Sustainable and climate-smart advisory services landscape: opportunities and needs

April 2020
Purpose and background of this document

The Swiss Re Foundation commissioned ISF Advisors to analyze the advisory services (AS) for smallholder farmers space, with a particular focus on climate-smart agriculture (CSA) and sustainable AS models.

This report presents the findings of the landscape analysis done as part of that engagement.

The report intends to achieve the following outcomes for the target audience of funders/enablers and AS providers:

**Funders and enablers involved or interested in the AS space**

- Provide an overview of the sector, including definitions and key trends
- Define key learning topics to focus strategy and/or research agenda on
- Introduce a number of frameworks to guide thinking and actions in the AS space
- Serve as a basis for a shared learning agenda among other funders and enablers
- Identify potential opportunity for collaboration with the Swiss Re Foundation, around a shared call to action

**Advisory Services providers**

- Identify emerging trends in the AS and CSA space
- Allow AS providers to position themselves within the broader AS ecosystem (in particular, among the different types of AS providers)
- Define key learning topics of interest to the Swiss Re Foundation and others, around which AS providers can engage with funders and enablers

For questions or comments on the research, please contact:

**Elodie de Warlincourt**
Senior Portfolio Manager
Swiss Re Foundation
Elodie_DeWarlincourt@swissre.com

**Dan Zook**
Executive Director
ISF Advisors
dan.zook@isfadvisors.org

**William Saab**
Senior Manager
ISF Advisors
william.saab@isfadvisors.org
# This document is divided into five sections

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Executive summary and key insights</strong></td>
<td>• Summary of the key insights from the landscape analysis, typology of advisory services models, and emerging learning topics</td>
</tr>
<tr>
<td><strong>2. Background to this report and Swiss Re Foundation</strong></td>
<td>• Overview of the background of this landscape analysis and Swiss Re Foundation’s strategic priorities in the advisory services and climate-smart agriculture space</td>
</tr>
<tr>
<td><strong>3. Overview of the advisory services market</strong></td>
<td>• Introduction of advisory services and climate-smart agriculture key definitions, history, and service delivery models</td>
</tr>
<tr>
<td><strong>4. Advisory services landscape analysis</strong></td>
<td>• Insights from the landscape analysis, organized along five topics (customers, business models, delivery models, climate-smart agriculture, funders &amp; enablers)</td>
</tr>
<tr>
<td><strong>5. Learning agenda</strong></td>
<td>• Overview of key emerging learning topics that provide opportunities for research, innovation and action</td>
</tr>
</tbody>
</table>
1. Executive summary and key insights

2. Background to this report and Swiss Re Foundation

3. Overview of the advisory services market

4. Advisory services landscape analysis

5. Learning agenda

6. Appendix
Executive summary: We identified a set of key insights organized along clients, service delivery models, and funders/enablers topics

<table>
<thead>
<tr>
<th>Topic</th>
<th>Key insights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clients / Customers</strong></td>
<td></td>
</tr>
</tbody>
</table>
| **Clients / Customers** | Farmers cultivating *export-oriented cash crops* are most likely to be served by integrated models provided by offtakers and/or input providers, and AS is typically provided to farmers for *free or heavily cross subsidized*.  
**Subsistence farmers** are most often reached through *donor and government AS models*, and these models are typically free or subsidized.  
For AS providers that are or aim to be sustainable, *commercial and commercializing farmers are seen as most attractive*. While a number of providers and experts see the *opportunity of the subsistence segment*, evidence is limited, and a significant proportion believes donor and government-driven AS continues to be needed here. |

| **Business model** |  |
| **Business model** | Very few AS providers have B2C or B2B business models, with the majority relying on public or donor funding or internal cross-subsidization to support AS activities. However, *there is compelling evidence that sustainable B2C and B2B AS models exist* and have the potential to scale.  
**B2B models offer a largely untapped potential opportunity** for AS providers to monetize their services. Barriers include unclear or unproven value proposition to businesses, and cost and complexity of setting up B2B partnerships.  
Incorporation of *digital technologies offers the most significant chance of commercial sustainability* for AS providers, as these technologies can bring scale, customization, sophistication, and efficiency benefits. Most AS providers aiming to be commercially sustainable incorporate or are built on digital technologies. Digital technologies can also bring large benefits to traditional (non-digital) AS models. |

| **Delivery model** |  |
| **Delivery model** | There is a *lack of consensus and quality information around the most effective and efficient delivery* of AS including content and method of delivery. AS delivery costs vary widely without a clear link between cost and impact.  
Investing in studies is expensive for AS providers, who typically take an experimental approach instead.  
Several funders and enablers see digital models as the key opportunity, and have *dedicated digital strategies*.  
There is also an opportunity for *ecosystem support or specialization in other functions of AS* including data gathering, content generating, and marketing/acquisition. |

| **Climate-smart agriculture** |  |
| **Climate-smart agriculture** | Many sustainable farming and land practices have mitigation impacts, and contribute to farmer resilience and productivity. *AS is a necessary contributor* to driving the adoption of these practices.  
Farmers do not express *demand for CSA* explicitly, though when AS improves income, productivity, or resilience, it is indirectly linked to CSA.  
Businesses and investors are more likely to push for CSA practices, often motivated by compliance to *sustainability commitments* (including certification) or *demand from buyers*. An emerging segment of businesses is motivated by the *benefits to their business* from increased productivity and resilience within their customer base and supply chains.  
Few businesses and investors view *AS as a tool for managing climate impacts*. This is likely to change as climate concerns become more directly visible and impactful in business considerations, and evidence for the role of AS in climate mitigation grows. |

| **Funders and enablers** |  |
| **Funders and enablers** | Patient investment capital is beginning to flow into the AS space, but it is still *largely dependent on subsidies*.  
Large funders/donors (e.g., BMGF, World Bank) are active in contributing to public goods that benefit this space, but *efforts are fragmented*.  
There is *limited coordination* in the AS space, particularly around CSA, and efforts have been focused on high value crops. |

Note: In this report, we consider only advisory services that are provided to farmers. B2B, B2C, B2D and B2G are used to denote which actors pay for the services.
Executive summary: This report introduces a new typology of AS providers

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Public extension systems or NGOs providing traditional AS for national development and social impact</td>
</tr>
<tr>
<td>2</td>
<td>NGO delivering high-touch AS to farmers along with complementary services for social and economic development impact, with donor funding covering (part of) the costs</td>
</tr>
<tr>
<td>3</td>
<td>Large agribusiness sourcing from or delivering inputs to farmers with physical presence providing traditional AS for indirect benefit to its core business</td>
</tr>
<tr>
<td>4</td>
<td>Non-ag focused company providing a product or service to farmers as part of their core business and providing AS in order to benefit that core service</td>
</tr>
<tr>
<td>5</td>
<td>Company providing a broad range of services, including AS, to farmers as its core business, and seeking commercial returns on this service provision</td>
</tr>
<tr>
<td>6</td>
<td>Company providing AS to farmers to generate revenue either directly from farmers or from other businesses</td>
</tr>
<tr>
<td>7</td>
<td>Company specializing in one specific component of AS provision (e.g., content, delivery, data) to generate revenue from other AS providers</td>
</tr>
</tbody>
</table>

Examples of AS providers:

- **Social impact mission**
  - Ethiopian ATA
  - ONE ACRE FUND

- **Indirect business case for AS**
  - Cargill
  - PULA

- **Direct business case for AS**
  - APOLLO AGRICULTURE
  - ignitia
  - viamo
Executive summary: We identify 11 emerging learning topics that provide opportunities for learning, innovation and impact (1-6)

<table>
<thead>
<tr>
<th>Emerging learning topic</th>
<th>Why it matters</th>
<th>Current state of thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 <strong>Customers</strong>&lt;br&gt;Potential opportunity for sustainable advisory services models to serve subsistence farmers&lt;br&gt;The subsistence farmer segment makes up a significant portion of the agricultural sector, and its role will grow in line with local food demand in developing countries. This segment is underserved by commercial AS models&lt;br&gt;Most stakeholders believe this segment cannot be served by commercial models. However, some experts believe there is potential and a small number of providers is building and piloting B2C models serving this segment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 <strong>Benefits of charging farmers for advisory services as opposed to free or subsidized service provision</strong>&lt;br&gt;Most directly, charging farmers generates B2B revenues for AS providers. In addition, some experts believe that charging farmers for AS could increase: i) the value that farmers attribute to AS; ii) likelihood to adopt; and iii) accountability and feedback from farmers to providers&lt;br&gt;While many stakeholders see no to limited potential of charging farmers for AS, a growing number of type 5-7 providers have B2C revenues, in many cases as their main business model. A small number of type 1-3 providers are considering charging farmers for AS.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 <strong>Scaling of business-to-business revenue models</strong>&lt;br&gt;Farmers that have received AS can be more valuable customers to other businesses. If this value proposition can be proven and monetized, it can provide an additional revenue source for AS providers and help drive the development and scaling of sustainable AS models.&lt;br&gt;Only a small number of AS providers currently have B2B revenue models and several have expressed that this is a difficult value proposition to prove. Anecdotal evidence suggests this is a significant opportunity, and a number of providers actively seek to build B2B business models.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 <strong>Evidence of sustainable business-to-business and business-to-consumer (farmer) advisory services revenue models</strong>&lt;br&gt;There is compelling evidence that sustainable AS models exist and have scaling potential. Additional research is needed to demonstrate the value created by AS and showcase successful business models. Such research can help better direct public and donor AS funding and efforts&lt;br&gt;Many stakeholders express skepticism about the potential of commercial AS models, and this may contribute to AS models’ difficulty in attracting (growth) funding. However, a growing critical mass of models with promising business models exists.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 <strong>Value created by efficiency and impact plays by business-to-government and business-to-development partner models</strong>&lt;br&gt;Government and donor-funded AS models remain the largest (in value and scale) part of the AS market and are the primary source of AS for subsistence farmers and farmers outside of organized supply chains. Efficiency gains can free up significant public and donor resources&lt;br&gt;There is a high degree of consensus on the relative inefficiency and budget constraints of public and donor-driven AS models. An emerging number of digital AS providers claim to be able to realize significant efficiency and effectiveness gains for these traditional models.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 <strong>Delivery model</strong>&lt;br&gt;Project-based delivery models as a driver of value creation, efficiency gain, and new revenue sources&lt;br&gt;Project-based delivery models can serve both as a means of testing innovative multi-stakeholder approaches and as a set-up within which AS providers can build more sustainable business models. In addition, they can overcome some collective action issues of CSA&lt;br&gt;Project-based models are emerging, for instance around landscape approaches and climate-smart agriculture. Experts believe such models are promising for overcoming collective action issues. Commercial AS providers are rarely part of such project-based models.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Executive summary: We identify 11 emerging learning topics that provide opportunities for learning, innovation and impact (7-11)

