



# Towards a Typology for Agribusiness-based Advisory Services:

## Model Description and Analysis

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We acknowledge the crucial contribution of private sector players who gladly shared information about their business models. The full list of firms is included in Annex 2.

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## **Abstract**

Extension services play a crucial role in providing farmers with the tools and knowledge they need to increase their yields, improve their food security and livelihoods and build resilience against climate shocks. While private sector-led extension services are increasingly complementing government efforts in many countries, their models and approaches remain widely undocumented. This working paper used a literature review approach and key informant interviews to develop a framework describing patterns/models used by agribusinesses in providing extension services, with a focus on documenting how services are organized and funded as well as the merits and demerits of each approach. The organization of Agribusiness-based Advisory Services (ABAS) is largely influenced by the context, purpose and capacities of the agribusiness. Among others, factors such as the size of the agribusiness, orientation towards profits or social returns, specific requirements of commodities involved and markets targeted play an important role in defining models. Six implementation models are described: i) advisory services by agribusiness' own staff, ii) working through lead farmers (farmer extensionists), iii) working through agrovets, iv) one-stop-shop networks, v) commercial farm-based advisory services and vii) sub-contracting advisory services. A separate chapter briefly reviews models of private advisory services provision by independent service providers. The study observed that in general, farmers reached were commercially oriented farmers able to invest in inputs and handle the associated risks, except for enterprises sourcing bulk products such as cassava or grains. It was also noted that many so-called "private" sector advisory services continue to rely on public-sector (co-) funding, often from donors channelled through third parties using a contract approach.

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## List of Acronyms

ABAS	Agribusiness-based Advisory services
BMGF	Bill and Melinda Gates Foundation
CABI	Centre for Agriculture and Bioscience International
DLEC	Developing Local Extension Capacity
EUCORD	European Cooperative for Rural Development
FAO	Food and Agriculture Organization of the United Nations
FIPS	Farm Input Promotions Africa
GNA	Good Nature Agro
GPS	Global positioning system
ICT	Information and communications technology
ICT4Ag	Information and communications technology for Agricultural Development
IDH	Sustainable Trade Initiative (Initiatief Duurzame Handel)
IFPRI	International Food Policy Research Institute
IOB	Policy and Operations Evaluation Department (Internationaal Onderzoek en Beleidsevaluatie)
ISL	Intrio Synergy Limited
JI	Joseph Initiative
KIT	Royal Tropical Institute (Koninklijk Instituut voor de Tropen)
KSh	Kenyan Shilling
M&E	Monitoring & Evaluation
MUIIS	Market-led, User-owned ICT4Ag-enabled Information Service
NGO	Non-governmental organization
TKS	Tata Kisan Sansar
USD	United States dollar
VBA	Village-Based Advisor
ZAABTA	Zirobwe Agaliawamu Agribusiness Training Association

# 1. Introduction

Well-designed support to agricultural extension or agricultural advisory services remains an effective means to improve food security (e.g. IOB, 2017). Today, most countries have a pluralistic extension system in which public services, those provided by the government, are complemented by those of other actors, including from the private sector (Bitzer *et al.*, 2016). While public extension has been widely studied there is relatively little systematic study and documentation of agricultural extension services delivered by and embedded in agribusinesses,<sup>1</sup> also known as Agribusiness-based Advisory Services (ABAS). Recent work by, for example, IFPRI (Babu & Zou, 2015) and a study coordinated by KIT (Veldhuizen *et al.*, 2018) has started to generate important insights into how agribusinesses organize, operate, and pay for agricultural advisory services embedded in their organization.

Previous work showed a great diversity in the way ABAS is organized. An immediate next question presented itself: whether from this diversity a pattern could be distinguished. Are there different typical models for implementing ABAS that are influenced by the context, purpose and capacities of the agribusiness. This study tries to answer that question by developing a typology or classification of agribusiness-based advisory services. It does so by distilling and identifying from current practice distinctly different models for ABAS design and function. It goes on to analyse the context under which each model would perform best, as well as identifying their strengths and weaknesses. A well-developed description of ABAS models would allow both agribusiness and support organizations and donors to make choices in strategizing the set-up of and investment in such advisory services. A common debate argues that as public sector government support declines in the developing world, sustainable private sector models will become increasingly important.

A “model” in this study refers to a specific form and way to realize and implement advisory or extension services in the context of agribusinesses, each distinctly different from the other. Each “model” thus has a set of features that distinguishes it from other models.

An important aspect considered in studying advisory services is the way in which services are funded. While embedment in agribusinesses suggests that services are funded from companies’ own resources, in practice so-called ‘private’ sector services continue to rely on public-sector (co-) funding, often from donors channelled through third-parties using a contract approach.

The term “Advisory Services” is used here to refer to all activities that address the knowledge needs of farmers whether in the form of: individual advice; group-based training; or using ICT applications or mass-media. This term is currently preferred to the term extension as the latter has the connotation of conventional, one-way and top-down knowledge dissemination. Advisory services suggest a more interactive, demand-led and inclusive process.

The sections below describe typical ABAS design and implementation models. In practice agribusinesses often use – to various extents – elements of more than one model in the way they handle ABAS. Though not the main focus of this study but for completeness sake, a final chapter briefly reviews models of private advisory services provision not part of, or embedded in, agribusiness but in the context of independent service providers.

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<sup>1</sup> Agribusinesses are those organizations commercially active in agricultural value chains, both privately owned companies and farmer cooperatives.



## 2. The study approach

This is mostly a desk study. It used the extensive documentation on 27 ABAS cases available at the level of KIT Netherlands from the earlier study. This documentation includes case reports and documents, also notes of interviews with key case holders. The list of these 27 cases is included in Annex 1. These sources are jointly referred to in this report as ABAS 1 documentation.

In reviewing this documentation in an inductive process the authors looked specifically for patterns in the way agribusinesses organized and paid for their advisory services. This led to an initial list of six models, distinctly different in the way knowledge services were organized. As far as possible this included a first analysis of the reasons for choosing a model and its specific advantages and disadvantages in various contexts.

The second phase of the study included both wider review of recent literature and own primary data collection. This second phase tested the draft typology. It also helped to fill information gaps in the model descriptions and their analysis. Finally, it allowed the involvement in the study of partners and cases from the CABI network in its countries of operation. In 4 of the new cases, case holders were interviewed using Skype or other web-based facilities. Some of these interviews had taken place as part of earlier interactions of CABI with the case holders. Details of the “new” ABAS cases are added in Annex 2.

For describing and analysing the ABAS models we used the framework attached in Annex 4. This separates a systematic model *description* from model *analysis* in terms of its comparative advantages and disadvantages before formulating an overall *conclusion* on their applicability and effectivity in different contexts.

It proved impossible to include the same number of cases for each of the 6 models. Some models are simply much more common, better documented or more easily accessible than others. Table 1 shows the distribution of all cases studied over the six models. When agribusinesses integrate elements of different models, they are included under the model that is most central to them.

**Table 1: Distribution case studies used over main ABAS models**

Model	No. of cases ABAS 1	No. of new cases desk review only	No. of new cases desk plus interview
A: Advisory services by agribusiness own staff	16		2
B: Working through lead farmers	3	2	1
C: Working through agrovets	2*	1	
D: One-stop-shop networks	2	1	1
E: Commercial farm-based advisory services		1	
F: Sub-contracting advisory services	4		
Total no of cases	27	5	4

\* Follow-up interview with an ABAS 1 case

The ‘traditional’ model of running advisory services with own staff is clearly dominant still. Several of the other models are relatively recent developments. For models with only a few cases in the study the depth of analysis may be somewhat lower. Other cases using elements of these models have been used to deepen the analysis to a certain extent.

Cases included in the review of independent private advisory services providers in the final chapter of this report are listed in Annex 3.

### 3. Defining models

There are probably endless possibilities for developing typologies for ABAS organization and implementation. Small companies may choose a different approach as compared to the large, often multinational ones. Businesses with a strong social and environmental orientation may have a wider purpose and focus of their advisory services compared to those without this orientation. Specific requirements of commodities involved, and markets targeted, may be important factors too. Developing a typology depends on the choice of defining parameters.

Looking at the evidence across all cases studied we realized that in spite of this diversity a number of consistent ABAS models presented themselves, mostly defined by the organization of ABAS within or by the agribusiness, the people to whom the advisory task was given and related accountability patterns. It is this entry point that we ended up using in developing our typology. The above diversity of context, agribusiness purpose and orientation, commodities and markets does not necessarily influence the choice for a particular model but leads to variations within the models as discussed below.

In describing the models, attention will be given to the way advisory services are funded and how their costs are managed. While in most cases the majority of funding – by design of this study – is from the agribusiness' own resources, the internal arrangements for allocating budget and – particularly, their management differs from model to model as detailed in this report.

