identifiable Information (PII)** is any data that could potentially identify a specific individual. Any information that can be used to distinguish one person from another and can be used for de-anonymizing anonymous data can be considered PII. For example, full name, date of birth, or address.

**Prototype** is a first sample or early model of a product built to test a concept or process or function. A prototype aims to act as a demonstrator to be replicated or learned from.

**Sensors** are devices which detect or measure a physical property and records, indicates, or otherwise responds to it.



# Section 1

## INTRODUCTION

This handbook provides useful information and guidance for Applicants who wish to enter the Fall Armyworm Tech Prize competition.

It gives an overview of the issue we are trying to tackle, the challenge statement and criteria that applicants need to address, and key aspects of the prize competition, including its timeline and stages.

It also contains important information to help applicants understand the process that they are entering and what they may gain in return. This handbook will help you understand how the prize competition works and the terms and conditions for participation.

**Please note that this is a global call for solutions, so applicants for this prize can come from anywhere in the world. Nonetheless, the solutions submitted will need to be relevant to the African continent and foster context-specific outcomes to confront fall armyworm across Africa.**

**The primary focus of this prize is on digital tools that can identify and provide information on how to treat fall armyworm in Africa, with a specific focus on providing actionable information to smallholder farmers.**

# 1a. The Problem

## FALL ARMYWORM & SMALLHOLDER FARMERS



**Fall armyworm (FAW) poses a serious threat to Africa's food security. Native to the Americas, FAW was first identified in Africa in 2016 and is now present across sub-Saharan Africa and is on the precipice of devastating food staples as it quickly spreads across the continent. Differing from other types of armyworm present on the continent, like African armyworm, FAW eats the vegetative as well as the reproductive parts of plants, rendering further crop growth impossible.**

**FAW attacks over 80 different plant species. Agriculture experts estimate the pest could cause between \$2.4 and \$6.2 billion in losses for maize, a major staple crop in Africa on which more than 200 million people depend. Crops like sorghum, rice, and sugarcane are also at risk.<sup>1</sup> Unchecked, FAW is not only a threat to the livelihood of farmers, but to food security across the continent.**

The FAW caterpillar, or larva, cause the most damage. Young larvae usually feed on leaves, creating a characteristic "windowing" effect and moist sawdust-like frass near the funnel and upper leaves of crops like maize.

As the larvae mature, they burrow inward toward the whorl eating plant

seeds and reproductive structures. Larger larvae can even cut the base of the plant. Failure to identify these pests and take action in a timely manner can cause farmers to lose almost half of their fields.

Confirmed presence in more than 35 African countries, this problem does not exist in isolation and poses a serious threat to smallholder communities across the whole of Africa. The female FAW can lay up to 1,000 eggs at a time and can produce multiple generations very quickly without pause in tropical environments.<sup>2</sup> If allowed to reach maturity, FAW moths can fly distances up to 1,600 kilometers in 30 hours (almost 1,000 miles).<sup>3</sup> A response to this problem needs to be regional, if not continental.

<sup>1</sup> "Multi-pronged approach key for effectively defeating fall armyworm in Africa," April 2017.

<sup>2</sup> [http://www.cimmyt.org/press\\_release/multi-pronged-approach-key-for-effectively-defeating-fall-armyworm-in-africa/](http://www.cimmyt.org/press_release/multi-pronged-approach-key-for-effectively-defeating-fall-armyworm-in-africa/)

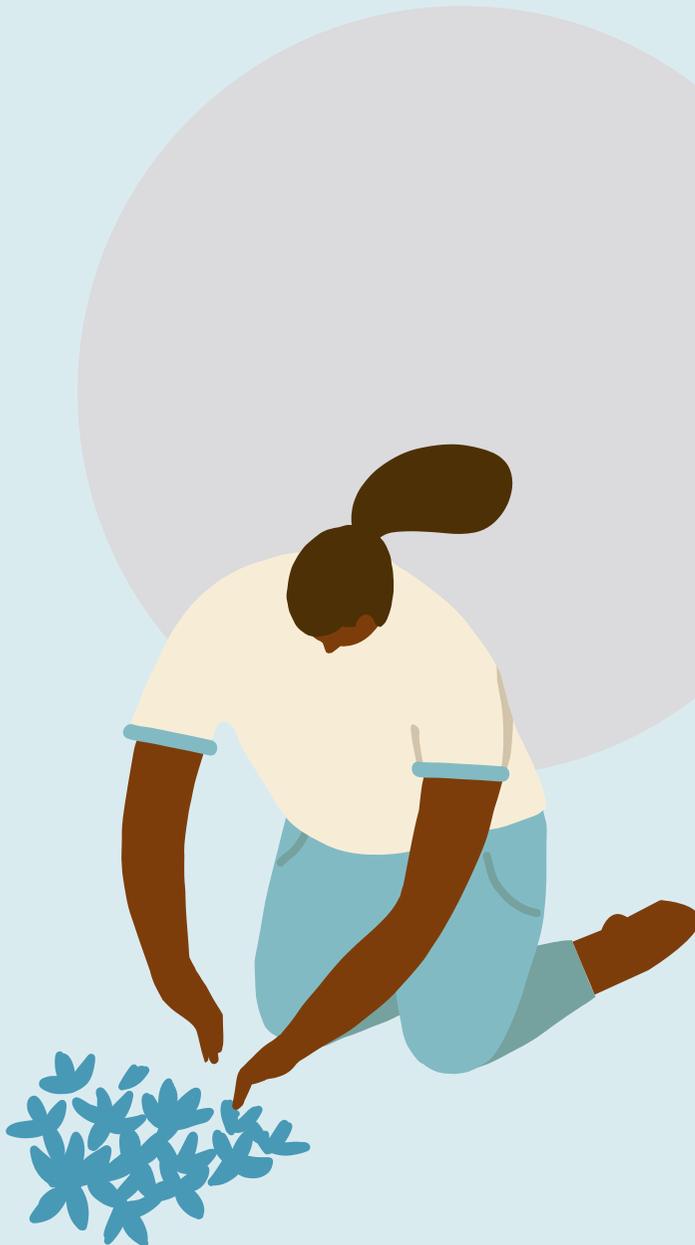
<sup>3</sup> <https://www.brookings.edu/blog/africa-in-focus/2017/06/07/fall-armyworm-outbreaks-in-the-sadc-region-how-to-respond/>

## ABOUT THE PESTS

- Can lay up to 1,000 eggs at a time and produce multiple generations quickly and continuously in tropical environments
- Eggs are laid at night and are dome-shaped with a flattened base and body that curves upward to a broad, rounded point at the apex
- Hatching takes 2-10 days (typically between 3-5)
- Larger larvae are nocturnal and burrow into plant whorl for food, thus making them hard to spot during the day and hard to reach with pesticides
- The face of the mature larva is marked with a white inverted “Y”
- Pupation normally takes place in the soil, at a depth 2 to 8 cm
- When FAW enter the moth phase, they swarm and disperse, seeking other food
- However, moths will often remain in locality of wild grasses if available
- Adults live, on average, for 12-14 days <sup>4</sup>

Please see [CABI plantwise](#) for FAW identification

<sup>4</sup> Featured Creatures: Fall Armyworm,” May 2017.  
[http://entnemdept.ufl.edu/creatures/field/fall\\_armyworm.htm](http://entnemdept.ufl.edu/creatures/field/fall_armyworm.htm)



## 1b. Treatment Options



**FAW is not a new pest, but is new to the African context. Smallholder farmers may misidentify the insect and select an improper treatment method in an effort to save their crops. Farmers urgently need clear and actionable pest identification information and a series of reasonable treatment options that take regional contexts and limitations into account.**

**FAW was originally found in the Americas and to an extent, has been contained through the use of genetically modified (GM) seeds and crops alongside judicious pesticide spraying. While these treatment options and others work in the Americas, they are often too expensive or inaccessible for smallholders without government support or subsidies. Further, many African countries have either forbidden the introduction of GM crops, have not yet allowed the introduction of GM crops, or have not yet completed testing GM crops.**

Pesticide spraying has been one of the most widely used treatment methods in Africa. To be legally used for FAW control, a pesticide must be registered, requiring information around its effectiveness and the health and environmental risk it poses.<sup>5</sup> Many effective and FAW-specific pesticides have been registered for use in the Americas. However, no pesticides have been fully registered specifically for FAW in Africa, resulting in the use of unregistered and illegal pesticides, or pesticides meant to treat other invasive pests.<sup>6</sup>

Field anecdotes indicate some farmers have grabbed any pesticide available and started dosing their crops. This treatment method is dangerous not

<sup>5</sup> P. Abrahams, T. Beale, M. Cock, N. Corniani, R. Day\*, J. Godwin, S. Murphy, G. Richards & J. Vo, "Fall Armyworm Status Impacts and control options in Africa: Preliminary Evidence Note" CABI, April 28 2017. <http://www.cabi.org/Uploads/isc/Dfid%20Faw%20Inception%20Report28apr2017final.pdf>.

<sup>6</sup> B.M. Prasanna, J. Huesing, R. Eddy, V. Peschke. "Fall Armyworm in Africa: A Guide for Integrated Pest Management" USAID, CIMMYT, and CGIAR, January 31, 2018 p. 91. [https://feedthefuture.gov/sites/default/files/resource/files/FallArmyworm\\_IPM\\_Guide\\_forAfrica.pdf](https://feedthefuture.gov/sites/default/files/resource/files/FallArmyworm_IPM_Guide_forAfrica.pdf).

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only for the crops, but for the farmers spraying and coming in contact with harmful, inappropriate chemicals. Even if farmers select an appropriate pesticide, they may not spray at the right stage in a FAW growth cycle to make a difference--larger larvae bore into the whorl or cob of the plant during the day, shielding them from exterior spraying.

Other options such as bio-pesticides, pheromone traps, mass rearing and release of parasitoids and predators, and cultural control methods are being researched or in development, but not yet ready for mass deployment or distribution. At later stages of plant growth, hand picking and squishing of eggs and larvae is option, but is extremely time consuming. To date, vigilant monitoring has been effective to detect young FAW larvae and to determine whether treatment is justified.

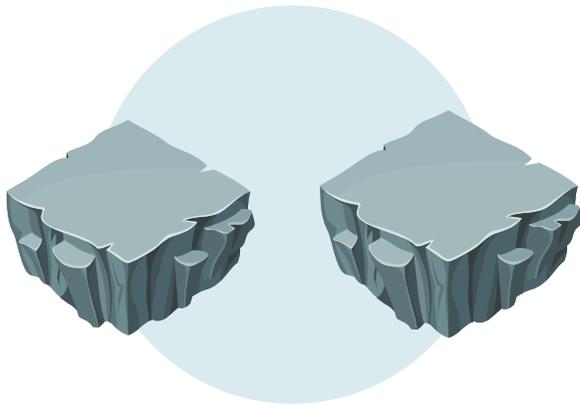
As mentioned above, in resource-constrained scenarios, farmers may consider the agroecological treatment options at their disposal. Based on a review of available evidence, several low-cost cultural practices and landscape management options are currently recommended for control of FAW. They are discussed in greater detail in [Fall Armyworm in Africa: A Guide for Integrated Pest Management.](#)

One approach worth mentioning is the “push-pull” approach. In this cropping strategy, farmers protect cereal crops from pest damage by intercropping them with pest-repellent (“push”) plant species (e.g., *Desmodium* spp.), surrounded by a border pest-attractive trap (“pull”) plant species (usually grasses such as napier grass (*Pennisetum purpureum* Schumach.) or *Brachiaria* spp.). In one recent study conducted across East Africa, farmers who fully implemented the Push-Pull approach reduced FAW infestation and crop damage by up to 86%, with a 2.7-fold increase in yield relative to neighboring fields that did not implement the approach (Midega et al. 2018). Though implementing Push-Pull requires initial financial costs to establish the companion plants, costs gradually reduce in subsequent seasons.

Furthermore, beyond controlling FAW and other stemborer pests, Push-Pull has also been reported to reduce *Striga* infestation, increase nitrogen and soil humidity, and most importantly, provide a suitable environment for the proliferation of predators and parasitoids of FAW (Khan et al. 2010). However, achieving the benefits of the Push-Pull approach depends heavily on proper establishment and management of the companion plants, and is therefore highly knowledge and labor intensive.

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## 1c. Information Gaps



To ensure farmers, and those who support them, can detect and properly treat fall armyworm, they need access to clear and actionable information about the pest. While some communication tactics exist, there are several barriers keeping them from adequately reaching farmers:

- Language
- Literacy
- Policy barriers in communications
- Low population density
- Small and fractured plot distribution
- Limited channels

These factors vary across different geographies and adaptation is needed to ensure that a solution is relevant and accessible in the target communities an innovator is serving. In addition, further research is needed across the continent, through national and regional institutes, to understand the insect's life cycle stages and feeding habits in Africa and any variance in behaviors, speciation, predators, or pest treatment unique to the introduction of FAW in Africa.

