

AGRIFIN

Evidence MapoGraphics™ of Digital Agriculture

AFRICA & ASIA





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AFRICA & ASIA JUNE 2021



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Introduction

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Acknowledgement

This MapoGraphic[™] has been developed as a summary of the Evidence Gap Map (EGM) produced by MercyCorps AgriFin and Busara Centre of Behavioural Economics.



This MapoGraphic[™] was compiled by LocateIT Limited.



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Preface

The information revolution and the extraordinary increase in the spread of knowledge have given birth to a new era - one of knowledge and information which affects directly decision making processes and activities of all regions of the world. Institutions worldwide have recognized the role that Geographic Information Systems (GIS) plays in evidence-based decision making processes in order to inform policies and programs.

Through the '3isFrameworkTM' (Information, Initiatives and Impacts) accurate and reliable Information is gathered and presented in the form of the MapoGraphics[™] and the Information is used to inform decision making through the visualization of key datasets relevant for development of Initiatives with a view to achieving desired societal Impacts.

The spatial information gathered is carefully analyzed, designed and packaged to summarize key outputs of a solution, product or program in a compendium of factsheets referred to as MapoGraphics[™].

In this publication, the concept of the MapoGraphics[™], has been used to summarize key interventions and outcomes captured from research and programmatic evidences within the Evidence Gap Maps (EGM) Tool of the MercyCorps AgriFin Accelerate (AFA) Program in Africa and Asia.

The objective is to develop a map compendium to enable visualization of the EGM tool so as to provide audiences with a user friendly/ interactive way of engaging with learnings and insights as well as gaps related to the environment for digital services for smallholder farmers. The MapoGraphic[™] is therefore a compendium and comprehensive book integrating maps and infographics deliberately laid out as a collection of factsheets. Each factsheet adopts a comprehensive layout and model with the following highlights: a map, description, graphs and fun-facts (funstats). A factsheet number is indicated on every page in a discreetly selected classification system with a sequential code order. Emphasis is placed on the map and its components and the spatial dimensions are allocated a significantly larger section of the entire factsheet divergent from what a conventional infographic displays.

The vision behind the development of the MapoGraphic[™] is to steer the project outputs dissemination to the next level by simplifying the visualization of relevant information that a policy/ decision maker would need. Inspired by our project delivery DNA, at LocateIT, we believe that the 31's Framework[™] (Information – Initiatives/Interventions – Impacts) are key to delivering prudent decision making processes.

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Understanding the MapoGraphics

AFA is now in its 6th year of introducing and supporting many innovative players to serve smallholder farmers with digital financial and value added services. Learning throughout its innovative program is one of the key objectives of AFA, and there is a recognition of the need to develop a base of evidence across its interventions and outcomes to support its learning agenda, internal M&E coordination, programmatic focus, and external proposals.

The Evidence Gap Map is in the form of an updatable excel tool, which includes:

- Evidence Dashboard
- ٠ Repository of Evidence
- ٠ Instructions
- Classifications for evidence and definitions

This compendium is in the form of a summarized MapoGraphic[™] with factsheets on key interventions against outcomes for Africa and Asia, which includesa map, a description, statistics and fun-fact (fun-statistic)

The framework for the mapping looks at four key interventions and their impact on smallholder farmers.

Interventions and Outcomes

Key Interventions include;

Digital Financial Services

- These interventions describe basic financial services which can be made available using digital platforms
- The mapping includes mobile payments, loans, insurance and savings

Digitally Enabled Capacity Building

- These interventions improve knowledge, skills, tools, equipment and other resources needed to help farmers
- The mapping includes market information, market access, farming inputs, and logistical support

Learning

These interventions provide the individual the ability to acquire n e w knowledge and modifying existing knowledge, behaviours, skills and preferences

The mapping includes learning of agriculture and financial services, and the e learning of agriculture and financial services

Design and delivery of services

- These interventions describe the platforms by which services are created and provided to the end user
- The mapping includes bundled services and alternative credit scoring

Outcomes include;

Increased usage of financial services and improvement of financial behaviours

- This outcome refers to the overall increase in the individual use of financial services, and an improvement in the financial behaviours of individuals
- The mapping includes adoption of digital financial • products, decreased transaction costs, engagement in healthy borrowing, and improved saving behaviours

Increase farmer productivity (yield, quantity and quality)

- This outcome refers to the overall improvement in the yield, quantity and quality of crops a farmer produces
- The mapping includes adoption of good farming practices, increased use of inputs, and increased crop production

Improved household income and financial resilience

- This outcome refers to the increase in money received by a family and how well they can deal with financial shocks
- The mapping includes preparedness to deal with ٠ shocks and an increase in income

Increase confidence and agency of individual

- This outcome refers to the recognition by an individual that they can make a difference to their own lives
- The mapping includes "empowered decision making"

Understanding the MapoGraphic



Classification

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Classifications Colour Codes

Intervention and Outcome Categories

Intervention Categories

The methods and programmes AFA employ to produce their outcomes. These interventions include: digital financial services, digitally enabled capacity building, learning, and design and delivery of services



Digital Financial Services

These interventions describe basic financial services which can be made available using digital platforms. The mapping includes mobile payments, loans, insurance and savings

Digitally Enabled Capacity Building

These interventions improve knowledge, skills, tools, equipment and other resources needed to help farmers. The mapping includes market information, market access, farming inputs, and logistical support



Learning

These interventions provide the individual the ability to acquire new knowledge and modifying existing knowledge, behaviours, skills and preferences. The mapping includes learning of agriculture and financial services, and the e learning of agriculture and financial services

Design and Delivery of services

These interventions describe the platforms by which services are created and provided to the end user. The mapping includes bundled services and alternative credit scoring

Precision Agriculture

Application of modern information technologies to provide, process and analyze multisource data of high spatial and temporal resolution for decision making and operations in the management of crop production.



Climate Smart Agriculture

Services and programs that support the transformation of agricultural systems to effectively support and ensure food security in a changing climate.

Outcome Categories:

These outcomes measure the impact interventions have on smallholder farmers. These include: adoption of DFS product, pay less (time and money) for services, engage in healthy borrowing, improved saving behaviour, increased use of inputs, increased production, better prepared to deal with shocks, improved income, empowered decision making



Adoption of DFS Products

Example measures of a change in use of financial services offered via digital platforms including payments, credit, savings, and insurance, which the client can access and receive through digital channels



Example measures of paying less for financial services are: clients changing the time spent to access financial services and clients changing costs associated with accessing financial services



Engage in Healthy Borrowing Example measures of healthy bo

Example measures of healthy borrowing are related to good terms of borrowing: Interest rates, repayment time, clients' perceptions of the credit terms as fair, defaulters, blacklisting, changes in borrowing frequency, changes in decisions on loan size and frequency



Improved Saving Behaviour

Example measures of improved savings are changes in savings balance and transactions frequency facilitated by a digital platform



Example measures of a change in the farming practices employed by the farmer, including weeding techniques, irrigation methods (excluding inputs)

Increased use of Inputs

Example measures of change in the use of inputs such as providing crops with fertilisers, pesticides and herbicides and using better seeds



Increased production

Example of change in the quantities and yield of produce grown



Better Prepared to Deal with Shocks

Example measures of being better prepared to deal with shocks: Changes in severity of coping strategies adopted, use of insurance, savings, formal credit or e-payments in times of economic stress, and ability to retain major assets following a shock

Improved Income

Example measures of income include diversification of income sources, changes in income, and per capita consumption

Empowered Decision Making

Example measures of empowerment are changes in bargaining power and independent access to Digital Finance products, control, and privacy. Measures often focus on women but are open to other disempowered or excluded populations



Classifications Iconography

Intervention Categories

Digital Financial Services

These are basic financial services that can be made available to the wider financially excluded through innovative technologies like mobile-phone-enabled solutions, electronic money models and digital payment platforms



Mobile Payments

An electronic wallet service that allows users to store, send, and receive money using their mobile phone. Funds are loaded into, withdrawn from and transfer funds from one party to another



Credit

The client must use the channel to receive and or repay the loan. Intermediaries, such as loan officers or agents of the credit providing institution, may also be used.



Insurance

The service must allow the client to manage risks by providing a guarantee of compensation for specified loss, damage, illness, or death



Savings

The service must enable individuals to save money in a dedicated account that provides principal security and in some cases an interest rate.

Digitally enabled capacity building

The process by which individuals and organisations obtain, improve, and retain the skills, knowledge, tools, equipment and other resources needed to be more successful farmers that can be made available through a digital platform



Market Information

The service must enable the sharing of information on prices and, in some cases, quantities of widely traded agricultural products on a timely and regular basis



Market Access

The service must allow farmers to find buyers in advance for the marketing of farm products



Farming Inputs

The service must enable farmers to have access to farming inputs including fertilisers, pesticides, machinery, and seeds



Logistical Support

The service must support the aggregating, selling, transporting and storing harvest via a digital platform

Learning

The process of acquiring new, or modifying existing, knowledge, behaviours, skills, values, or preferences



Learning for Financial Services

The programme must educate farmers on how to use and benefit from financial services using various models



Learning for Agricultural Practice Farmers must be educated on good agricultural practices using various models