A major aspect in the analysis is the distinction between agribusinesses that sell inputs to farmers – seeds, fertilizer, equipment or financial products – also known as “suppliers”, and those that obtain/purchase and market products from farmers, what we call the “sourcers”<sup>2</sup>. The main motivation of “suppliers” to invest in advisory services is to increase sales. Proper use of products will lead to client satisfaction and knowledge services make the company stand out from others and build farmer loyalty, so they ask for company products when they go to the shop. In the case of suppliers, advisory services are very often part of marketing with costs of knowledge services covered from (“hidden in”) the marketing budget.

For “sourcers” the main motivation to invest in advisory services is in increasing the quantity of produce sourced from farmers for processing and marketing and/or its quality as set by the requirements of specific markets. Farmer loyalty is an important element too. Increasingly sourcers seek some form of contract farming arrangements with their suppliers.

Contract farming, including out-grower schemes (see e.g. FAO contract farming website<sup>3</sup>), organizes the relationship between farmers and agribusinesses. Farmers and the company sign an agreement – often annually, that formulates in advance the terms of collaboration for the year. It goes beyond the scope of this paper to discuss the dynamics and implications of the various forms of contract farming. But the contracts create an opportunity – as will be discussed below – to make explicit and jointly agree on the amount and form of technical advice the farmers can expect from the agribusiness and how and by whom the costs of the same will be covered.

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<sup>2</sup> Quite some agribusinesses play both roles, supplier and sourcer, but almost always with a main interest in either one of these two. We have come across only 1 case where the company is involved in supply and sourcing to the same extent. Its ABAS model shows this.



### **3.1 Advisory services by agribusiness own staff (A)**

#### *Set-up and design*

Not surprisingly perhaps, the first ABAS model is one in which the agribusinesses set up their own advisory service, a model close to the well-known reality of public advisory services. In this model, extension work is done (mostly) by staff that are regular employees of the agribusiness.

The number of farmers serviced by one extension staff varies greatly, but most often ranges between 15 and 200 farmers per staff member. Generally higher staff–farmer ratios are more often found among sourcing companies as compared to suppliers. Although some supply companies had ratios as low as 1 staff per 500 farmers.

Sourcing companies have high staff–farmer ratios, particularly when the market targeted allows a relatively larger gross margin on produce traded as a basis for supporting this intensive extension coverage. These are often markets with very specific and high standards for production methods (such as organically certified produce), and/or with high food safety and quality standards (such as fresh produce for European markets).

Due to the relatively small numbers of farmers per staff, coaching and supervision by extension staff can be intensive and the company can, if it wants and needs to, exercise considerable control on production. In a few cases this went beyond quality monitoring and control to include staff involvement in actual spraying of crops to ensure that specific market demands are met. Agribusinesses sourcing for markets with relatively limited quality requirements, e.g. those sourcing bulk products such as regular maize, cassava, sorghum or coffee that doesn't target niche markets, will generally have a higher number of farmers per extension staff while the staff may have less of a quality control task and can thus concentrate on the advisory work.

An important choice to be made is whether company staff are set free to devote all their time to providing advisory services ("dedicated" staff) or are expected to combine extension with other tasks and responsibilities in the company. In the case of suppliers, staff are often also given tasks in marketing and sales. In the case of sourcing companies, extension staff may combine advisory tasks with quality control and monitoring and evaluation (M&E). The main advantage of combining tasks is, of course, in terms of (human and other) resource efficiency. However, quite a few companies – particularly, it seems, sourcing companies – have dedicated extension staff as they feel strongly that serious involvement in quality control and/or sales may leave staff less credible and acceptable to farmers. It would prevent the establishment of the open communication relationship that is needed for effective advisory services and may not lead to farmer loyalty to the company which is often the very aim of investing in advisory services. When contract farming is practiced farmer loyalty to a certain extent is ensured through the contract, and this may make it less necessary for the company to separate advisory services from other, more commercial tasks.

The extension process used is generally a combination of farmer group-based training supported by individual farm visits, scheduled and/or on demand. Particularly in the case of suppliers, some form of demonstration, on farmer fields or at a company "own farm" plot, plays an important role, if only to showcase company products. The relative importance of the demo-site-based group training versus individual farm visits varies. The main advantage of site-based training is the relative low cost per farmer trained and, as mentioned, the possibility to showcase the benefits of the companies' products at the demo sites. Individual farmer training and advice is much more powerful in building farmer loyalty, enhancing the chances that he/she will purchase the companies' products.

Most agribusinesses using this model claim they do not target specific types of farmers. Supplying companies often aim, of course, for the largest possible reach in inviting farmers to their activities. In practice they reach those farmers with the level of commercialization and the purchasing power needed to make use of the companies' products: large and well- resourced farmers for relatively high tech and costly products, and medium to smaller farmers for lower priced products. Selling of products in smaller quantities helps to reach smaller farmers, with the products and their related technical advice. This is, for example, an approach promoted by FIPS Ltd in Kenya, that showed that uptake of products among smallholder farmers increased when supplied in smaller quantities (<http://fipsafrica.org/how-we-work/>), allowing farmers to trial the products on small areas of land. Sourcers in high-demanding markets often target progressive, efficient producers who are willing to innovate, hoping that these will pick up the demonstrated production methods and realize required standards.

Agribusinesses generally do not appear to specifically target women and/or youths in their sourcing, in their selling of products and/or in their advisory services. In the few cases where an agribusiness had activities to reach specifically women or youths and build their capacities they were donor funded. One major internationally operating sourcing company was an exception, and was found to invest considerable amounts of their own resources in building staff awareness on gender dynamics in agriculture, and build their capacities in integrating these in their advisory work, believing this would greatly enhance the effectivity of the advisory services.

However, many agribusinesses do monitor whether clients are men or women. Of all agribusinesses reviewed during the earlier ABAS study, a majority indicated that more than 30% of farmers reached – their clients – were women. Women's involvement is said to be linked to cultural factors; local socio-economic factors (such as migration of men); and/or the nature of the commodity involved (Veldhuizen *et al.*, 2018). For example, in Kenya small-scale horticulture is often undertaken by women and in certain regions they thus form the bulk of the clients of agribusinesses supplying seeds and other products for this sector.

#### *Cost recovery and sustainability*

Costs of the advisory services are mostly salary of staff together with costs of their mobility and the extension activities. Costs are usually carried by the agribusiness except for project-based co-funding by donors. In the case of suppliers, costs are often incorporated in their marketing budget, but seem rarely to be monitored separately. In general, return on investment in the advisory services in this case hinges on increasing farmer awareness of, confidence in and loyalty to the agribusiness and its products and through this in realizing increased sales. Evidence for the effect of advisory services on sales is, however, generally not available.

Sourcing agribusinesses can and do “manage” extension costs by setting aside a pre-defined margin for extension on the price of the product sourced and sold as part of the overall product price analysis. The volume of products sourced multiplied by this margin determines the budget available for extension, which can then be managed separately. In one example, Kenyan Shilling (KSh) 30 cents per litre milk marketed was set aside to cover extension costs at an average selling price of KSh 32 per litre (1%). In another case 10 cents USD was set aside for advisory services (and some support to applied research) on every pound of coffee marketed at a price of (in good years) around USD 2.50 (4%). In a way, farmers do pay for the advisory services, but indirectly as they would have received a higher price for their product if costs of extension were not taken out of it. Some companies have indicated that farmers are not always satisfied with the price “reduction” resulting from costs of advisory services, where the breakdown is revealed to them.

When agribusinesses source using contracts with farmers, the analysis of price formation at the different levels can be included in the contract, making the allocation to advisory services more visible to farmers. This transparency empowers the farmer to a certain extent to request effective advisory services.

Some companies try to increase sustainability of their extension services by encouraging each extension staff to be able, at least on paper, to “make a profit”, in the sense that the margin on the volume of products sold through them is higher than her/his salary and mobility costs (see e.g. Kariuki *et al.*, forthcoming).

Costs of extension per farmer reached can be reduced in this model if staff activities can be replaced or complemented by use of modern ICT. Agribusinesses are experimenting with spreading information by using well-designed light videos as well as mobile phone networks and phone-based applications. Developments in this field are moving fast and often hard to monitor by agribusinesses (Box 1). It was beyond the scope of this study to undertake a comprehensive review. Generally, agribusinesses that were part of this study made less use of these systems as perhaps expected, particularly those operating in Africa and also in Latin America.

**Box 1: Short lifespan of ICT extension platforms**

One of the barriers for agribusiness in developing, accessing and/or using ICT-based extension services, is the relatively short lifespan of many initially promising web or phone-based services. Developing and maintaining such services require substantial investments, while technology is developing quickly. A quick assessment, for example, of the operating status of 17 ICT-based services for extension in Africa operational in 2013 (Baumüller, 2016) showed that just over half of these projects was no longer operational in 2019.