<table>
<thead>
<tr>
<th>Emerging learning topic</th>
<th>Why it matters</th>
<th>Current state of thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Delivery model</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7</strong> Efficiency gains of delivery channel partnerships</td>
<td>The cost of developing and delivering AS is relatively high compared to the perceived value created. Efficiency gains can be achieved when AS providers partner with others around an existing delivery channel (e.g., mobile network operators – MNOs)</td>
<td>MNOs are emerging as partners and mobilizers of partnership platforms. A number of experts and studies indicate the potential of players with dominant digital presence entering the agriculture and AS space, and using their existing infrastructure for ag services delivery</td>
</tr>
<tr>
<td><strong>Climate-smart agriculture (CSA)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8</strong> Value proposition of climate-smart agriculture in advisory services models with business-to-business revenues</td>
<td>More resilient farmers could be less risky and/or more valuable customers to other businesses. Measuring, proving, and translating this into a compelling value proposition for businesses could be an opportunity for creating more sustainable CSA-focused AS models</td>
<td>Many AS models embed a theory of change that AS contributes to climate-smart outcomes, and more resilient and/or productive farmers are more valuable customers to businesses. Further evidence is needed to test and prove this, including in specific contexts, and this evidence can then be translated to business models</td>
</tr>
<tr>
<td><strong>9</strong> Value proposition of climate-smart agriculture in advisory services models with business-to-consumer (farmer) revenues</td>
<td>CSA is primarily relevant to farmers indirectly, in so far as it relates to core needs that farmers have. If the value proposition of CSA to farmers is limited, an important implication is that CSAs appraoch is limited with governments, donors, and potentially businesses. If there is a value proposition, there is potential for more CSA-intentional AS models with B2C revenue models</td>
<td>We have found no CSA-focused models which aim to create value for farmers and capture that value in a B2C revenue model. We have not found research that assesses and provides guidance to AS providers on climate-smart practices that yield greatest economic outcomes for farmers, and how these can be translated into sustainable AS provision</td>
</tr>
<tr>
<td><strong>Funders/enablers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10</strong> Potential for strong enabling ecosystems and partnerships</td>
<td>Alignment between the actors currently involved in the AS space can increase the collective impact, for instance by aligning actions to avoid duplication of work, and convening around a shared learning agenda to build insights to further the collective understanding of topics such as CSA and commercially sustainable AS models</td>
<td>Many funders and enablers are focused on areas tangentially related to commercially sustainable climate-smart AS models (e.g., CSA broadly, digital service delivery models). Funders and enablers have noted that this space would benefit from better coordination and convening</td>
</tr>
<tr>
<td><strong>11</strong> Value of advisory services space public goods</td>
<td>Certain elements which are costly and complex for individual AS providers to create themselves could be developed and provided as public goods. These elements could include a data or delivery platform that AS providers could pay to use</td>
<td>Some large funders/donors actively contribute to public goods that benefit the AS space. However, till date, most focus has been on public extension and donor-funded AS, with limited public goods translated into actionable resources for commercial AS providers in models 5-7</td>
</tr>
</tbody>
</table>
Executive summary: We believe there is potential for greater scale and number of sustainable AS models, and propose the following call to action:

<table>
<thead>
<tr>
<th>Area of support</th>
<th>Rationale</th>
<th>Example activities</th>
</tr>
</thead>
</table>
| 1 Support emerging sustainable advisory services models | • Supports the emergence, growth and scaling of commercially sustainable advisory services models  
• Indirectly allows more efficient use of public and donor resources | • Brokering of B2B relationships  
• Provision of targeted grants / smart subsidies  
• Provision of growth funding  
• Matching AS providers with investors |
| 2 Improve coordination, collaboration, and knowledge sharing among funders and practitioners | • Align action among funders and ecosystem enablers to drive more coordinated and effective research, learning, funding and support activities | • Sharing and dissemination of knowledge and evidence  
• Aligning around a shared learning agenda  
• Introduction of common frameworks, metrics and databases |
| 3 Create public goods and shared infrastructure | • Support opportunities for commercial advisory services providers to build sustainable models by investing in public goods and share infrastructure that these providers can use rather than having to develop individually | • Creation or supporting of platforms for bringing together service providers, offtakers and other stakeholders  
• Developing and aggregating knowledge, data and tools that advisory service providers can use |
1. Executive summary and key insights

2. Background to this report and Swiss Re Foundation

3. Overview of the advisory services market

4. Advisory services landscape analysis

5. Learning agenda

6. Appendix
The Swiss Re Foundation is a Zurich-based Foundation focused on helping realize the SDGs and building resilience

The Swiss Re Foundation reflects the social and humanitarian values of Swiss Re. Our vision is to build societies that are able to withstand and recover from health, environmental and economic risks. We do this where Swiss Re operates or intends to do so in future, as well as in developing countries outside its footprint.

The Swiss Re Foundation has three focus areas:
• Natural hazards and climate risk management
• Access to health and income opportunities
• Innovation to build resilience

Our strategic commitments aim to help realize the Sustainable Development Goals and contribute to Swiss Re’s vision to make the world more resilient.

This report is one of the outputs of a larger engagement in which ISF Advisors supported the Swiss Re Foundation in assessing the AS landscape and identifying opportunities for the Swiss Re Foundation to reorient its AS strategy and activities towards supporting social enterprises (with sustainable AS business models) and having a more intentional focus on climate-smart agriculture.
The Swiss Re Foundation vision focuses on more resilient societies by building risk management and adaptive capacity.

Swiss Re Foundation vision

Mission: together with our partners and Swiss Re employees we support efforts to strengthen societal resilience in countries where we operate and selected developing regions.

Source: Swiss Re Foundation Strategy 2019-2021
This document was created as part of a broader engagement between ISF and the Swiss Re Foundation

ISF Advisors supported Swiss Re Foundation in developing an internal strategy for supporting the development and scaling of commercially sustainable advisory services (AS) models with a particular focus on climate resilience.

Key objectives of the engagement

1. Develop a typology of advisory services models, with a focus on those that include climate smart elements/practices
2. Evaluate the business case and impact created by AS enterprises
3. Assess the needs of AS providers and the role Swiss Re Foundation could play in supporting them
4. Develop a learning agenda for the climate smart advisory services sector
5. Develop a framework to help guide allocation of Swiss Re Foundation grants
6. Connect with the broader ecosystem of practitioners, funders, and service providers around a shared learning agenda
For this analysis, ISF conducted interviews and surveys with 40 AS providers, funders/enablers and experts

<table>
<thead>
<tr>
<th>AS providers (19)</th>
<th>Funders and enablers (14)</th>
<th>Experts (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 8Villages</td>
<td>• Bill &amp; Melinda Gates Foundation</td>
<td>• CGIAR</td>
</tr>
<tr>
<td>• Acceso</td>
<td>• FactorE Ventures</td>
<td>• F3Life</td>
</tr>
<tr>
<td>• Agribuddy</td>
<td>• GSMA</td>
<td>• FAO</td>
</tr>
<tr>
<td>• Apollo Agriculture</td>
<td>• IDH FarmFit</td>
<td>• IFAD</td>
</tr>
<tr>
<td>• Arifu</td>
<td>• IKEA Foundation</td>
<td>• IFPRI</td>
</tr>
<tr>
<td>• Digital Green</td>
<td>• Mercy Corps Agrifin</td>
<td>• Rainforest Alliance</td>
</tr>
<tr>
<td>• Eachmile Technologies</td>
<td>• Mercy Corps Ventures</td>
<td>• Unique Forestry and Land Use</td>
</tr>
<tr>
<td>• Ethiopia ATA</td>
<td>• Mirova</td>
<td></td>
</tr>
<tr>
<td>• Grameen Foundation</td>
<td>• Rabobank Foundation</td>
<td></td>
</tr>
<tr>
<td>• GREENCoffee</td>
<td>• SCOPEinsight</td>
<td></td>
</tr>
<tr>
<td>• Ignitia</td>
<td>• Small Foundation</td>
<td></td>
</tr>
<tr>
<td>• InspiraFarms</td>
<td>• Sustainable Food Lab</td>
<td></td>
</tr>
<tr>
<td>• Mobbisurance</td>
<td>• Syngenta Foundation</td>
<td></td>
</tr>
<tr>
<td>• Nuru International</td>
<td>• The World Bank</td>
<td></td>
</tr>
<tr>
<td>• One Acre Fund</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Precision Agriculture for Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Saillog</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Warc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Viamo</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: sources used for the report are listed in the appendix

ISF also conducted a survey and collected data points on AS costs, revenues, and funding sources from a subset of AS providers
1. Executive summary and key insights

2. Background to this report and Swiss Re Foundation

3. Overview of the advisory services market

4. Advisory services landscape analysis

5. Learning agenda

6. Appendix
Farmer advisory services (AS) include services providing knowledge, tools, and market linkages to farmers

**FAO definition**

“Extension and advisory services are defined as all the different activities that provide the information and services that are needed and demanded by farmers and other actors in agri-food systems and rural development. It includes technical knowledge and involves facilitation, brokering and coaching of different actors to improve market access, dealing with changing patterns of risk and protecting the environment”

-FAO

**Sub-categories of AS**

**Knowledge** – information delivered to farmers on best agronomic practices, weather and climate information, market prices, and/or financial management

- Provides free AS to coffee farmers through mobile application, web, and SMS including weather, price, climate adaptation information, good agricultural practices, issue detection library, and Q&A on issues

**Tools** – tools that support management at the farm-level or measure and deliver precise data at the farm-level

- Provides tools on pest and disease identification and management through phone and web app, which allows users to upload images of plants to identify and diagnose pest and disease issues. Basic AS is free, but there is a payment for premium package

**Market linkage** – a service that connects farmers or farm organizations to markets to sell produce and gain access to other services

- Provides a range of services to farmers. One of the services is a digital platform which allows online trading directly between farmers and urban buyers – including consumers

**Note: the focus of this landscape assessment is on AS for farmers only**

Source: FAO, "Mobilizing the potential of rural and agricultural extension”, 2010; CTA, “The Digitalisation of African Agriculture Report”, 2019; Company websites; ISF Analysis. Additional sources listed in the appendix
Climate-smart agriculture (CSA) refers to interventions that contribute to productivity, adaptation, and/or mitigation.

CSA integrates the three dimensions of sustainable development (economic, social and environmental) by jointly addressing food security and climate challenges.