# 1d. Feed the Future's Role in Addressing FAW



**At present, FAW in Africa threatens harvests and economic growth on a continental scale. Feed the Future, America's global hunger and food security initiative, aims to transform lives toward a world where people no longer face extreme poverty, undernutrition and hunger. To achieve this, Feed the Future works hand-in-hand with partner countries to develop their agriculture sectors and break the cycle of poverty and hunger.**

**In particular, Feed the Future aims to:**

- Increase agricultural productivity and generate opportunities for economic growth and trade in developing countries.
- Boost the harvests and incomes of rural smallholder farmers, who are the key to unlocking agricultural growth and transforming economies.
- Improve agricultural research and development and get existing, proven technologies to more people.
- Increase resilience to prevent recurrent crises and help communities better withstand and bounce back from crises when they do happen.

USAID's Digital Development for Feed the Future team believes that with advances in digital communications,

social networks, satellite imagery, electronic data collection and sharing, sensing technologies, crowdsourcing, and the global movement to share open data, more information than ever can be efficiently communicated and made relevant for farmers. While digital tools and approaches are not the only solutions to FAW (and depending on the context, may not be appropriate), technological solutions can help serve as a force multiplier to already strained advisory services.

Unfortunately, all too often, developers of these technologies fail to connect with smallholder farmers, NGOs, agriculture extension professionals, and ministries of agriculture to ensure the end-user is able to successfully benefit from this information, pursue informed interventions, and utilize these technologies at scale. To that end, Feed

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the Future is issuing a prize to support smallholder farmers in the face of a new, highly invasive pest so that they might recognize it and take appropriate action to maintain agricultural production.

This competition will incentivize the integration and application of fall armyworm interventions into sustainable, demand-driven digital approaches that enable smallholder farmers or those who work with them to recognize and take effective action against the pest.

This prize is focused on sourcing and sparking innovations for African smallholder farmers and those that work with them. But given the global nature of this problem, we anticipate some of these solutions could have relevance beyond Africa.



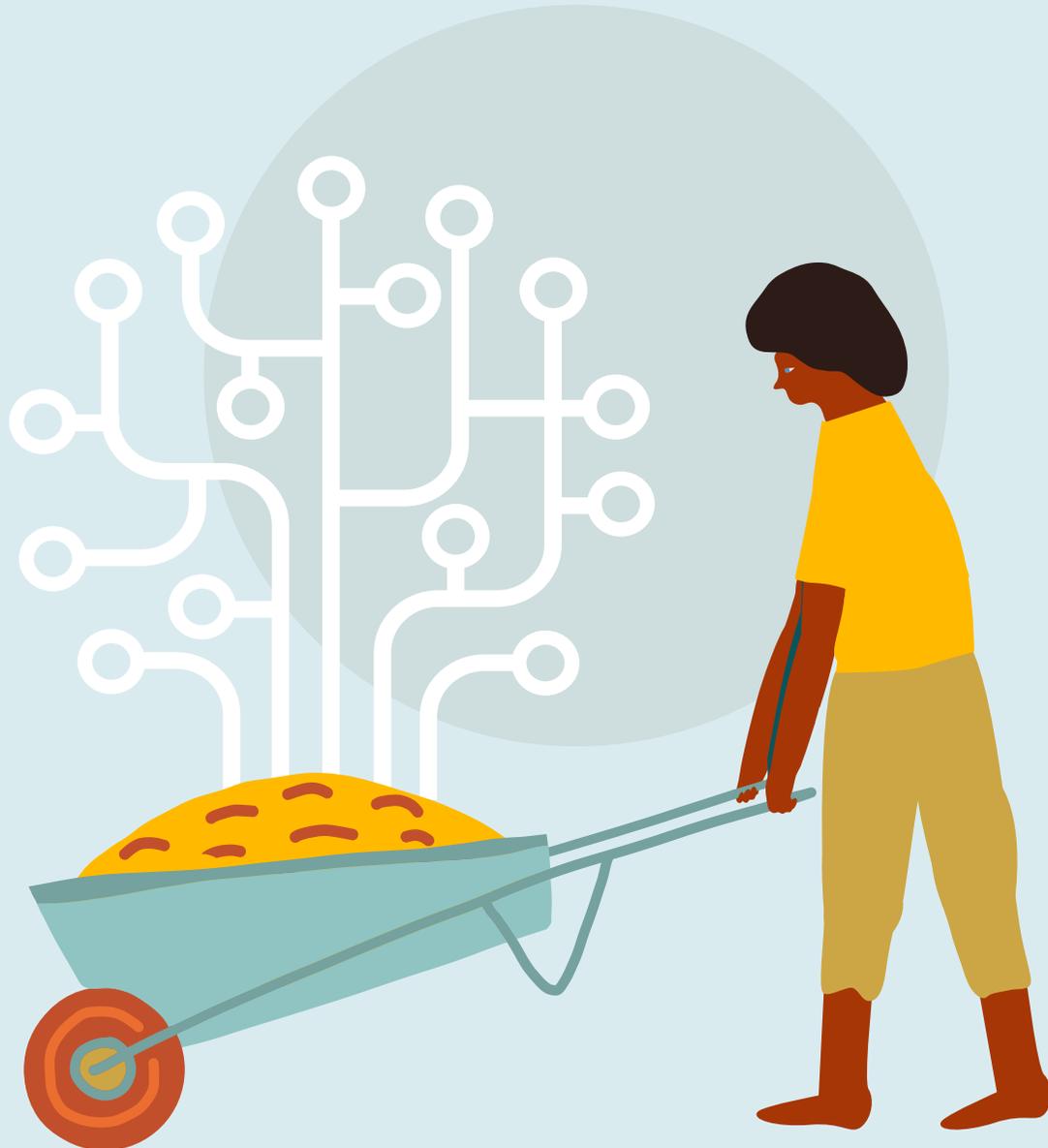
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## Section 2

### THE PRIZE COMPETITION



## 2a. Prizes



Prize competitions are a tried and tested method for supporting innovation. They offer a reward to those who can first or most effectively deliver a defined result. They act as an incentive for meeting a specific target.

Prizes are also a means of opening up the process of solving a problem beyond the 'usual suspects,' thus facilitating the engagement and participation of anyone who can solve the problem.

The Feed the Future initiative sees this open innovation approach as a critical tool in its work to improve agricultural productivity, expand markets and trade, and increase the economic resilience of vulnerable rural communities, in all its partner countries.

## 2b. The Prize Statement



**The prize is seeking digital tools and approaches that provide timely, context-specific information that enable smallholder farmers and those who support them to identify, treat, and track incidence of fall armyworm in Africa.**

In particular, the solutions will be field tested in a designated African context and should be able to meet one or more of the following outcomes:

### **Primary outcomes:**

- Enable smallholder farmers and those who support them to accurately identify incidence of FAW in their crops.
- Produce timely, context appropriate, and empowering insights for smallholder farmers to treat the incidence of FAW.
- Reduce productivity losses caused by FAW among those using the tool or approach.
- Ensure the appropriate and responsible use of pest management assessments, tools, and interventions.

### **Secondary outcomes:**

- Alert smallholder farmers to the threat of FAW and inspire regular crop oversight.
- Relay information on the incidence of FAW to other decision-makers tracking the spread and incidence of the pest.
- Exemplify or model how these tools might apply to other agricultural pest and disease interventions.

This prize will incentivize the development, application, and measurement of sustainable tools that enable smallholder farmers and those who support them to monitor, identify, treat and report the incidence of FAW. By using digital-enabled tools such as machine learning, interactive voice response, social networks, automated decision trees - to name a few - these innovations can empower smallholders to intervene in the spread of FAW and share data with those tracking it.

## 2c. The Prize Fund

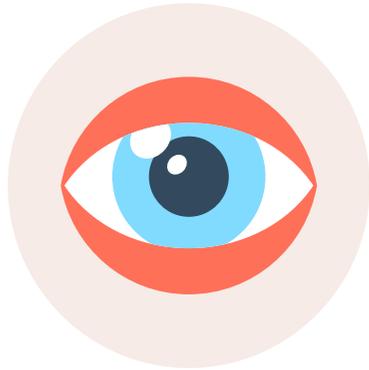


**Feed the Future and its partners Land O' Lakes International Development and the Foundation for Food and Agriculture Research, will be awarding \$400,000 in prizes for digital solutions that strengthen resilience against fall armyworm in Africa, ultimately strengthening food security across the continent.**

- One grand prize of \$150,000 to the most viable solution
- Two significant awards of \$75,000 to the most promising solutions
- Two up and comer awards of \$50,000 to early stage developments that show potential
- Prize awards will be announced at an event in September/October 2018.



## 2d. Eligibility Criteria



**The prize is designed to inspire a broad range of global applicants, and would also like to encourage African-led innovation.**

- **Open to all** - We are open to solutions from individuals, groups, organizations and companies globally, particularly local innovators from Africa.
- **Local applicability** - Though the call is global and solvers can come from all over the world, the solutions will be tested and applied in field contexts in Africa.
- **Willingness to share learning** - All entrants need to demonstrate a willingness to share their experiences and learning to help establish a body of knowledge that can bring about a sustained change in smallholder farmer outreach, awareness, and action with respect to digital tools and plant health, as well as pest and disease management.
- **Prototyping skills** - Applicants need to ensure they have the capacity to adapt their existing solution to address FAW, or, to develop a prototype of the solution within the prize time frame. Limited support will be provided to help achieve this, but applicants must be able to develop and test prototypes during the course of the prize, if selected.
- **Intellectual property** - Applicants must have rights to all of the intellectual property in the submission must belong to the applicant. Applicants will retain the intellectual property rights to their entry to the prize. Such intellectual property must be clearly marked as proprietary. It is the applicant's responsibility to ensure that they are not infringing on the intellectual property of others.

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- **Incomplete entries** - Incomplete eEntries may be removed from the competition will not be assessed if all required fields have not been completed. This applies to any stage of submission for the Prize and also relates to missing documentation that may have been requested.
  - **Applications in English** - Entries need to be submitted in English by 14th May 2018, 23:59 ET, and will be assessed against the judging criteria for the Prize outlined on pages 21-29.
  - **USAID responsibility determination** - USAID will conduct a responsibility determination prior to award, to ensure that award to the organization meets applicable U.S. laws, including regulations administered by the Office of Foreign Assets Control (OFAC) of the U.S. Department of Treasury. For more information, see the OFAC website: <http://www.ustreas.gov/ofac>, including the list of Specially Designated Nationals.



## 2e. Judging Criteria

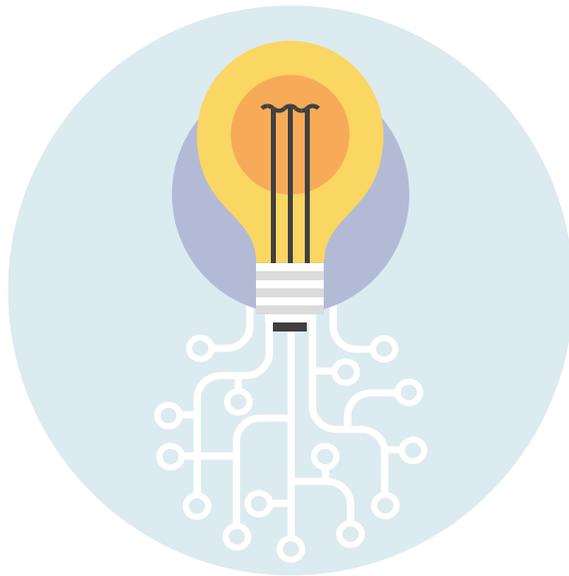
This section outlines the criteria by which applications will be assessed and judged throughout the prize process.

It is important to read and understand the judging criteria to appropriately complete the answers in the entry form. Entry form questions are outlined as Annex C for reference only. Submissions will only be accepted online at [fallarmywormtech.challenges.org](https://fallarmywormtech.challenges.org)

There are 6 judging criteria and the information provided below aims to help Applicants understand what the judges will be looking for when making their decisions.



# Criteria 1 - Digital Tools



**The solution must be a digital tool that can be used by smallholder farmers or stakeholders who work with smallholder farmers. All types of digital technologies are encouraged and eligible for this prize.**

## We will be assessing:

- The extent to which a solution incorporates digital technologies
- Solutions that demonstrate new or adaptive digital approaches to help address the issue of FAW
- How effectively the digital solution translates information into actionable insights for farmers

## Please note

In this instance, digital tools are described not only as technologies that generate, store, and process information, but also as an enabler for better information sharing that can lead to appropriate action.

