

Paper

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## A comparative analysis of climate smart service delivery models

Emerging lessons from SNV support to service models in East Africa

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## Executive summary

This report forms part of a comparative analysis of Service Delivery Models (SDMs) supported by SNV in east Africa under the Climate Resilient Agribusiness for Tomorrow (CRAFT) and HortInvest Rwanda programmes. The analysis explores the portfolio to better understand *'what is working and why?'* and *'what is not working and why?'* in respect of inclusive SDMs and support provided to them.

Service delivery models are mechanisms through which climate smart agriculture (CSA) and/or good agricultural practice (GAP) services are channelled in the supply chain to improve performance and value creation. Services typically include training, inputs, financial services, marketing (bulking of produce and access to markets) and value-added services (e.g., mechanisation) to farmers. These services may be delivered together (bundled) in varying combinations to optimise their effectiveness and through different types of delivery mechanisms in terms of who delivers and pays for the service. In this study, the priority forms of delivery mechanism include:

1. Embedded (structured) services - provided by a business champion (BC)<sup>1</sup> or contracted service providers as part of the contractual relationship between business champion and smallholders.
2. Brokered (semi-structured) services - provided independently by external service providers through preferential access and/or rates negotiated on behalf of smallholders by the BC.

A number of cross-cutting lessons emerge from the study relating to the modelling and operation of SDMs themselves, and for the strategy and tactics underpinning development agency support to those SDMs and their business operators. Observable trends and patterns from the cases studied include<sup>2</sup>:

### 1.2 Delivery models

- **SDM structure and CSA/GAP uptake.** Whilst more structured relationships remain subject to risk for both parties and have a mixed history in the region, they nonetheless offer a potentially strong foundation upon which to build and extend CSA/GAP provision and uptake. SDMs that embed services and are provided by either BCs or a third party, increase the likelihood of smallholder uptake and practice change. Brokered service models that offer advantages to both service providers (customer base) and users (preferential terms) offer both parties greater flexibility but may not lead to significant uptake, particularly where trust between parties remains weak. Brokered services are more common in Kenya than Uganda and Tanzania.
- **Commonly embedded services.** Embedded service provision is common, but not universal. This model is more prevalent for those services that can be directly associated with either productivity or product quality improvements. This includes extension services and improved seed provision.
- **Value chain service priorities.** From the available data there is a potential correlation between SDM structure and sophistication (i.e. scope of services) and the value of specific crop / value chain. The development and sustainability of effective SDMs may be expected to be more achievable the higher the value of crop / enterprise. The scope for mobilising smallholder practice change in low margin value

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<sup>1</sup> In this study BCs are lead value chain actors in the organisation and operation of a SDM including off-takers, cooperatives and service providers

<sup>2</sup> Disclaimer and caution: In light of the small sample size and data gaps, implications associated with trends observed in the dataset should be treated with caution

chains may be expected to diminish and/or require alternative strategies outside of commercially-driven SDMs.

- **Convening role of business champions.** Smallholder mobilisation is critical and invariably secured through the product purchase and aggregation services of a reliable off-taker offering smallholders links to commercially viable markets combined with direct (embedded) or preferential (brokered) access to CSA/GAP services. A firm-level intervention strategy does, however, pose a risk to resilience if it reinforces dependency for smallholders on a single off-taker and SDM.
- **Business model viability** and resilience is predicated on rigorous business planning and projections. Accurate data and triangulation on the part of SDM lead-firms and those supporting them is essential to ensure realistic business cases underpin service model development.

### 1.3 Service systems

- **Identification and prioritisation of binding constraints.** Identifying and prioritising constraints facing the system as a whole is critical. SDM designs that are informed by solid understanding of all those constraints preventing smallholder climate adaptation are better able to prioritise those most likely to incentivise greater smallholder response.
- **Clarify and prioritise climate 'smartness' and/or GAP priorities.** Market analyses offer opportunity to identify but, importantly, prioritise CSA/GAP opportunities to help target high potential business partnerships and SDM models and innovation. With regards CSA, and in the absence of clarity and prioritisation, criteria for 'efficiency' are problematic if classifying any productivity enhancing actions as climate smart. Effective and impactful SDMs are likely to be those that rigorously define and target the highest impact CSA/GAP changes.
- **Service anchorage and bundling practices.** The majority of SDMs provide for multiple or a 'bundled' set of services. Whilst service combinations vary between business cases, crops and countries, some common denominator services are observable – in particular, product aggregation, improved seed provision and agricultural extension. Beyond these services other service combination patterns were not readily observable. SDMs built around potential 'anchor' innovations (e.g., improved seeds) offer scope to leverage further, reinforcing practice change.

### 1.4 Service outcomes

- **Prioritising and sequencing practice changes.** CSA/GAP adaptation involves complex behaviour changes amongst smallholders, and for which greater success is likely when introduced iteratively informed by smallholder preference and decision-making realities.
- **Realistic uptake projections and monitoring.** Uptake responses and rates amongst smallholders vary between producers and practices. Accurate estimation and measurement of adoption rates is critical in establishing viable SDMs and, importantly, assessing and quantifying development outcomes in terms of climate/GAP adaptation.
- **Crowding in service providers.** SDM design should be informed by, and seek to address, system-wide service provision constraints in order to maximise the prospects for wider practice change within service delivery markets beyond the immediate SDM orbit.

Effective and appropriate support to SDMs offers considerable scope to strengthen their resilience and potential for sustainable service delivery at scale. Key themes, opportunities



and threats emerging from efforts to strengthen SDM sustainability, resilience and impact at scale include:

### 1.5 Systems change and analysis

- **An explicit system change agenda.** Service model innovation should aim to inform and strengthen the service delivery system as a whole. Elaborating an explicit system change ambition ensures interventions and support remain focused on service solutions with the potential for wider application and avoids the risk of developing firm-specific solutions that are difficult to both sustain and replicate.
- **System-level vs firm level priorities.** Firm-level priorities do not necessarily reflect those affecting the wider system. Commercial incentives of business champions may overlap but may not mirror objectives/incentives of smallholders. Analyses should seek to identify systemic constraints and their root causes to identify overlap with partner/firm-level interests.
- **Linking analysis to intervention focus.** The identification of CSA/GAP issues invariably leads to a relatively long list of challenges necessitating categorisation and prioritisation. Importantly, that prioritisation should inform, directly, intervention strategies and the targeting of SDM support toward high priority CSA/CAP issues within the 'long' list.

### 1.6 Sustainability and partnerships

- **Partner incentives and capacity analysis.** Systematic and transparent partner selection should be informed by analysis of the incentives and capacity of BCs to sustain (and grow) proposed SDMs. Sustainability is contingent on BC commitment and ownership, underpinned by commercial incentives. A rigorous sustainability analysis should be undertaken to assess the long-term capacity and commitment of partners to sustain those SDMs. Behaviour change comes at a cost for both BCs and smallholders. Commercial return incentives need to be translated into forward planning and investment if those changes are to be sustained over the long-term.
- **Reliance on external funding.** Where external funding is used to support service delivery, a realistic plan for how these services will be delivered in the long run is fundamental to SDM sustainability and resilience. Evidence suggests too few services currently being subsidised will continue once programme support ends. An overly opportunistic approach to partnership formation bears the risk of reinforcing a tendency for exclusive support to a limited number of donor- and/or project-facing business partners.

