IDH Farmfit

FARMER SEGMENTATION

Improve the cost-efficiency and effectiveness of the services you offer to smallholder farmers

At CGAP, we can see that generic mass-market approaches to smallholder farmers don't work. Smallholder farmers are a vast and diverse group, and any service provider working with them must differentiate to generate shared value. First target segments must be identified, and then tailored solutions can be designed and delivered. The key strategic ingredient to do this well? Data. Only evidence-based approaches will effectively differentiate, engage, and serve smallholder farmers.

The IDH Farmfit Segmentation Tool makes this a lot easier, using information that service providers have or can collect. For forward-looking service providers, the Farmfit Segmentation Tool is an essential first step in applying data to lower costs, increase outreach, and create shared value. It should also encourage service providers to re-examine their overall approach to data. Evidence-based approaches can better inform their strategies and improve operations.

Jamie Anderson
Senior Financial Sector Specialist
Rural and Agricultural Livelihoods,
CGAP

THE BENEFITS OF FARMER SEGMENTATION

IDH Farmfit has created a free tool to increase the effectiveness and profitability of both agricultural and financial services provided to smallholder farmers. The **IDH Farmfit Segmentation Tool** leverages the information you already have, or can relatively easily collect, about individual farmers to predict their need for and likely uptake of a wide variety of services, from automated irrigation to child education loans.

Knowing the farmers you work with means understanding your customers' needs and a greater likelihood of your services being adopted to provide sustained, long-term business. Governments and NGOs can also benefit from segmenting farmers to fine-tune their investments in sustainable development and poverty alleviation.

Many smallholder farmers live either in poverty or in its constant threat. A wide range of agri and financial services are available to help them, often using new technologies, but the majority of service delivery models struggle to reach scale or to make a significant impact. This is usually because the services are poorly matched to the individual farmer's specific needs, or do not take account of local infrastructure and resources limitations. The mismatch happens because the entire smallholder farmer population in any market is generally assumed to be a homogeneous group living in broadly similar conditions. Nothing could be farther from the truth, and this "one size fits all" approach leads to many smallholder farmers being offered services that they do not consider relevant or cannot use. As a result, these services have little impact on farmers' livelihoods, and they are unlikely to recommend them to others.

Detailed studies by CGAP[1] have identified that smallholder farmers can be broadly broken into three segments based on easily measured data about their personal circumstances. The needs of each segment can then be predicted and prioritized with reasonable accuracy.

1 Anderson, Jamie, Ramesh Karuppusamy, Paul Enrico Neumann, Howard Miller, and Ram Tamara. 2019. "Smallholder Households: Distinct Segments, Different Needs." Washington, D.C.: CGAP. Available at https://www.cgap.org/sites/default/files/publications/2019_04_Focus_Note_Smallholder_Households_Distinct_Segments_Different_Needs.pdf

SMALLHOLDER FARMER MAJOR SEGMENTS

SUBSISTENCE FARMERS

- main source of income is from agriculture
- supplemented by income from casual labor
- consume their crops and sell any surplus
- the lowest income segment

COMMERCIAL FARMERS

- treat farming as business and usually sell to wholesalers or retailers
- farming is main source of income
- more likely to invest in the farm
- whilst still poor, they are the highest income segment

DIVERSIFIED FARMERS

- farming is not their primary source of income
- typically run a small business or are in full or part-time employment
- consume their crops and sell surplus to supplement their income

The **IDH Farmfit Segmentation Tool** uses basic data about each farmer to assign him/her to one of these segments, and recommends the most relevant services to offer. It also sub-segments each farmer based upon his/her probability of adopting new services. This enables targeted service provision, matching smallholder farmers to the services they most need and are able to use.

Some services are of interest to just one segment, while others have more universal appeal. The importance of different types of service varies between farmer segments. For example, whilst crop loans are important to all three segments, they are the highest priority for subsistence farmers. By contrast, automated irrigation is likely to be a high priority for commercial farmers but less relevant to the other two segments for whom water-smart training will usually be more useful.

The IDH Farmfit team can provide information and expertise to assist any organization wishing to use this Farmfit tool or segmentation approach.

UGACOF, a leading exporter and processor of coffee in Uganda has seen excellent results from using the **IDH Farmfit Segmentation Tool**. According to Sustainability Coordinator, Robin Hooft van Huysduynen:

"The IDH Farmfit segmentation logic and tool has enabled UGACOF Farmer Hub to customize services that resonate with farmer needs creating shared value for all."

THE SEGMENTATION TOOL

Most commercial attempts to segment populations of small-holder farmers are either too basic to give meaningful results, or too expensive to be practical.

In response to this problem, the **IDH Farmfit Segmentation Tool** provides a fast, simple way for service providers (and others) to segment the smallholder farmer population in their markets. To keep implementation costs down, you can download the tool free of charge, and data gathering has been minimized by identifying the key informa-tion needed to give statistically significant results.