<table>
<thead>
<tr>
<th>CSA pillars</th>
<th>Description</th>
<th>Indicators of climate-readiness</th>
<th>Examples of practices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productivity and income</strong></td>
<td>Sustainably increase agricultural productivity and incomes</td>
<td>• Optimal and sustainable yields&lt;br&gt;• Reduced post-harvest loss&lt;br&gt;• High income/profit</td>
<td>• Utilization of storage and cooling structures&lt;br&gt;• Use of pest/disease resistant crop varieties&lt;br&gt;• Use of compost as organic fertilizer</td>
</tr>
<tr>
<td><strong>Adaptation and resilience</strong></td>
<td>Adapting and building resilience to climate change</td>
<td>• Adequate and reliable agricultural water availability&lt;br&gt;• Efficient water use&lt;br&gt;• Healthy soil&lt;br&gt;• High climate risk management capacity&lt;br&gt;• Optimal crop diversification</td>
<td>• Diversification of crops&lt;br&gt;• Use of appropriate irrigation&lt;br&gt;• Use of rainwater harvesting&lt;br&gt;• Implementation of terraces&lt;br&gt;• Utilization of cover crops&lt;br&gt;• Optimization of tillage</td>
</tr>
<tr>
<td><strong>GHG emissions mitigation</strong></td>
<td>Reducing and/or removing greenhouse gas emissions</td>
<td>• Reduced deforestation&lt;br&gt;• Increased reforestation, agroforestry, and other beneficial land use practices&lt;br&gt;• Lower methane emission from livestock&lt;br&gt;• Efficient nutrient use</td>
<td>• Utilization of manure as organic fertilizer to reduce use of synthetic fertilizer&lt;br&gt;• Efficient processing</td>
</tr>
</tbody>
</table>

1. Greenhouse gas
Source: FAO, "Climate-Smart Agriculture Sourcebook" 2013; CIAT, "Bringing the Concept of Climate-Smart Agriculture to Life", 2018; ISF analysis.
Additional sources listed in the appendix.
AS plays a key role in providing knowledge for changing existing and adopting new climate-smart practices

CSA requires changing behavior and AS is a key way of building this knowledge and driving adoption. Research confirms this: training/information were identified by CIAT as the main barrier to CSA adoption.

Barriers to CSA technology adoption:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>89%</td>
<td>Training/information</td>
</tr>
<tr>
<td>36%</td>
<td>Policy/institutional</td>
</tr>
<tr>
<td>31%</td>
<td>Economic</td>
</tr>
<tr>
<td>25%</td>
<td>Social/cultural</td>
</tr>
<tr>
<td>9%</td>
<td>Environmental</td>
</tr>
</tbody>
</table>

- Knowledge is a key barrier to adoption of climate-smart practices, and AS is the main type of model to deliver knowledge to farmers. A growing evidence base exists on the link between AS and CSA, and practical applications of the evidence base are likewise being developed.
- However, AS models are rarely explicitly focused on CSA because:
  - While AS typically aims for outcomes that are considered climate-smart (incl. productivity, income, and/or resilience), this is rarely explicitly out of climate considerations.
  - Limited willingness of farmers and businesses to pay for CSA services due to limited visibility and confidence in value created.
  - Evidence for the causal link between AS and mitigation can be strengthened and/or more broadly disseminated.

Examples of AS models with a CSA focus:

- GreenCoffee provides a package of services to farmers focused on regenerative agriculture practices and purchases produce from farmers. Training includes climate-smart components, such as teaching modern no-till technologies, which aim to reduce fertilizer usage and increase water and organic matter retention.
  - AS model set up specifically to help farmers in Vietnam deal with expected impacts of climate change, including droughts and erratic rainfall patterns, increased incidence of pests and diseases, and water shortages. GreenCoffee provides information (on weather, pests/diseases, climate-smart practices) to coffee farmers to help them better anticipate and react to these changes. Information is delivered via SMS, web, and a mobile app.

Source: FAO, "Climate-Smart Agriculture Sourcebook" 2013; CIAT, "Bringing the Concept of Climate-Smart Agriculture to Life", 2018; Company websites; ISF analysis. Additional sources listed in the appendix.
Traditionally, AS has been delivered through the government, but business-focused AS providers are emerging.

**Evolution of AS models (1980s-present)**

- **Public extension** centralized and aimed at production improvement techniques for export crops
  - **Main sustainability or impact play(s):** Yield, Production, Export value
  - **Typical motivations:**
    - Social impact mission

- **Public extension** centralized and aimed at broader national economic development and rural development goals
  - **Main sustainability or impact play(s):** National and rural economic development, Livelihood outcomes, Economic and social indicators
  - **Typical motivations:** Indirect business case for advisory services

- **Decentralized and pluralistic models**, with government inviting NGOs and private sector to undertake AS; donors begin to focus on long-term institution building, efficacy, and nutrition
  - **Main sustainability or impact play(s):** Greater efficiency of service delivery, Livelihood outcomes
  - **Typical motivations:** Direct business case for advisory services

- **Increased private sector AS provision** in integrated supply chains, typically supporting sourcing and/or input sales
  - **Main sustainability or impact play(s):** Efficiency through integration with broader service and commercial infrastructure

- **Development of service-focused models** aiming to recover costs or make profit through innovative delivery channels and technologies
  - **Main sustainability or impact play(s):** Sustainability of AS in service-focused models

Sources listed in the appendix
We have categorized AS models into 7 distinct types

**Typology of AS models**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Public extension</td>
<td>Donor-subsidized services</td>
<td>Supply chain service delivery models</td>
<td>Complementary advisory services</td>
<td>Holistic service delivery</td>
<td>Focused service provider</td>
<td>Specialized service provider</td>
</tr>
</tbody>
</table>

**Description**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Public extension systems or NGOs providing traditional AS for national development and social impact</td>
<td>NGO delivering high-touch AS to farmers along with complementary services for social and economic development impact, with donor funding covering (part of) the costs</td>
<td>Large agribusiness sourcing from or delivering inputs to farmers with physical presence providing traditional AS for indirect benefit to its core business</td>
<td>Non-ag focused company providing a product or service to farmers as part of their core business and providing AS in order to benefit that core service</td>
<td>Company providing a broad range of services, including AS, to farmers as its core business, and seeking commercial returns on this service provision</td>
<td>Company providing AS to farmers to generate revenue either directly from farmers or from other businesses</td>
<td>Company specializing in one specific component of AS provision (e.g., content, delivery, data) to generate revenue from other AS providers</td>
</tr>
</tbody>
</table>

**Examples of AS providers**

- **Social impact mission**
  - Sources listed in the appendix

- **Indirect business case for AS**
  - **Direct business case for AS**
AS providers are beginning to incorporate digital technologies into their models

Incorporation of digital technologies by AS providers

| 1 | Public extension |
| 2 | Donor-subsidized services |
| 3 | Supply chain service delivery models |
| 4 | Complementary advisory services |
| 5 | Holistic service delivery |
| 6 | Focused service provider |
| 7 | Specialized service provider |

- **Digital ag technologies** are emerging across agricultural services models, including in AS models

- Digital technologies are most often used in the *delivery of AS*, for instance by using mobile phones to communicate information to farmers

- These technologies can allow AS providers to reach farmers they would otherwise not be able to, more easily *customize* the services to individual farmer needs, and *scale* more cost-efficiently than traditional in-person AS models

- Digital technologies appear to be the *major driver for developing and scaling commercially sustainable AS models*
Government, donor and corporate AS models are the largest market segment, though AS models 5-7 are growing fast

<table>
<thead>
<tr>
<th>Relative scale of AS models</th>
<th>Relative proportion of AS market</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Public extension</strong></td>
<td>• Overwhelming majority of investment and number of farmers reached. 2018 public extension costs estimated at $11B¹</td>
</tr>
<tr>
<td>• Very large scale; limited by funding</td>
<td>• The largest, such as One Acre Fund, reach hundreds of thousands of farmers, whereas smaller programs reach less than 1,000</td>
</tr>
<tr>
<td>• High cost to deliver</td>
<td>• Majority of supply-chain companies have sustainability programs, which always include AS as a core component</td>
</tr>
<tr>
<td><strong>2. Donor-subsidized services</strong></td>
<td>• Standards and certifications (covering 25-45% of production in crops such as cocoa and coffee) almost always include an AS component</td>
</tr>
<tr>
<td>• Scale dependent on funding</td>
<td>• Emerging and relatively nascent segment of AS providers</td>
</tr>
<tr>
<td>• Risk of long-term sustainability of funding</td>
<td>• In Sub-Saharan Africa, there are an estimated 242 providers with $109M revenue in 2018²</td>
</tr>
<tr>
<td><strong>3. Supply chain service delivery models</strong></td>
<td>• Dedicated platforms to support emerging providers – including AS – such as Grow Asia and Grow Africa. Over half the providers listed in Grow Asia’s directory of 50+ providers in Southeast Asia include an AS component within their service offering to smallholder farmers³</td>
</tr>
<tr>
<td>• Typically large scale for large supply chain corporates, but scale limited to size of supply chain</td>
<td></td>
</tr>
<tr>
<td><strong>4. Complementary advisory services</strong></td>
<td></td>
</tr>
<tr>
<td>• Broad range in scales, depending on the size of service provider and role of AS within the business</td>
<td></td>
</tr>
<tr>
<td><strong>5. Holistic service delivery</strong></td>
<td></td>
</tr>
<tr>
<td>• There are a wide variety of scales in models 5-7 ranging from several thousand to several million</td>
<td></td>
</tr>
<tr>
<td><strong>6. Focused service provider</strong></td>
<td></td>
</tr>
<tr>
<td>• While these types of models are relatively nascent, several providers already serve several hundreds of thousands of smallholder farmers</td>
<td></td>
</tr>
<tr>
<td><strong>7. Specialized service provider</strong></td>
<td></td>
</tr>
</tbody>
</table>

1. Public extension reflects World Bank and OECD data around agricultural GDP coupled with assumptions around extension spending
2. Revenue figure reflects CTA’s estimated revenue for digital enterprises in SSA with the primary use case of advisory services and market linkage
3. Figures based on analysis of digital services providers in Cambodia, Indonesia, Myanmar, the Philippines, and Vietnam

Sources: World Bank; OECD; CTA; ISF analysis. Additional sources listed in the appendix
1. Executive summary and key insights

2. Background to this report and Swiss Re Foundation

3. Overview of the advisory services market

4. Advisory services landscape analysis

5. Learning agenda

6. Appendix
In this section, we provide an overview of key findings from our landscape analysis

**I. Key insights**
- Landscape insights organized by topic
- Relevant examples and case studies included where relevant

**II. Key sector needs**
- Main challenges and associated needs identified in the landscape analysis
- Areas in which funders and enablers – such as Swiss Re Foundation – could add particular value

**III. Typology insights**
- Summary of the relevant characteristics, challenges and opportunities of different AS model types
Landscape insights are organized along five topic areas, with a number of sub-topics in each.