Digital tools and approaches should not be seen solely as a 'thing' but more as a way of 'doing things'. This is not an exhaustive list, but provides additional guidance to support your understanding of the breadth of approaches that can be taken:

- Technologies may include IoT, AI, machine learning, sensors and modelling, to name but a few examples
- Information can be derived from sources such as GPS, GNSS, geospatial, weather and environment data sets and/or from content like decision making processes, user experience and policy guidelines
- Solutions can be in the form of hardware or software solutions, apps, computing platforms, electronic equipment, digital communications, social networking, interactive voice response, and audio visual material, etc.

## Criteria 2 - Actionable Information



**The submission should provide timely, context-appropriate, and actionable advice to users to enable them to select among available best practices in treating incidence of fall armyworm.**

### **We will be assessing:**

- The effectiveness of the solution in communicating the importance of monitoring and intervening in the spread of FAW in Africa
- The extent to which farmers are able to mitigate against the threat, accurately identify and take action to combat FAW
- The extent to which farmers are able to distinguish FAW (both the insect and/or the resultant damage) from other pests
- How effective the solution presents timely, actionable, and context-appropriate insights for farmers (see examples in notes)
- The extent to which the advice presented reflects best practices and guidelines from information such as [Fall Armyworm in Africa: A Guide for Integrated Pest Management](#)
- How effectively the solution uses best practice methods, that may include but are not limited to, behavior change communications (BCC) and human-centered design (HCD)
- Direct feedback from testing with diverse farmers and any other end-users about whether they can utilize the insights from the solution to make timely, action-oriented decisions with respect to FAW. (That is to say, farmers and those who support them are not being advised to use interventions unavailable to them)

## ACTIONABLE INFORMATION

### **Please note**

Context-appropriate advice should take into account issues including but not limited to:

- The lifecycle of FAW
- The type of crop and its growth stage in a given geography
- The availability of certain interventions in a given geography, and at a given time (e.g., not recommending a pheromone trap if that trap is not available in a given region or as a matter of national policy)
- Communication methods may also include:
  - Reminders
  - Trusted personal networks
  - Tapping into existing local, national, or international campaigns can lead to appropriate action.

# Criteria 3 - Accessibility



**The solutions should demonstrate that there is a clear understanding of end-user needs (smallholder farmers and related stakeholders in Africa), which can be effectively met with sufficient flexibility towards ease of use and affordability. Applications should take into consideration different languages, levels of education, digital literacy and connectivity.**

## We will be assessing:

- How clearly an understanding of the specific need at farm level is articulated (e.g., what type of product/approach is most suitable for farmers and related stakeholders to access the information)
- The ease of use of the solution/ information (through testing)
- How accessible the solution is likely to be to its target audience, and for underserved populations (e.g. women/ girls, people with disabilities, and other socially relevant groups such as low-income, marginalized ethnicities, and landless or land-poor households), through the applicant's account of business planning and distribution models
- How the solution takes into account variations in digital penetration and digital connectivity and the creativity it deploys to overcome those barriers

- Value for money to the farmer or other end-users (including ongoing maintenance or replacement considerations)

## Please note

- Applicants should consider
- Gender disparities in technology access and agricultural roles.
- Obstacles that may inhibit acquisition and use.
- Tactics to mitigate any barriers.
- How much it will cost customers to buy and maintain it.
- Who has the skills and capacity to maintain the solution.

## Criteria 4 - Potential Impact



**The submission should present a tangible response to farmers' unique experience with fall armyworm in Africa, with clarity about how it intends to address a given situation and what difference that is likely to make.**

**Impact will be measured according to the degree to which the solutions can provide actionable insights for on the ground farming decisions to be made across Africa, including associated impacts on environment and health.**

**We will be assessing:**

How clearly the understanding of need is translated into the solution and methods of dissemination to address the situation (e.g., how farmers might treat FAW to protect and maintain productivity)

Whether there is a good understanding of the likely impact that the solution will

have on smallholder farmers, including gender and cultural dynamics

The extent to which applicants have developed a working prototype of the solution by June 2018 to test the prototype with smallholder farmers and extension services in Uganda (or a representative field site in another geography) on its utility and perceived impact for representative categories of intended adopters/users

The extent to which a diverse range of smallholder farmers (men, women, ethnic minorities, etc.) and extension or advisory services perceive the applicants solution (by experiencing a prototype) can have a positive impact on identifying, mitigating and combatting FAW.

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## POTENTIAL IMPACT

How the solution minimizes environmental impact and ensures the sustainable use of natural resources

How the solution minimizes health impact and ensures informed choices around different pest control tactics.

Direct feedback from testing with diverse farmers and any other end-users about whether they can utilize the insights from the solution to make timely, action-oriented decisions with respect to FAW. (That is to say, farmers and those who support them are not being advised to use interventions unavailable to them)



# Criteria 5 - Market Potential



**Applicants should consider the commercial, sustainability and growth potential of their solution. Sustainability relates to both financial and environmental considerations.**

## **We will be assessing:**

- How well the solution has been developed in relation to a particular market and how well that particular market and its growth potential is understood
- A realistic understanding of solutions that are already out there and how this solution fits into that landscape
- Appreciation of the costs associated with the solution and bringing it to market, as well as how they compare to the costs of existing solutions currently available
- The development of a sustainable business model that allows for scaling, ongoing product updates and maintenance
- Demonstration that the production and deployment of an applicant's solution will value and respect environmental sustainability

- Any partnerships or strategies to ensure the affordable and effective transmission of the innovation

## **Please note:**

The business and distribution models should take into account:

- How accessible the solution is likely to be, including by underserved populations (e.g. women/girls, people with disabilities, and other socially relevant groups such as low-income, marginalized ethnicities, and landless or land-poor households)
- Production values that minimize negative environmental and health impacts

## Criteria 6 - Adherence to Regulations, Privacy and Norms



**Applicants will consider international norms with respect to digital development and fall armyworm when proposing their innovation.**

### We will be assessing:

- Adherence to any laws in the target country(s) for implementation and the host country of the applicant including, but not limited to, digital tools, pesticide use, genetically modified organism use, remote sensing tools, or data protocols
- Reference to appropriate practices in [Fall Armyworm in Africa: A Guide for Integrated Pest Management](#)
- Incorporation of the [Principles for Digital Development](#)
- The ability of the solution to relay data to others tracking the incidence of FAW
- Protection of any personally identifiable information if collected or used
- Cultural sensitivities and norms

### Please note:

Considerations here include rules, regulations, principles, or norms surrounding:

- Digital tools
- Pesticide use (including the introduction of biopesticides)
- Improved seeds, crops and/or genetically modified organism use
- Remote sensing tools
- Data protocols

This is just a guide for some of the aspects of your solution that are affected by regulations, privacy laws and cultural norms. Please be mindful of the areas of consideration for your solution.

## 2f. Assessment and Judging Process

A panel of Judges will assess solutions to inform decisions about the selection of finalists and winners. The judges will be representatives of the partnership, including Feed the Future, USAID, Land O'Lakes, CIMMYT, CABI, the Syngenta Foundation, the Foundation for Food and Agriculture, the Overseas Private Investment Corporation and other experts from the Bill and Melinda Gates Foundation and the Department for International Development, with particular knowledge and expertise across a range of areas from agriculture, digital development, contexts specific to African smallholder farmers, FAW, and innovation and international development. For awards made with USAID funds, USAID will have sole discretion over the ultimate winners of the prize.

### THERE WILL BE 2 KEY STAGES OF ASSESSMENT AND JUDGING FOR THIS PRIZE

#### **1. Entry Stage Assessment (May 2017)**

- The entry form clearly outlines which questions relate to particular criteria for ease of reference. However, it is important to complete all sections of the entry form for the application to be considered, as the other parts are also important for evaluation purposes.
- Each complete and eligible entry form that is submitted will be assessed and scored by assessors -- representatives of the partner organizations and implementation parties.
- Assessors will make a recommendation based on those scores which will be shared with the judges.
- The judging panel will convene to determine who should be going forward as the 20 Finalists to the co-creation event in Uganda and make the final recommendation to USAID.

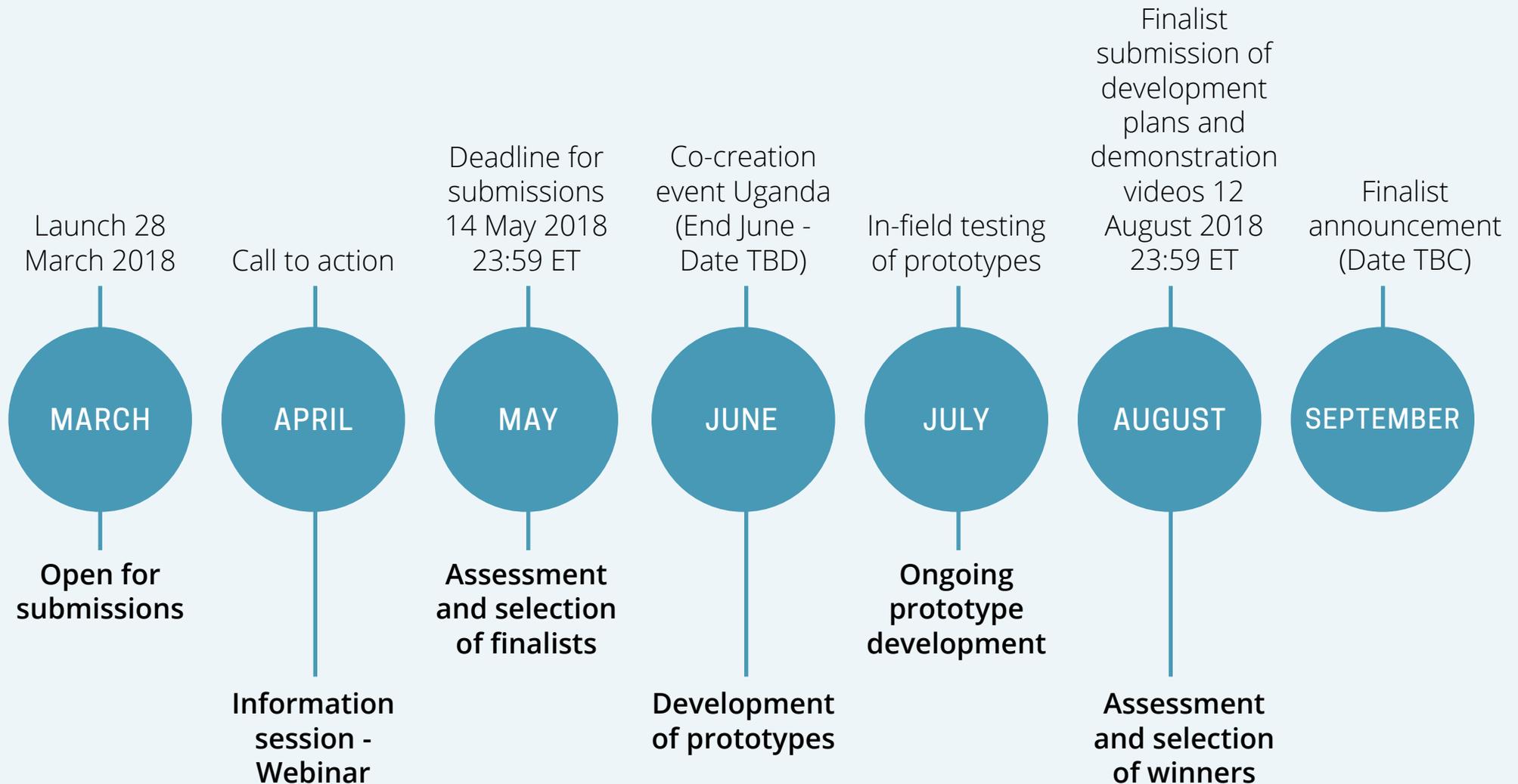
## **2. Final Assessment (August 2017)**

- Finalists must develop a prototype, field test the prototype and prepare a Finalists will be required to submit a development plan. after developing and field testing prototypes with users.
- Finalists must submit their development plan and will also be required to prepare a presentation of their solution for the judging panel.
- The judges will then come to a decision about whom to recommend to USAID to receive the \$150,000 grand prize for the most viable solution that meets the judging criteria. The judges will also make a recommendation to USAID about who is to receive the two \$75,000 most significant potential awards, and the two \$50,000 up and comer awards

The Winners will be announced at an awards event to be held in September/October 2018.