E-learning for Financial Services

Farmers must be educated on how to use and benefit from financial services using a digital platform



E-learning for Agricultural Advisory Farmers must be educated on good agricultural

Design and delivery of services

The process by which services are created and provided to the enduser



Bundled Services

Several products or services for sale must be offered as one combined product or service package (mix of digital or agricultural services)



Alternative Credit Scoring

Scoring for credit must be different from scoring used by traditional lenders and collected through unconventional channels such as mobile touch points

Precision Agriculture



Precision Agriculture

Application of modern information technologies to provide, process and analyze multisource data of high spatial and temporal resolution for decision making and operations in the management of crop production.



practices using a digital platform



Climate Smart Agriculture



Climate Smart Agriculture

Services and programs that support the transformation of agricultural systems to effectively support and ensure food security in a changing climate.

Key Interventions per Country

Regional Evidence Gap Map





farmers.



Digital Financial Services



Mobile Payments Intervention in Africa

Digital Financial Services Category





Mobile Payments Intervention in Asia

Digital Financial Services Category





Allied market research predicts that the global market size will reach over \$4.5 trillion by 2023. Analysts estimate the compound annual growth rate from 2017 to 2023 to be 33.8%

Credit Intervention in Africa

Digital Financial Services Category





The client must use the channel to receive and or repay the loan. Intermediaries, such as loan officers or agents of the credit providing institution, may also





Kenya

Increased use of inputs

Increased production

Better prepared to deal with shocks

Improved income

Empowered decision making



Countries that access credit in Africa have impacted their income positively by 50% in the last decade

Credit Intervention in Asia

Digital Financial Services Category





underbanked population.

Insurance Intervention in Africa

Digital Financial Services Category







Insurance Intervention in Asia

Digital Financial Services Category





The service must allow the client to manage risks by providing a guarantee of compensation for specified loss, damage, illness, or death

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Increased use of inputs Increased production Better prepared to deal with shocks Improved income Empowered decision making



The introduction of weather-based index insurance in India, has shown that financial institutions are often willing to use a crop insurance policy for farmers, as a substitute for traditional collateral requirements, and are willing to lend to them because their loan is protected against climatic risks and production shortfall-induced anomalies.

Savings Intervention in Africa

Digital Financial Services Category





Savings Intervention in Asia Digital Financial Services Category





- Better prepared to deal with shocks

Digitally Enabled Capacity Building



Market Information Intervention in Africa





Market Information Intervention in Asia





Market Access Intervention in Africa





Market Access Intervention in Asia





Farming Inputs Intervention in Africa Digitally Enabled Capacity Building Category





Farming Inputs Intervention in Asia





Logistical Support Intervention in Africa





Logistical Support Intervention in Asia

Digitally Enabled Capacity Building Category





the government and the absence

Learning

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Learning for Agricultural Practices in Africa Learning Category





Learning for Agricultural practices influences crop averagely by >15% and directly influences good farming practices and resilience averagely by >10% which in turn influences crop production exponentially.



Learning for Agricultural Practices in Asia Learning Category







Learning for Financial Services in Africa Learning Category







Learning for Financial Services in Asia Learning Category





Learning for Financial Services

The programme must educate farmers on how to use and benefit from financial services using various models

Outcomes of Learning for Finacial Services in Asia

- Increased use of inputs
- Increased production
 - Better prepared to deal with shocks
- Improved income
- Empowered decision making

E-Learning for Agricultural Advisory in Africa Learning Category







Increased use of inputs

Increased production

Better prepared to deal with shocks

Improved income

Empowered decision making



E-Learning for Agricultural Advisory in Asia Learning Category





Better prepared to deal with shocks

resulted in low yields.

E-Learning for Financial Services in Africa Learning Category





E-Learning for Financial Services in Asia Learning Category





Precision Agriculture



Precision Agriculture Intervention in Africa

Precision Agriculture Category





Precision Agriculture Intervention in Asia

Precision Agriculture Category





- Better prepared to deal with shocks

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Climate Smart Agriculture



Intervention of Climate Smart Agriculture in Africa

Climate Smart Agriculture Category







Intervention of Climate Smart Agriculture in Asia

Climate Smart Agriculture Category





Climate Smart Agriculture

Services and programs that support the transformation of agricultural systems to effectively support and ensure food security in a changing climate.

- Increased use of inputs
- Increased production
- Better prepared to deal with shocks
- Improved income
- Empowered decision making

Farm resources and climatic factors are influencing the adoption of good farming practices in Pakistan.

Design and Delivery of Services



Bundled Services Intervention in Africa





Bundled Services Intervention in Asia





Alternative Credit Scoring Intervention in Africa





Alternative Credit Scoring Intervention in Asia