<table>
<thead>
<tr>
<th>Topics</th>
<th>Sub-topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Customer</td>
<td>• Client segments</td>
</tr>
<tr>
<td></td>
<td>• AS needs</td>
</tr>
<tr>
<td></td>
<td>• AS value proposition</td>
</tr>
<tr>
<td>2. Business model</td>
<td>• AS motivations</td>
</tr>
<tr>
<td></td>
<td>• Revenue models</td>
</tr>
<tr>
<td></td>
<td>• Sustainability plays</td>
</tr>
<tr>
<td>3. Delivery model</td>
<td>• Bundling and integration</td>
</tr>
<tr>
<td></td>
<td>• Cost and quality</td>
</tr>
<tr>
<td></td>
<td>• Scaling potential</td>
</tr>
<tr>
<td></td>
<td>• Delivery partnerships</td>
</tr>
<tr>
<td></td>
<td>• Delivery channels</td>
</tr>
<tr>
<td>4. Climate-smart agriculture (CSA)</td>
<td>• Integration and intentionality</td>
</tr>
<tr>
<td></td>
<td>• Impact and value</td>
</tr>
<tr>
<td></td>
<td>• Monetization</td>
</tr>
<tr>
<td>5. Funders and enablers</td>
<td>• Grant funding</td>
</tr>
<tr>
<td></td>
<td>• Enabling environment and enabling activities</td>
</tr>
<tr>
<td></td>
<td>• Investment (non-grant)</td>
</tr>
</tbody>
</table>

I. Key insights
## Summary of key insights

### I. Key insights

<table>
<thead>
<tr>
<th>Topic</th>
<th>Key insights</th>
</tr>
</thead>
</table>
| Clients / Customers    | • Farmers cultivating **export-oriented cash crops** are most likely to be served by integrated models provided by off-takers and/or input providers, and AS is typically provided to farmers for **free or heavily cross subsidized**  
  • **Subsistence farmers** are most often reached through **donor and government AS models**, and these models are typically free or subsidized  
  • For AS providers that are or aim to be sustainable, **commercial and commercializing farmers are seen as most attractive**. While a number of providers and experts see the **opportunity of the subsistence segment**, evidence is limited, and a significant proportion believes donor and government-driven AS continues to be needed here |
| Business model         | • Very few AS providers have B2C or B2B business models, with the majority relying on public or donor funding or internal cross-subsidization to support AS activities. However, **there is compelling evidence that sustainable B2C and B2B AS models exist** and have the potential to scale  
  • **B2B models offer a largely untapped potential opportunity** for AS providers to monetize their services. Barriers include unclear or unproven value proposition to businesses, and cost and complexity of setting up B2B partnerships  
  • Incorporation of **digital technologies offers the most significant chance of commercial sustainability** for AS providers, as these technologies can bring scale, customization, sophistication, and efficiency benefits. Most AS providers aiming to be commercially sustainable incorporate or are built on digital technologies. Digital technologies can also bring large benefits to traditional (non-digital) AS models |
| Delivery model         | • There is a **lack of consensus and quality information around the most effective and efficient delivery** of AS including content and method of delivery. AS delivery costs vary widely without a clear link between cost and impact  
  • Investing in studies is expensive for AS providers, who typically take an experimental approach instead  
  • Several funders and enablers see digital models as the key opportunity, and have **dedicated digital strategies**  
  • There is also an opportunity for **ecosystem support or specialization in other functions of AS** including data gathering, content generating, and marketing/acquisition |
| Climate-smart agriculture | • Many sustainable farming and land practices have mitigation impacts, and contribute to farmer resilience and productivity. **AS is a necessary contributor** to driving the adoption of these practices  
  • Farmers do not express **demand for CSA** explicitly, though when AS improves income, productivity, or resilience, it is indirectly linked to CSA  
  • Businesses and investors are more likely to push for CSA practices, often motivated by compliance to **sustainability commitments** (incl. certification) or **demand from buyers**. An emerging segment of businesses is motivated by the **benefits to their business** from increased productivity and resilience within their customer base and supply chains  
  • Few businesses and investors view **AS as a tool for managing climate impacts**. This is likely to change as climate concerns become more directly visible and impactful in business considerations, and evidence for the role of AS in climate mitigation grows |
| Funders and enablers   | • Patient investment capital is beginning to flow into the AS space, but it is still **largely dependent on subsidies**  
  • Large funders/donors (e.g., BMGF, World Bank) are active in contributing to public goods that benefit this space, but **efforts are fragmented**  
  • There is **limited coordination** in the AS space, particularly around CSA, and efforts have been focused on high value crops |

Sources for the landscape analysis are listed in the appendix
AS is often the first service subsistence farmers receive, and AS needs evolve and broaden for commercializing farmers.

### I. Key Insights

#### Subsistence farmer
- **AS needs**
  - General agronomic information focused on productivity and diversification
  - Customized agronomic information on crop, location, use of inputs
  - Information on technologies (irrigation, storage)
  - Market linkage to offtakers and services markets (including inputs)

#### Commercial farmer
- **Information on business and farm management and advanced agronomic practices**
- Sophisticated tools for precise and efficient measurement
- Market linkage to move farmer to stronger position in value chain (e.g., higher value-added activities)

#### Other needs
- Basic farm technologies such as irrigation and on-farm storage
- Access to basic inputs including fertilizer and seeds
- Funeral and health insurance
- Loans for high quality inputs
- Agricultural insurance
- Securitized land purchase loans and working capital
- Agricultural insurance
- Farmer technology and small-scale mechanization
- Working capital, trade finance and long-term asset/growth finance
- Insurance for production
- Farm-level storage/processing
- Marketing support to access premium export markets

---

**Information needs and tools provided through advisory services become more specialized and market linkages more important as farmers commercialize. This reflects in part the broader and more sophisticated range of other (non-advisory) services that farmers access and use, and their more established role in the value chain. Commercializing farmers tend to have a higher ability to use and demand for technology to access and measure information.**

Sources: ISF and the Mastercard Foundation’s RAFL, “Pathways to Prosperity”, 2019; ISF analysis. Additional sources listed in the appendix.
AS providers are innovating around depth and sophistication of information provided with no clear winners on impact and cost

I. Key insights

Emerging evidence suggests that customization and sophistication of services create **more impact at the farm level**, as smallholder farmers can get access to information and tools tailored to their unique situation and context, and reduce the cost of (and hence increase the access to) more specialized information.

Since generating impact at farm level is a prerequisite to creating a compelling value proposition, we believe the **increasing customization and sophistication of AS models will help drive commercial sustainability**.

Most innovation in AS models is taking place through **digital service provision**, which is driving more service customization and sophistication. As digital models also bring potential scale and efficiency benefits, they can be translated into **commercially sustainable AS provision**.

Emerging data-driven products, business models and partnerships are creating **highly sophisticated and customized** AS tools. Farmstack, supported by the Bill and Melinda Gates Foundation and Digital Green, is currently being piloted and would fall in the top-right quadrant of the figure.

**Spectrum of knowledge provided by AS models**

**Customization of services**—the level of tailoring to local area, farmer segment, farm type

**Sophistication of services**—the level of specialization (e.g., combining multiple data sets, using machine learning, analytics to find difficult information)

Source: GSMA; ISF analysis. Additional sources listed in the appendix.
AS adds value to all farmer segments, but types of providers and delivery methods tend to differ for the different segments

<table>
<thead>
<tr>
<th>Farmer segment</th>
<th>Commentary</th>
<th>AS delivery</th>
<th>Segment served by AS types¹</th>
</tr>
</thead>
</table>
| Commercial/commercializing farmer | • Commercial/commercializing farmers are the most valuable customers for commercial AS providers  
• Farmers in export-oriented cash-crop value chains are most likely to be served by large commercial supply chain players and government extension | • AS is often bundled with other services  
• Large commercial supply chain players typically offer AS free or subsidized and bundled with other services as the cost can be justified by the value created elsewhere in the supply chain | 1 3 4 5 6 7 |
| Subsistence and loose value chain farmers | • Farmers in loose value chains or subsistence farmers are difficult to serve commercially  
• Several commercial providers do serve subsistence farmers, but commercial farmers are a more valuable customer  
• NGOs and government typically serve this segment | • AS is typically free or subsidized  
• B2C revenue models serving this segment are rare. Success factors are delivering highly valuable (to farmers) products at a low cost (e.g., highly localized rain forecast data at low cost) | 1 2 6 7 |
| AS value proposition | | | |

---

1. AS types reflect the AS typology; see page 18 for an overview of the 7 AS model types
Source: ISF analysis. Additional sources listed in the appendix

An emerging number of AS providers charge farmers for AS, either as the main or one of several revenue streams. Examples of B2C revenue models are:

• Charging for individual services: for instance, Saillog offers farmers a basic set of crop disease and pest alert services for free in addition to a paid premium subscription

• Charging for a bundle of services that includes AS: for instance, Warc charges for AS as part of a bundle with inputs and credit
A number of different revenue models exist for AS providers, each with their own sustainability-related challenges and opportunities.

### Key Insights

1. **Business model**

<table>
<thead>
<tr>
<th>Motivation for AS</th>
<th>Revenue Source</th>
<th>Overview</th>
<th>Challenges</th>
<th>Opportunities</th>
<th>Examples¹</th>
</tr>
</thead>
</table>
| **Direct business case** | Business to Consumer (B2C) | Direct service provision to smallholder farmers either as a standalone product or bundled with other services | • Creating a highly valuable product at a low price point to overcome barrier of low willingness to pay for AS  
• Building profitable B2C business for subsistence segment | • Sustainable revenue source to support AS  
• Inherent incentives to provide value to farmers, highest accountability dynamics | • Agrio / Saillog  
• Agribuddy  
• Apollo Agriculture  
• Ignitia  
• One Acre Fund |
| **Direct business case** | Business to Business (B2B) | Other businesses use services and/or subsidize these services for farmers | • Demonstrating the value proposition of AS to businesses (by making farmers more valuable / less risky customers) | • Sustainable revenue source to support AS | • GREENcoffee  
• Koltiva |
| **Direct business case** | Business to Development Partner (B2D) | Donors are the main customer, in some cases funding on behalf of farmers and/or governments | • Funding and implementation can be limited in duration  
• Efficiency and impact improvements in AS delivery  
• Reach subsistence farmers | | • AgUnity  
• TaroWorks |
| **Direct business case** | Business to Government (B2G) | Governments use services and/or subsidize these services for farmers | • Funding challenges  
• Typically rely on traditional delivery models  
• Efficiency and impact improvements in AS delivery  
• Reach subsistence farmers | | • 8Villages  
• Digital Green |
| **Indirect business case** | No revenue from AS | Company provides AS to indirectly benefit its (non-AS) core business either through cross-selling, improving the impact of other services, or sourcing. Certification is also a driver of AS² | • Maximizing AS impact often secondary to business motivations  
• Funding and shifting sourcing footprints can imperil long-term longevity of AS interventions | • Maximizing impact of AS on other services  
• Outsourcing AS to B2B models for efficiencies | • Cargill  
• Pula |
| **Social impact** | Government or NGO interested in social outcome (e.g., food security, rural development) | Providing AS efficiently and effectively  
• Insufficient link to market actors | • Utilizing third party service providers to provide services more efficiently and/or effectively | | • Ethiopia ATA |

1. AS providers, including those listed in this table, often have more than 1 revenue source, for instance combining B2G, B2B and B2C models
2. Most certification revolves around farmers receiving training on certain topics and applying certain practices, and AS plays a key role in meeting certification requirements (and is a key part of supply chain players’ sustainability programs). Certification and sustainability premiums paid by brands and ultimately consumers typically cover part of the costs of certification-related AS provision.