## 2g. Competition Structure and Timeline

2018



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## Prize Opening

### Wednesday 28 March 2018

- The Fall Armyworm Tech Prize will be open for entries.
- Entry forms can be completed and submitted online at [fallarmywormtech.challenges.org](http://fallarmywormtech.challenges.org)

## Call for Submissions - Entry Period

### Wednesday 28 March – Monday 14 May 2018

- The Fall Armyworm Tech Prize call will be open for seven weeks.
- During this time we will host a webinar featuring a question and answer session where we will be answering questions from prospective competitors and publicly sharing the answers.
- Prospective competitors can also send queries via email to [fawtechprize@nesta.org.uk](mailto:fawtechprize@nesta.org.uk).
- We will publicize any other Question and Answer opportunities on the platform.
- A Frequently Asked Questions section is also outlined in Annex B of this handbook.

## Submission Deadline

### Monday 14 May 2018: 23:59 ET

- Submissions received after the deadline date and time listed above may not be considered.
- All eligible submissions will be assessed and judged to reach a decision on the 20 finalists
- See Assessment and Judging criteria and process on Page 21.

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## **Finalists' Co-Creation Events**

### **End of June - Dates TBD**

- 20 finalists will be selected and invited to participate in the co-creation which will take place in Uganda towards the end of June.
- This event is planned going to be a three to four-day event.
- An allowance will be provided to cover expenses for travel and subsistence and the administrative arrangements will be conveyed beforehand.
- We will notify finalists at least three weeks before the event to provide time to make the appropriate arrangements. The actual dates will be publicized beforehand for applicants to plan.
- Please make note of the timeframe as it is a requirement that selected finalists attend.
- Two representatives will be invited to attend for each selected idea.
- In addition, each finalist will receive \$2,000 to support the development of their prototype.

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## CO-CREATION EVENT (3/4 DAYS IN JUNE)

The co-creation event is an occasion for the finalists to meet each other, be guided by a range of experts through practical workshop activities on how to most effectively develop their solutions, and gain a better understanding of the market. Most importantly, however, it will offer the possibility to co-create the next iteration of the solutions directly with the target audience of African smallholder farmers and/or extension service providers. This provides a valuable opportunity to test and refine the product based on the views and interactions of the people that are intended to use it. Please note it is NOT required intended that intellectual property IP be shared.

## PROTOTYPE

**In order to make the most of the co-creation event, it is important that finalists bring a working prototype of their solution.**

The prototype does not have to be in perfect working order, but it should be developed enough to demonstrate how it might work.

Finalists can be creative with how they design and develop their prototype as long as it is sufficiently demonstrable for African smallholder farmers/ extension services to be provide feedback.

# Development Plans and Testing

## June - August 2017

- After the co-creation event finalists will have eight-ten weeks to hone their innovations.
- During this period, user testing will need to take place. This is likely to involve CIMMYT testing the finalist's prototypes with African smallholder farmers and extension services to understand how viable the product is and how much of a difference they think it could make in recognizing and intervening in the spread of FAW.
- Finalists will be required to complete a development plan as part of their final submission. This will be similar to a business plan.
- Finalists will also need to submit a video, details of which will be outlined.
- There will be ongoing mentoring support during this time.

## DEVELOPMENT PLANS

The development plans have a similar structure to business plans. They are intended to help Finalists develop a more sustainable model for the utilization of their tool/approach. It also means that finalists are in a better position, whether they win an award or not, to have a strong case to approach other funders and investors, post prize participation.

## VIDEO SUBMISSION

Finalists will be asked to submit a demonstration video for the Judging panel. The video will be no more than 2 minutes and can be filmed on any device. It is not intended that these videos be costly to produce, as smart phones can be used, and there is a range of free or low cost editing software available. These will enable the judges to have a visual reference for Finalists' solutions and how they work. Further details will be provided on what platform the video should be submitted.

## TESTING

More specific information will be provided on testing once the finalists have been selected. However, it is important to know that the three key components are:

Enabling farmers to consistently and reliably recognize the incidence of FAW.

Providing recommendations on interventions that are timely and appropriate to their context.

Ascertaining how useful and impactful farmers feel the solution will be with respect to intervening against FAW.

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CIMMYT will be key partners in testing the validity of the finalists' solutions and they have access to the following to support testing:

- **Data** - CIMMYT has several key integrated agronomic and socio-economic datasets that competitors can use to validate and ground-truth potential analytical solutions.
- **Farmer networks** - CIMMYT operates many farmer networks throughout various agroecologies of Africa. CIMMYT can facilitate access to these farmer networks for formal and informal evaluation and testing of potential prize solutions.
- **Field research sites** - CIMMYT operates several agronomic research activities located in rural Africa. These include a seed variety evaluation and screening research center, on-farm agro-input evaluation trials, and farmer-managed participatory evaluation trials. CIMMYT can facilitate access to these research sites and data for testing and evaluation of potential prize solutions.
- **Agro-input networks** - CIMMYT is working extensively with various components of the agro-input network. These include:

Farm machinery companies, financial service providers, agro-input (seed, fertilizer, and agro-chemicals), distribution cooperatives, seed companies, fertilizer companies, government agricultural extension services

Full details of the testing protocols will be made available to the finalists at the co-creation event.

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## Deadline for Final Submissions

### **12 August 2018 23:59 ET**

- The deadline to submit the final development plan is 12 August 2018 .
- See Assessment and Judging criteria and process on Page 21

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## Final Award Event

### **End of September/ October 2018 - Date TBC**

- In late September or October 2018, a final awards event will be held.
- Winners will have the opportunity to present their prototype and plans to convened stakeholders.
- The Awards will be announced.

### **Final presentations**

The final presentation provides an opportunity for winners to tell the assembled stakeholders about their solution. This will help bring the idea to life. Presentation details will be confirmed but is likely to consist of a 2-3 minute presentation, followed by a question and answer session.

## 2h. Application Tips

**1. Understand** the issue the prize is designed to address.

**2. Be passionate** about wanting to enable African smallholder farmers to identify and intervene in the spread of FAW so as not to experience significant crop loss.

**3. Read carefully** through the prize Terms and Conditions.

**4. Make sure** you meet all the Eligibility Criteria and you understand all the Judging Criteria.

**5. Pay careful attention** to the requirements and timeline of the prize; this handbook provides you with all the relevant information.

**6. Visit the application platform** [fallarmywormtech.challenges.org](http://fallarmywormtech.challenges.org) to understand what you will need to complete. Also see Annex C for entry form template.

**7. If you haven't already,** come up with **a great idea** that you can develop.

**8. Double check** that your idea properly responds to the needs of Sub-Saharan smallholder farmers and those who support them.

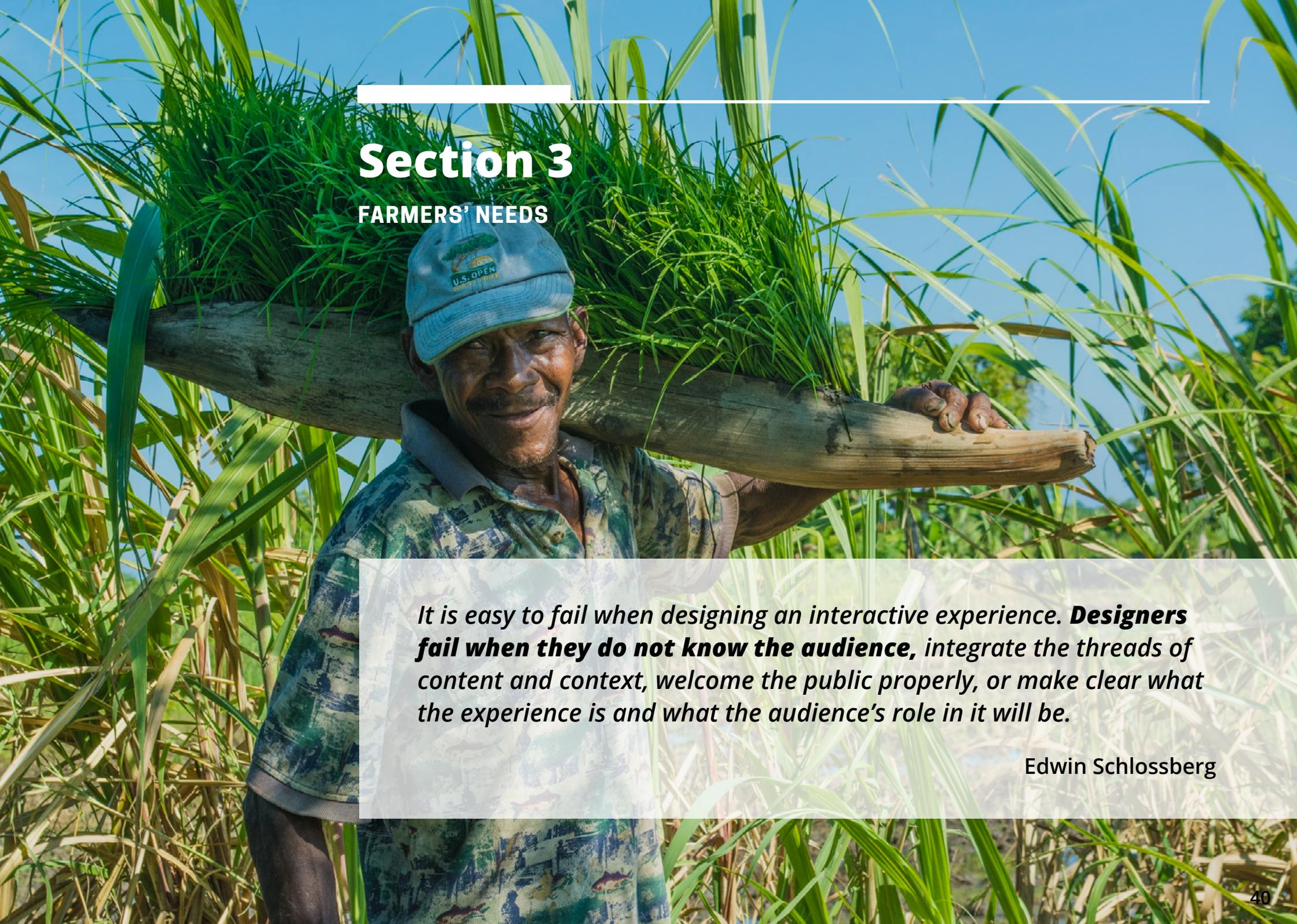
**9. Reference the Fall Armyworm Field Guide** and ensure your innovation is consistent with the guidelines: [Fall Armyworm in Africa: A Guide for Integrated Pest Management](#).

**10. Read the Frequently Asked Questions** or ask additional questions if you are unsure about any aspect of the prize ([fawtechprize@nesta.org.uk](mailto:fawtechprize@nesta.org.uk)).

**11. Complete the online application form** in full by the deadline.

**12. Get started** on developing your idea and make sure you are able to have a prototype ready by June if selected as a Finalist.

And remember, even if you don't get selected as a Finalist for the Fall Armyworm Tech Prize, the fact that you have been inspired to come up with an idea is a great start. If you believe in your idea and demonstrate that, someone will believe in you.

A man wearing a blue baseball cap with a logo and a patterned polo shirt is carrying a large bundle of harvested sugarcane stalks on his shoulder. He is smiling slightly and looking towards the camera. The background is a lush green sugarcane field under a clear blue sky.