### 1.7 Scale and outreach

- **Firm-centric tactics.** The outreach of SDMs built around individual BCs is invariably limited to the capacity and ambition of those businesses. SDMs that address unique firm-level needs but are not readily replicable by other firms limit the scope for scale-up and wider outreach.
- **Crowding-in value chain actors.** Large-scale impact necessitates promoting SDM replication and adaptation by crowding in other value chain stakeholders, including government, that benefits the system as a whole. Cases that directly engage both public and private extension agents, potentially allow for greater outreach to smallholders beyond individual SDM cases.
- **Explicit strategies for scale and outreach.** Without explicit scale-up interventions, wider SDM adoption and adaptation can be expected to remain limited and outreach confined to the investment capacity of individual partners. Large-scale service outreach and impact also implies working directly with service providers to support and promote

the replication of services and delivery models by the same or additional service providers beyond 'pilot' SDMs. Experience suggests an organic 'demonstration effect' is unlikely to realise impact at significant scale.

### 1.8 Monitoring and learning

- **Observable benefits to practice change.** CSA/GAP behaviour change amongst smallholders is reinforced where tangible commercial returns to those changes are observable. This should be substantiated by a valid business case for smallholders based on accurate and realistic commercial projections and which are closely monitored, verified and adjusted in line with real-time data.
- **Assured SDM performance and service monitoring.** Validating SDM viability and evaluating risk factors and sensitivity to key parameters is critical to assessing model sustainability and informing support needs. The quality and consistency of service provision, including that of business champions and service providers is equally paramount. Rigorous monitoring of provision and uptake is a pre-requisite for SDM learning, adaptation, improvement and continued relevance.

In conclusion, analysis of this portfolio of SDMs demonstrates the potential for establishing strong, effective and sustainable service delivery models around pivotal, commercial value chain actors such as off-takers and aggregators, although a paucity of accurate data renders firm conclusions difficult. Nevertheless, in the absence of a rigorous and systematic approach that focuses beyond those individual businesses to understand and seek to address the systemic barriers to service sustainability and scale, the firm-centric model employed by CRAFT and HortInvest can be expected to limit the extent and sustainability of impact.

## 1. Introduction

This comparative analysis is a deliverable of the assignment “*Development and Analysis of Service Delivery Models (PRF-19434)*”. The report explores common lessons emerging from the analysis and modelling of a series of service delivery models (SDMs) supported by SNV<sup>3</sup> in East Africa. These SDMs were selected and supported with the explicit aim of enhancing their resilience and scale-ability. The subsequent analysis, of which this report forms part, sought to capture lessons learned for SDM design and support in terms of ‘*what is working and why?*’ and ‘*what is not working and why not?*’ in respect of SDMs in situations of increasing stress and/or shocks.

The study examined a selection of SDM partnerships under SNV’s Climate Resilient Agribusiness for Tomorrow (CRAFT) project, including:

Business champion	Overview
Shalem Investments Ltd, Kenya	An aggregator and processor of sorghum whose primary market is East Africa Breweries Ltd, supplemented by a growing retail market for food and animal feeds. Its suppliers are predominantly smallholders organised through supply contract arrangements.
Quinam Investments Ltd, Kenya	Registered in 2013 as a limited liability company supplying white sorghum mainly to East African Maltings Ltd. (an affiliate of East Africa Breweries Ltd), maize to Unga Ltd (a constituent of Seaboard International) and other cereals to other markets. Quinam works with 7,000 contracted sorghum farmers in Eastern Kenya.
Starlight Cooperative, Kenya	Registered in 2014 in Nakuru County, Starlight’s core business is dairy and potato seed multiplication but over time has bundled more services to provide holistic support to the cooperative members.
Kibaigwa Flour Services (KFS), Tanzania	KFS is a buying, processing and marketing company focused on sorghum and maize in Kongwa and Kiteto districts. It’s primary market for sorghum is Tanzania Brewery Limited (TBL) and has contract farming arrangements with over 3,000 smallholder farmers.
Nondo Investors Co Ltd, Tanzania	Nondo is involved in buying, processing and trading agricultural crops (maize, sunflower and paddy) in the Katavi and nearby regions in Tanzania. Nondo has worked with approximately 1,200 contracted sunflower farmers since 2015 and plans to increase the numbers of contracted farmers to 3,000 with CRAFT support.
Digital Mobile Africa Ltd, Tanzania	DMA is an AgriFintech company formed in 2018. Its digital services platform aspires to connect farmers and off-takers with other value chain actor, such as input suppliers, financial service providers, and providers of extension information.

<sup>3</sup> This includes SDMs supported by CRAFT in Kenya, Tanzania and Uganda, and HortInvest in Rwanda

Business champion	Overview
Okeba Uganda Ltd, Uganda	Okeba is a buying, storage and marketing company focused on soybean and maize in Mebende district. Its primary market for soybeans is for animal feed to Uganda based companies. Its suppliers are predominantly smallholders organised through supply contract arrangements.
Acila Enterprises Ltd, Uganda	Acila was established in 1996 as a grain stocking centre for bulking and storage, and now focuses on aggregation and processing of improved soybean, sorghum, ground nuts and maize production and productivity among smallholder farmers in the five target districts.
Sebei Savings and Credit Cooperative Society (SACCO), Uganda	Registered in 2016, Sebei is a not-for-profit SACCO offering four core services – savings; credit; agency banking products; and sunflower & soybean production and marketing. Sunflower represents 50% of its revenue and membership to whom it offers extension, financial services, inputs and market access.

In addition, the study explored the partnership with Holland Greentech, under the HortInvest project:

Holland Greentech, Rwanda	HGT was registered in Rwanda in 2015. The company provides equipment, improved inputs, and provides technical support and training for horticulture sector, supporting farmers to enhance horticulture production in Africa.
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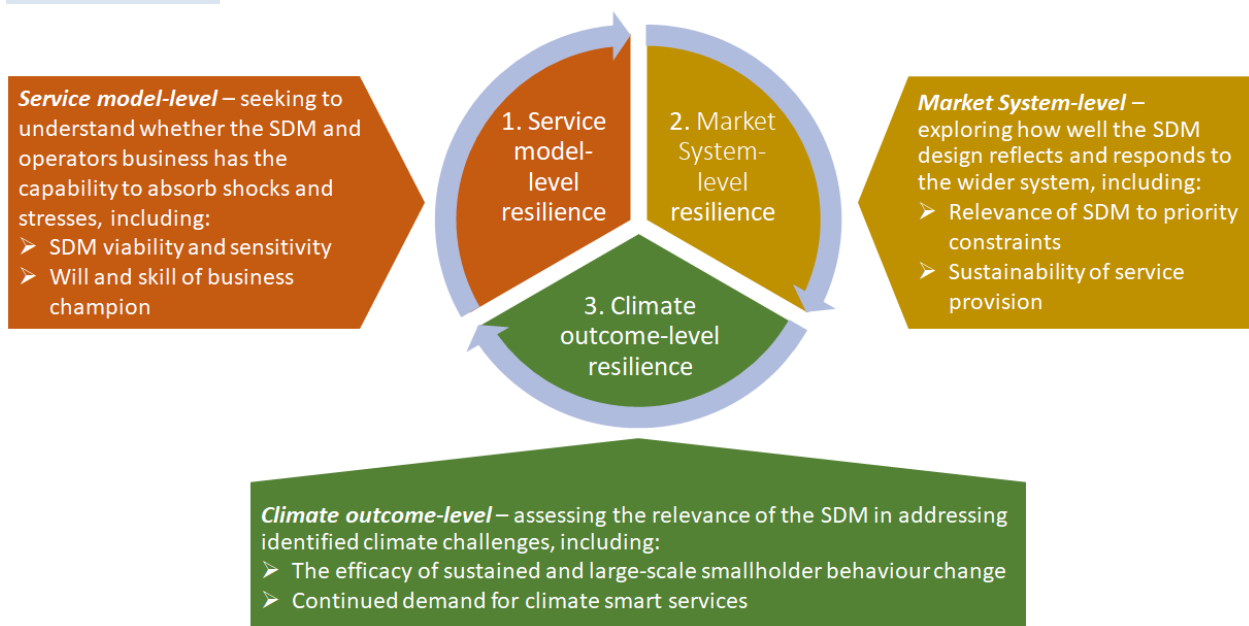
### 1.9 Study approach and methodology