Source: ISF analysis. Additional sources listed in the appendix.
I. Key insights

The cost of AS delivery differs widely, and newer digital delivery models offer efficiency, reach and quality improvement potential.

### Cost and quality / scaling potential of digital AS

- **Per-farmer cost** is the primary cost indicator of AS models, and combined with per-farmer impact forms the basis of informed cost-benefit analysis, which in turn is required to create a compelling value proposition for commercially sustainable AS models.

- Per-farmer **costs vary widely**, with key drivers including the way services are delivered and the scale of the model (# of farmers reached):
  - For traditional AS models, farmer field schools and individual coaching tend to be relatively costly, while training lead farmers and working through cooperatives relatively less costly.
  - Research conducted by IDH as part of their service delivery model work has not found a link between cost and impact of services.

- **Digital models** tend to have lower costs per farmer than in person models and **have the potential to be more effective**, especially when expressed as impact achieved in proportion to the cost of delivery:
  - Digital models can allow for easier tailoring of information, more flexible access to information, and more frequent touchpoints.
  - Digital models often have large content and technology development costs, and therefore often realize significant scale efficiencies. Other significant cost categories include technical platform maintenance and generating new relevant content.

- However, while **in person AS may be more costly**, it remains an **important touchpoint** to onboard new farmers, reach farmers without digital access, and complement digital services.

### Cost to deliver AS

<table>
<thead>
<tr>
<th></th>
<th>In person</th>
<th>Digital</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Data points are based on surveys with individual AS providers operating different types of AS models, at different scales, with different objectives, in different geographies (with impact on labor costs, PPP conversions). The figures listed here may not offer an apples-to-apples comparison, and do not control for different breadths and scales, geographies, and objectives.

Sources listed in the appendix.
Bundling of AS with complementary services and partnering for delivery offer both quality and efficiency potential for AS models

### I. Key insights

#### Delivery partnerships, bundling, and integration

Both the impact and the efficiency of AS models can be improved by bundling services, integrating service delivery with other providers, and/or partnering with others through existing delivery channels

**AS is more impactful when combined with other services**

- Advisory services are most effective as an enabler of other services, for example providing farmers with the knowledge and tools to most effectively make use of other services like inputs
- This bundling of services can either happen through a partnership between services providers or by a single provider creating a holistic service offering
- By combining AS with services that service providers can more easily charge for (such as inputs) or creating a more impactful package of services, AS business models can be made more sustainable

**Partnering for delivery can create efficiencies and increase reach**

- The cost of delivering AS is relatively high compared to the perceived value that AS creates (for farmers and businesses), and thus the potential revenues for the AS provider
- Partnering with others can decrease the costs of delivery services to farmers, and help make AS models more sustainable. Examples include building on existing delivery channels, such as partnering with mobile network operators (MNOs) or large supply chain players

Sources listed in the appendix
CSA is rarely intentionally integrated in AS models, but opportunities exist on the business and investor/funder side

<table>
<thead>
<tr>
<th></th>
<th>Mitigation of emissions</th>
<th>Adaptation and resilience</th>
<th>Productivity and income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers</td>
<td>• Do not receive or see direct benefits from mitigation, and are not willing to pay for mitigation or necessarily value (AS) services and models that achieve emissions reductions</td>
<td>• Farmers value, and sometimes pay for, AS that aims at short-term climate resilience (e.g., rainfall data, weather)</td>
<td>Farmers, donors, government, and businesses highly value improved income whether or not it is achieved through explicitly climate-smart services. As the impacts of climate change grow and become more visible, the economic value (in large part expressed in productivity and income) associated with climate-smart services is likewise expected to grow</td>
</tr>
<tr>
<td>Businesses</td>
<td>• An emerging number of MNCs have committed to corporate-level emissions reductions targets with farm-side emissions coming from land use change</td>
<td>• Anecdotal evidence is emerging that more climate-resilient farmers can be higher-value and/or lower-risk customers to businesses (e.g., reduced defaults for FSPs, more secure supply for off-takers)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Business may be willing to invest to achieve emission reductions, to meet their own commitments, and, more aspirationally, to aggregate and monetize emission reductions achieved within their supply chain</td>
<td>• But, almost no B2B models have this value proposition</td>
<td></td>
</tr>
<tr>
<td>Governments and NGOs</td>
<td>• Smallholder farmers do not contribute significant emissions and the main way they do so is through the impacts of deforestation</td>
<td>• Some certifications have adaptation requirements that motivate businesses to value adaptation focused AS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• REDD+ is a key tool for countries to combat deforestation, but are typically implemented on a project-basis rather than through extension programs</td>
<td>• Governments and NGOs incorporate aspects of climate adaptation into their extension, but in most cases it is not a prioritized aim of extension</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Governments in developing countries are beginning to incorporate adaptation targets in their NDCs and this will likely be a continuing focus; however, there is a gap in adaptation plans at the sub-national level</td>
<td>• Governments in developing countries are beginning to incorporate adaptation targets in their NDCs and this will likely be a continuing focus; however, there is a gap in adaptation plans at the sub-national level</td>
<td></td>
</tr>
<tr>
<td>Investors and funders</td>
<td>• Climate-focused investors are increasingly looking to the agriculture sector, and historically have been most focused on mitigation</td>
<td>• Climate focused funders have traditionally been more focused on mitigation than adaptation, but adaptation funding is increasing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Not many models exist which incorporate AS into mitigation strategies; however, project-based models, in which AS is part of the broader strategy to encourage different farming and land use practices, are emerging</td>
<td>• A growing number of funders, such as the Green Climate Fund, aim to direct more funding towards climate adaptation outcomes</td>
<td></td>
</tr>
</tbody>
</table>

1. The Climate Policy Initiative reported that, while adaptation finance made up ~7% of climate finance in 2017/18, adaptation finance has grown 35% from 2015/16 to 2017/18 and is expected to continue growing

Sources listed in the appendix
We have identified three main opportunities to integrate CSA into sustainable AS models

<table>
<thead>
<tr>
<th>Opportunity</th>
<th>Examples</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mitigation of emissions</strong></td>
<td><strong>Ecotierra</strong> provides training to introduce sustainable practices and certify land. Income from carbon credits from changed practices provides a diversified income source for farmers</td>
<td>Whilst farm practices frequently recommended by AS have mitigation benefits, AS is not explicitly used as a tool to reduce GHG</td>
</tr>
<tr>
<td></td>
<td><strong>Kenya Agricultural Carbon Project</strong> provides AS on sustainable land management practices such as tree planting and compost cover to smallholder farmers. Generates income from carbon credits</td>
<td>Until/unless farmers are more widely rewarded for production of public goods, potential revenues from mitigation are limited compared to the cost of AS</td>
</tr>
<tr>
<td><strong>Adaptation and resilience</strong></td>
<td><strong>F3Life</strong> works with offtakers and lenders to integrate CSA into their offtake agreements and loan terms to reduce risk and gain access to new investors</td>
<td>Lack of publicly available evidence around the value of AS to businesses, particularly climate-smart AS</td>
</tr>
<tr>
<td></td>
<td><strong>Ignitia</strong> provides AS that has visible short-term benefits and is highly valued (and paid for) by farmers. The company is beginning to build out its B2B revenue stream to further capture that value</td>
<td>Because this is an emerging challenge, there are limited examples of AS providers:</td>
</tr>
<tr>
<td></td>
<td><strong>Saillog</strong> provides a pest and disease management tool that is aimed at improving income and adaptation for farmers</td>
<td>- demonstrating value of climate-smart AS to investors/funders or businesses to capitalize on the value created</td>
</tr>
<tr>
<td></td>
<td><strong>Warc</strong> sells packages of regenerative agriculture services to farmers with the primary goal of income increases, but through practices that result in long-term climate adaptation</td>
<td>- incorporating AS with long-term resilience goals</td>
</tr>
<tr>
<td><strong>Productivity and income</strong></td>
<td><strong>Ecotierra</strong> provides training to introduce sustainable practices and certify land. Income from carbon credits from changed practices provides a diversified income source for farmers</td>
<td><strong>Limited actionable resources for AS providers with agronomic practices that meet the goals of productivity/income in addition to adaptation and/or mitigation</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Saillog</strong> provides a pest and disease management tool that is aimed at improving income and adaptation for farmers</td>
<td><strong>Because this is an emerging challenge, there is a lack of evidence around the value of incorporating adaptation and/or mitigation into AS models</strong></td>
</tr>
</tbody>
</table>

Source: ISF analysis
Funders and enablers play a variety of roles supporting individual AS providers and strengthening the broader AS ecosystem

<table>
<thead>
<tr>
<th>Description</th>
<th>Direct support</th>
<th>Ecosystem support</th>
<th>Convening</th>
<th>Learning and research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct engagement with companies, providing monetary or other forms of support</strong></td>
<td>Direct engagement with companies, providing monetary or other forms of support</td>
<td>Providing support for the development or creation of public goods that can be used by many providers</td>
<td>Bringing together experts and practitioners to support coordination, cross-pollination of ideas, and shared experience</td>
<td>Engaging with research around specific learning questions either through targeted studies or documentation of businesses</td>
</tr>
<tr>
<td><strong>Examples</strong></td>
<td>Incubator</td>
<td>Local weather sensors for capturing weather data</td>
<td>Coordinating activities between funders/enablers with complementary focus areas</td>
<td>Creating targeted studies (including RCTs) to generate evidence on specific topics</td>
</tr>
<tr>
<td></td>
<td>Accelerator</td>
<td>Data hub for easy access to data such as farmer, geographic, satellite</td>
<td>Convening practitioners, funders, or researchers on a regular basis to share learnings</td>
<td>Document best practices for AS provider models for shared learning</td>
</tr>
<tr>
<td></td>
<td>Matchmaking investors to companies</td>
<td>Platform for connecting businesses to resources</td>
<td></td>
<td>Develop and create case studies for learning</td>
</tr>
<tr>
<td></td>
<td>Grantmaking to individual companies or pilots</td>
<td>Engagement with governments, businesses, etc. to encourage sharing of data</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leveraging grants for blended finance fund / investments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Direct investment into company</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources listed in the appendix
Current positioning and focus of funders and enablers in the AS space creates a number of opportunities

- A number of small to mid-sized organizations are focusing on specific learning questions through direct support of businesses or targeted research
  - Similar to Swiss Re Foundation, many funders/enablers are organizing their interventions around specific learning questions or company types
  - Several players specifically prioritize CSA or digital agricultural services
  - There is potential for these organizations to align their activities and learning agendas

- There is emerging support for public goods from a variety of ecosystem funders and enablers
  - Though still nascent, there is increasing investment in the development of public goods for service delivery models such as shared data sources and infrastructure for gathering local weather data
  - Efforts are relatively fragmented and could benefit from coordination

- A few large organizations are exploring coordinated country-level efforts around the use of digital technologies coupled with government engagement
  - These organizations typically have a broad mandate, within which AS is a part, but rarely a core focus
  - The broad mandates typically have sub-focus areas that can be focused on relevant topics such as digital service providers or CSA

- Multi-lateral organizations support improvement of large scale traditional extension programs through research, knowledge, and development and sharing best practices
  - These organizations have an increasing interest in working with the private sector
  - Both the FAO and IFAD have developed digital-focused strategies and digital tools

- A number of large funders and enablers work with large supply chain players such as off-takers and input providers
  - These actors are interested in helping these MNCs find more effective and efficient AS delivery models, whether in-house or through specialized AS providers

Sources listed in the appendix
I. Key insights

Funders & enablers

A number of funders and enablers are active in supporting various aspects of the AS space with large funders playing a broader role...

Donor with broad mandate and sub-focus on agriculture. BMGF has an interest in digital solutions and an emerging focus on climate

- Active in **direct support** of digital agriculture models, typically with grants (spent over $400M 2008-18)
- Investment in **public goods** particularly around data in agriculture, such as:
  - **Innovative Solutions for Decision Agriculture (ISDA)**, a venture to digitally map soil conditions in Africa
  - **Gates Ag One**, a new entity to accelerate development of innovations for crop productivity
  - **FarmStack**, a new initiative that combines farm-level data from multiple actors and standardizes communication
- Support for **research** initiatives such as committing $310mn to CGIAR over the next 3 years to tackle climate change in agriculture research
- In February 2020, Bill Gates announced that climate change will be a prominent issue in their philanthropic focus, and this will include a focus on ways to help **subsistence farmers adapt to climate change**

Sources: Organization websites; CTA; ISF analysis

Leading funder in agriculture, with a specific focus on research on ICT in agriculture. USAID has a new ICT4Ag strategy and an internal team to support this strategy

- Active in investing in **public goods**, with a priority for public goods that support innovative data analytics projects
- **Convenes** actors in annual ICT4Ag summit with a goal to work with partners to create open data sources for digital agriculture models
- **Learning** agenda focused on advancing knowledge on:
  - Data for agriculture
  - Digital financial services for smallholder farmers
  - AgTech innovations (particularly precision agriculture)
  - Case studies of digitization of business models
  - Overall tracking of digital agriculture impacts

Leadership
donor and enablers

Leading funder in agriculture, with $6.8B commitments to digital agriculture in 2019 typically through multi-year agricultural programs. Strong focus on digital tools and CSA

- Digital components are a sub-topic of many programs and the World Bank has developed an expanded internal team focused on disruptive technology in agriculture
  - Part of this strategy is to expand support of incubators in Africa and to link agricultural technology innovations to larger programs
- Strong focus on building knowledge around CSA, funding **research**, and working on joint research projects
  - Research project with CIAT developing CSA country profiles and with CIAT and FAO to develop digital country profiles
  - Development of **World Bank Climate Change Knowledge Portal**
  - Commitment to provide $150mn to CGIAR over the next 3 years
- The World Bank also invests in **public goods** particularly around data such as the **Ag Observatory**, a tool for governments and partners to access geospatial ag-meteorological data

Sources: Organization websites; CTA; ISF analysis
...and smaller funders and enablers tackling specific aspects of the AS space

Industry organization for mobile operators with the GSMA AgriTech program focused on digital agriculture
- Provides public goods such as the mAgri Design Toolkit with tools for scaling digital agriculture models and forthcoming database of digital agriculture models
- Direct support of companies through the Innovation Fund for Digitization of Agricultural Value Chains providing grants for digital agriculture models
- Contribute research on digital tools and MNO involvement including their pending report on digital services in agriculture

Development organization focused on accelerating sustainable trade
- Convenes governments and the private sector (including global, regional, and national traders, processors, brands) around sustainable trade such as the Cocoa and Forest Initiative and the Global Coffee Platform
- Directly supports companies through the Farmfit fund, a fund to de-risk investments in smallholder farming
- Key research contributions include IDH’s benchmarking database of service delivery models to house insights and share learnings

Foundation focused on sustainable agriculture with sub-focuses on insurance, agriservices, and seeds
- Develops products and business models (including AS models and insurance products) which can be scaled through existing or new companies and social enterprises (e.g., FarmForce)
- SFSA has a strategic focus of setting up scalable and sustainable business models
- Within insurance, SFSA plans to move to a systems approach to organize stakeholders for more scalable insurance solutions, and potentially are interested in setting up or joining a larger platform
- Research contributions on seed varieties and breeding, insurance models and markets, and sustainable business models

Source: Organization websites; ISF analysis
We have identified 12 key sector needs/opportunities to meet the 4 largest challenges in the sector (1/2)

### Challenges

<table>
<thead>
<tr>
<th>The value created by AS is not easily visible and can often not be monetized. While AS does create value, providers struggle to translate that to a compelling value proposition towards farmers, businesses, and/or investors</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS models are still in an experimentation phase with no clear winning business model</td>
</tr>
</tbody>
</table>

### Needs / opportunities

- Overcome the perception that AS should be free, as free and subsidized models have created an expectation in the market of free or heavily subsidized AS
- Measure and demonstrate the standalone monetary value of information and knowledge, which is more challenging than for physical goods such as inputs, plant material and loans
- Measure and demonstrate the value that AS brings to businesses, and translate this into a compelling value proposition around which sustainable AS business models can be created
- Conduct research on and assess the potential of various AS revenue models (B2B/C/D/G) to determine their potential, both individually and in AS models with multiple revenue sources
- Conduct research on and assess the potential of various types of AS (e.g., customization, precision ag), design of AS (e.g., gamified, chatbots), and delivery (e.g., video, SMS) that are currently being piloted
- Identify and reduce sources of disruptive subsidization in the AS space, and use grant funding in a more targeted fashion, to create more opportunities for commercial AS models to compete
We have identified 12 key sector needs/opportunities to meet the 4 largest challenges in the sector (2/2)

**Challenges**

Climate-smart agriculture is difficult to integrate into commercial AS models. While climate-smart AS can create value for a number of actors, providers are still exploring ways of commercializing CSA

A strong evidence base – for instance on impacts, delivery models, and business models – is lacking for providers to build commercial AS models around

**Needs / opportunities**

- Demonstrate the value of the impacts of CSA, particularly those delivered through AS, to serve as a basis for monetizing these benefits
- Support linkages between funders interested in incentivizing behavior change around CSA and AS providers that do not currently have enough incentives to prioritize CSA in their models
- Develop and make available accurate data (e.g., localized weather forecasts, accurate weather) or actionable data (e.g., localized AS content) which AS providers can build into their AS models
- Capture and assess evidence on the effectiveness of AS types, business models, and delivery methods that providers could build a business around
- Create a common language around the AS space on business models, impacts, and data, to serve as the basis for stronger sector-level research, learning, and cooperation
- Align fragmented learning agendas and activities of different funders and enablers related to commercially sustainable, climate smart AS models among
Challenges and opportunities differ among the different types of AS models (1/2)

<table>
<thead>
<tr>
<th>Public extension</th>
<th>Unique challenges</th>
<th>Key impact and sustainability plays</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Lacks nimbleness to change in response to updated information, priorities, etc.</td>
<td>• Save costs through innovating delivery by working with digital AS providers (models 5-7) or digitizing own extension (e.g., Ethiopia’s Farmer Hotline)</td>
</tr>
<tr>
<td></td>
<td>• Fragmented priorities across government models (based on country’s political/economic agenda)</td>
<td>• Integrate CSA into AS, particularly to improve resilience of subsistence farmers</td>
</tr>
<tr>
<td></td>
<td>• Funding challenges for both governments (availability) and NGOs (longevity)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Donor-subsidized services</th>
<th>Unique challenges</th>
<th>Key impact and sustainability plays</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Often project-based, with a finite time period</td>
<td>• Save costs through innovating delivery and incorporating digitization into extension</td>
</tr>
<tr>
<td></td>
<td>• Historically, often lack a commercial mindset, both in terms of the business case of the AS (and broader service) provision, and in the cost-benefit (or business case) analysis for farmers</td>
<td>• Integrate CSA into AS, particularly to improve resilience of subsistence farmers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supply chain service delivery models</th>
<th>Unique challenges</th>
<th>Key impact and sustainability plays</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Achieving farm-level impact often subservient to corporate (i.e., sourcing or sales) priorities</td>
<td>• Partner with models 5-7 to improve efficiency and effectiveness of AS</td>
</tr>
<tr>
<td></td>
<td>• Scale limited by size of supply chain</td>
<td>• Integrate CSA into AS to benefit their core business and meet consumer demands and/or company targets</td>
</tr>
<tr>
<td></td>
<td>• Service delivery and AS delivery not part of the core business, thus AS receives less investment and focus</td>
<td></td>
</tr>
</tbody>
</table>
### Challenges and opportunities differ among the different types of AS models (2/2)

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Unique challenges</th>
<th>Key impact and sustainability plays</th>
</tr>
</thead>
</table>
| 4          | Complementary advisory services | • Service delivery and AS delivery not part of the core business, thus AS receives less investment and focus  
• Sustaining AS as value of AS is typically not well assessed and recognized | • Capture the value of AS on the core business by assessing impact of AS or by outsourcing AS to a “just AS” provider  
• Integrate CSA into AS to further increase impact on core business |
| 5          | Holistic service delivery | • High cost to creating business with multiple service lines (particularly when the business is small scale  
• Difficult to specialize on AS | • Cross-subsidize AS with higher margin services and using delivery partners (e.g., MNOs)  
• Capture synergies between AS and other services (e.g., customer acquisition)  
• Optimize farm-level impact by bundling services and integrating service packages |
| 6          | Focused service provider | • Sustaining revenue stream as the value of AS is difficult to measure and monetize from businesses and/or farmers  
• Forming B2B relationships, particularly without evidence base for value of AS to businesses  
• AS is most effective with other services | • Demonstrate value of AS and climate-smart AS to businesses and/or farmers to better monetize that value  
• Integrate AS with other service delivery models and use delivery partners (e.g., MNOs) |
| 7          | Specialized service provider | • If value of specialization is not clear and highly valuable, businesses and providers unlikely to see value proposition of type 7 AS providers  
• Limited influence on overall impact of AS due to specialization | • Partner with businesses and traditional AS providers that lack the expertise  
• Reach subsistence farmers when working with traditional AS providers  
• Provide services to a customers in adjacent markets, depending on specialization |
1. Executive summary and key insights