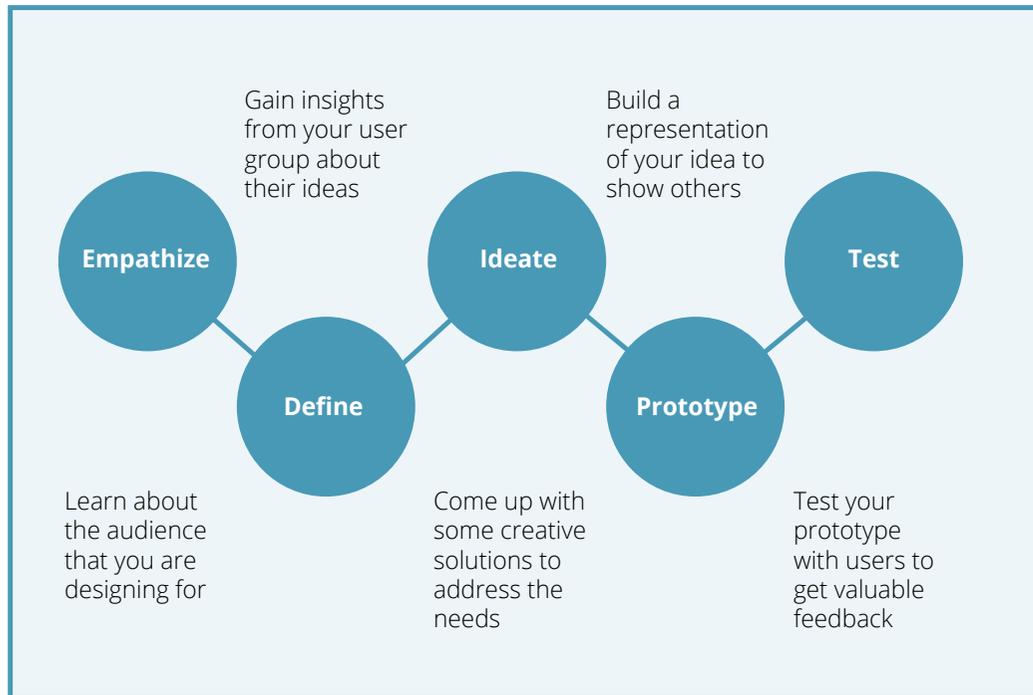
## Section 3

### FARMERS' NEEDS

*It is easy to fail when designing an interactive experience. **Designers fail when they do not know the audience**, integrate the threads of content and context, welcome the public properly, or make clear what the experience is and what the audience's role in it will be.*

Edwin Schlossberg

## 3a. Human Centered Design



**It is important to remember that the solutions that we are looking for in this challenge should provide actionable insights that are likely to make a real difference to the lives of African smallholder farmers.**

While we realize that there is profound variation in the lives of smallholder farmers across the African continent (including, but not limited to landholdings, literacy, language(s) spoken, the role of women, crops farmed, disposable income, digital penetration, digital connectivity, etc.), we encourage you to research, envision, and empathize with the lives of smallholders. As you design or adapt your innovation, put a target population of smallholders at the center. This may be by way of a solution that is put directly in the hands of the farmer or through the extension or advisory services that provide information to them.

The following diagram presents a useful way to think about the development of your solution which keeps in mind the end user.

## 3b. Extension Services



**Extension service agents provide advice and information to assist farmers in making decisions and generally enable them to take action. This can be information about best practices and trends, for example, or about the availability of market information. Technical advice usually applies more directly to production activities of the farm and to the action needed to improve or sustain this production.**

Much of this technical advice will be based upon the findings of agricultural research. In many instances, however, farmers are also sources of valuable advice and information for other farmers, and agents should always try to establish a farmer-to-farmer link. Extension is a vital point of entry for women and we encourage digital tools and approaches that ensure the involvement of women extension agents, and prioritize involvement with women's farmer associations and/or women's marketing groups and farm cooperatives.



## 3c. Actionable Insights



**The needs across the African continent are expansive and there is a proliferation of different data available by community, country, region, etc. Thus, finding the right data, information and recommendations which are timely and context appropriate can be challenging. In that regard there are a few things that Applicants should take into consideration:**

- Examine the accessibility, affordability and usability of the innovation or tool
- Ensure that the data you are using is up to date and of good quality. If the data is historical or extrapolated, then be clear about how it relates to the present
- Verify that the information you are providing is relevant for timely, context-specific and actionable advice regarding agriculture, geography, culture etc.
- Consider how the solutions will help smallholder farmers understand how to identify, treat and track incidence of fall armyworm in Africa
- Ensure that the solution provides information that can inspire direct action
- Be mindful of the fact that there are a number of other information sources that farmers have access to and how yours can be immediately relevant to their lives, simple to access and easy to understand

**Remember that, all too often, developers of digital innovations fail to connect with smallholders (especially female smallholders), NGOs, agriculture extension professionals, and ministries of agriculture to ensure the end-user is able to successfully avail themselves of the information and utilize these technologies at scale. This is a good opportunity to really consider the needs of the farmer -- what tools and services could be most meaningful to their everyday lives and impactful to combatting fall armyworm. As a result, the prize is requiring solutions to provide actionable insights that relate very specifically to the needs of smallholder farmers and their ability to access accurate information and instructions on fall armyworm.**

## 3d. Example Scenarios of Farmers' Needs

### A. IDENTIFICATION



### Suppositions

**Supposition #1:** Information on fall armyworm and how it impacts crop health are largely unavailable

**Supposition #2:** Fall armyworm is difficult to see, and looks similar to the African armyworm. However, the fall armyworm, differing from other types of armyworm, eats not only the vegetative parts of plants, but also the reproductive parts, rendering further crop growth impossible. Smallholder farmers may be quick to misidentify the insect and select an improper treatment method in order to save their crops.

**Supposition #3:** Failure to identify these pests and take action can cause farmers to lose almost half of their crops.

**Supposition #4:** The widespread and growing penetration of smartphones with digitally-enabled optical cameras among rural farming communities across Sub-Saharan Africa can serve as distributed and geo-located sources of imagery to drive crop health diagnostics and pest identification.

**Supposition #5:** Crowdsourcing platforms coupled with modern machine learning approaches can provide fast, accurate, and cost-effective tools for crop health diagnostics and pest identification.

## 3d. Example Scenarios of Farmers' Needs

### A. IDENTIFICATION

#### Potential ways to address the suppositions

Build a simple, reliable, and cost-effective mobile crop advisory app or platform for smallholder farmers to identify fall armyworm, ideally with the ability to also more generally assess crop health (pests, plant diseases, nutrient deficiencies, etc.) The app should draw on plant images provided by smart phone-enabled smallholder farmers, input retailers, the state extension system, and others engaged at the field level in supporting agricultural development.

In addition, this system should accommodate users of variable literacy levels and may include provisions such as SMS or Interactive Voice Response to provide management information for users without smartphones.

Example: There is a mobile crop diagnostic application that allows users to take a photograph and receive diagnosis and management options straight to their smartphone. Using just a simple smartphone picture, the image recognition is able to detect more than 240 plant pests & diseases automatically. This puts farmers in touch with a large community for exchanging knowledge about topics like crop cultivation, disease control and best practices. While the app has worked in several regions such as North Africa, Brazil and Nepal, Sub-Saharan Africa has not been a main focus. However, with their geo-located services, this could potentially be adapted to provide governments and research organisations with detailed maps showing the spread of pests like fall armyworm in real time, streamlining information on a political and regional level and creating an information base for early warning as well.

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## 3d. Example Scenarios of Farmers' Needs

### A. IDENTIFICATION

#### Useful data sets

CIMMYT, FAO and CABI have several key integrated agronomic and socio-economic datasets that competitors can use to validate and ground-truth potential analytical solutions. These organizations, among others, are integrated with regional networks of smallholder farmers and have the most up-to-date data sets around fall armyworm. Geo-referenced validation data (pest presence, crop analysis) from programs within specific regions could also be referenced as benchmarks for accuracy estimates.

#### Additional Impacts

Provision of farm-specific crop health diagnostics, specifically pest identification tools, may generate greater demand for localized crop management advice, which will spur the creation of new advisory services and aligned business opportunities in the public and private sector. By using digital-enabled tools such as machine learning, interactive voice response, social networks, automated decision trees - to name a few - these innovations can also empower smallholders to intervene in the spread of fall armyworm and share data with those tracking it.

# 3d. Example Scenarios of Farmers' Needs

## B. COMMUNICATION



### Suppositions

**Supposition #1:** Insufficient information and a lack of resources have made it difficult for African smallholder farmers, extension workers and others in the agriculture ecosystem to identify FAW, understand its impact and apply best practices to combat it (e.g. informed use of integrated pest management tactics and using appropriate personal protective equipment)..

**Supposition #2:** While many organizations are giving advice on FAW control to farmers, it is important to ensure the advice is sound, consistent, trusted, and communicated efficiently.

**Supposition #3:** Rapid information sharing is critical to bridge information gaps and ensure that smallholders have real-time and immediate access to pertinent agronomic

information, which helps them to make more informed decisions about FAW management and related farming practices.

**Supposition #4:** Communications channels that are utilized to reach smallholder farmers currently include, but are not limited to, short message system (SMS) services, interactive voice response systems (IVR), social channels, information platforms and mass communications such as radio. A digital gender divide exists and access to these channels has been more limited for women

**Supposition #5:** Communicating consistent and clear information and guidance on FAW across regions in Africa is made more challenging by a staggering variation of languages and dialects (+ 2,000), literacy rates and access to resources.

# 3d. Example Scenarios of Farmers' Needs

## B. COMMUNICATION

### Potential ways to address the suppositions

Create a digital application or system to transform the speed, efficiency, quality and impact of information gathering and sharing on FAW among smallholders and those who advise them. The system may include, for example, interactive, targeted and measurable mobile engagement and should consider the target geographics. Such an application may support on and offline data collection, facilitate record-keeping and enable reports to be quickly shared with farming supervisors while preventing information loss.

Example: Open-source software technology suitable for low-resource settings and underserved communities focused on mobile data collection. The product was designed to support telemedicine through data collection, client management, decision support and behavior change communication. The platform allows anyone to build a sophisticated and scalable mobile application at an affordable price and is made widely accessible with multilingual support, multimedia such as images, audio, and video for counseling to low-literate users, complex decision support and data collection.

Example: Video-based, local screening and trainings to incorporate local experts could be adapted to demonstrate how to identify and treat fall armyworm based on the lifecycle of the worm, the growth stage of different crops, and available treatment options.

Example: Two-way phone-based communication services can enable interaction with any audience, in any language, at any time without reliance upon internet and can be used in any country with mobile network coverage. Deployment in any language is possible as key global files for menu prompts can be uploaded through the browser interface to a content management system.

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## 3d. Example Scenarios of Farmers' Needs

### B. COMMUNICATION

#### Useful data sets

CIMMYT, FAO and CABI have several key integrated agronomic and socio-economic datasets. These organizations, among others, are integrated with regional networks of smallholder farmers and have the most up-to-date data sets around fall armyworm. Local NGOs, governments, and media organizations (specifically radio) may have information on the reach of existing communications channels (#s of communities, farmers, etc).

#### Additional Impacts

Unavailability of the most current, context-specific and consistent information and guidance is an ongoing challenge for adaptive management of agricultural systems across Africa. The creation and/or integration of effective communication channels may provide unintended positive changes to other industries and government regulatory authorities beyond agriculture (e.g. public health, wildlife management, etc.).

## 3d. Example Scenarios of Farmers' Needs

### C. TRACKING



### Suppositions

**Supposition #1:** There is a demand for tracking tools that help governments and extension services identify, communicate, and position resources around the spread, path, and intensity of FAW.

**Supposition #2:** Relaying information on the incidence of FAW to decision-makers can better track the spread and incidence of the pest. User data collected from the apps can be validated by the app's provider and used by expert and advisory monitoring and evaluation teams for tracking key program indicators, such as adoption of best farming practices and agricultural output (all data collected must be disaggregated by sex).

**Supposition #3:** Tracking data on FAW at scale has been logistically difficult. This is largely due to a profound variation in the lives of smallholder farmers across the African continent (including, but not limited to, landholdings, literacy, language(s) spoken, the role of women, crops farmed, disposable income, digital penetration, digital connectivity, population density. etc.).

**Supposition #4:** [High penetration](#) of mobile phones in rural communities across Sub-Saharan Africa provides opportunities for digital tracking. Image-based or innovative survey platforms may be an efficient way to increase the availability of FAW data at scale.

# 3d. Example Scenarios of Farmers' Needs

## C. TRACKING

### Potential ways to address the suppositions

Create a mobile phone application or digital reporting system that can facilitate the crowd-sourcing of local, regional or continental FAW data (incidence, successful/failed treatments). The solutions must include novel ways to incentivize communication. As you design or adapt your innovation, put a target population of smallholders at the center. This may be by way of a solution that is put directly in the hands of the farmer or through the extension or advisory services that provide information to them.

Example: There are businesses that provide farms, businesses and growers with management software and mobile apps, which enable them to take advantage of real time data and insight from farms (an accurate view of their operation throughout

the entire growing season) and to improve financial, operational and agronomy aspects. These mobile solutions have the ability to use mobile data capture and assimilation, data storage, machine learning, satellite monitoring and crop analysis to provide:

Robust and flexible system for Farm Management; Traceability & Output Predictability Accountable & Efficient Operations; Standard package of practices; Alert Log & Management (pest infestation, diseases etc.); Incorporation of end-to-end solutions; Satellite and weather input based advisory; Crop reports & insights – easy reporting on-the-go; Geo tagging for accountability & accurate predictability; and Adherence to Compliance & Certification & Output Predictability.

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## 3d. Example Scenarios of Farmers' Needs

### C. TRACKING

#### Useful data sets

CIMMYT, FAO and CABI have several key integrated agronomic and socio-economic datasets that competitors can use to validate and ground-truth potential analytical solutions. These organizations, among others, are integrated with regional networks of smallholder farmers and have the most up-to-date data sets around fall armyworm. Geo-referenced validation data (pest presence, crop analysis) from programs within specific regions could be referenced as benchmarks for accuracy estimates.