You may have already recorded much of the data required when using the tool for segmentation. Any additional data can be gathered using the questionnaire in the user guide provided at the end of this document. This downloadable user guide also explains how to use the farmer segmentation tool. To make best use of available data and avoid rework, there are three ways that your data can be input for segmentation:

- It can be entered manually using the IDH Farmfit Segmen-tation Tool

- it can be copied and pasted from an existing database into IDH Farmfit Segmentation Tool

- it can be outsourced to IDH Farmfit, for the Farmfit team to collect the data and provide segmentation analyses and advice.

Once the data has been entered, the tool segments farmers in three stages:

1 Farmers are allocated to one of the three major smallholder farmer segments, identifying the services likely to be of greatest interest and relevance.

2 Within each segment, it sub-segments farmers based on "service readiness", representing each farmer's probable capacity and intention to use services.

3 Because loan services are in high demand and becoming increasingly available, an additional sub-segmentation is included. Individuals are fur-ther grouped within each sub-segment based on their probability of engaging with loan services.

Services can then be offered to each segment as appropriate. 22 simple pieces of data are used to allocate each smallholder farmer to a segment.

FIGURE 1. SMALLHOLDER SEGMENTATION BY TYPE AND BY SERVICE READINESS
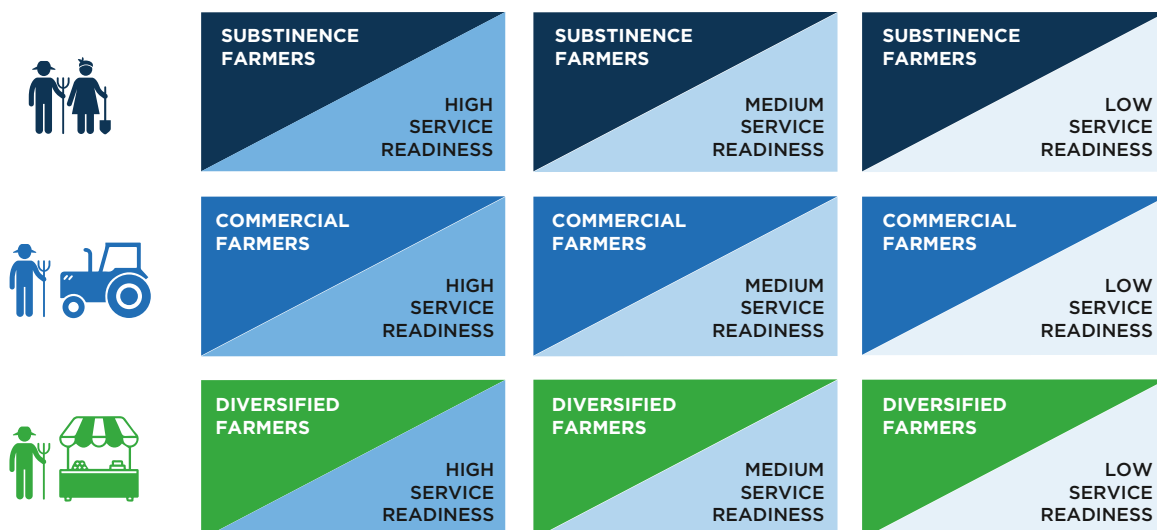
Data Needed to Allocate Farmers to Segments

The tool has been fine-tuned so that a small amount of data about each farmer is needed. Only eight data points (indicators) are needed to determine with high confidence to which of the three major segments the farmer should be allocated.

1. Ratio of agricultural income to total household income
2. Total land size
3. Sufficient water for farming activities
4. Types of output Buyer (retailer, cooperative etc)
5. Presence of contract with the Buyer
6. Types of labor used on farm
7. Intention to relocate to urban area*
8. Presence of commercial livestock

Data Needed to Sub-segment Farmers by Service Readiness

Service readiness is a measure of the farmer's capacity and intention to use a specific service. Farmers are allocated to one of three sub-segments – high, medium and low. The high service readiness group are more literate, have access to technology and commitment to farming and are thus more likely to use the service, whilst low readiness farmers have less capacity or incentive to engage. Eleven data points are needed to determine service readiness.

1. Education
2. Proof of identification
3. Own mobile phone
4. Use of internet
5. Intend to continue working in agriculture
6. Attitude to farming as the best investment
7. Intention to relocate to urban area*
8. Attitude to expanding agricultural activities*
9. Attitude to children continuing in agriculture*
10. Practicing integrated farming system (IFS)
11. Sufficient water for farming activities

Data Needed to Sub-segment Farmers by Probability of Accessing Credit

Access to credit is a particularly important and high-profile service required by many smallholder farmers. Farmfit therefore found correlation with six data points to predict the probability of any farmer using a loan service. Note that the probability of accessing credit indicator cannot be used to replace other tools or processes used to determine creditworthiness.

1. Total land size
2. Total household income
3. Major segment to which farmer belongs*
4. Attitude to expanding agricultural activities*
5. Attitude to children continuing in agriculture*
6. Attitude to making data-based farming decisions

---

* Repeated data used in sub segments. The datapoints for these three segments and sub segments have been confirmed by testing with six existing datasets and with two new service provides.

SERVICES MOST RELEVANT TO EACH SEGMENT

IDH Farmfit has identified the services most relevant to each smallholder farmer segment, and prioritized them in terms of their importance to typical members of each segment. These services can be categorized as:

- Agri services: directly used to improve the farmers productivity
- Non-agri services: these are broadly be split between
    - Education and training on a range of related topics
    - Financial services

Most services are relevant to all farmers, but their priority varies by segment.

Subsistence farmers by definition have little access to cash so their highest priority tends to be various types of credit, from input and crop loans to education and emergency loans, from a variety of sources. Whilst training in agriculture, finance and digital technology is important to them, their hand-to-mouth existence requires them to focus on solving immediate problems like buying inputs and paying bills.

Commercial farmers tend to be better off and treat farming as a business venture, so whilst access to loans is important to them, their highest priorities are around growing their business. Consequently, their focus is on irrigation and training on various aspects of directly improving their productivity such as water management and yield improvement.

Diversified farmers treat farming as a part-time undertaking, often one of several jobs that they have to keep going. With regard to farming, they have similar needs to subsistence farmers, with a focus on services that provide access to credit to set up or improve their farm. However, diversified farmers tend to have more resources and are more likely to make use of irrigation, water management training and information services.

The table below shows the range of services identified and their relative priority for each segment. Descriptions of the services can be found in the downloadable user guide at the end of this document.

FIGURE 2. SERVICES IDENTIFIED AND THEIR RELATIVE PRIORITY FOR EACH SEGMENT

HIGHEST PRIORITY = 1 / LOWEST PRIORITY = 20

Type of Service	SUBSISTENCE FARMER SERVICE PRIORITIES	COMMERCIAL FARMER SERVICE PRIORITIES	DIVERSIFIED FARMER SERVICE PRIORITIES
Crop loan	1	6	2
Input loans	1	6	2
Crop receipts	1	17	-
Village savings and loan associations	2	-	10
Index-based crop insurance against drought, excess rainfall, pests	3	8	3
Aggregation efficiency	4	5	13
Education loan	5	10	7
Family emergency loan	6	10	7
Training on basic literacy	7		-
Training on water-smart farming	8	1	4
Training on digital tools	9	18	7
Training on financial skills and financial management	10	-	8
Health insurance	11	9	9
Services to increase sustainability/quality of the produce	12	5	11
Training on organic farming practices	13	2	16
Farmer coaching services	14		-
Life Insurance	15	19	17
Loan for starting/growing small business	-	-	1
Indemnity-based crop insurance against variety of risks like pests, natural disasters.	-	8	3

Type of Service	SUBSISTENCE FARMER SERVICE PRIORITIES	COMMERCIAL FARMER SERVICE PRIORITIES	DIVERSIFIED FARMER SERVICE PRIORITIES
Automated irrigation	-	1	4
Pay-per-use farm services	-	10	5
Livestock insurance	-	15	5
Livestock information services	-	15	6
Goal-based savings account	-	7	10
E-commerce services	-	3	12
Market information services	-	11	14
Weather information services	-	11	15
Training on sustainable farming practices	-	1	-
Training on minimizing post-harvest losses	-	2	-
Training on post-harvest processing	-	2	-
Certification services	-	4	-
Farming advisory services	-	12	-
Mechanisation loans	-	13	-
Electric motors insurance	-	14	-
Field equipment insurance	-	14	-
Value chain finance products	-	16	-
Warehouse receipts system	-	17	-
Pension plans	-	20	-

Segmentation of smallholder farmers allows services to be targeted to the most promising potential clients and increases the probability of commercial success.

The IDH Farmfit Segmentation Tool is a free data analytics tool providing a cost-effective way to identify the groups of farmers that you should target for optimal results, and if desired, the IDH Farmfit team can provide information and expertise to assist any organization wishing to use it. The Farmfit Segmentation Tool allows you to leverage your existing data and gives guidance on the most relevant data points when first gathering farmer data. If you already have Farmer Management software, the Farmfit team can help you to integrate segmentation logic. IDH Farmfit can also provide valuable input to the business case for any initiative that you undertake using the segmentation tool.

Smallholder farmers' circumstances and needs change over time, especially due to external influences and changing market conditions. Segmentation is therefore an ongoing process and segmentation results need to be updated regularly. It is also important to review the suggested services in the context of factors such as region, commodity, value chain structure, and enabling infrastructure.

The accuracy of service provision can be improved by creating smaller sub-segments of smallholder farmers with common issues, attitudes and opportunities. To further optimize the targeting of services to smallholder farmers, you can further sub-segment your farmer base, for example based upon the type of output they produce or their access to markets. The most commonly used bases for sub-segmentation are demographics, household financial behaviour, and access to both agri and financial services.

Segmentation is a journey rather than a one hit solution. The free IDH Farmfit Segmentation Tool provides a starting point for better understanding the needs and constraints of groups of smallholder farmers, allowing them to be better served with relevant, useful, and ultimately successful services.

IDH Farmfit

DOWNLOAD THE IDH FARMFIT SEGMENTATION TOOL AND USER GUIDE HERE ▶

Get in touch!

Lisa Minère
Innovation Officer
IDH
Minere@idhtrade.org