2. Background to this report and Swiss Re Foundation

3. Overview of the advisory services market

4. Advisory services landscape analysis

5. Learning agenda

6. Appendix
The learning agenda for the AS space represents areas that require support from funders and enablers

| Customers | 1. Potential opportunity for sustainable advisory services models to serve subsistence farmers |
| Business model | 2. Benefits of charging farmers for advisory services as opposed to free or subsidized service provision |
| Delivery model | 3. Scaling of business-to-business revenue models |
| Climate-smart agriculture | 4. Evidence of sustainable business-to-business and business-to-consumer (farmer) advisory services revenue models |
| Funders and enablers | 5. Value created by efficiency and impact plays by business-to-government and business-to-development partner models |
| | 6. Project-based delivery models as a driver of value creation, efficiency gain, and new revenue sources |
| | 7. Efficiency gains of delivery channel partnerships |
| | 8. Value proposition of climate-smart agriculture in advisory services models with business-to-business revenues |
| | 9. Value proposition of climate-smart agriculture in advisory services models with business-to-consumer (farmer) revenues |
| | 10. Potential for strong enabling ecosystems and partnerships |
| | 11. Value of advisory services space public goods |
A number of emerging learning topics present opportunities for furthering understanding and innovation in AS models (1/5)

<table>
<thead>
<tr>
<th>Emerging learning topic</th>
<th>Why it matters</th>
<th>Current state of thinking</th>
</tr>
</thead>
</table>
| Potential opportunity for sustainable AS models to serve subsistence farmers | • The subsistence farmer segment makes up a significant portion of the agricultural sector  
• In many developing countries, smallholder farmers make up the vast majority of farmers, and many of these same countries have high rates of urbanization which, combined with economic growth, will create significant local demand for agricultural products  
• The subsistence segment will thus need to professionalize to meet this growing demand, and as it is currently underserved by commercial AS models, either commercially sustainable AS models will need to be proven, developed, and scaled for this segment, or the segment will continue to rely on public and donor-led AS models | • Most stakeholders believe this segment cannot be sustainably served, and will continue to require public, donor, and development funding  
• Some experts believe this segment has potential, and may even be the largest opportunity (as a huge, underserved market) for commercial AS models  
• A small number of providers is building and piloting B2C models serving this segment |
| Benefits of charging farmers for advisory services as opposed to free or subsidized service provision | • The overwhelming majority of AS is currently delivered free or subsidized, with emerging models incorporating B2C revenues into their models (i.e., charging farmers for AS)  
• Charging farmers will directly impact the revenues that AS models can generate  
• A number of experts and providers suggested that charging farmers for AS, even if only a nominal fee, could increase the value that farmer attribute to AS, thereby increasing their buy-in and likelihood to adopt, and increasing the accountability and feedback mechanisms between farmers and AS providers  
• If indeed these benefits exist, it could create a strong case for exploring how farmers can be charged in all AS models, and over time transform AS from a service that is received for free, into one that has a value worth paying for | • Most stakeholders – particularly in models 1-3 – see no to limited potential of charging farmers for AS, with especially many donors and NGOs viewing it as neither viable nor fair  
• Models 5-7, and a number of more innovative providers in models 1-4, are interested in incorporating farmer payments into their models  
• Broader (non-agriculture) literature reflects a connection between price and perceived quality of the service, but there is limited information on the connection between price and likelihood to adopt or increased accountability and feedback  
• We have found no agricultural AS-specific research on this topic |
A number of emerging learning topics present opportunities for furthering understanding and innovation in AS models (2/5)

<table>
<thead>
<tr>
<th>Emerging learning topic</th>
<th>Why it matters</th>
<th>Current state of thinking</th>
</tr>
</thead>
</table>
| **3 Scaling of business-to-business revenue models** | • B2B revenues play a relatively small part in the business models of AS providers. Anecdotal evidence is emerging that AS can make farmers more valuable and/or less risky customers for other businesses, thus creating value for those businesses  
• If the value proposition of AS to businesses can be proven and monetized, it can provide an additional revenue source for AS models help drive the development and scaling of sustainable AS models | • A small number of AS providers have B2B revenue models, and most see this as a difficult value proposition to prove. Some are exploring and piloting B2B models  
• Anecdotal evidence exists, but experts differ on the viability and size of the opportunity |
| **4 Evidence of sustainable business-to-business and business-to-consumer (farmer) advisory services revenue models** | • Despite the emergence and growth of commercial AS models, the dominant paradigm in the AS and CSA space remains that AS is and will continue to rely, at least for a large portion of the market, on public, donor, or subsidized funding to continue to exist  
• Conclusive and compelling evidence that sustainable AS models exist and have the potential for scaling can help propel the market, for instance by promoting more efforts into innovation of content and delivery models, and attracting more (commercial and venture) capital into emerging AS providers, allowing them to scale  
• Additional research is needed in order to measure and demonstrate the value created by AS, both in combination with complementary services and standalone, and how this can be translated into sustainable AS models  
• Such research can help inform decision-making on how and where government and donor funding can best be spent, without distorting the nascent commercial AS market | • Although a critical mass of commercial AS models exist, many experts, funders and enablers, and AS providers in non-commercial models, continue to express skepticism about the potential and commercial viability of commercial AS models  
• A number of commercial AS providers link this skepticism to a difficulty in attracting growth funding |
| **5 Value created by efficiency and impact plays in business-to-government and business-to-development partner models** | • Government- and donor-led AS models remain the largest part of the AS market, both in terms of spending and in terms of scale. In addition, these models are the primary source of AS for subsistence farmers and farmers outside of organized supply chains  
• While commercial sustainability is not relevant for this part of the market, significant efficiency potential exists if AS delivery models can be integrated into these models, either in-house or through partnerships with (commercial) AS providers  
• The efficiency savings could be used to generate more impact with the same limited funding, or redirect funding into innovation | • There is a high degree of consensus on the relative inefficiency and budget constraints of public and donor-driven AS models  
• An emerging number of digital AS providers claim to be able to realize significant efficiency and effectiveness gains for these traditional models |
A number of emerging learning topics present opportunities for furthering understanding and innovation in AS models (3/5)

<table>
<thead>
<tr>
<th>Emerging learning topic</th>
<th>Why it matters</th>
<th>Current state of thinking</th>
</tr>
</thead>
</table>
| 6 Project-based delivery models as a driver of value creation, efficiency gain, and new revenue sources | • Two key characteristics of AS can benefit from project-based models:  
  - Bundling of services: AS primarily adds value as an enabler of other services; bundling combines AS with these other services  
  - Capture dispersed value addition: the value of AS is often difficult to isolate and may be spread across multiple actors  
  • A project-based model can bring together a range of actors from public, private, donor, and finance sectors, and potentially include multiple value chains (to allow for instance for crop diversification including offtake of those crops by different offtakers)  
  • In addition, certain revenue sources, such as mitigation-related revenues, are easier to capture in a structured project setting  
  • Promoting project-based delivery models can serve both as a means of testing innovative multi-stakeholder approaches and as a way of reaching scale through more sustainable AS provision | • A number of project-based models are emerging, with key areas being around:  
  - Landscape and forest preservation, where multiple actors across multiple value chains are brought together;  
  - CSA, where monetized emissions reductions are used to bring an additional income stream to the project or directly to smallholder farmers  
  • A small number of AS providers has experience with project-based models, but the vast majority of AS providers do not  
  • Experts believe that project-based models can solve a key issue of climate action – that no individual actor has a strong enough incentive to act – by bringing stakeholders together to incentivize action. Such models are still nascent |
| 7 Efficiency gains of delivery channel partnerships                                      | • The cost of developing and delivering AS is relatively high compared to the perceived value created. The need for efficient AS models is exacerbated by the abundance historically and currently of free or highly subsidized AS models  
  • One of the key drivers of innovation in the AS space has been digital innovations that have driven down the cost of delivery  
  • Further efficiency gains can be achieved when AS providers partner with others around a delivery channel. For instance, several AS providers currently partner with large MNOs, allowing them an efficient channel through which to deliver content, handle payments, and reach scale without costly marketing and recruitment expenses | • Mobile network operators are emerging as partners (e.g., with Ignitia) and mobilizers of partnerships (e.g., Digifarm)  
  • A number of experts and studies indicate the potential of players such as Google and Facebook, which dominate digital channels, entering the agriculture and AS space, leveraging their existing customer relationships and delivery channels to offer AS and other ag services to farmers |
A number of emerging learning topics present opportunities for furthering understanding and innovation in AS models (4/5)

<table>
<thead>
<tr>
<th>Emerging learning topic</th>
<th>Why it matters</th>
<th>Current state of thinking</th>
</tr>
</thead>
</table>
| 8 Value proposition of CSA in B2B AS models | • A core part of CSA is the strengthening of the adaptive capacity and resilience of smallholder farmers. This is also a strategic priority for the Swiss Re Foundation. AS is a primary means of building the knowledge and skills of smallholder farmers, and this in turn is a key means of building resilience  
• More resilient farmers could be less risky and/or more valuable customers to other businesses. The same applies for farmers with higher productivity and income, which can be more attractive customers to offtakers and other service providers  
• Measuring and proving this, and translating it into a compelling value proposition for businesses, could be an opportunity for increasing the role of CSA in AS models, and provide an additional revenue source for AS models  
• AS providers seeking to incorporate CSA into their models can benefit from increased partnerships or linkages with funders and donors with a specific focus on CSA – typically mitigation or, increasingly, adaptation – as only very limited of such CSA-related funding currently flows into AS models | • Many AS models embed the theory of change that (i) AS is a necessary contributor to farmer resilience and productivity, and (ii) that this resilience/improved productivity benefits businesses that engage with farmers for purchase of produce or service provision. This is rooted in agronomic understanding and context-specific evidence showing that improved farmer practice increases productivity and (mostly) credible assumptions that (i) AS is a necessary (but not sufficient) criterion in contributing to changed behavior, and (ii) businesses do benefit from increased productivity and resilience within their customer base and supply chains. However, we have not seen hard data that this entire theory of change holds and the specific contexts (i.e., value chains, types of businesses) in which it is likely to be correct and replicable  
• Companies like F3Life have a specific objective to make the business case for increasing resilience of farmers. F3Life works with offtakers and lenders to integrate CSA actions into their contracts with farmers in order to reduce the risk to their businesses and to gain access to climate-aligned investors |
| 9 Value proposition of CSA in B2C AS models | • CSA is a priority focus area for many funders and enablers, and is increasingly on the agenda of corporates as well  
• CSA is primarily relevant to farmers indirectly, in so far as it relates to core needs that farmers have. For instance, increasing productivity, improving access to irrigation, and diversifying income sources can all be considered climate-smart, but are primarily attractive and valuable to farmers by virtue of increasing productivity, income, and resilience | • We have found no CSA models which aim to create value for farmers and capture that value in a B2C revenue model. But we also have not seen any research that provides guidance on climate-smart practices that optimize farmer economic benefits  
• Many experts were not familiar with B2C AS models and did not view CSA-intentional AS models with B2C revenue model as a high potential opportunity |
A number of emerging learning topics present opportunities for furthering understanding and innovation in AS models (5/5)

<table>
<thead>
<tr>
<th>Potential for strong enabling ecosystems and partnerships</th>
<th>Why it matters</th>
<th>Current state of thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lot of research and work on AS has focused on public and donor-driven extension, and more recently on supply chain driven models, with only limited and isolated work by funders and enablers on commercially sustainable service-focused AS models.</td>
<td>Many funders and enablers are focused on areas tangentially related to commercially sustainable, climate smart AS models (e.g., CSA broadly, digital service delivery models).</td>
<td></td>
</tr>
<tr>
<td>Currently, a lot of the grants and subsidies distort the market (e.g., grants to service providers), so a better coordinated effort could direct subsidy to essential shared services and adjust to a more investment-oriented approach when giving funding to service delivery providers. In addition, grant money could focus on supporting emerging, highly innovative AS delivery models, to allow these new types of models to be piloted and, where possible and relevant, scaled.</td>
<td>Funders and enablers such as Mercy Corps mentioned that digital AS models that incorporate CSA is a very new space that would benefit from coordination and convening.</td>
<td></td>
</tr>
<tr>
<td>Alignment between the actors currently involved in this space can increase the collective impact, for instance by convening around a shared learning agenda, avoiding duplication of work, and allowing insights to further the collective understanding of the space.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value of AS space public goods</th>
<th>Why it matters</th>
<th>Current state of thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>The private sector, and in the AS space models 5-7, are generally more innovative than the larger, traditional AS models. Innovation is costly and risky, and multiple elements need to be developed for successful AS models: content, data, delivery mechanisms, customer acquisition, etc.</td>
<td>Large funders/donors (e.g., BMGF, World Bank) are active in contributing to public goods that benefit this space.</td>
<td></td>
</tr>
<tr>
<td>Certain elements which are costly and complex for individual AS providers, in particular the smaller start-ups, could be developed and provided as public goods. These elements could include for instance infrastructure to capture and share more accurate and localized weather data or a stronger evidence base for the effectiveness of various types, design, and delivery of AS.</td>
<td>However, there is still a significant need for more investment in public goods and for translating these goods into more actionable resources for AS models (e.g., translating soil data into recommended agronomic practices).</td>
<td></td>
</tr>
<tr>
<td>Such an approach could free up resources for AS providers to focus their innovation on other elements, such as more efficient and effective service delivery.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
We believe there is potential for greater scale and number of sustainable AS models, and propose the following call to action

<table>
<thead>
<tr>
<th>Area of support</th>
<th>Proposed activities</th>
</tr>
</thead>
</table>
| Support emerging sustainable advisory services models                           | • Drive **growth funding of sustainable AS models** by connecting AS providers to investors and providing investors with evidence and a pipeline of promising AS models  
  • **Broker relationships** between AS providers and businesses to build and scale B2B revenues and increase the sustainability of AS models  
  • Use **smart subsidy / targeted grants** while avoiding distortion of the market for sustainable AS providers                                                                                 |
| Improve coordination, collaboration, and knowledge sharing among funders and practitioners | • Develop and disseminate **learnings, best practices, and knowledge** on AS and CSA  
  • Align (with other funders and enablers) around **common frameworks**, such as shared metrics, a benchmarks database, and common typologies  
  • Capture and aggregate **evidence of sustainable AS models**, with a particular focus on B2B and B2C business models, and the role of AS in driving climate-smart agriculture  
  • Align around a **shared learning agenda** and bundle resources for targeted research and learning (e.g., in a learning lab)                                                                 |
| Create public goods and shared infrastructure                                    | • Develop **knowledge and tools** that AS providers can use (free or paid), such as weather data, farmer profiles, and software solutions  
  • Create or support creation of **platforms** where multiple service providers, offtakers and other partners can deliver complementary services |
1. Executive summary and key insights
2. Background to this report and Swiss Re Foundation
3. Overview of the advisory services market
4. Advisory services landscape analysis
5. Learning agenda
6. Appendix
## Sources used for landscape analysis (1 of 4)

<table>
<thead>
<tr>
<th>Page #</th>
<th>Sub-topic</th>
<th>Sources</th>
</tr>
</thead>
</table>
| 16     | Definition of AS and sub-categories | • CTA and Dalberg Advisors, “Digitalisation of African Agriculture Report”, 2019  
• FAO, “Mobilizing the potential of rural and agricultural extension”, 2010 |
| 17     | Definition and indicators for CSA | • CCAFS, CIAT, DFID, and World Bank, “Bringing the Concept of Climate-Smart Agriculture to Life”, 2018 |
| 18     | The role of knowledge in CSA | • CCAFS, CIAT, DFID, and World Bank, “Bringing the Concept of Climate-Smart Agriculture to Life”, 2018 |
| 19     | Evolution of AS models | • Agunga, Rober; Putra, Surya; Romadhoni, R Ahmad, “Training Needs of Indonesian Agricultural Extension Workers for the 21st Century”, 2015  
• Anderson, Jock R.; Feder, Gershon; Ganguly, Sushma, “The Rise and Fall of Training and Visit Extension”, 2006  
• Ethiopian Development Research Institute, “The State of Agriculture Extension Services in Ethiopia and their Contribution to Agricultural Productivity”, 2018  
• FAO, “Mobilizing the potential of rural and agricultural extension”, 2010  
• GFRAS, “National Agricultural Extension Strategy (NAES) of Uganda, 2016  
• MPRA, “Agricultural Technology management Agency (ATMA): A Study of its Impact in Pilot Districts in Bihar, India”, 2009  
• National Center of Agricultural Extension, “Agriculture Extension in Indonesia: Moving Towards Farmer Empowerment”, 2015 |
<table>
<thead>
<tr>
<th>Page #</th>
<th>Sub-topic</th>
<th>Sources</th>
</tr>
</thead>
</table>
| 20     | Typology of AS providers | • Fabregas, Raissa; Kremer, Michael; Schillbach, Frank, “Realizing the Potential of Digital Development: the Case of Agricultural Advice”, 2019  
• FAO, “Mobilizing the potential of rural and agricultural extension”, 2010  
• KIT Royal Tropical Institute, “Understanding Agribusiness-Based Advisory Services”, 2018 |
| 22     | Size of AS provider segments | • CTA and Dalberg Advisors, “Digitalisation of African Agriculture Report”, 2019  
• OECD, “OECD Creditor Reporting System”, 2018  
• World Bank, “World Bank Data”, 2018 |
| 27     | AS needs per farmer segment | • CTA and Dalberg Advisors, “Digitalisation of African Agriculture Report”, 2019  
• Khondokar Humayun Kabir; Mohammed Asaduzzaman Sarker, Debasish Roy, and Subrato Kumar Kuri, “Information Seeking Behavior of the Farmers to Ensure Sustainable Agriculture”, 2014 |
| 28     | Depth and sophistication of AS models | • CCAFS, CIAT, DFID, and World Bank, “Bringing the Concept of Climate-Smart Agriculture to Life”, 2018  
• CGIAR, “Scaling Up Climate Services for Farmers: Mission Impossible”, 2014  
• CTA and Dalberg Advisors, “Digitalisation of African Agriculture Report”, 2019  
• Fabregas, Raissa; Kremer, Michael; Schillbach, Frank, “Realizing the Potential of Digital Development: the Case of Agricultural Advice”, 2019 |
### Sources used for landscape analysis (3 of 4)

<table>
<thead>
<tr>
<th>Page #</th>
<th>Sub-topic</th>
<th>Sources</th>
</tr>
</thead>
</table>
| 29     | Type of AS models serving different farmer segments, and typical value created | • CABI, “Effectiveness of Mobile Agri-Advisory Service Extension Model: Evidence from Direct2Farm Program in India”, 2019  
• GFRAS and Royal Tropical Institute (KIT), “Pluralistic Extension System”, 2012  
• Gomez, Miguel; Mueller, Benjamin; Wheeler, Mary Kate; “Private Sector Extension Activities Targeting Small Farmers in Developing Countries”, 2016  
| 30     | Variety of revenue models for AS providers | • CTA and Dalberg Advisors, “Digitalisation of African Agriculture Report”, 2019  
• FAO, “Mobilizing the potential of rural and agricultural extension”, 2010  
• KIT Royal Tropical Institute, “Understanding Agribusiness-Based Advisory Services”, 2018  
• Winrock International, “Climate Information Services Market Assessment and Business Model Review”, 2018 |
| 31     | Costs of AS models and potential for scale | • CGIAR, “Scaling Up Climate Services for Farmers: Mission Impossible”, 2014  
• CTA and Dalberg Advisors, “Digitalisation of African Agriculture Report”, 2019  
• Khondokar Humayun Kabir; Mohammed Asaduzzaman Sarker, Debashis Roy, and Subrato Kumar Kuri, “Information Seeking Behavior of the Farmers to Ensure Sustainable Agriculture”, 2014 |
| 32     | Integration, bundling, and delivery partnerships of AS models | • CTA and Dalberg Advisors, “Digitalisation of African Agriculture Report”, 2019  
• Fabregas, Raissa; Kremer, Michael; Schillbach, Frank, “Realizing the Potential of Digital Development: the Case of Agricultural Advice”, 2019  
<table>
<thead>
<tr>
<th>Page #</th>
<th>Sub-topic</th>
<th>Sources</th>
</tr>
</thead>
</table>
| 33    | Current state of thinking on CSA from farmers, businesses, governments and | • FAO, “Mobilizing the potential of rural and agricultural extension”, 2010  
|       | NGOs, and investors and funders                                          |                                                                                                                                                                                                          |
| 35    | Activity options for funders and enablers                                | • CGAP, “How Do Smallholder Farmers Access Information?“, 2014  
• CTA and Dalberg Advisors, “Digitalisation of African Agriculture Report”, 2019  
• Fabregas, Raissa; Kremer, Michael; Schillbach, Frank, “Realizing the Potential of Digital Development: the Case of Agricultural Advice”, 2019  
• Winrock International, “Climate Information Services Market Assessment and Business Model Review”, 2018 |
| 36    | Positioning of funders and enablers in the AS space                     | • Better Cotton Innovation Challenge, “How Might We Better Enable Customized Learning for Farmers for Continuous Improvement?”, 2019  
• CTA and Dalberg Advisors, “Digitalisation of African Agriculture Report”, 2019  