In contrast, in Asia, use of ICT-based approaches in delivery of advisory services is starting to become more common among agribusinesses to support the work of their own staff. For example, an input-supplying company in Bangladesh makes use of an agricultural advisory app for field crops, developed with co-funding support from an international donor. Through the app and based on satellite image data, local weather forecast is given, and focused advice on pests and diseases and good practices on cultivation are now spread to farmers using the app (Singh, 2019). Another Bengali company is developing an app that allows farmers and extension workers to communicate on crop health. Farmers can send questions and pictures of their crops and receive advice on treatment or prevention of pests and diseases.

*Strengths and weaknesses*

The main strength of this model for implementing advisory services is the close integration of the extension work within the company’s main business. This allows for relatively easy planning and management of the extension work. With proper selection and capacity building and professional development of staff, the quality of advisory services can be relatively high as compared to other models.

Advisory services provided directly by own staff contribute directly to the building of strong relationships with farmers, which creates the social capital and farmer loyalty that is so important for the continuity of agribusinesses. The own extension staff can also be expected to not only provide quality advisory services to existing farmers and farmer groups but also to have the dynamics to continuously look for other farmers or groups that could become clients of the agribusiness.

A major concern that makes companies look for alternative models is in the challenge to reach larger numbers of farmers and the related costs. Large numbers of farmers can only be reached by employing more extension staff and developing an organizational structure for them to operate in. Though the combination of tasks with other roles in the agribusiness can lead to some savings, the running of an expanded advisory service with own staff can become a resource-intensive affair. Agribusinesses sourcing high value, high quality produce for demanding markets still find these investments not only necessary but also possible because of the higher margins realized in these markets.

To apply this model, agribusinesses need to develop and own solid expertise in the area of agricultural extension. Developing and operating an effective advisory service system that interacts well with farmers and provides technical advice that makes sense in the different contexts farmers operate in is a professional challenge. Realising this, some agribusinesses decide to focus on their core business and find other ways to mobilize advisory service support.

Investing seriously in advisory services also brings the risk that trained farmers benefit from the knowledge obtained but decide to buy competitors' products: because of their lower price; because of other incentives; or because retail shops push selling other products with higher margins/benefits for them.

### **3.2 Working through lead farmers (farmer extensionists) (B)**

#### *Set-up and design*

The agribusinesses using this model employ a relatively small team of – often more senior – agronomists and rely on a network of carefully selected farmers or local resource people to act as the main regular source of knowledge for farmers in their area. The role of the small technical team of the agribusiness is to train and build the capacities of these lead farmers, regularly provide them with updates on new technologies and products available, and support them in specific demanding advisory activities. To this end, the agribusinesses create a good environment for the lead farmers to play their role and provide them with an institutional set-up and a set of incentives that allow them to work effectively and sustainably. Lead farmers with an important extension task are referred to by agribusinesses using different terms, including farmer trainers, farmer promoters, farmer extensionists, village-based agricultural advisors or the less appropriate “model” farmer. We prefer the term “farmer extensionist” as it zooms in on their main role.

The ratio can range from 1 agribusiness agronomist working with 10 to 20 or more farmer extensionists. The farmer extensionists in turn often work with farmers of one or several farmer groups thus reaching between 40 to more than 100 farmers, even more if farmers visiting their demo plots are taken into account. If technical staff of agribusiness support 10 to 20 farmer extensionists, the staff–farmer ratio is at the most 1 to 400 and can be 1 to 1000 or lower. In one case, farmer extensionists are supported by a larger network of extensionist staff of the agribusiness (IDH, 2015). Often, the farm of the farmer extensionists automatically becomes a demonstration site.

Similar to the case of own advisory staff, farmer extensionists can either be tasked to only provide extension services (dedicated) or to combine extension with other duties and services. For the supply companies the latter would normally include creating access to or selling inputs and even (in some cases) extend to supporting marketing of farmer produce. In the case of sourcing companies, particularly when handling technically less-demanding products such as grains or roots and tubers,

farmer extensionists can be tasked to play an important role in aggregating produce of fellow farmers and related monitoring of produce quality.

When it concerns high quality produce, farmer extensionists sometimes play a role in coordinating the timing of collection of the produce. In these cases, agribusinesses often sign contracts with them directly. These will include articles on the quantity and quality of produce to be supplied to the company and their timing, and on other tasks agreed to be performed (including extension). The agribusiness, from its side, will commit to various support mechanisms, including capacity building, while finally the agreement would stipulate the incentives for the lead farmers to play their role (see below).

Combining extension advisory with other tasks and roles for farmer extensionists can lead to important efficiency gains and create possibilities for specific incentive systems. The main challenge will be to ensure that the extension tasks do not suffer because of the need to focus on other services such as aggregation, or because credibility and acceptability of the farmer extensionists are reduced through these services, e.g. if they need to press their peers for payments on product or credit provided.

In designing the organizational set-up for the farmer extensionists to function, broadly there are three options each with specific accountability issues, strengths and weaknesses, and incentive systems (Table 2). Sometimes companies take the best of more than 1 option.

**Table 2: Three ways to organize lead farmer-based extension**

	Set-up		
	<b>Semi-staff:</b> Part of/ accountable to company:	<b>Semi- volunteer:</b> Accountable locally	<b>Independent entrepreneur:</b> Accountable to clients
Details	Formally recognized in the agribusiness Receives some form of regular stipend Work planned as part of organization plan	Part of local group Informally linked to company Some incentives provided by company Provides services because of interest	Operates independently Compensated by clients Organisations work with him/her under specific contracts
Strengths	Secure position Good management and guidance of work Sustainable if value-for-money for the company	Flexibility Relatively low costs	Independent Sustainable if satisfied with work and compensation Multiple income sources
Weaknesses	Higher fixed costs Dependency	Limited guidance of work Uncertain position Sustainability?	Challenge of management and guidance

Source: Authors' analysis from ABAS cases, building on Selener *et al*, 1997.

In the first option – “Semi-staff” in Table 2 – farmer extensionists are very close to, almost part of, and accountable to, the main agribusiness. They are formally recognized within the agribusiness and receive training to execute their tasks. Work is planned as part of company planning and tasks are similar to extension staff described in the ‘own staff’ model yet executed by farmers. Advantages of

this system are the clarity of the position of the farmer extensionists, their loyalty to the company and the relatively easy management and supervision of their work. However, it makes the farmer extensionists dependent on the agribusiness and their work is likely to be seriously affected when the agribusiness withdraws (sustainability). Relatively high fixed costs in terms of paid stipends or “salaries” are often the case unless the company finds an alternative incentive system (see below).

In a second, alternative, arrangement – “Semi volunteer” in Table 2 – farmer extensionists have only informal links to the agribusiness. They are often chosen by and accountable to their farmer group or other institutions to provide services, and for this, they sometimes receive compensation from the agribusiness. In this case, farmer extensionists have larger flexibility to work on and address local needs. Costs to the company are often relatively low. The less certain and less formal positions, however, may reduce farmer extensionist motivation and ultimately lower quality of service delivery. Planning and monitoring of work is also less straightforward than when farmer extensionists are part of the company system.

In the third option, farmer extensionists provide advisory services independently, as entrepreneurs, accountable to their clients. Their services are paid for by other farmers or by companies with margins on sales of inputs or aggregation. In addition, they can be recruited and paid for by one or more agribusinesses to deliver specific and time-bound services. A major advantage of this system is in its sustainability potential as long as the farmer entrepreneur is satisfied with the work he/she does and the compensation he/she receives from a diverse set of sources. Planning, management and quality control of their work by the agribusiness needs specific attention if farmer extensionists are outside its own structure. This can be overcome when agribusinesses develop agreements with “recruited” independent farmer extensionists on planning of work and about training and other capacity-building support provided to ensure quality of work, as shown by Notore in Nigeria (Huber *et al.*, 2017). The loyalty of the farmer extensionists to push the agenda of the agribusiness may also be less in this approach, as noted in the case of Mars (IDH, 2015).

In the cases involving farmer extensionists studied, the use of ICT applications for extension and knowledge sharing seems to be limited. However, several cases from both sourcers and suppliers report ICT use for administrative and monitoring purposes. For example, farmer extensionists using a smart phone and a tailored mobile application to keep track of the input loan, crop health and performance of every field and every grower.

Using an ABAS model that hinges on working through locally-based farmer extensionists allows farmers located in less accessible areas, as in the case of N-Agro in Nepal (ABAS 1 documentation), to be reached. These are often less well-resourced farmers. Although in all cases the reach will be to those farmers that fit and can take part in the agribusiness’ main business model. For example, one sourcer focusing on increasing the quantity of high-quality produce sourced, specifically asked farmer extensionists to focus on potential high-productivity farmers (IDH, 2015).

#### *Cost recovery and sustainability*

The costs of extension in this model very much depend on the incentive system chosen.