#### Additional Impacts

Creating spatially-explicit FAW data will provide the opportunity to link institutions with communities. Creating this linkage will eliminate some of the data gaps and communication inefficiencies among farmers and those who advise them. The provision of this information across wide geographies can provide governments with up-to-date, aggregate FAW data, which may be used to better articulate policies, associated support and interventions. Additionally, an exemplary application or innovation for tracking may model how these tools might apply to other agricultural pest and disease interventions.

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# Section 4

## TOOLS AND RESOURCES



## 4a. Fall Armyworm Guidelines



The Prize seeks tools and approaches that align with and incorporate recommendations from [Fall Armyworm in Africa: A Guide for Integrated Pest Management](#). USAID, CIMMYT and the CGIAR Research Program on Maize have developed this guide with tips on pest identification, available technologies and best practices for managing FAW. It is based on scientific evidence and expert opinion for plant

protection organizations, extension agencies, research institutions and governments working with smallholder farmers to better understand FAW.

We recommend all competitors reference this guide when preparing their submission. Submissions that propose interventions that contravene the guide's recommendations without extensive supporting evidence will not be entertained.



## 4b. Additional Resources

There are additional resources available which will provide innovators with technical and contextual knowledge regarding FAW in sub-Saharan Africa.

[FAO Integrated management of the Fall Armyworm on maize: a guide for Farmer Field Schools in Africa](#) - This is another comprehensive guide on the integrated pest management of the FAW on maize. There is practical guidance on identifying and managing pests.

[Fall Armyworm: Impacts and Implications for Africa Evidence Note, September 2017](#) - This is an extensive paper that illustrates the biology of FAW, its spread across sub-Saharan Africa, the impact on maize and economic dynamics and methods of control. A shorter summarized version can be found here.

[FAO Statistics Database](#) - This database offers key data and information regarding food security and agriculture including [gender and land rights](#), [global information and early warning system](#), [agricultural market information system](#).

[Plantwise Knowledge Bank](#) - This knowledge bank provides a range of information regarding FAW across the different contexts of sub-Saharan Africa from Ethiopia to Malawi, as well as across different crop types

[Fall Armyworm: Life cycle and damage to Maize, CABI Plantwise](#) - This gives an understanding to the life cycle of FAW, highlighting the pests' reproduction and growth stages and its damage to maize.

[Fall Armyworm Photo Guide, CABI Plantwise](#) - A photo guide identifying FAW and its damage to maize.

[UN FAO Fall Armyworm Questions and Answers](#) - An informative introduction into fall armyworm in sub-Saharan Africa

[Armyworm Network Forecasts](#) - Regular updates on the status of FAW and African armyworm across sub-Saharan Africa

[Integrating Gender and Nutrition within Agricultural Extension Services \(INGENAES\)](#) - Provides [discussion papers and technical notes](#), [training materials](#), [info, fact, tip and activity sheets](#), indicators and a [technology assessment toolkit](#).

A smiling woman with braided hair, wearing a yellow and white headband and a white and yellow striped sleeveless top, is talking on a black mobile phone. She is standing in a rural field with rows of young plants. In the background, there are trees and a vehicle. The scene is bright and sunny.

# Section 5

## PARTNERS

## 5a. Funders



Feed the Future is America's initiative to combat global hunger and poverty. It brings partners together to help some of the world's poorest countries harness the power of agriculture and entrepreneurship to jumpstart their economies and create new opportunities.

[Visit the website](#)



USAID is the lead U.S. Government agency that works to end extreme global poverty and enable resilient, democratic societies to realize their potential. USAID carries out U.S. foreign policy by promoting broad-scale human progress at the same time it expands stable, free societies, creates markets and trade partners for the United States, and fosters good will abroad.

[Visit the website](#)

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## 5b. Co-Funders



Land O'Lakes International Development is a 501(c)(3) independent nonprofit that leverages the farm-to-fork expertise of Land O'Lakes, Inc. to unlock the potential of agriculture to empower the developing world. Since 1981, Land O'Lakes International Development has implemented over 300 dairy, livestock and crops development programs in nearly 80 countries.

[Visit the website](#)



The Foundation for Food and Agriculture Research (FFAR), a nonprofit organization established through bipartisan congressional support in the 2014 Farm Bill, builds unique partnerships to support innovative science addressing today's food and agriculture challenges.

[Visit the website](#)

## 5c. Support Partners



CIMMYT works throughout the developing world to improve livelihoods and foster more productive, sustainable maize and wheat farming. The center helps to build and strengthen a new generation of agricultural research and extension services in maize- and wheat-growing nations. [Visit the website](#)



CABI is an international not-for-profit organization that improves people's lives by providing information and applying scientific expertise to solve problems in agriculture and the environment. Through knowledge sharing and science, CABI helps address issues of global concern such as safeguarding the environment and improving global food security. We do this by helping farmers grow more and lose less of what they produce, combating threats to agriculture and the environment from pests and diseases, protecting biodiversity from invasive species, and improving access to agricultural and environmental scientific knowledge. Our 48 member countries guide and influence our core areas of work. These include development and research projects, scientific publishing and microbial services. [Visit the website](#)



The Overseas Private Investment Corporation (OPIC) is a self-sustaining U.S. Government agency that helps American businesses invest in emerging markets. Established in 1971, OPIC provides businesses with the tools to manage the risks associated with foreign direct investment, fosters economic development in emerging market countries, and advances U.S. foreign policy and national security priorities. OPIC helps American businesses gain footholds in new markets, catalyzes new revenues and contributes to jobs and growth opportunities both at home and abroad. OPIC fulfills its mission by providing businesses with financing, political risk insurance, advocacy and by partnering with private equity investment fund managers. OPIC is one of the 11 government agencies and departments supporting the Feed the Future initiative.

[Visit the website](#)

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## 5c. Support Partners



BRAC is a development success story, founded in Bangladesh in 1972 by Sir Fazle Hasan Abed, and today is a global leader in developing cost-effective, evidence-based poverty innovations in extremely poor, conflict-prone and post-disaster settings. These include programmes in education, healthcare, microfinance, girls' empowerment, agriculture, human and legal rights, social enterprises, a bank, a university, and the world's largest mobile money platform.

[Visit the website](#)



The Syngenta Foundation for Sustainable Agriculture (SFSA) is an independent Swiss non-profit organization that works with smallholder farmers in developing countries, often in semi-arid regions, to help improve smallholder productivity and livelihoods through innovation in sustainable agriculture and the activation of value chains. SFSA operates as a catalyst and an incubator of market-based solutions for smallholders and offers commercially-viable and scalable solutions through three programmatic streams: i) Access to Seeds – improving smallholder access to affordable and better performing seed varieties; ii) AgriServices – developing and deploying farmer support services, mechanization centres, and agri-technology applications; and iii) Agriculture Insurance Solutions – developing and enabling smallholder-appropriate agriculture insurance, credit and risk management solutions. SFSA is headquartered in Basel, Switzerland, and is present in eight countries in Africa and Asia. [Visit the website](#)

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## 5d. Implementation Parties



DAI works on the frontlines of global development. Transforming ideas into action—action into impact. We are committed to shaping a more livable world. We tackle fundamental social and economic development problems caused by inefficient markets, ineffective governance, and instability. We work with a wide range of clients, including national and local governments, bilateral and multilateral donors, private corporations, and philanthropies. Since 1970, we have worked in more than 150 countries—delivering results across the spectrum of international development contexts, from stable societies and high-growth economies to challenging environments racked by political or military conflict.

[Visit the website](#)

Challenge  
Prize Centre

by **nesta** 

The Challenge Prize Centre is a hub of expertise on challenge prizes. The Centre was established to increase practical evidence and understanding about challenge prizes so they can be used effectively by governments, charities and businesses to have a tangible positive impact on society.

[Visit the website](#)

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# Section 6

ANNEXES



# Annex A. Terms and Conditions of Participation

## 1. TERMS AND CONDITIONS OF PARTICIPATION

**The Fall Armyworm Tech Prize is a Feed the Future prize being implemented by Nesta's Challenge Prize Centre and DAI working with a number of other partners. Please read these terms and conditions carefully before submitting an entry. By submitting an entry, you accept these terms and conditions and agree to comply with them.**

### Participating in the Prize

1.1 Entries received in English by the relevant deadline will be assessed against the entry criteria for the Prize set out in the FALL ARMYWORM TECH PRIZE Prize Call Innovator Handbook, including any age limit. Late or incomplete entries may not be accepted. We are not responsible for entries which are lost, damaged or late due to computer, network or telecommunications failure.

1.2 Employees of USAID, other individuals working on the project, and their immediate families, are not eligible to enter. Unless otherwise stated, you may make up to three entries to the Prize

Call and must bear all your costs of entering and participating in the prize, including travel costs, unless otherwise stated in the supported materials.

1.3 Eligible entries will be assessed against the publicized judging criteria. Entries may be shortlisted and asked to complete further activities as described in the promotional materials, and performance will then be assessed against the relevant judging criteria. Participation in tests and other events are a condition of participation in the prize competition.

1.4 We will use the contact details you provide to contact you about the prize. If you do not respond within seven days you may be removed from consideration for the prize. If you are removed, or if you otherwise withdraw from the prize for any reason, we may select another entry in your place, but we are not obliged to do so.

1.5 The judges' decision about eligibility, shortlisting and selection, including the methodology used to assess entries, validity of any claims and data submitted, is final. We have no obligation to provide further information or to engage in conversation/correspondence about such decision.

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1.6 While we encourage that the prize award be used in ways that continue to be of public benefit and in the agriculture sector, you are under no obligation to do so. We reserve the right to impose additional conditions if appropriate in our reasonable opinion, including if the prize has not resulted in sufficient public benefit, or to comply with other legal requirements. The prize will be paid in U.S. dollars and the winner is responsible for payment of tax and other charges in relation to the award of the prize.

1.7 We reserve the right at our sole discretion to refuse to accept any entry; to suspend or withdraw the prize at any time; to vary the form and substance of the prize including dates for deadlines, activities and events; to reduce or increase the number of entries selected for any phase, including the final prize; not to award the prize; and/or to reject or withdraw a place on the prize competition for any reason whatsoever, including if in our reasonable opinion, you are in breach of these terms and conditions, fail to participate fully, or do anything to damage the reputation of USAID or our partners.

1.8 We reserve the right to vary these terms and conditions at any time. Variations will take effect from the date they are posted on our website, [fallarmywormtech.challenges.org](https://fallarmywormtech.challenges.org), so please check regularly to see the current version.

1.9 You will retain the intellectual property rights in your entry to the prize.

## 2. YOUR PROMISES TO US

2.1 By submitting an entry to the prize, you confirm that: You satisfy the relevant eligibility criteria and all information submitted by you is true, accurate and complete. We reserve the right to ask for additional evidence of claims made by you, to validate claims by any means we see fit and/or to reject claims at our sole discretion.

- You satisfy the relevant eligibility criteria and all information submitted by you is true, accurate and complete. We reserve the right to ask for additional evidence of claims made by you, to validate claims by any means we see fit and/or to reject claims at our sole discretion.
- Your entry is your own original idea, is not copied from anyone else and to the best of your knowledge, does not infringe any intellectual property or other third party rights. We may withdraw your entry if we receive notice that it infringes any third party rights.
- You have, or will obtain, all consents and permissions

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necessary to submit your entry, participate in the prize and comply with these terms and conditions.

- You will act lawfully, ethically and in good faith and comply with the rules of the prize and any relevant laws, regulations, guidelines and codes of practice. You will comply with our reasonable instructions while participating in the prize, including in relation to health & safety and security.
- Your organization and entry adheres to existing protocols for environmental protection and sustainability.
- Your organization and solution does not cause direct or indirect harm to marginalized groups including, but not limited to, women/girls, low income, ethnic minorities, and landless groups.
- Your organization identifies and mitigates potential unintended consequences that may cause direct or indirect harm to marginalized groups.
- Your organization will not use or recommend pest interventions known to cause environment harm or health risks without clear communicating risks and precautions.

2.2 We reserve the right to remove you from the prize competition if you do not comply with these rules, if you cheat or behave in a way which is disruptive, inappropriate or potentially dangerous.

2.3 If you are entering as part of a group or team, the person completing the entry form is responsible for compliance with these terms & conditions by other team members.

### **3. USE OF YOUR PERSONAL INFORMATION:**

3.1 We are committed to protecting your privacy and we take all reasonable precautions to safeguard personal information you give to us. We will use that information in accordance with all relevant Data Protection Legislation and Regulations.

3.2 If you submit an entry we will ask you for personal information such as your name, email address, and other contact details such as a contact phone number, we use the information provided to process your entry and to contact you about the Prize.

3.3 Please make sure that any personal details you provide are accurate and up to date, and let us know about any changes. If

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you provide us with information regarding any other individuals, please ensure that you have their consent to do so.