The study was undertaken between July 2021 and April 2022, combining both remote and in-country consultation, business modelling and analyses. Case selection was made on the basis of a number of criteria, most importantly to ensure a diversity of value chain contexts; a mix of business champion, cooperative and service provider-led models; and those partnerships that offered ready access to sufficient data. The study employed an analytical framework<sup>4</sup> comprised of three complementary lenses:

<sup>4</sup> *Development and Analysis of Service Delivery Models (PRF-19434), Inception Report*, Springfield Centre, July 2021



<b>Climate Smart Agriculture (CSA)</b>	<p>Agriculture cultivation, production and/or harvesting practices which seek to enhance the capacity of the agriculture sector to sustainably support food security, incorporating adaptation and mitigation into development strategies. CSA practices may be characterised in terms of:</p> <ul style="list-style-type: none"> <li>• <b>Mitigation</b>: practices seeking to reduce the environmental footprint of food production</li> <li>• <b>Adaptation</b>: practice changes that reflect change in the prevailing environmental (climate) conditions impacting food production</li> <li>• <b>Productivity</b>: adoption of practices and/or inputs designed to enhance the productivity of a fixed resource-base</li> </ul>
<b>Service Delivery Model (SDM)</b>	<p>Mechanisms through which (climate smart) services are channelled in the supply chain to improve performance and value creation. Services typically include training, inputs, financial services, marketing (bulking of produce and access to markets) and value-added services (e.g., mechanisation) to farmers. These services may be delivered together (bundled) in varying combinations to optimise their effectiveness and different types of delivery mechanisms in terms of who delivers and pays for the service. The basic forms of bundled services include:</p> <ul style="list-style-type: none"> <li>• <b>Embedded</b>: services provided by the BC and/or contracted service providers and forming part of the contractual relationship between business champion and smallholders</li> <li>• <b>Brokered</b>: services provided independently by external service providers through preferential access and/or rates negotiated on behalf of smallholders by the BC</li> <li>• <b>Signposted</b>: independent services and service providers identified and/or promoted through extension training</li> </ul>



## 1.10 Key Definitions

## 2.1 Strengthening service delivery models in opportunities and threats

This section draws emerging themes from the 9 CRAFT and 1 HortInvest supported partnership cases, exploring their implications for strengthening service delivery to smallholders. The section is structured in three parts which respectively explore opportunities and threats to the resilience of delivery models, service systems and climate smart agriculture (CSA) and/or good agricultural practices (GAP) outcomes.

### 2.1 Delivery model resilience

#### 2.1.1 SDM structures



All SDMs seek to establish a portfolio of mutually supporting (CSA/GAP) services. There is a continuum of service arrangements from highly structured service provision

models to those merely seeking to raise awareness and stimulate networking between service providers and smallholders (ie. non-structured, signposted services).

Non-structured arrangements are not service models as such, but rather the provision of information about services and their sources, often linked to extension (e.g., financial service signposting by Kibaigwa and Nondo; mechanised services signposted by Shalem and Sebei).

Two distinct forms of service 'model' emerge, a combination of which can be found in all SDMs providing different levels of structure and security for individual services provided within each SDM:

- i. Embedded services – structured within the SDM partnership between business champions and smallholders. The provision (by either business champion or third party providers) and uptake of these services is, to a greater or lesser degree, an obligation of a formal supply-offtake contract (i.e. contract farming agreement) or membership conditionality (i.e. cooperative agreement).
- ii. Brokered services – non-obligatory service provision by third parties on preferential and/or discounted terms exclusive to business champion suppliers.

The prevalence of embedded service arrangements reflect risk management strategies of off-takers and smallholders. For the former, return on service investment necessitates sole access to off-take. For smallholders, the risk of investment in services is mitigated by secured market access. Nevertheless, experience suggests that enforcing formalised arrangements – whether under contract or cooperative agreement – remains problematic where alternative buyers exist and are open to default by either party.

#### IMPLICATIONS



*SDMs that embed services, provided by business champions or third parties, increase the likelihood of smallholder service uptake.*



*Structured service models offer potential as vehicles for promoting climate smart agriculture but remain open to default and enforcement challenges in which smallholders are often the most vulnerable party.*

Embedded services are a feature of many cooperatives, often supported by external donors/projects. The risks associated with embedded services without contractual conditions apply equally to both private off-taker businesses and cooperatives. Brokered service models, whilst reducing the commercial exposure of BCs, are rare, but more common in Kenya than Uganda and Tanzania. This pattern warrants more research but could point to the more mature service provision market found in Kenya.

Whilst more structured relationships remain subject to risk for both parties and have a mixed history in the region, they do offer a potentially strong foundation upon which to build and extend CSA/GAP provision and uptake. Less formalised service relationships, including brokered service provision, do not stimulate the same level of farmer uptake and are less common as a result. It is likely such models are more effective where historic and stronger levels of trust exist between smallholders and service providers. As a general rule, the determining factors in identifying appropriate levels of structure in any SDM remain the capacity and incentives of key service providers to sustain quality services and the trust those providers enjoy amongst smallholder service users.

### Structured service trends


Embedded service provision is common, but not universal. This service model appears more prevalent for those services that can be directly associated with either productivity or product quality improvements.


Agricultural extension is the only embedded service found in all SDMs. Smallholder extension remains a universally challenging service to deliver and sustain and is the only service receiving (substantial) project subsidy (financial and/or technical assistance) across all SDMs. Ongoing subsidisation, however, risks distorting efforts by BCs and others to identify tailored, more sustainable extension delivery solutions. Most BCs do not anticipate maintaining equivalent extension services without external support.


Improved seed provision is the second most commonly embedded service – particularly where required for seed multiplication purposes – but one rarely subject to subsidisation. The direct link between a service such as improved (and drought tolerant) seed provision and productivity and/or product/production consistency suggests stronger incentives for BCs to embed and maintain such services.


The prevalence of embedded seed services would suggest many BCs (and producers) perceive improved and/or hybrid seeds to be a 'game changer'. But it may also indicate that prevailing seed systems remain dysfunctional and/or underperforming, leading many key value chain actors to embed improved seeds in their own service models.