In the most resource-intensive option, agribusinesses pay farmer extensionists **a fixed “stipend”** per month for their work as extension agents. In one case in Nigeria this was reported to amount to 20–30 USD per day in 2014–15. Paying a fixed stipend may be done to ensure loyalty from the side of the farmer extensionists but also to reduce pressure on them to earn income through other activities such as aggregation and sales of inputs, thus creating more space for them to be involved in extension activities. This option makes sense when agribusinesses wish to have the farmer extensionists close



to their organization (“Semi-staff” approach). Payment of a stipend or other form of direct financial support can be a time-bound arrangement such as in the case of one company. The stipend or support is only given for one or 2 years to allow farmer extensionists to build up credibility and establish a position of trust and a network that allows an income to be paid as a percentage of the company revenue, based on the quantity and quality of produce delivered by the farmers they manage..

Costs of farmer extensionist systems can be reduced to costs of their capacity building and coaching by agribusiness staff, if farmers are given the opportunity to **create their own income from the margin on produce collected and supplied to the company or on products sold**. Farmer extensionists benefit directly from investing time in training other farmers when farmers trained purchase more products or where their increased production results in higher volumes of produce collected and supplied by them. If agribusinesses work with farmer extensionists as independent entrepreneurs this income source is often the major incentive, apart from the (rare) cases when farmers pay for extension advice by fellow farmers.

Another material but less resource-requiring incentive for farmer extensionists is the provision **of farming-related equipment and tools**. When the farm of the farmer extensionist functions as a demonstration site, he or she can also be given a contribution towards costs of the demo farm and of the training events organized at the farm. In one case in Nigeria farmer extensionists also receive an extra reward for organizing well-managed demonstrations. Providing these lighter material incentives is often the major incentive in farmer-led advisory systems with the “semi-volunteer” approach mentioned above, but can be, and is, used as part of incentive schemes in other models.

For many farmer extensionists **non-material incentives** can be as important as the material ones. This includes the opportunity to travel and be exposed to new experiences and knowledge that ultimately will help them to increase farm income. Increased recognition in the community and social status (Franzel *et al.*, 2018), receiving visitors regularly and consequently increased networking opportunities, all help to build social capital. This is in addition to the simple incentive of being able to assist others. Though again these incentives are usually most prominent in the “semi-volunteer” approach to working with lead farmers, all agribusinesses do well to be aware of these non-material incentives and create space for them where possible.

### *Strengths and weaknesses*

For many agribusinesses the possibility to reach out to a larger group of farmers **at manageable costs** is the main reason for using this model. Though detailed cost data are not available, all those using the model mention reduced costs of advisory services per farmer reached as a main factor for using it. This is probably most noticeable – as mentioned in one case – when farmers to be reached are spread out widely, in less accessible areas with difficult terrain leading to challenges in communication and travel. Working mostly through farmer extensionists living close to targeted farmers may then be the only way to realize scale.

Another major advantage mentioned is the possible **greater effectiveness of farmers** as extension providers as “farmers learn best from other farmers”. This is possibly caused by the fact that farmer extensionists are more practice-oriented in giving training, know better what is needed locally and are credible when they can show that they themselves practice what they teach. Farmers may also trust fellow farmers more (Oyelami *et al.*, 2018).

A third line of argument encountered in literature (Selener *et al.*, 1997) – that working with lead farmers contributes to strengthening **capacities at local level for innovation** and reducing dependency on outside experts – is hardly mentioned in the cases studied.

Interestingly, many cases suggest that the farmer extensionists themselves benefit most from being involved in this model as compared to the farmers they provide services to.

A main potential weakness is the **lower quality of the services** provided by the farmer extensionists both in terms of technical content but also in terms of the training and advisory process. This is perhaps less of a problem when sourcing bulk products with limited quality standards but can become a major issue when produce sourced needs to meet very strict standards. As mentioned, in most cases farmer extensionists operate “at a distance” from the agribusiness, making **planning and M&E of their work more challenging**.

In all cases, challenges in operating farmer-based advisory systems can be partially prevented first of all by a careful farmer-selection process. Apart from technical criteria, personal characteristics and leadership capacities need to be considered (Farris *et al.*, 2019). In this selection process consultation with the community and/or farmer groups is often advised and done (GNA, ZAABTA, FIPS). Careful processes are needed to encourage nomination of suitable candidates, including those who are young, or female and are well suited to the task – but passed over in favour of community leaders who are nominated out of respect rather than because of suitability and availability for tasks. Well-designed capacity-building support will also help to address advisory quality issues.

One company interviewed using this model – a sourcer of quality coffee – decided to reduce the role of the farmer extensionists and increase the role of their own extension staff again, as it felt that farmer training given by lead farmers did **relatively little in attracting the attention of other farmers**. Such training “just” transferred relevant knowledge to existing farmer groups. The farmer extensionists contributed little to the process of creating wider interest and expanding the farmer network that the company needed to survive.

Evidence of the cases suggest that working mostly through farmers as local advisory staff can be an effective model for implementing ABAS. At the same time, it is clear that it needs careful design and planning to be effective and sustainable. Central in this will be the creation of a fair and functional incentive system as part of an institutional set-up with clarity on ownership and accountability.

### 3.3 Working through Agrovets (C)

#### *Set-up and design*

For agribusinesses selling farm inputs, the suppliers, the often small retail shops in rural areas selling all kinds of agriculture-related products – also known as agrovets – are crucial actors. Farmers often cite them as a source of advice, although this varies from country to country. In smallholder farmer surveys carried out in Tanzania and Ghana approximately 6% of farmers mentioned agrodealers as an important source of information (pers comm. Monica Kansiime) while AIR, 2018 reported 33% of farmers consulted agrodealers. It is important to have these on one’s side so that they promote and sell the products of the agribusiness.

Some supplier agribusinesses choose not to build an extensive advisory service (cum marketing team) of their own, but rather create a network of affiliated agrovets and invest resources in building the technical capacity of these agrovets so that they are able to give proper advice to farmers on all aspects related to the use of the products they sell and other good agricultural practices. As these agrovets are spread all over countries and are in daily contact with large groups of farmers this would allow technical advice to reach large numbers of farmers at relatively low costs.

In practice, the agribusiness may keep a certain level of their own field extension staff to complement the work of the agrovets, create wide awareness among farmers on the company's products and provide focused technical support. Sidai Africa, a company active in input supply in the livestock sector in Kenya, thus has an integrated system in which advice is given to farmers: at their own regional hubs-cum shops; through 2 to 3 field staff operating in the area surrounding the hubs; as well as (mostly) through agrovets in other areas.

In this model, the people providing agricultural advice – whether in the own agribusiness hubs, in the field or in the agrovet shops – almost always also have important commercial roles related to sales. This implies that a good balance needs to be found between giving more open, holistic advice, versus promoting own products and/or those with the highest margin, for advisory services to remain credible to farmers.

For a more recent example of this approach in Kenya (Farm Shop - <https://farmshop.co.ke/>) the starting point is not the marketing of the agribusiness' own inputs (seeds, fertilizers) but rather the handling of a wide diversity of inputs from different producers, bought in bulk and retailed through the affiliated agrovet network. Whether in the long run this business model generates enough margin to allow investment in farmer extension-related capacity building and other activities is yet to be proven. African Fertilizer and Agribusiness Partnership (AFAP) have used a similar model, established with support from BMGF and others where hub agrodealers operate as wholesalers and support networks of rural retail agrodealers providing trade credit, supporting education/extension messaging and output marketing<sup>4</sup>.

In an interesting case in Nicaragua, two collaborating input-supplying agribusinesses decided to work with well-established farmer cooperatives selling agricultural inputs to their members and beyond (ABAS 1 documentation). Although cooperative staff were trained to also provide advice to members, channelling of inputs to farmers, an activity close to their core business, remained their main task. Furthermore, the role of cooperative staff in providing agricultural advisory services proved much more difficult to organize than their role in input supply. As a result the agribusinesses involved still fielded a substantial advisory team of their own staff.

It is very hard to find data on numbers of farmers reached through this model as interaction with farmers is monitored mostly in terms of sales and clients without knowing the extent and quality of technical advice given. Case information suggests that agrovets may have up to 500 farmers as clients depending on its size and farmer densities in the area. The agrovets will usually rely on individual farmer advice supported by basic product brochures or related extension materials provided by the agribusiness. Farm Shop, a relatively young company in Kenya that works exclusively through a network of franchised agrovets, however, requests each agrovet to also set up a simple demo plot or farm to support farmer advising services.

In training agrovets both individual visits and group-based trainings are used. Organization of both needs careful planning as shop managers often cannot easily leave their business unattended. Evening sessions may help to address this. It may be also important to ensure that people working in the shops are involved in the training process and not just the shop owners.