3.4 Nesta currently provides all support and services for its subsidiary companies, therefore, your personal information will be shared between the companies for the purpose of administering this Prize, our legal basis for sharing your information is to pursue the legitimate interests of shared resources and management reporting between the companies.

3.5 Your information will be shared by Nesta, primarily with USAID, DAI and Africommunications, as is necessary to process and fully assess your entry. We may need to share your information with other partners that may work with us on this Prize, and we will inform you of their details should that be the case. Our legal basis for doing this is to pursue our legitimate interest of being able to being able to operate and administer the Prize. These organisations operate outside the European Economic Area (EEA) but we will ensure any transfer is subject to appropriate security measures to safeguard your personal data. For more information about how your data will be used please see <https://www.usaid.gov/privacy-policy>, <https://www.dai.com/privacy-policy>.

3.6 We will share your information with judges that help us assess the applications, subject to appropriate conditions of data security and confidentiality. The details of the judges will be provided to you, as appropriate to the process, and when available.

3.7 If you give us consent to do so, we will also let you know about other Nesta prizes, events and activities, and if you give consent to other partners involved with Nesta in implementing this Prize they may contact you about their own news and events.

3.8 We use third party platforms Submittable to process applications, and Mailchimp to deliver our e-newsletters. Submittable and Mailchimp operate outside the EEA, but do comply with the EU-U.S. Privacy Shield Framework. In using these third party platforms we are pursuing our legitimate interest to use third party technology to achieve greater efficiency within our organisation. Please see their privacy policy for more information. <https://www.submittable.com/privacy>; <https://www.iubenda.com/blog/privacy-policy-for-mailchimp-template/>

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3.9 We will only keep any personal information for the purpose of operating the Prize and we will securely delete information when it is no longer needed for that purpose. When this Prize process has ended we will retain your information for 6 years beyond the termination of the funding agreement supporting this Prize for the purpose of fulfilling our obligations under that agreement, for our own evaluation and business development purposes, and to provide you with future opportunities to apply for similar Prizes in the future. If you do not wish us to contact you about future opportunities, please let us know by writing to use or emailing us at [information@nesta.org.uk](mailto:information@nesta.org.uk).

3.10 We may keep your information for our own legitimate business interests for statistical analysis purposes, so we can review, develop and improve our business activities, but we will only keep any personal information if it is necessary to do so, and will always put in place appropriate safeguards, including where possible anonymising or minimising the data retained.

3.11 If you want to know what information we hold about you, or want us to delete, restrict or stop using any information, or if you are unhappy with how we are using your information in any way, please email or write to us at [information@nesta.org.uk](mailto:information@nesta.org.uk) or 58 Victoria Embankment London EC4Y 0DS UK.

3.12 If you are unhappy with how any complaint about how we may have used your information has dealt with by us, you have the right to complain to the Information Commissioner at Wycliff House, Water Lane, Wilmslow, Cheshire SK9 5AF or the following link <https://ico.org.uk/concerns> or helpline: 0303 123 1113.

3.13 By submitting an application, you consent to the collection, retention, usage and distribution of your personal information for the purposes outlined in this section 4 and 5 below.

## 4. PUBLICITY

4.1 We won't publish full details of your entry. However, by submitting an entry, you give us permission to use and publish your name, a summary of your entry and photographs/ recordings of your participation in the prize, which may include events, testing and prototyping of your entry, in any media and online. If you have any concerns about publication of information about your entry, please contact us before submitting an entry.

4.2 Any public statements which you make in relation to the prize must acknowledge Nesta's Challenge Prize Centre and our partners and be approved by us in advance.

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## 5. LIMITATION OF LIABILITY

5.1 We are not liable for any direct or indirect loss or liability, costs, claims, taxes, charges or expenses resulting from your participation in the prize or your reliance on statements made or advice given by us, our partners or contractors.

5.2 Nothing in these terms and conditions excludes or limits our liability for death or personal injury caused by negligence or fraudulent misrepresentation made by us.

## 4. COMPANY AND PARTNER DETAILS

### **The U.S. Agency for International Development**

**DAI Global LLC** a corporation organized and existing under the laws of the State of Delaware, with offices located at 7600 Wisconsin Avenue, Suite 200, Bethesda, MD 20814

**Nesta Enterprises Limited** a company limited by guarantee and registered in England and Wales with company number 08580327

**Nesta**, a company limited by guarantee registered in England and Wales with company number 7706036 and charity number 1144091. Registered as a charity in Scotland number SC042833. Registered office: 58 Victoria Embankment, London, EC4Y 0DS

**Africommunications Group Limited** 292 Surrey Avenue, Randburg 2194, South Africa

# Annex B - Frequently Asked Questions

## **1. Why are Feed the Future and partners running the Fall Armyworm Tech Prize?**

The Feed the Future team at USAID believes that digital tools and approaches can complement the support of traditional agricultural advisory. Consistent, reliable diagnoses of fall armyworm, paired with timely, actionable, context-appropriate information on intervention can help farmers respond to an emergent threat. Prizes use open competition to incentivize people to address a well-defined problem. Unlike challenges, prize competitions are designed to reward the achievement of specific outcomes and pay for those results. We believe that a prize can encourage the introduction or expansion of digital fall armyworm interventions as farmers confront this new threat.

## **2. What kind of tools and approaches are you looking for?**

A promising digital tool or approach that helps farmers recognize and intervene against fall armyworm. The tool or approach may be an existing approach that has been newly digitized, a current fall armyworm digital intervention looking to adapt and scale in new geographies, an innovative tool or approach that is now addressing fall armyworm, or the creation of something wholly new. Competitors may want to draw upon examples from

machine learning, digitally enabled social networks, SMS alerts, video footage, aerial surveillance, interactive voice response, and digital decision trees, but should not feel limited by them.

## **3. What do you mean by context-appropriate?**

Although this prize seeks solutions that might be applied across a variety of African smallholder farmer contexts, we are aware that the lives, purchasing power, digital penetration, digital connectivity, and geographies of farmers can vary widely. We therefore encourage applicants to define a context (e.g., serving lusophone smallholder farmers in the Great Rift Valley of Mozambique) and hone their solution accordingly. Solutions, for example, should not advise the use of specific pesticides for a particular region if they are unavailable or unauthorized, require payment of mobile money if it is not available or feasible, or suggest waiting for a seasonal cold snap to kill worms, if there is no reasonable expectation the temperature will dip below 65° F/18° C for a sustained period of time.

## **4. Who can enter the prize?**

The prize is open to individuals, groups and organizations with no regional restrictions. We encourage ideas from local people,

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including informal groups and networks, community groups, businesses and existing service providers. You can find out more by reading [the eligibility criteria](#)

### **5. Can I apply if I am outside Africa?**

Yes, the prize is open to participants from all over the world, yet the solutions need to be applicable and responsive to African smallholder farmers' needs, as outlined in the prize statement, [fallarmywormtech.challenges.org](http://fallarmywormtech.challenges.org).

### **6. Can I submit more than one idea?**

Yes, you can submit up to three ideas and be named as a partner on more than one entry. Each idea must be submitted separately and needs to be different from the other ideas you have submitted.

### **7. I have entered my idea into another competition; can I submit the same idea to this competition?**

Yes, you can enter your idea even if you have submitted it to another competition. Please make sure you provide relevant and

specific answers to the entry questions for this competition. The other competition may have rules about you entering your idea in more than one competition. It is your responsibility to check this before you enter this competition.

### **8. I already have a product/service on the market, can I use that as an entry for this prize? I have already developed my idea, can I use that as an entry for this prize?**

As we are looking for new innovations, you will need to explain how your idea differs from existing solutions, builds on what is already out there, or has yet to be applied in your target geography. It's important for us to understand that it is a new idea or a new way of doing things.

### **9. Who owns the intellectual property of the submitted ideas?**

You will retain your intellectual property rights in your entry to the Prize in accordance with the Prize Terms and Conditions. See specifically Section 3 (3.1; 3.2; 3.3; 3.4; 3.5; 3.6; 3.7; 3.8; 3.9; 3.10; 3.11; 3.12; 3.13).

## **10. Can I remove my entry once I have submitted it?**

Yes, you can send an email to [fawtechprize@nesta.org.uk](mailto:fawtechprize@nesta.org.uk) and request for your entry to be removed.

## **11. Can I get some advice on how to best enter the competition?**

If you have inquiries about how to enter the competition please email [fawtechprize@nesta.org.uk](mailto:fawtechprize@nesta.org.uk) and somebody from the Nesta Challenge Prize Centre Team will contact you within three working days.

## **12. What do I do after I've submitted an idea?**

You do not need to do anything after you submit your idea. The Nesta Challenge Prize Centre team will be in touch if you're selected as one of the finalists. If so, you will be invited to participate in the co-creation event and receive additional information.

## **13. Would a solution be considered if it doesn't meet African smallholder context-specific needs?**

Not for this prize competition. We are specifically sourcing solutions that can respond to African smallholder farmers' needs. The solution may meet other needs, but our primary focus is in Africa for smallholders.

## **14. How can I know more about African smallholder farmer needs?**

You can find information on African farmers' needs in the Prize Call Innovator Handbook, to start. Much more information can be found on the internet. Some useful links include: [Feed the Future country profiles](#), or the [FAO Country profiles](#). If selected as a finalist, you will then have a chance to test your assumptions with African farmers during the co-creation event and the testing period.

## **15. Who will be using the tools and approach I develop?**

You can decide if you are targeting African smallholders farmers, agricultural advisory services, or other value chain actors, yet remember that "usability" is one of the judging criteria and what we will consider is the level to which your tool can be accessed and used by people with different backgrounds, capacities and educational levels.

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## **16. What is a prototype?**

A prototype is a demonstrable example of your solution which is sufficiently developed to undertake a testing period with end users.

## **17. When do I need to have a prototype of the solutions ready for testing?**

You will need to have a prototype ready by the co-creation event to be held in June 2018 in Kampala. Only finalists will be invited to the co-creation event, and therefore only finalists will need to have a prototype ready by June. You will know if you were selected as a finalist by the end of May 2018. In addition to this, be aware that a prototype will also be needed during June, July, and August for the testing phase with end users.

## **18. What is the co-creation event?**

The co-creation event is a three-four day workshop which will offer the finalists the possibility to co-create the next iteration of their solutions directly with the target audience of African smallholder farmers and/or extension service providers. This provides a great opportunity to test and refine the product based on the views and interactions of the people that are intended to use it.

## **19. Where is the co-creation event?**

The co-creation event will take place in Kampala, Uganda. While your solution does not have to be specific to the Ugandan smallholder farmer context, you will certainly get more out of the experience if it does.

## **20. Will I have to pay to participate to the co-creation event?**

The Challenge Prize Centre team will offer the travel, accommodation and subsistence costs for two members of each finalist team. If finalists are participating as a team and want to bring more than two representatives to the event, travel and accommodation costs of any additional members will be the team's own responsibility to cover.

## **21. If I am selected as a finalist will the co-creation event be mandatory?**

Yes. Attending the co-creation event is a requirement of participation. The co-creation event will provide you with the relevant information, skills and contacts to help deliver a strong development plan and understand the requirements for the next stage of the prize. If there are extenuating circumstances which

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prohibit attendance, we will of course discuss this further and reserve the right to make exceptions.

### **22. Who will be receiving the \$2000 of seed funding for prototyping?**

Every finalist or finalist team will receive \$2000 in seed funding which is meant to support the testing phase of your prototype. This is in addition to the travel and accommodation costs the Challenge Prize Centre team will provide to finalists invited to the co-creation event (see question 20).

### **23. What happens to the ideas that don't make it to the finalist stage of the prize?**

Even if your innovation is not selected, we will continue to alert entrants to more funding opportunities and other types of support.

### **24. What if my idea doesn't qualify?**

If your idea doesn't qualify for this prize, don't worry. There will be a series of other initiatives in the future to which you can apply. In the meantime, you can sign up to receive emails from us about this and future prizes.

### **25. What can I do with the prize award if I win?**

We hope the prize award will be used to further develop the solution to get into a position in the market to continue to have an impact on the issues we are addressing. You may, however, choose to utilize your winnings how you see fit.

# Annex C - Entry Form Template

**Entries need to be submitted online, however this document provides an overview of what we are asking in the first stage entry form to help you prepare your answers.**

**The online form can be found here:**  
[fallarmywormtech.challenges.org](http://fallarmywormtech.challenges.org)

## STAGE 1- ENTRY FORM

**This is the Stage One entry form for the Fall Armyworm Tech Prize which will be used to assess your solution against the published judging criteria.**

Before you submit an entry, please ensure that you meet all the Eligibility Criteria and that you have carefully read the questions in the entry form and the guidance provided through the innovators handbook. You should also read the Frequently Asked Questions (FAQs) the Terms and Conditions.