### IMPLICATIONS

 *Embedding services within the cooperative model should take due account of their capacity to maintain those services without dependency on external support.*

 *Brokered service models offer advantages to both service providers (customer base) and users (preferential terms) but may not lead to significant uptake, particularly where trust between parties remains weak.*

 *Partner incentives to provide extension might be enhanced by (more) compelling evidence of the links between specific practices and productivity and/or quality benefits and the costs associated with practice change*

 *The importance attributed to improved seed provision suggests seed services represent a potential priority service for smallholder delivery models.*

## The convening role of business champions

The catalytic role of product off-take is central to most successful SDMs. Eight of ten SDMs are off-taker – led models. The portfolio

### **Building the customer base for services**

Shalem: The significant number of farmers working with Shalem (approx. 30,000) provides an attractive customer base and revenue prospects for service providers, such that they are willing to develop products that target smallholder needs. Minimum targets by the service providers include: 2500 farmers (SeedCo); 1,000 farmers (Unaitas – credit provider); 1,000 farmers (Vision Fund – credit provider); 3,000 farmers (APA Insurance). Other providers include agrochemical and fertiliser dealers. To protect farmer interests, Shalem is establishing MOUs with pre-selected service providers.

demonstrates the pivotal link between market access and service demand. Many BCs offer a convening role between smallholders seeking secure markets and service providers seeking viable strategies to reach large numbers of smallholders.

The pivotal role of a BC, however, brings risk of dependency and 'single point failure' in service provision. A number of SDMs demonstrate this potential for dependency, particularly where BCs actively seek to internalise many of the services provided (e.g., Okeba, Starlight and Nondo). Whilst there may be efficiency, quality and consistency benefits to this embedded delivery model, smallholders are reliant on the performance and longevity of individual businesses. Piloting SDM innovations often requires intensive partnerships, but service resilience necessitates the crowding in of multiple service providers and options to mitigate the risk of creating dependency on one or few options.

### 2.1.2 Aligning service delivery with commercial incentives and capacity

Long-term commercial viability of service delivery and uptake is key. The cost of some practice changes may not be readily internalised by commercial players (including smallholders) in the short-term – not uncommon in the context of climate adaptation – but local systems (including government) need to find solutions to

### **Right solution, wrong partner?**

Nondo: Sufficient supply of planting seed continues to threaten the competitiveness of the sunflower sector in Tanzania. In response, Nondo has applied for additional funding to embed this service in its core business. However, embedding this service will require registration with the body that regulates seeds (TOSCI), paying inspection fees periodically, hiring trained agronomists and acquiring machinery to process and package seeds, and managing seed distribution. Analysis to-date did not appear to assess the capacity of Nondo to assume all the additional work of becoming a seed producer entails.

## IMPLICATIONS



Viable, resilient service provision to smallholder sectors requires organisation and this can be effectively provided by commercial value chain actors.



Mitigating the risks of creating or reinforcing dependency on a single business champion requires proactive effort to work with, and stimulate, model replication and competition in a variety of different services, including active participation by other value chain actors and service providers.



Practice change amongst smallholders is more likely where direct commercial benefits are apparent and/or where future commercial benefits are clearly demonstrated and attributable for both business champions and smallholder farmers.



maintaining those changes not reliant on external support. Donor projects can offer a temporary risk-sharing role, but clear and credible exit strategies are imperative. In the long-term tangible returns will underpin commitment and, importantly, the investment of BCs. These returns determine SDM viability and resilience. It is of concern that in most cases the assumptions upon which expected returns are based still require verification and realignment based on 'actuals'.

For a number of BCs, commercial incentives are unclear. Multiple BCs (70%) have a history of working with, and drawing financial support from, development projects. For example, DMA funding from donors in 2019 and 2020 represented 87% and 77% of total revenue for the two years respectively. At least five other BCs have received significant donor funding. HGT's stated agenda is to nurture project consortium partnerships as a CSR and network building strategy. Given the plethora of development programming this is perhaps not surprising, but does highlight the complex and potentially distortive incentives facing BCs with a significant history of donor support.

### 2.1.3 Rigorous business planning and projections

Given the importance of commercial drivers – for all stakeholders – business plans and projections are critical in quantifying benefit levels and flows. The point of departure for each SDM partnership is a 'business case' that quantifies SDM operation and expected revenues. Each case is unique, but targets underpinning all business cases were substantially optimistic. Common features include:


- **BC costs and revenues** based on price, yield and outreach estimates consistently over-estimate actuals realised in the first year. Yield increases in particular proved inaccurate, likely due to a combination of 'optimism bias' as to attainable productivity gains and unrealistic service adoption rate assumptions (often assumed at or near 100%). This is compounded across the portfolio by incomplete cost breakdown rendering it impossible to ensure all costs are accurately accounted for. Few business cases provide accurate cashflow analysis and/or identify liquidity needs.


#### **Being realistic about costs**

Starlight: Business plan projections for 2021 and 2022 indicated a cost of sales for the potato business of 18% and 25% while average cost of sales for the SACCO in earlier years had remained above 80%. A breakdown of the proposed costs for the respective revenue lines (dairy and potato business) would provide more clarity on the reasonableness of the cost assumptions used.

- **Assessing historical financial data** provides reference points against which to assess the validity of key assumptions and estimates used on business case projections. These data, reflecting the prevailing parameter actuals of the business partner, should inform the business case, yet are not routinely used to triangulate projections.

#### **IMPLICATIONS**

 Imperative to verify the nature of partner motivations and that their commitment is to the SDM and not to development support.

 Business case analysis and verification requires detailed, accurate data to validate business model projections for business champions, smallholders and service providers, including:

- Valid business cost and revenue projections, taking account of historical performance
- Realistic smallholder yield, productivity and margin projections, including year one projections closer to the baseline
- Utilise baseline review data to amend projection variables based on more realistic estimates
- Sensitivity analysis to assess SDM commercial resilience, including cashflow analysis
- Service provider business modelling and risk analysis

- **Service provider business analysis** is missing from the business case format and thus margin calculations for service providers are not available. In the absence of direct partnerships with service providers, these data are neither available nor accounted for in any of the SDM business due diligence, modelling and analyses. Nevertheless, the robustness of service provider business models remains critical to understanding SDM resilience.

#### **Testing critical parameters**

DMA Tanzania realised earnings from fertiliser sales but did not record business from subscriptions, Mpesa and SMS and which had collectively been forecast to generate a total revenue of TSh 70 million in year one. These projections were arrived at based on a working engagement between DMA and Jackma (a sunflower off-taker), and 4,500 of its 6,000 farmers, but this partnership never materialised.

## 2.2 Service system resilience

### 2.1.4 Identifying binding constraints


CRAFT and HortInvest's points of departure are identifying crops on which large numbers of smallholders depend, and which are threatened by climate change and/or poor practices. Constraints analysis focuses on CSA/GAP challenges and access to key services. The application of (rapid) market scans as part of the assignment validated the constraints identified but flagged additional and significant supporting function challenges left un- or partially addressed by different SDMs. For example:


- Aflatoxin testing services for sorghum to address rejection rates as high as 80% for some suppliers to Quinam (multiple SDMs)
- Warehousing and storage access for potatoes (Starlight)
- Price differentials and unpredictability for soybean (Acila)
- Provision of soil testing services (Sebei)
- Financial services (credit, insurance) as a constraint to uptake of other promoted services such as improved seeds, agro-chemicals, mechanised services (Acila, Okeba, Nondo, KFS and DMA)

These represent priority constraints for smallholders – linked to product quality and market access – and their resolution is an important stimulus for practice change and investment.

A common theme is found with less tangible rules and norms impacting these systems. Issues such as price differentials and quality assurance mechanisms point to issues of trust and relationships between market actors as well as, potentially, regulations and their enforcement (e.g. counterfeit seeds eroding smallholders trust in purchasing hybrid seeds). Contractual arrangements with off-takers (e.g., between East Africa Maltings and Quinam/Shalem; Kibaigwa and Tanzania Breweries Ltd) help guarantee prices and ensure quality production within established norms. However, informal and/or policy related challenges are not systematically addressed by SDMs, although some services (e.g.,

## IMPLICATIONS

 Market and constraints analysis is required to identify all binding constraints facing smallholders and to inform SDM design and the development of solutions most likely to incentivise practice change.

 Rigorous diagnostics are critical to understand the root cause of constraints (as opposed to symptoms), without which SDMs may fail to address the binding constraints preventing service uptake.

N.B. Root cause issues often lie in 'supporting' systems and/or the formal or informal norms and relations between actors.

brokerage of financial services) may indirectly address lack of trust between actors.

### Prioritising pivotal service needs

Constraints analysis should inform prioritisation and/or sequencing of service needs. The portfolio offers some insight into important triggers of smallholder engagement and response. Most significantly:

- **Market access** for smallholders is an important outcome of the convening role BCs bring. This is clearly demonstrated by different forms of contract farming arrangements (e.g., Nondo, Starlight, Kibaigwa, Okeba, Quinam) which secure strong smallholder commitment and compliance with service use. Aggregation and off-take is the core business of most BCs providing a critical incentive for smallholders.


Noteworthy, however, are the potential risks of over-dependence on limited off-taker and/or buyer options. Where contracts encompass all off-take, reliance on a single buyer presents a risk to the commercial goals of both BCs and those smallholders bound by contract.

### COVID - challenging resilience

Quinam: Company revenue grew from KSh 35 million in 2017 to KSh 208 million in 2018 (a growth of 494%) after the company ventured into selling to East Africa Maltings Ltd., a large institutional buyer. COVID led to significant cuts in alcohol consumption and the company's revenues dipped by 44% in 2020.

Quinam has since sought to expand its sorghum product lines to be able to sell to the retail market as well as other large buyers including the World Food Programme Capwell Industries, Unga Limited and Keroche Industries, thereby reducing the risk of over-reliance on one off-taker.

- **Drought tolerant, disease resistant seed varieties** enjoy relatively high adoption rates across multiple crops and contexts<sup>5</sup> (e.g., Okeba, Starlight) – albeit based on incomplete adoption rate data. Strong demand for drought tolerant improved seeds points to the significance for smallholders of water shortage or unpredictability as well as disease resistance and the value attributed to consistent germination, quality and productivity improvements. Anecdotal information suggests smallholders readily recognise the impact of improved seeds compared to other, less immediately observable practice changes (e.g. improved post-harvest handling in the absence of quality-based premium pricing). Linking other practices to improved seed services may offer means of leveraging wider practice changes, suggesting value in addressing binding seed system constraints as a priority, including access (outside of contract farming models) and finance and/or cashflow constraints at planting times.

 Secure access to both viable markets and quality seeds are key incentives for smallholder incentive. SDMs that do not offer such access (directly or indirectly) are unlikely to elicit significant or sustained smallholder commitment.

The identification and prioritisation of prospective 'anchor' services offers a potential vehicle for catalysing and consolidating CSA/GAP uptake.

<sup>5</sup> See also "Scaling Climate Resilient Seeds Through Inclusive Agri-businesses in East Africa", Shilomboleni, H. & Solomon, D., December 2021

Product aggregation and improved seed provision appear to be significant factors in smallholder mobilisation. Such services offer the potential as 'anchor' services around which to build wider, multi-service SDMs. Nevertheless, establishing 'anchor' services is not a guarantee either of SDM sustainability or scale if SDMs do not address the underlying systemic constraints that undermine the provision of those services.

### Service bundling trends

The majority of SDMs provide for multiple or a 'bundled' set of services. Service bundle combinations, however, vary markedly between business cases, crops and countries. Some common denominator services are observable across the SDM portfolio, specifically: product aggregation, improved seed provision and agricultural extension<sup>6</sup>. All but one SDM are founded upon a core product aggregation and off-take service. It is notable that the SDM not providing off-take services is demonstrably weak on both uptake and sustainability. All but one SDM provide embedded or brokered access to improved seed varieties.

Generally, however, patterns of service bundling are not readily observable and appear to be determined by the unique incentives, capacity and history of service and/or brokerage partnerships of each business champion.

### Crop-specific service trends

The study encompassed three (3) SDMs in the sunflower and sorghum sectors and two (2) in soybean. Whilst detailed market system analyses were not within the study remit, each value chain exhibits specific characteristics that can be expected to directly impact the form and function of respective SDMs. Recognising the small sample size, some tentative value chain-specific patterns are explored below:


#### Sorghum


- Off-taker function includes aggregation, processing and onward sale (*only 1 of 3 incorporates threshing*)
- Extension provision embedded
- Improved seeds embedded or brokered
- 2 of 3 include access to finance brokerage
- 2 of 3 include tillage services

#### Sunflower

- Extension provision is embedded
- Off-taker function includes aggregation and onward sale (*only 1 of 3 incorporates processing*)
- 2 of 3 include improved seed provision
- 2 of 3 include both access to finance and insurance brokerage
- 2 of 3 include weather information services

## IMPLICATIONS

 Service bundling is, in practice, supply-driven and sustainability determined by the incentives, capacities and historic relationships between business champions and service providers. These relationships need to be analysed and unpacked to inform effective SDM design.

 More organised value chains (e.g. sorghum linked to the brewing industry) and/or higher value products (e.g. sunflower) lend themselves to more structured SDMs and service bundling. Conversely, more fragmented and/or lower value sectors represent high risk to those investing in structured SDMs and smallholder mobilisation

<sup>6</sup> As already noted, the universal subsidisation of extension can be assumed to bias its inclusion in SDM bundles



## Soybean

- Off-taker function includes aggregation, storage and onward sale
- Extension provision embedded
- Improved seed provision embedded

It is reasonable to assume that the nature and history of individual value chains (and their policy contexts) within a country will directly influence the form and development of SDMs. These influences need to be understood to inform SDM design and support, underpinned by detailed system analyses.

### 2.3 Service outcome resilience

#### CSA/GAP adaptation requires multiple behaviour changes

Each SDM targets multiple, mutually supporting practice changes (e.g., where drought tolerant seed use is reinforced by water efficient tillage techniques and quality agro-chemical application). This renders change more complex and may be expected to increase the risk of low or partial uptake. The role of extension, a common feature across the portfolio, is critical in disseminating clear messaging and quantification of the cumulative benefits of key practice changes.


Smallholders are unlikely to take up new technologies/ practices where they might incur significantly higher costs or which they perceive may not immediately provide increased income. Increased costs derive from additional inputs as well as a result of regulation. For example, in the case of certified potato seeds, certification fees by the Kenya Plant Health Inspectorate Service (KEPHIS) do not favour smallholders and the institution's inspection costs increase the price of certified seeds significantly.


#### Service adoption levels

SDM impact is a function of uptake levels amongst smallholders. All business cases model, and are highly sensitive to, income and margin projections based upon yield increases as a result of service utilisation. Most business cases are based on significant – and often arguable – assumptions as to smallholder decision making and adoption rates. Estimated yield increases universally over-estimate actual increases recorded - see Table below.

Variance between projections and estimates is influenced by multiple factors, including seasonal conditions (i.e., severe drought impacted part of the region during the period under analysis) and COVID-19 (with regards access to inputs and market outlets, but not production). Nevertheless, the extent of variance is not adequately explained by these factors alone. The business proposal mechanism potentially incentivises optimistic estimates of outreach and impact and in many cases investment and pace of SDM development has been much slower than originally proposed.

#### IMPLICATIONS

 Given the complexity and cost of CSA/GAP adaptation, identifying and sequencing highest priority services for smallholders represents a pragmatic means of mobilising initial interest and incentivising wider supporting practice change.

 Resilient SDMs need to be based on accurate analysis of smallholder demand and decision making influences to inform realistic adoption rate assumptions.

<i>Selected Case</i>	Farmer Income/Acre Acila, Uganda Ref Year: 2021 Figures in Ush	BC Annual Revenue Acila, Uganda Ref Year: 2021 Figures in Ush	BC Annual Revenue Starlight, Kenya Ref Year: 2020 Figures in KSh	BC Annual Revenue Nondo, Tanzania Ref Year: 2020 Figures in TSh
<b>Budget</b>	559,500*	6,840,334,982	7,188,510	2,739,286,000
<b>Actuals</b>	(19,425)	2,376,834,963	3,597,041	1,501,506,057
<b>Variance</b>	<b>-103%</b>	<b>-65%</b>	<b>-50%</b>	<b>-45%</b>
<b>Explanation</b>	<p>Missed BP target by more than 100%</p> <p>*BP targets based on yields of 550kg/ acre while actual yields below 300kg/ acre.</p>	<p>Achieved only 35% of its BP target for 2021</p> <p><i>Note: Acila met 60% of its 2020 BP target.</i></p>	Achieved 50% of its BP target.	Achieved 55% of its BP target.

### Triangulation and testing business case assumptions

Acila: From its business plan projections, Acila’s revenue from soybean was expected to contribute, on average, 43% to total business revenue over the period, 2020-2022. However, actual results show that the total volume sold in 2020 and 2021 was 100 MT against a target of 3,500 MT. From this, Acila earned USh 186 million from the sale of soybean over the two years – accounting for only 3% of total revenue. The scaled down production and subsequent low earnings from soybean were attributed to the non-realisation of multiple assumptions including low yields arising from limited use of certified seeds and fertiliser; lower numbers of farmers selling to Acila; lower acreage under production (1 acre or less) against a target of 2 acres per farmer; and to a smaller extent, the effects of COVID.

Absence of accurate monitoring compounds this issue. Although surveys are used to capture uptake information, adoption levels are not systematically quantified and attributed to revenue and margin changes.

### Service quality and efficacy


The degree to which service quality and efficacy is monitored and/or assured varies but is observed to be limited. The more positive examples are those under contract farming where provision of key services (improved seed, agro-chemicals, finance) is integral to the contract.


Assessing the quality and efficacy of extension services is particularly problematic. A range of extension models are used (e.g., community agents; training of trainers and lead farmer models) to deliver extension and training (modularised and demonstration-based) but all are resource-constrained. Whilst anecdotally the use of lead farmers and peers may increase the credibility of messaging, service quality, consistency and efficacy is unknown, unmonitored and unverifiable.

### Crowding-in multiple service providers

A minority of SDMs offer smallholders access to multiple service providers (e.g., Nondo in sunflower; Shalem in sorghum), but the majority remain exclusive to relatively small numbers of smallholders. Limited mechanised tillage/harvesting services, for example, is recognised as a constraint by some BCs (e.g., Acila, Starlight, Okeba) yet the focus remains competing for access to the existing, limited

### IMPLICATIONS

 Rigorous and ongoing service quality monitoring – by both CRAFT project and business champion – is critical for assessing impact and for adapting and strengthening service provision

 Large scale service outreach (and thus impact) implies working directly with service providers in order to support and promote the replication of services and delivery models by the same or additional service providers beyond ‘pilot’ SDMs.

service market rather than expanding service supply capacity and/or options.

Extension provision illustrates contrasting approaches to service market development. Both Shalem and Starlight models (Kenya) engage both public and private extension agents, through which greater outreach is possible albeit not guaranteed. This brings depth and breadth to the service market providing for multiple sources, triangulation and reinforcement. The majority of SDM extension models are, however, confined to BC supply chain agents and do not offer scope to extend outreach to other smallholders. Where extension training is provided to government extension officials (Nondo, KFS), monitoring of subsequent service delivery does not take place.

### Capacity (and willingness) of business champions to scale

SDM outreach is a function of the capacity and motivation of individual BCs to grow their business and/or expand geographically. Combining data across the portfolio, the typical SDM seeks to increase outreach from an average of 2,100 to 4,700 smallholders – suggesting a total increased outreach across the portfolio of approximately 23,400 smallholders<sup>7</sup>.

#### *The risks of exclusive benefit flows*


Several varieties of improved soybean seed have been developed by Makerere University over the years yet have reached only a small number of Uganda's smallholder farmers. CRAFT has connected Okeba to Makerere University, enabling it to access different varieties of improved soybean seed – which Okeba has subsequently multiplied and made available to its farmers. Whilst this is seen as a major success for Okeba and its SDM, it nonetheless does not address the endemically weak linkages and relationships in the seed system that continue to prevent Okeba's competitors, and thus many other smallholders, from accessing improved seeds.


Emphasis on 'pilot' support to BCs has not encouraged engagement with other partners better placed to offer scale agency, including government. Scale may be more achievable through other pivotal players, for example sorghum buyers like East African Breweries Ltd. (driving change through multiple off-takers) or public extension providers (engaging across more, and more diverse smallholder sectors), but such partnerships are not actively developed as part of the BC-oriented model.

### Planning for sustainability

The (CRAFT) portfolio consists of relatively new partnerships (< 2 years). The sustainability of these SDMs is, therefore, difficult to verify but nor are there clear plans for who will do and pay many services once the programme exits. With one or two exceptions (e.g., Quinam efforts to encourage extension agents to offer other fee or commission-based services to sustain extension activities; Nondo interest in testing means of including cost of extension in

## IMPLICATIONS

 The scale and outreach of individual SDMs remains limited by the capacity as well as ambition of business champions.

 The scale and outreach (of CRAFT) is limited by a focus on individual business champions and the absence of a tangible strategy to support and promote service and model replication.

Partnerships are often perceived by business champions as 'projects' defined by (temporary) support terms and timelines. The absence of rigorous sustainability planning (who will do and pay for services in future?) puts most – if not all – SDMs at risk of failure post-CRAFT support.

<sup>7</sup> N.B. Quinam is an exception for whom contracted farmers grew from 1500 in 2020 to 7,000 in 2021

loans offered to farmers), few BCs have planned or budgeted to maintain new service innovations. Partnerships focus on testing innovations and/or extension of existing outreach, but few make provision for post-support scenarios.

Core BC services (e.g., aggregation) may be assumed to sustain, but the capacity and motivation to sustain other services is not routinely established. Importantly, little is known of the business models of supporting service providers nor are business cases required to elaborate sustainability plans. Partnerships focus on supporting service delivery innovations and/or extension of existing outreach, but few make provision for post-support scenarios. Multiple BCs acknowledge sustainability challenges, most notably with respect to CSA/GAP extension services which for all SDMs currently relies on project financial and technical support.

### Defining climate smartness

CRAFT applies a widely used set of (non-mutually exclusive) criteria in selecting climate smart crop production partnerships, namely:

**Mitigation:** practices that minimise climate change impact;

**Adaptation:** practices designed to adapt production and/or harvesting techniques in light of climate change; and

**Efficiency:** practices and technology utilisation designed to improve the productivity of existing natural resources

Practices that comply with any one of these criteria are defined as climate 'smart'. Nevertheless there are degrees of potential climate 'smartness' and thus the potential to maximise climate smart benefits. Some common trends are apparent:

**Mitigation:** All SDM extension activities emphasise critical production practice adjustments, not least in the form of water conserving tillage techniques to mitigate climate change risks, particularly for high water-use crops like potatoes.

**Adaptation:** As noted already, the demand for improved drought (and disease) tolerant seed varieties suggests a high climate smart 'value' is attributed to this adaptation strategy.

**Efficiency** improvements that help preserve limited natural resources are potentially valuable (e.g., intercropping sorghum with green grams; or potatoes with peas and maize).

Nevertheless, the climate 'smartness' of general productivity enhancing practices is more problematic since productivity benefits can be derived from both climate smart as well as environmentally unsustainable practices.

Market analyses, then, offer opportunity to prioritise CSA/GAP opportunities and to target higher SDM models and innovation. Effective and impactful SDMs are likely to be those that rigorously define and target the highest impact CSA/GAP changes.

## IMPLICATIONS



Defining and categorising climate smartness should form part of climate risk analysis to maximise the climate benefits of SDMs. Care is needed in the application of the 'efficiency' criteria which in practice could be applied to both climate smart and less-smart practices.



### 3 Support tactics to strengthen SERVICE DELIVERY

The report concludes by drawing out some key lessons to inform ongoing intervention strategies in support of smallholder service delivery. The study explored the context of support provided to SDM development as well as the operation and impact of SDMs themselves. In doing so it identified a number of characteristics of project support which, though potentially unique to the cases studied, nevertheless have implications for the efficacy of ongoing support by SNV and its development partners.

#### 3.1 System understanding and constraints analysis

Rigorous analysis and problem diagnosis is a critical first step in order to inform, target and prioritise the design and development of programme support and intervention. Both CRAFT and Hortinvest undertake varying analyses of the value chains and CSA/GAP challenges facing smallholders. The following observations emerge from the study with respect to those analyses and their link to intervention:

##### Linking CSA/GAP analyses to intervention strategies

Climate challenge analysis is undertaken by CRAFT for each value chain and, similarly, Hortinvest explored the application of GAP in Rwandan horticulture to inform training and extension. These analyses describe the extent of CSA/GAP challenges but do not prioritise those challenges. Partnership and intervention planning is based on overlapping interest in one or more CSA/GAP issue as opposed to a more explicit process of constraint prioritisation and targeting. Given the broad definitions of both CSA and GAP the link between analyses and subsequent intervention targeting is not always immediately clear.

##### System- versus firm-level constraints analysis




The primary intervention entry point is the BC/partner and the constraints they face in developing and/or expanding inclusive SDMs. The commercial incentives of BCs – and the challenges they face in that regard – may overlap yet do not mirror the objectives and incentives of smallholders nor development initiatives. E.g.,

- **Sorghum aflatoxin testing** solutions are impractical at individual producer level, but more readily found at aggregator level – implying additional, direct costs to be borne (all or in part) by BCs and who have, therefore, been reluctant to innovate in this space.
- **Post-harvest seed and ware potato storage** is key to reducing losses and managing market peaks and troughs. This does not lend itself to a producer-level solution but rather aggregator or processor services with implications for the 'bottom line' of a BC such as Starlight (Kenya) and hence is not addressed by its SDM.

##### Quantification and validation of the opportunity

The rationale for intervention is to unlock lasting pro-poor benefits. Quantification (and qualification) of the extent and robustness of those benefits in respective business cases is fundamental. Business case analyses are limited, often based on unchallenged assumptions and weak triangulation. Sensitivity analysis identified significant risks associated particularly with assumptions on service adoption rates, yield and/or productivity

#### IMPLICATIONS

-  Intervention strategies, partnerships and actions must be analysis-driven and subject to purposeful prioritisation if it is to maximise the efficacy of development investment and resource utilisation.
-  Firm-level priorities do not necessarily reflect those affecting the wider system. Analysis should seek to identify systemic constraints and root causes to identify overlap with partner/firm-level interests.
-  Analysis should seek to quantify the smallholder, partner and service provider benefits of SDMs, triangulating and validating projections and assumptions all business cases.

projections. For example, projections for the Tanzania portfolio were:

- *DMA: 60% yield increases, 40% income increases*
- *Nondo: 85% yield increases, 227% income increases*
- *KFS: 75-100% yield increases, 500% income increases*

Actual data were only available for Nondo indicating minimal yield increases from a base of 350 kgs/acre to 381 kgs/acre against a projected yield of 650 kgs/acre. Closer examination suggests the baseline estimate of 350 kgs / acre was itself over-optimistic – as the farmer survey showed only 6% of farmers had achieved yields of 500kg and above, while 39% achieved yields of between 300kg and 400kg and the remaining 55% achieved below 300kg/ acre. Whilst variance is to be expected, the scale of these variances confirm inadequate validation and triangulation and place the commercial resilience of SDMs at significant risk.

### 3.2 Planning for sustainability

The imperative for SDMs to sustain, adapt and innovate around smallholder service provision is critical to the longevity and extent of impact, and a fundamental principle of good development practice.

#### A systemic change agenda


Neither the intervention model of CRAFT or Hortinvest seek system-level change. Both are firm-centric by design – supporting service solutions for individual firms and those smallholders they reach. Emerging firm-centric solutions have not triggered changes in underlying system dynamics nor are they expected to. Consequently, SDMs remain vulnerable to continued system underperformance and the potential for independent replication is limited. For example:


- **Seed system change:** *While multiple SDMs have had some success in improving access to seeds for those supplying BCs this has not, nor is it likely to, lead to the identification or addressing of the binding constraints in the seed sector affecting smallholders more widely. HGT (Rwanda) has established a project-specific seed distribution strategy entirely disconnected with the prevailing seed system.*
- **Access to finance:** *Limited access to finance prevents many smallholders from investing in CSA/GAP innovations. Those SDMs that have addressed this tend to do so through contract farming arrangements providing advances on product sales and impacting only those producers with which it directly works. The factors that prevent smallholders more widely from accessing finance nevertheless remain unchanged and whilst it may be possible to replicate contracting models, this too would require active intervention and facilitation beyond immediate partners.*

#### Elaborating a credible exit strategy

Clearly elaborated exit strategies have not been set out. Partnerships are based on assumptions as to the commercial incentives of partners to maintain SDMs but, as noted, projections remain poorly validated and place sustainability in question. A

## IMPLICATIONS

 *Firm-centric support cannot be assumed to address or provide solutions to binding systemic constraints. The sustainability of firm-centric SDM solutions remains at risk where system underperformance persists.*

 *Taking sustainability seriously implies defining, upfront, credible exit strategies for project support based on robust business model data and projections.*

number of BCs acknowledge key elements of respective SDMs (e.g. extension provision) are not commercially viable and will not be provided in the absence of project support. Project dependency is, as a result, inherent in many of the SDMs as currently configured and the prospects for sustaining all or substantial parts of these SDMs post-project support are limited.

### 3.3 Partners and partnerships

Appropriate and effective partnerships are critical to the testing, adaptation and implementation of SDMs. Identifying and nurturing partnerships with BCs offering the will and skill to innovate and invest in SDMs is critical to the efficacy of intervention.

#### Identifying the right partner

Identification of partners with whom to test SDMs is based on the degree to which they exhibit the willingness and capacity to serve smallholders. Willingness to work with smallholders is a necessary but not sufficient criteria for partner selection: capacity and motivation to test and independently invest in SDM development remains key to partnership success as well as the sustainability of results. CRAFT and Hortinvest partnerships exhibit varying degrees of motivation and capacity, but the assessment of these qualities as part of the selection criteria is variable. The level of ownership of SDMs remains variable, as does the apparent commitment to continue to invest and innovate around those SDMs without project help.

In practice it is hard to distinguish SDM-related interests and commitment from the incentives of accessing the support and kudos associated with an international development initiative. In fact, the latter is an openly acknowledged driver for HGT (Rwanda), whilst over 60% of CRAFT partners enjoy existing links either with SNV itself and/or other development partners. Whilst such incentives do not preclude their relevance as partners, neither does it guarantee long-term commitment to maintaining and investing in the SDM and bears risk that some business models may be inherently over-reliant on (unsustainable) donor support.

#### Purposeful partnerships

SDM partnerships should be founded on a shared ambition to test solutions to specific CSA/GAP service challenges. Whilst this is the goal of both projects, a degree of 'mission creep' is apparent in a number of partnerships. The considerable capacity gaps of some partners risks drawing projects into a business support role as opposed to a SDM support one. Arguably this risk is exacerbated by the routine provision of institution-level support through Agriterra that assumes need for intensive coaching from proposal development onwards. Support at this intensity should be clearly justified not routinely offered, and raises questions over the basic capacity of some partners to develop and sustain SDMs with any degree of independence.

### 3.4 Scale and outreach

An implicit goal for both CRAFT and Hortinvest is to see SDM innovations go to scale, benefiting large numbers of smallholders

## IMPLICATIONS



Rigorous methodologies for partner selection should include assessment of partner incentives and capacity to invest, sustain and scale the SDM without ongoing external support.



Valid partnerships focus on piloting SDM innovations targeting priority service constraints and avoid being drawn into ill-defined business support roles.

and delivering CSA/GAP impacts at scale. This is an underlying principle of good development practice and a key determinant of value for money in development investment.

### Business champion-centric support

A focus on constraints through the eyes of BCs has shaped the scope and nature of support provided by both projects. This poses three distinct risks:

- i. Partner-specific needs and priorities are not necessarily representative of those affecting other similar system actors. This may be expected to limit how easily SDMs can be adapted and replicated by other actors, thereby limiting scope for scale.
- ii. Firm-centric support, in the absence of wider system-level intervention, risks establishing a competitive advantage for those businesses supported, rendering it difficult for competing firms to replicate SDMs without commensurate external support.
- iii. Partner constraint prioritisation and subsequent SDM design may align to a greater or lesser extent with the priority challenges facing smallholders. Rapid market scans identified overlapping interests (e.g. access to drought tolerant seeds) but also other priorities less well served by SDMs (e.g. quality assurance, price guarantees, soil testing) and assigned lower priority by BCs. A disconnect between firm-level and system-level priorities poses a risk to the wider relevance of SDMs and thus their replicability and uptake by other system actors.


### Scale-up strategy formulation


The goal of wider service uptake does not appear to be translated into a set of explicit scale-up plans or scale-agent partnership strategies. Assumptions are being made as to a natural 'demonstration effect' leading to wider uptake and outreach. Whilst such a 'demonstration effect' may not be precluded by either project model, neither have the SDM solutions emerging yet triggered such replication and, in the case of HortInvest, the SDM is entirely unique to its partner. In the absence of an explicit scale-up strategy, wider SDM adoption and adaptation can be expected to remain limited and outreach confined to the business and investment capacity of individual partners.

### 3.5 Monitoring, learning and adapting

Both CRAFT and HortInvest operate in dynamic business environments and the form and scope of SDMs across the portfolio have evolved as partners have addressed service market needs and realities. Adapting to these dynamics and, importantly, learning from them is critical for strengthening ongoing support and informing wider SDM support strategy.

## IMPLICATIONS

 A firm-centric intervention model risks SDM solutions that address unique firm-level needs but are not readily replicable by other firms, thereby limiting scope for scale-up and wider outreach.


 In the absence of explicit scale-up strategies, experience suggests an organic 'demonstration effect' is unlikely to realise impact at significant scale.

## Monitoring and adaptation

The degree to which SDM and business performance is monitored varies. CRAFT annual surveys and BC reports rely on self-reported changes and records of purchase volumes, training attendance amongst farmers etc. These data are supported by various farmer surveys exploring uptake, yield and productivity impacts. Nevertheless, the data provide only partial insight into differential service uptake and behaviour change amongst smallholders. The study has gone as far as it can to answer these questions recognising the paucity of performance data.

The absence of rigorous monitoring renders purposeful SDM refinement and adaptation problematic. That is not to say that SDMs are not evolving – but how and why they are evolving and what lessons this offers for BCs, SDM support partnerships, and SNV more widely is not being systematically captured or leveraged.

### IMPLICATIONS

-  Robust measurement frameworks and monitoring of (quantitative and qualitative) SDM performance parameters are critical in order to
- a) facilitate purposeful SDM refinement and support adaptation; and
  - b) inform wider lesson learning with respect to SDM design and operationalisation.



# IMPACT THAT MATTERS



## About us

The COVID-19 Response and Resilience Initiative for Food Value Chains (CORE) ran from July 2020-December 2022. Initiated by the Netherlands Ministry of Foreign Affairs and led by SNV, it was set up by to strengthen responses to the COVID-19 pandemic across eight major SNV-implemented agriculture projects in Africa: BRIDGE, CRAFT, HortInvest, Horti-LIFE, TIDE, MODHEM+, PADANE and STAMP+.

Based on field-level demand, CORE selected four themes that capture key structural challenges highlighted by the pandemic across agri-food systems: farmer inputs and services; consumer-oriented strategies; environmental hygiene integration; and digitalisation for agriculture (D4Ag). Each theme contributes to the structural resilience of food value chains and agri-food systems to shocks and stresses.

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Parkstraat 83

2514 JG The Hague

The Netherlands

Phone: + 31 70 3440 244

Email: [info@snv.org](mailto:info@snv.org)

[www.snv.org](http://www.snv.org)

[twitter.com/SNVworld](https://twitter.com/SNVworld)

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