Agribusinesses using this model claim that they reach a wide diversity of farmers in terms of age, economic status and gender. There are usually few barriers to entering agrovet shops and the

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<sup>4</sup> [https://ifdc.org/wp-content/uploads/2018/10/4.2.Joseph-Mwangangi\\_AFAP\\_Supply-Chain-Finance-and-the-Role-of-Hub-Agro-Dealer.pdf](https://ifdc.org/wp-content/uploads/2018/10/4.2.Joseph-Mwangangi_AFAP_Supply-Chain-Finance-and-the-Role-of-Hub-Agro-Dealer.pdf) Accessed 2 June 2020

presence of the shops in more remote areas allows them to provide services where others are not always able to go.

The agribusinesses can and do choose to have a form of franchise arrangement with some or all the agrovets they work with to arrive at a more structured collaboration. Globally, agricultural franchising is relatively new as compared to other sectors (Singh, 2019). A franchise arrangement allows the agrovet to become part of the network of the main company, receive structured capacity building and quality monitoring support while being able to use the name of the main company (branding). In return, the agribusiness would obtain agrovet loyalty for promoting its products, allowing it to better plan its commercial as well as its advisory activities and ensure quality of services (Box 2).

**Box 2: The franchise approach of Sidai Africa**

Sidai is a company supplying quality livestock and crop inputs and training to farmers and pastoralists across Kenya. The company operates through a network of branded, professionally-staffed, company-managed and franchised retail outlets, stockists and field staff. A Sidai franchise is entitled to use Sidai's branding and has preferential access to Sidai's products and services. Sidai will support the franchise through advertising and promotion. The franchise owner is entitled to receive both technical and business training, that helps to grow their business. Sidai expects the franchise owner to conduct their business in accordance with Sidai's standards set out in a manual. A legal agreement underpins this mutually beneficial business partnership.

Sidai offers its franchises a wide range of exclusive products and support services including

- Exclusive area of operation
- Access to high quality products and services, including distributor rights to Sidai products
- Benefits from being part of a recognized and trusted brand
- Access to finance to grow the business
- Preferential access to new products and services as they enter the market
- A dedicated Franchise Support Manager
- Marketing support through local radio, farmer training and loyalty programme
- Access to business and technical training and IT support

Source: <http://www.sidai.com/index.php/partnership/franchises>

The franchising arrangement, however, requires considerable resources from the main company, e.g. for adapting the infrastructure/building of the agrovets and for technical support and quality monitoring. Careful screening of potential franchisees, e.g. through some form of initial more open collaboration, is thus an important step in the process.

*Cost recovery and sustainability*

The rationale for an agribusiness to organize its advisory services using this model is in the building of loyalty to the company of retailers based in far corners of the country with adequate capacity to provide quality services to farmers.

Advisory services are usually integrated in the commercial functions of the companies and detailed data on their specific costs are hard to find. A business case can and is being built as one interview suggested by comparing margins realized on sales in a specific geographical area, with the total of costs of own staff and support given to the agrovets in that area. But distinguishing within these costs between those related to advisory services and those to commercial tasks remains difficult.

### *Strengths and weaknesses*

A major advantage of this model as compared to relying on an own advisory service is the lower level of costs per farmer reached compared to running an own advisory service. Apart from lower staff costs, costs of mobility in reaching large numbers of farmers in places further away are kept low as advice is given when farmers come to town. Perhaps the relative flexibility of expenses encountered under this model is a further advantage – in other words costs are mainly incurred through training the agrovets as compared to the less flexible costs of permanent staff involved in an own advisory team.

The offering of free, good quality technical training to the agrovets contributes to their loyalty to the agribusiness in promoting its products with farmers visiting the shop, particularly when the collaboration is institutionalized through a franchise type of arrangement.

This model is also chosen by agribusinesses for its potential to contribute to sustainable local development. Well-functioning agrovets able to provide quality services and selling products meeting good standards are considered to play a key role in accelerating local agricultural development.

Its main disadvantage is in the challenge of achieving adequate quality of technical advice given by the agrovet staff. The commercially-oriented agrovet owners and personnel do not easily see the benefits of spending time on farmer advice and training and how this really benefits their business. Changes of staff within the shop may bring its capacity for good advice almost back to zero, requiring further investment in capacity building. In addition, it is also a challenge to effectively monitor the quality of the technical advice given by the agrovets.

Generally, agrovets do not go out to the field to look for new clients and rely on visits to the shop, encouraged perhaps by farmer-to-farmer word-of-mouth promotion. This is an important reason for agribusinesses to maintain some form of own farmer outreach staff. Some agribusinesses hesitate to pursue this model as they are not fully confident of the loyalty it is supposed to create. What if, even after receiving free quality training, an agrovet ends up promoting the products of another company because of the higher margin made or other incentives provided?

## **3.4 One-stop-shop networks (D)**

### *Set-up and design*

Many agribusinesses have an own business focus, either the sourcing and marketing of specific farmer products or the supply of specific products or services. Farmers, on the other hand, need a wide range of products and services to run their farm successfully including: a range of inputs; access to finance; technical advice; and marketing. This realization has led agribusinesses to develop networks of what are called one-stop-shops and organize their advisory services through this network. One-stop-shops are places where farmers can obtain inputs from a larger range of suppliers – including those of the main company, of course – but where they can also: receive technical training and advice; access services such as credit and mechanization support; and benefit from marketing facilitation. This move to one-stop-shop service provision is happening both among supplying companies (probably the first to choose this model) as well as sourcers. A well-known and documented example is the Tata Kisan Sansar (TKS) network set-up by Tata Chemicals, a large fertilizer-producing company in India that has recently been merged with another Indian company.

In this model the agribusiness develops a network of “shops” in locations as close as possible to farmers offering all farmer-relevant services, including extension. In the case of TKS each local unit (called a one-stop-shop) is an entity standing on its own under a franchise arrangement with the company. The TKS franchise arrangement includes an agreement on the volume and form of technical and training support from the side of main agribusiness to the franchise holder as well as quality management.

The franchise arrangement set-up is to give each unit the flexibility to adapt its operation to the local context. In the case of TKS, the network includes around 820 village-level one-stop-shops together serving around 2.5 million farmers (2018 data, source: ABAS 1 documentation). A TKS usually has three sources of income: margin on sale of company products, payment for specific services such as assistance in accessing credit, and fees charged on sale of other companies’ or partners’ goods and services such as IT support.

The village-level TKS are supported by 40 larger hubs - larger “shops” with more facilities – based in district centres. These hubs are managed directly by the company, but last available information suggests the hubs are also made to function on their own under a franchise agreement. While farmer training and advice is handled largely by the one-stop-shops, the agribusiness itself also has a team of technical advisory staff (around 300 in 2018), partly based at the hubs, who support the one-stop-shops in their training and advisory work.

The model is also being developed by sourcing agribusinesses such as in 2 cases in Uganda: The Joseph Initiative (JI) (Bymolt, 2015), a major maize-sourcing company, and ZAABTA, a farmer cooperative that became strong in sourcing and marketing rice, beans and maize for its members (Interview this study). In both cases the initiative towards creating one-stop-shops came from the realization that farmers not only need a full range of services beyond marketing but also that the aggregation centres of the sourcing companies create good opportunities to provide farmers such services. In both cases the one-stop-shops are directly managed by the agribusiness. In 2015, JI was reported to have a network of 60 grain collection cum one-stop-shops at relatively close distances (maximum 4 km) to each other, the so-called Joseph Centres reaching about 15,000 farmers. ZAABTA is currently transforming its 10 district level aggregation centres into one-stop-shops interacting with 20,000 farmers.

For advisory purposes each one-stop-shop usually sets-up a farm with demonstration plots close to the centre that allows advice to be offered on production practices and demonstrating the effectiveness of quality inputs in different combinations. This work and associated farmer advisory work is either handled by local staff of the agribusiness, in the case of JI known as village procurement officers, or local people or farmers, known as village agents in the case of ZAABTA, signing an agreement with the agribusiness to handle local aggregation, farmer advice and other local services getting an income on margins obtained in sourcing or selling inputs. In the latter case, the village agents operate in a similar way to the farmer extensionists – but as an integrated part of a one-stop-shop model.

Usually, farmers are also offered (sets of) organized larger group training events (up to 50 participants reported in one case). The main role of the agronomists of the agribusiness is building capacities of these local agents, supporting the more demanding events and general coaching and M&E.

The case of one-stop-shops by larger companies in Asia such as TKS provides opportunities to develop and introduce mobile phone-based advisory services. TKS reported the development and use of “mobile Kheti” (Kheti meaning farming). This is a phone-based, multimedia communication system to support sharing of agricultural knowledge and advice. It also runs a toll-free helpline for farmers. The use of the app by farmers has remained somewhat limited because of limited e-capacity and



infrastructure in rural areas (ABAS 1 documentation). The work on a new app (“Sugam - convenience”) to deliver even more precise information to farmers has been postponed or stopped in this context, also given the costs involved.

In the meantime, there are many initiatives in India and elsewhere in Asia to provide phone-based information and advice to farmers independent from an agribusiness as discussed in a later chapter. The Uganda farmer cooperative ZAABTA worked with one such initiative – part of a donor-funded project – that successfully introduced an app known as “MUIIS” (Market-led, User-owned ICT4Ag-enabled Information Service). This allows farmers to access very focused advice and weather forecasts based on his/her GPS coordinates. The future of this service beyond the project period seems not yet clear though.

### *Cost recovery and sustainability*

As in the other models the interest in investing in extension services is in the increase in the volume and quality of products traded through improved farmer yields in the case of sourcers, and increases in sales of company products in the case of suppliers. Tata confirmed that setting up and running the TKS network has led to 20% revenue growth.

The costs for setting up and running the network of one-stop-shops depend on the choices discussed above, including: which part of the network is organized through franchise agreements and which part managed by the company – as this has implications for numbers of agronomists needing to be employed by the company; and whether the costs of staff running the shops managed by the company are covered in the form of salary paid by the company or on a commission basis.

In the case of the Uganda cooperative, the business case for operating the local centres as one-stop-shops and providing extension services is relatively straightforward. Costs are very low as the infrastructure used was in place thanks to previous projects, and just needed some renovation. Staffing of the centres is by trained local agents who work fully on a commission basis, getting their income from the margin on the product they collect as well as on inputs and services sold. Cooperative resources are only required to cover costs of the (3) technical staff supporting the centres as well as the costs of the capacity-building events of the local agents. These costs can be covered from the general “overheads” of the cooperative.

### *Strengths and weaknesses*

A major strength of this model is in the attractiveness for farmers to access company products as well as services, including extension, by having all their needs met at one location. The one-stop-shop hopes to contribute to farmer loyalty, something that can be further encouraged by farmer membership cards as in the case of TKS or other loyalty programmes. The model as applied by the larger sourcing agribusiness in Uganda of the Joseph Initiative also helps the company to reach out more directly to farmers not having to work with or through intermediaries at different levels.

Working through the one-stop-shops allows advisory services to reach large numbers of farmers at relatively modest costs. The costs depend, of course, on the volume of investment needed from the agribusiness to set up the shops and their infrastructure and the modalities of running them as discussed above.

The main challenge in using this model is in the complexity of offering such a diversity of services well. Each service has its own requirements, set of competences needed and risks involved, while many services would be beyond the core business of the company. The agribusiness thus needs to develop its expertise in all these areas and/or partner with other organizations on which it can rely. Working

out effective and fair franchise agreements in Africa may still be a challenge, given that this is a relatively new arrangement in agriculture.

### **3.5 Commercial farm-based advisory services (E)**

#### *Set-up and design*

In this (more recent) model, advisory service provision and farmer training are organized by the agribusiness around and through a well-functioning and advanced commercial farm. A relatively well-known case is the aquaculture farm set up in Vietnam, by Royal De Heus, a supplier of animal feed. In this particular case the “farm” also has an important Research & Development function such as testing different feed mixtures for the local context.

Generally, the well-established commercially functioning farm in this model generates revenues to allow provision of services to (other) farmers as well as staff of public or private organizations. For farmers services can include input supply (e.g. fish feed) as well as technical and advisory services.

The farm acts directly as a demonstration and training site which is an essential part of the model, for example in the case of aquaculture in Vietnam when promoting relatively advanced production technologies and systems.

#### *Cost recovery and sustainability*

Cost of advisory services to farmers and farmer groups can initially be given free of charge, from the revenue of operating the farm. The aim is clearly to make farmer outreach and farmer training an additional revenue stream by asking farmers to pay for them. This is probably feasible in knowledge-intensive sectors such as advanced aquaculture dominated by fully commercially operating farmers.

#### *Strengths and weaknesses*

The strength of this model is in its potential for longer-term sustainability as costs of advisory services are covered either from revenues of a well-functioning farm or from direct payments by farmers benefitting from the services.

Its use is probably limited to those agribusinesses involved in and promoting technically more complex and advanced production systems; and in sectors where farmers not only lack specific technical knowledge but are also able to pay for access to it.

### **3.6 Sub-contracting advisory services (F)**

#### *Set-up and design*

In quite a few cases agribusinesses do not set up an own agricultural advisory service but subcontract other specialized organizations to do this for them. These could be another company, a government extension agency or an NGO type of organization (Box 3). This model is more common among sourcing companies with almost 25% of the sourcing agribusinesses of the ABAS 1 study using it. It basically implies the signing of an annual or sometimes multi-annual agreement between the agribusiness and

the independent advisory service provider specifying the type and volume of activities requested as well as the financial compensation and other conditions that apply<sup>5</sup>.

**Box 3: Outsourcing, the case of Heineken in Ethiopia**

In Ethiopia, government extension agents are important actors in rural areas. To increase local sourcing of barley for its brewery, Heineken, together with the Belgium-based NGO EUCORD and partner for organizing the extension activities, engaged in systematic collaboration with the government extension service to provide technical training to large numbers of farmers. After having signed a formal memorandum of understanding with the Ministry of Agriculture at regional level and initial capacity-building of government staff, the latter trained barley growers in effective barley production. A simple monitoring and incentive system was put in place. This system includes payment of small “stipends” based on activities undertaken as confirmed by farmers’ signatures on activity reports. Collaboration was not without challenges: staff turnover and issues around synchronizing work agendas were mentioned as factors reducing the effectiveness of this approach to some extent.

*Source: ABAS 1 documentation*

The main argument for making this choice is the wish of the agribusinesses to stick to their core business and their competence of buying, processing and selling. They feel that running an effective advisory service is a different ball game requiring capacities and organizational structures they do not have. Subcontracting also reduces the need to invest in more specific, specialized advisory tools and methods such as those based on ICT as the specialized subcontracted agency would take care of this.

*Cost recovery and sustainability*

In several cases the independent entity sub-contracted by the agribusiness for providing advisory services has been set up by the agribusiness itself in the past. The new organization, often but not always in the form of a foundation or NGO framework is created with the needs and basic philosophy and business approach of its creator in mind, but set up to operate independently. It is tasked to make ends meet on its own by providing advice and possibly other services to farmers on behalf of the agribusiness, combined with other income-generating activities such as: seedling development; marketing; and training and advisory support to “outsiders”. In a case in Bolivia the independent service provider realized 50% of its income through direct links with the agribusiness that created it – a large farmer cooperative in this case – while the other 50% was obtained from other sources.

The sub-contracting arrangement allows for a lot of flexibility in terms of number and type of farmers reached by a single advisor. This means the model can be used by different types of sourcing companies focused on different types of produce. For example, in one case in Egypt where products sourced by the company have to be compliant with strict organic farming standards, very high advisory staff–farmer ratios were agreed in the outsourcing arrangement allowing for almost daily farm visits. In other cases, sourcers of bulk products used this model to reach out to small farmers with much lower staff–farmer ratios.

*Strengths and weaknesses*

The main advantage of this model is that it allows the agribusiness to concentrate on the activities that it is specialized in and good at. The model means that agribusinesses do not need to invest in building up their own advisory capacity while still being able to reach out to their clients.

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<sup>5</sup> The various forms and functioning of independent agricultural extension providers, not-embedded in any agribusiness, are briefly reviewed in section 3.7.

Another advantage concerns the cost management side. First of all, costs of service delivery are made explicit through the payments to the service provider which makes their management easier. As it is possible for the advisory service provider to also offer services to others, costs can (to a certain extent) be shared, meaning that costs to an individual company are reduced. Additionally, there is greater flexibility in planning the budget volume annually with the extension provider. Since the agribusiness does not have to cover the costs for capacity building of their own staff, upscaling advisory services can happen without having to make large investments in human capital. For the same reason, services can be reduced at relatively low cost. Finally, handling the advisory services through an NGO type of organization, independent from the main company, expands the possibilities of attracting public funding support.

The disadvantages of this model are in the less direct and thus more limited influence the agribusiness has on implementation of advisory services, including the farmers it reaches, and its quality. That is probably one of the reasons why it is more popular among sourcers of bulk products where product quality is less critical. As the sub-contracted organization very often has substantial programmes and activities for other clients, planning and timely delivery of advisory services as required under the sourcing process can also become an issue. If timeliness of extension and/or product quality is a critical issue the agribusiness will need to ensure it has adequate control (if not co-ownership) over the subcontracted organization. When sub-contracting is considered the agribusiness needs to ensure that it is visible enough in service delivery so that farmer loyalty develops to the main business and not just to the sub-contracted organization.

Some specific issues and complications may occur when sub-contracting government extension agencies. Issues around planning and timeliness of service delivery can become more prominent because of conflicts with sometimes ad-hoc government planning priorities leaving government extension teams no choice but to give less priority to the work for the agribusiness. Changes in government at any level can have implications for the focus of the work of extension staff. In one case, the agribusiness indicated that staff they worked with were not well paid, and staff turnover was high, requiring continued investments in capacity building. Nevertheless, good planning, proper arrangements with the appropriate advisory managers and regular follow-up with these managers can help to prevent some of these problems.

## 4. Independent commercial extension providers

In all above models, private advisory services are part of or closely linked to and organized by an agribusiness, an active player in one or more agricultural value chains selling inputs or sourcing farmer products. There are, however, private organizations and individuals providing agricultural technical advice and extension services to farmers on a commercial basis that are not linked to any specific value chain-operating agribusiness. As we saw in earlier chapters, agribusinesses can be among their clients. To complement the above analysis, this chapter will briefly discuss a few prominent forms of such independent private extension provision without pretending to be exhaustive. This is based on a review of eight additional cases, listed in Annex 3.

### *Individual private extension advisors and consultants*

In many countries individual experts operate as commercial advisory service providers to farmers. They work according to a consultancy model, operate independently and get paid by farmers for the

services they provide. These specialized advisors are often agricultural technicians or agronomists, frequently former government extension staff. Providing advisory services can be their main source of income, whereas in other cases they generate income from other activities such as an own farm or selling inputs or sourcing products. In one case in Peru, for example, private veterinarians who are called in to treat sick animals also offer (paid) advisory services to livestock farmers in the area (Faure *et al.*, 2017). The same paper also documents the functioning of other individual farm advisers.

Sometimes, building (networks of) local individual private extension providers are part of, or spin-offs, or even the aim of, development projects. These see the emergence of quality advisory capacity at the local level, often combined with some form of other service delivery such as spraying or mechanization support, as an important element in efforts to sustainably accelerate agricultural development. In Uganda, for example, Village Agents have been trained more recently as part of Government of Uganda collaboration with USAID to become independent agricultural service providers and be linked to various agribusinesses (DLEC, 2019).

This model makes extension services easily accessible to farmers who can afford to pay the cost of the advice and where the advice has a direct impact on farm performance. It is common in industrialized farmers in the North and large commercial farms in the South. Its spread and use among smaller semi-commercialized farmers in the South is less well documented, but as the Peru example shows, it may be more widespread than sometimes assumed. Ability to pay for these services is lower among farmers operating closer to subsistence levels, still widespread in Africa.

#### *Commercial agricultural extension companies*

Secondly, there are private companies that have provision of agricultural advisory services as their main business. There are various ways in which these companies can organize themselves: some make exclusive use of their own staff, while some also mobilize and involve others. In one case the company makes extensive use of local village-based agents (Box 4). The well-known approach of the One Acre Fund, a non-profit company operational in six African countries, is another example of this form of extension provision. Advisory services are sometimes combined with a certain role in the provision of inputs and assistance to farmers in accessing financial services.

#### **Box 4: Independent extension-providing company, the case of ISL**

Intrio Synergy Limited (ISL) in Nigeria is a relatively young, independent, commercial agricultural extension-providing company. It has 18 permanent staff members supporting a network of around 100 village-based advisors (VBAs). The VBAs provide farmers with extension advice and help them to access finance, seeds, agro-chemical inputs and machinery. The business model is built around farmers paying a fee for extension services received at a rate of around 15 USD per hectare worked by the farmer. Farmers, of course, also pay for all other inputs, including the interest on credit. Total costs including extension are thus proportional to land size, and are at the beginning of the season determined in a cost template. Payments happen after harvest. The VBAs are accountable to ISL and get paid a fee for their activities. VBAs serve between 100 and 180 farmers, depending on their geographical location. Each VBA should serve at least 120 farmers for ISL to be financially sustainable. ISL works mostly with farmers organized in groups, as groups cross-guarantee repayment of inputs and extension costs. ISL distributes simple instruction videos to the VBAs through WhatsApp for showing these periodically to farmers.

*Source: Interview this study*

In this case, costs of extension are to be covered by the farmers, although initially income from other sources may be used to make ends meet. Other initial income sources may include profits from agricultural production (using outgrower schemes) or donor funding. These measures are usually said to be temporary solutions, only meant to cover costs until the extension services could be provided at full cost recovery. Where outgrower schemes become a more permanent important income source, then the organization can be said to be operating along the lines of model A above – as an agribusiness using own staff to deliver advice.

As with the individual private advisory service providers, this model reaches farmers who can afford to pay for the services and see direct benefits from it in terms of farm performance.

#### *ICT-based agricultural extension providers*

Making use of the opportunities offered by the rapid developments around ICT and its applications for extension, there is a growing market for independent ICT-based commercial actors to provide extension services using new, phone-based technologies. While ICT-based extension methods and tools are also increasingly used by other extension providers, including those embedded in agribusinesses as discussed above, there is an increasing number of commercial companies in various contexts with a business model that hinges on provision of ICT-based extension.

ICT-based extension-providing companies can provide a wide range of advisory services. In its simplest form, they can be hired by agribusinesses, NGOs or governments to help organize and/or implement ICT extension activities for them. In another variation of this model, companies create (electronic) platforms through which extension services are channelled. For example, the Ugandan company Akorion developed a phone-based application for farmers that combines all advisory and other services that farmers need, including: farm-specific advice on agricultural practices, farm mapping, provision of market information, a platform to purchase inputs from different suppliers and a component creating market linkages (<http://www.akorion.com/>). Clients pay for the services using “mobile money”. In this business model, the company can earn money through: direct payments by clients for services received; through a margin on the products sold through the app; and also through payments for in-app advertising. In another case farmers paid a subscription fee for the services provided in the application.

It is beyond the scope of this paper, and probably too early, to analyse the perspectives and the strengths and weaknesses of the approach to providing sustainable extension services to different categories of farmers through ICT-based systems. Generally, this approach has the possibility of reaching large groups of farmers at relatively low costs, though costs of development and maintenance of the platforms should not be underestimated. Many promising initiatives therefore never reach full-scale application.

The ICT-based model provides the possibility to link all actors in the chain relatively easily. This makes it attractive for many organizations to channel advisory services but especially for suppliers. Currently its limitation is in the spread and use of required smartphones among farmers. Although phone penetration rates in Africa in 2016 were estimated at 43% (Mibei *et al.*, n.d.), the estimated penetration rates of smartphones are drastically lower. Especially in rural areas, (smart)phone access is still a major issue, particularly in Africa and even large parts of Latin America. In the Uganda example, the commercial extension provider tries to bridge this gap by introducing so-called electronic village agents. These community-based service providers equipped with smartphones are to provide services on demand for farmers without smartphones.

#### *Independent commercial farm-based farmer training centre*



To a certain extent parallel to the model of commercial farm-based advisory service provision embedded in agribusinesses discussed in a previous chapter, there are also independently functioning commercial farms that have an important training and demonstration function. Kamuthanga Farm in Kenya is one example of this approach, interestingly again in the aquaculture sector (Kilelu *et al.*, 2018). Initially set up with support from a consortium of Kenyan and Dutch private sector partners in the aquaculture sector, it has evolved into an integrated production and demonstration farm for fish farming as well as a platform for practical training. The farm uses relatively innovative production technologies and provides advice and training to aquaculture farmers. More work is needed to understand for which agricultural systems and which segment of the farming population such a farm-based training centre would be a viable source of advisory services.

## 5. Conclusion

Building a typology of ABAS models requires identifying and describing the specific features of each that make them different from the others. In practice, however “barriers” between models are not so strictly defined. ABAS models can easily evolve into others by adding, changing or combining selected features.

It is interesting to find that a large number of agribusinesses still choose to employ own staff for undertaking a large part of the actual advisory work, mirroring in a way the set-up of conventional public agricultural extension. Many of the other models are emerging as agribusinesses look for ways to increase reach while limiting demand on scarce resources and budget. This is, of course, particularly true for the less resourced agribusinesses, and particularly those operating in markets with relatively low margins. In general, time will tell to what extent, in these alternative ways of organizing, ABAS company own staff will continue to play a role.

Though on the basis of the analysis here it is not possible to draw decisive conclusions on the relevance and feasibility of certain models with certain types of business we can see the emergence of certain patterns: working with own staff is more common for agribusinesses with high value commodities, particularly those requiring high quality standards; working with Agrovets appears to be a serious option for input suppliers, particularly the smaller to medium enterprises; while the larger, more innovative ones, can develop extensive one-stop-shop networks.

On the question of reach of agribusiness-based advisory services to smallholder farmers, a more complex picture is emerging than the often-heard statement that “*agribusinesses only reach larger, commercial farmers*”. For those selling inputs the main reach is indeed often to those farmers who can afford and make viable investments in inputs and handle the associated risks. These are farmers – small or large – that already have the capacity to operate on a commercial basis, beyond subsistence. Focusing on less costly products or packaging them in smaller quantities are strategies used to reach less commercial smaller farmers. Sourcers of higher quality products often also work mostly with more commercial farmers. It’s when sourcing bulk products such as cassava or grains that agribusiness can reach smaller and less commercial farmers.

More detailed study of many of the cases revealed that advisory services or their strengthening received co-funding by public funds. This is probably encouraged by the current interest of many development donors to work with and support private sector parties in their efforts to ensure

sustainability of the development process. To what extent in those cases the agribusinesses will be able to continue their advisory services once donor co-funding ends is yet to be confirmed.

The current analysis is based on a largely explorative study. Though this is able to identify and describe basic patterns in ABAS organization it leaves a lot of important questions unanswered. Where advisory services are provided by intermediaries beyond the agribusiness we need to better understand the profile of these intermediaries in the different models. Do they represent employment opportunities for women and youths and if so in which context? What are the required levels of education for different roles? What are cost efficiency (reach) and cost effectiveness in the various models from the perspective of both the agribusiness and the agribusiness clients? And last but not least: What is the role of ABAS as compared to public advisory services? The answers to such questions will depend on further insights into the quality of the advisory services (correctness, local relevance, objectivity) in the different ABAS models, the actual reach for different categories of farmers and the level to which services address public concerns such as natural resource management, food safety and food security.

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## Annex 1: Cases ABAS 1 study

	External cases	Case country	Type	Position in the chain	Product	Size	Geographical coverage
1	Bindzu	Mozambique	Agribusiness	Input supply	Horticulture	Small	Regional
2	Caravela Coffee	Colombia and other	Agribusiness	Sourcing	Coffee	Medium	International
3	Frigoken Ltd	Kenya	Agribusiness	Sourcing+	Horticulture	Large	National
4	Heineken	Ethiopia, Burundi	Agribusiness	Sourcing	Sorghum, barley	Large	International
5	Kenya Highland Seed	Kenya	Agribusiness	Input supply	Horticulture	Medium	International
6	Meru Greens	Kenya	Agribusiness	Sourcing	Horticulture	Medium	National
7	N-Agro	Nepal	Agribusiness	Input supply+	Horticulture	Small	National
8	Real IPM	Kenya	Agribusiness	Input supply	Crop protection	Medium	National
9	Rijkswaam	Tanzania	Agribusiness	Input supply	Horticulture	Large	International
10	SEKEM	Egypt	Agribusiness	Sourcing	Food, textiles, etc.	Large	National
11	Sidai Africa	Kenya	Agribusiness	Input supply	Dairy	Medium	National
12	Tata Chemicals: Tata Kisan Sansar	India	Agribusiness	Input supply	Fertilizer	Large	National
13	United Organic Coffee Growers	Uganda	Agribusiness	Sourcing	Coffee	Small	Regional
	<b>Internal cases</b>						
14	BAMSCOS	Kenya	Agribusiness	Sourcing+	Dairy	Medium	Regional
15	CEIBO	Bolivia	Agribusiness	Sourcing	Cocoa	Medium	Regional
16	DADTCO	Mozambique	Agribusiness	Sourcing	Cassava	Small	International
17	DACF	Nepal	Agribusiness	Sourcing	Horticulture	Medium	National
18	Moyee Coffee	Ethiopia	Agribusiness	Sourcing	Coffee	Small	National
19	Mukurwe-Ini	Kenya	Agribusiness	Sourcing+	Dairy	Medium	National
	<b>Literature cases</b>						
20	EID Parry	India	Agribusiness	Sourcing+	Sugar	Large	Regional
21	Jain IS	India	Agribusiness	Sourcing+	Onion	Large	Regional
22	K Horticulture Exporters	Kenya	Agribusiness	Sourcing	Horticulture	Medium	Regional
23	Loc Troi Group (formerly AGGPS)	Vietnam	Agribusiness	Input supply	Crop protection	Large	National
24	Multi-Trex Integrate Foods	Nigeria	Agribusiness	Sourcing	Cocoa	Medium	National
25	Rio de Una	Brazil	Agribusiness	Sourcing	Horticulture	Medium	Regional
26	Sarveshar	India	Agribusiness	Sourcing	Rice	Medium	Regional
27	Syngenta	Nicaragua	Agribusiness	Input supply	Horticulture	Large	International

'input supply+' refers to agribusinesses focused on input supply with additional sourcing services

'sourcing+' refers to agribusinesses focused on sourcing as well as providing inputs

## Annex 2: Additional ABAS cases

	External cases	Case country	Type	Position in the chain	Product	Size	Geographical coverage
1	ZAABTA	Uganda	Cooperative	Sourcing+	Maize, rice, coffee	Small	Regional
2	Nespresso	Colombia, Central America	Agribusiness	Sourcing	Coffee	Large	International
3	Notore	Nigeria	Agribusiness	Input supply	Rice, maize	Medium	National
4	Good Nature Agro	Zambia	Agribusiness	Sourcing+	Legumes	Small	Regional
5	Farm shop	Kenya	Agribusiness	Input supply	Multiple	Small	National
6	Mars	Indonesia, elsewhere	Agribusiness	Sourcing	Cocoa	Large	International
7	De Heus	Vietnam	Agribusiness	Input supply	Animal feed	Large	International
8	The Joseph Initiative	Uganda	Agribusiness	Sourcing	Maize	Medium	Regional
9	Meru Agro	Tanzania	Agribusiness	Input supply	Multiple	Medium	Regional
10	ACI Agribusiness	Bangladesh	Agribusiness	Input supply	Inputs	Large	International



### Annex 3: Additional cases independent private extension providers and ICT

	External case	Case country	Main business	Size	Geographical coverage
1	Akorion	Uganda	Phone-based extension	Small	National
2	Dairy Peru	Peru	Independent individual commercial extension provision	Small	Regional
3	M-Shamba	Kenya	Phone-based extension	Small	National
4	Tene Agricultural Solutions Limited	India	Development of ICT-solutions for the agricultural sector	Small	National
5	ISL	Nigeria	Independent extension company	Small	Regional
6	One Acre Fund	East Africa	Independent extension “company”	Large	International
7	Village Agent Model	Uganda	Network of village agents providing extension services	Small	National
8	Kamuthanga Farm	Kenya	Independent commercial farm-based training centre	Small	Regional

## Annex 4: Framework for ABAS model description and analysis

### Introduction

This study aims to identify models for the realization of advisory services by agribusinesses (ABAS). A “model” refers to a specific way to realize and implement advisory or extension services in the context of agribusinesses, each distinctly different from the others. Each thus having a set of features that distinguishes it clearly from other models.

For model identification we will use the following frame-work which separates a systematic model *description* from model *analysis* before formulating an overall *conclusion* on applicability and effectivity.

For each model a model summary discussion will be prepared covering 4 pages max with further information in annexes and references.

### Model description

Model description would cover the following elements. It will not discuss each element to full exhaustion but mostly *zoom in on parts that make the model stand-out from others*.

1. Model name and main defining feature
2. Organizational set-up and institutional setting
  - Position of the agribusiness and the value chain in relation to the specific market in which it operates
  - Purpose, role and rationale of extension provision in relation to the functioning of the agribusiness
  - Institutional arrangement(s) and ownership of and organization of responsibility for extension delivery. How and by whom?
  - Extension workers / providers and their organization: Who does the extension delivery, volume and quality of people involved, position and functioning of extension staff and teams; links with or integration into other, commercial, structures
  - Alignment and collaboration with others in extension provision
3. Advisory process: content development and advisory service delivery
  - Main, typical, extension content
  - Development of extension content, by whom, with whom, sources?
  - Main extension delivery methods and tools and quality of their use
  - Roles of ICT in extension delivery
  - M&E and other feedback mechanism on extension delivery
4. Reach and impact
  - Volume of farmers reached
  - Background and status of farmers reached (including economic, gender, age)
  - Expected outcome of extension delivery
5. Cost recovery and sustainability

- Cost level and main costs factors; in absolute terms and per farmer reached
- Business case for extension provision, (level of) returns on investment in extension
- Specifically: cost recovery mechanisms, *who* pays for the costs of services (company, donors, governments, farmers – in cash or kind) and *how* is this organized?

### **Model analysis**

To be able to understand where and when to opt for one of the ABAS models, their analysis would need to include the following elements:

6. Advantages/strengths
  - Possibly covering discussion of effectivity, farmer reach, (investment & recurrent) costs. To be further developed based on case information
7. Disadvantages/limitations
  - Possibly covering discussion of effectivity, farmer reach, (investment & recurrent) costs. To be further developed based on case information
8. Context analysis
  - Typical context for this model to be effective

### **Conclusion**

Overall view on the applicability and effectivity of this model in various contexts

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