During Stage One, we want you to articulate your creativity and thoroughly describe your innovation. The entry form is designed to provide us with an overview of your idea. Please respond directly to the questions and within the word count provided. Use concrete examples and/or evidence to back up your statements, wherever possible.

More information about how the entry forms will be assessed can be found in the Innovator's Handbook (p.21). If you have any further questions or queries relating to the Fall Armyworm Tech Prize that have not been answered in the FAQs and Terms and Conditions, please email [fawtechprize@challenges.org](mailto:fawtechprize@challenges.org).

**The deadline for applications is 14 May, 2018 at 23:59 ET.**

There are 3 sections in the entry form

- Your Details
- Your Innovative Solution
- Program Evaluation Questions and Declaration

# Section 1. Your Details

## 1A. CONTACT DETAIL

Full name *	
Job Title (if applicable)*	
Email address *	
Address line 1 *	
Address line 2	
City *	
Postcode/Zipcode*	
Phone number*	
Country*	

## 1B. ARE APPLYING AS AN INDIVIDUAL/GROUP/ORGANIZATION? \*

Individual       Group       Organization

## 1C. NAME OF ORGANIZATION (IF APPLICABLE)

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### 1C. TYPE OF ORGANIZATION (IF APPLICABLE)

e.g.(Private Foundation, Partnership, Other Development Actor, NGO, Higher Education/Research Institution, Commercial Enterprise, Start-up...)

### 1E. WHAT IS THE SIZE OF THE LEAD APPLICANT ORGANIZATION?

0-10       11-50       51-200       200+

### 1F. ORGANIZATION WEBSITE URL (IF APPLICABLE)

### 1G. COMPANY/CHARITY REGISTRATION NUMBER (IF APPLICABLE)

## Section 2 - Your Innovative Solution

In this section we would like you to tell us about your innovative solution and how you think it meets the judging criteria. Each question guides you through the criteria that the judges are interested in.

### 2A. TITLE OF YOUR SOLUTION\*

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2B. PLEASE PROVIDE A SUMMARY OF YOUR SOLUTION IN NO MORE THAN 150 WORDS.

2C. TWEET YOUR SOLUTION

## Criteria 1: Digital Tools\*

C1A. PLEASE TELL US ABOUT YOUR DIGITAL SOLUTION? WHAT IS IT AND WHAT DOES IT DO?

Please write no more than 200 words

C1B. PLEASE EXPLAIN WHAT INFORMATION OR DATA YOU WILL BE TRANSLATING INTO ACTIONABLE INSIGHTS FOR FARMERS AND/OR THOSE WHO SUPPORT THEM?

Please write no more than 200 words

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## Criteria 2: Actionable Information\*

C2A. PLEASE EXPLAIN HOW YOUR SOLUTION WILL BE USED BY SMALLHOLDER FARMERS AND/OR ASSOCIATED SERVICES TO TAKE ACTION TO ADDRESS THE ISSUE OF FALL ARMYWORM?

Please write no more than 200 words

C2B. HOW WILL YOU ENSURE THAT YOUR SOLUTION IS PROVIDING CONTEXT-APPROPRIATE, TIMELY INSIGHTS TO FARMERS AND/OR ASSOCIATED SERVICES?

Please write no more than 200 words

C2C. HOW DO YOU INTEND TO INTEGRATE BEST PRACTICES AND GUIDANCE ABOUT FALL ARMYWORM INTO YOUR SOLUTION?

Please write no more than 200 words

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## Criteria 3: Accessibility \*

C3A. WHAT SPECIFIC NEED IS YOUR SOLUTION ADDRESSING AND HOW HAVE YOU IDENTIFIED THAT NEED?

Please write no more than 200 words

C3B. HOW ARE YOU INTENDING TO MAKE YOUR SOLUTION ACCESSIBLE TO FARMERS AND/OR ASSOCIATED SERVICES? PLEASE EXPLAIN ANY FEATURES FACTORED INTO YOUR SOLUTION'S DESIGN TO MAKE IT USER-FRIENDLY AND ACCESSIBLE (E.G., COST/TECHNOLOGY ETC.) BY THOSE THAT NEED IT MOST.

We are interested in particular consideration given to underserved populations (e.g. households with small plots, landless households, women/girls, people with disabilities, people with low literacy, people who communicate in local languages, marginalized ethnic groups, migrant farmers and/or other socially relevant groups).

Please write no more than 400 words

## Criteria 4: Potential Impact \*

C4A. BASED ON YOUR UNDERSTANDING OF THE NEEDS, WHAT TYPE OF IMPACT DO YOU EXPECT YOUR SOLUTION TO HAVE ON THE WAY SMALLHOLDER FARMERS AND/OR ASSOCIATED SERVICES ARE ABLE TO DEAL WITH FALL ARMYWORM?

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Please also specify if you anticipate different types of impacts particularly for underserved populations, as outlined in previous question.

Please write no more than 400 words

**C4B. GIVEN THE TYPE OF IMPACT THAT YOU BELIEVE YOUR SOLUTION CAN ACHIEVE, IN WHAT WAYS WOULD YOU TEST YOUR SOLUTIONS WITH END-USERS TO DETERMINE THE LEVEL OF IMPACT YOU ACTUALLY HAVE?**

Please write no more than 200 words

**C4C. CONSIDERING THE ENVIRONMENTAL AND HEALTH IMPLICATIONS ASSOCIATED WITH CERTAIN FALL ARMYWORM TREATMENTS, HOW IS YOUR SOLUTION SEEKING TO MINIMISE OR TAKE ACCOUNT OF THESE RISKS?**

Please write no more than 200 words

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## Criteria 5: Market Potential \*

C5A. PLEASE EXPLAIN YOUR UNDERSTANDING OF THE MARKET WHERE YOUR SOLUTION WILL BE IMPLEMENTED AND HOW IT COMPARES WITH OTHER DIGITAL TOOLS CURRENTLY AVAILABLE. PLEASE EXPLAIN WHAT MAKES YOURS SPECIAL AND WHAT YOUR UNIQUE SELLING POINT IS.

Please write no more than 200 words

C5B. PLEASE PROVIDE A SUMMARY OF YOUR INTENDED BUSINESS MODEL. PROVIDE A BRIEF OVERVIEW OF HOW THE SOLUTION WILL BE PRODUCED, AN IDEA OF COSTS AND LIKELY DISTRIBUTION MODELS.

We understand that this may be very early stage, and these things are likely to change. However, we would like an indication of how you are thinking about these commercial values at this point.

Please write no more than 300 words

C5C. PLEASE EXPLAIN WHAT TYPE OF PARTNERSHIPS YOU WOULD LIKE TO ESTABLISH TO STRENGTHEN YOUR OFFERING AND HELP SUSTAINABLY GROW YOUR SOLUTION?

Please write no more than 200 words

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## Criteria 5: Adherence to Regulations, Privacy and Norms\*

C6A. HOW WILL YOU ENSURE YOUR SOLUTION ADHERES TO THE APPROPRIATE REGULATIONS AND PRIVACY LAWS?

Please write no more than 200 words

C6B. HOW WILL YOU ENSURE YOUR SOLUTION RESPECTS CULTURAL SENSITIVITIES AND NORMS?

Please write no more than 300 words

## Section 3 - Program Evaluation Questions

Please note, your responses to the questions in this section will not be used in the evaluation of your application. They are for data-collection and program design purposes.

3A. WHAT PERCENTAGE OF WOMEN CONSTITUTE THE TEAM THAT DEVELOPED THIS SOLUTION?

- 0-10%       11-20%       21-30%       31-40%       41-50%
- 51-60%       61-70%       71-80%       81-90%       91-100%

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3B. PLEASE LIST ANY POLICIES, PROCEDURES, STRATEGIES AND/OR ACTIVITIES YOUR ORGANIZATION HAS IN PLACE THAT SUPPORT WOMEN AND UNDERSERVED GROUPS' ADVANCEMENT (E.G. EQUAL OPPORTUNITY POLICY, EQUALITIES RECRUITMENT PROCEDURE, INCLUSION STRATEGY, OR GENDER OUTREACH GROUP).

3C. HOW DID YOU HEAR ABOUT THE PRIZE? ( CHOOSE ONE AND SPECIFY THE NAME OF YOUR SOURCE: MAILING LIST, SOCIAL MEDIA, ADVERTISING, EVENTS, NEWS MEDIA, WEB, PERSONAL OUTREACH)

3D. WHY ARE YOU TAKING PART IN THE PRIZE?\*

(Please select a maximum of three responses)

- The prize inspired me to create something new.
- The prize can show me how to transfer my knowledge/ability for new purposes.
- The prize is a great opportunity to partner with more experienced people and organizations.
- I am interested in winning the prize.
- I am interested in increasing my reputation.
- I am interested in doing something that can help people.
- I would like to develop more partnerships.
- Other, please specify \_\_\_\_\_

3E. HAVE YOU HEARD ABOUT THERE BEING A NEED TO INFORM AND PROVIDE ACTIONABLE INFORMATION TO SMALLHOLDER FARMERS IN SUB-SAHARAN AFRICA AROUND THE ISSUE OF FALL ARMYWORM?

No never    only a few times    many times    I am an expert on that problem

3F. HAVE YOU EVER THOUGHT ABOUT SOLVING THIS TYPE OF ISSUE?

No never    only a few times    many times    I was already doing it

3G. HAVE YOU EVER THOUGHT ABOUT SOLVING THIS TYPE OF ISSUE?

Yes    No

if Yes, which one(s): \_\_\_\_\_

3H. HAVE YOU EVER APPLIED FOR USAID FUNDING BEFORE\*?

Yes    No

if Yes, which one(s): \_\_\_\_\_

Where you successful: \_\_\_\_\_

3I. HAVE YOU EVER APPLIED FOR OTHER DONOR FUNDING BEFORE\*? (IF SO, WHAT DONOR)

\_\_\_\_\_

### 3J. WHAT SKILL-SETS ARE YOUR GREATEST STRENGTHS?

(Please select a maximum of three responses)

- Digital Development
- Agriculture - general
- Agriculture - sub-Saharan Africa
- Human Centered Design
- User Testing
- Writing Business Plans
- Business Development and Partnerships
- Impact Evaluation
- Regulations and Compliance
- Financial Models
- Communications and Marketing
- Other/s, please specify: \_\_\_\_\_

### 3K. WHAT TYPE OF SUPPORT WILL YOU NEED TO DEVELOP YOUR IDEA FURTHER?\*

(Please select a maximum of three responses)

- Support of digital experts
- Support to develop prototypes
- Support to incorporate best practices from agriculture and pest management experts
- Support to write a strong business development plan
- More data/information about sub-Saharan African smallholder farmers and agriculture
- More interaction with sub-Saharan African smallholder farmers and agriculture services
- Legal support to ensure data protection and compliance
- Support to organize and run user testing
- In kind or financial support to further develop prototype
- Communications and marketing
- Other/s, please specify: \_\_\_\_\_

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### 3L. ONLY FOR THOSE APPLYING AS AN INDIVIDUAL OR GROUP HAVE YOU ALREADY SECURED OTHER FUNDING TO DEVELOP YOUR IDEA?

Please write no more than 50 words

### 3F. ONLY FOR THOSE APPLYING AS AN ORGANIZATION HOW IS YOUR ORGANIZATION CURRENTLY FINANCED? \*

Please write no more than 50 words

## Declaration

### D1. DO YOU ALREADY HAVE A WORKING PROTOTYPE (EXAMPLE) OR MARKET-READY INNOVATION?

Entrants without existing prototypes are encouraged to apply, but must be confident about their ability to develop a prototype by June 2018 for the co-creation event. \*

- I already have a prototype.       I don't have a prototype but I will be able to develop one by June 2018.       It's highly unlikely that I will have a prototype by June 2018. (sift out in eligibility)

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7. A prototype is a workable example of your idea that is sufficiently developed to undertake a testing period with end users.

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D2. PLEASE INDICATE THAT YOU HAVE READ AND ARE ACCEPTING OUR TERMS AND CONDITIONS.

Yes  No

D2. CAN YOU CONFIRM THAT, TO THE BEST OF YOUR KNOWLEDGE, YOU COMPLY WITH ALL THE ELIGIBILITY CRITERIA (LINK) FOR THE PRIZE?

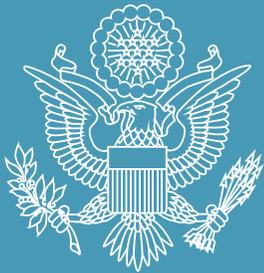
Yes  No

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by **nesta** 

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# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative