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GSMA M4D works with the industry to develop commercial services for the underserved

• GSMA Mobile for Development brings together our mobile operator members, the wider mobile industry and the development community to drive commercial mobile services for underserved people in emerging markets

• We identify opportunities for social, economic and environmental impact and stimulate the development of scalable, life-enhancing mobile services

http://www.gsma.com/mobilefordevelopment
GSMA mAgri aims to catalyze the industry through direct engagement and knowledge sharing.
GSMA mFarmer services have launched across 4 countries in Sub-Saharan Africa and South Asia

- Started in 2011, the “mFarmer” initiative has now come to an end. GSMA partnered with USAID and Bill and Melinda Gates Foundation
- mFarmer provided support to design, launch and improvement of mAgri services for farmers
- Support included seed funding, local content, consumer research and service design, technical assistance, support to build the product and develop the business case
- Partnerships with operators, service providers and agriculture partners
The mAgri challenge fund is our ongoing initiative aiming to reach 2 million smallholders

• Supported by the UK Government under the “mNutrition” initiative, the “mAgri Challenge Fund” launched in 2014

• The challenge fund aims to reach 2 million users with life-changing mobile agriculture services

• We provide risk capital to strong and innovative projects selected through a competitive application process - up to GBP 250,000 per project

• Current grantees are:
GSMA mAgri Challenge Fund Partners

- **CABI Consortium**: Global Content Partner
- **Coffey International**: Independent fund management partner
- **Firetail**: Monitoring and Evaluation partner
- **frog design**: Research and Service Design Partner
Publications (1): mAgri Design Toolkit - User-centered design for mobile agriculture

• The mAgri Design Toolkit is one of the outcomes of a two-year partnership between GSMA mAgri and frog design to bring the user-centered design approach into the product development process

• The toolkit is intended as an instrument to provide operational guidance to the development and implementation of mAgri services

• The toolkit is a collection of instructions, tools, and stories to help develop mobile agriculture products by applying a user-centered design approach

http://www.gsma.com/mobilefordevelopment/magri-design-toolkit
Publications (2): Agri VAS Toolkit 2.0 - How to design, develop and market Agri VAS

• The toolkit is a step-by-step guide and a collection of instructions and tools for MNOs and VAS providers to develop and implement Agri VAS

• The toolkit incorporates the lessons from our mFarmer and mNutrition initiatives, and features best practices from the broader ecosystem in developing services aimed at the rural segment

• The toolkit applies a user-centred design approach to product development, which we have tailored to the mobile agriculture context together with our partner frog design

• First published in 2011, the 2016 2.0 Toolkit has been released on the GSMA M4D mAgri webpage http://www.gsma.com/mobilefordevelopment/programme/magri/agricultural-value-added-services-agri-vas-toolkit-2-0
We aim to support our partners and establish best practices on designing and scaling Agri VAS

1. User centric design: The service design process and user feedback loop

2. The Agri VAS customer journey
State of the industry

- Agri VAS current deployments in Sub-Saharan Africa and South Asia
- Agri VAS user forecasts by region
- Agri VAS user forecasts by delivery channels
Current state of mAgri in Sub-Saharan Africa and South Asia

- 140+ mAgri deployments from MNOs, VAS providers, NGOs across emerging market regions
- Not enough services are providing meaningful revenue or scale to MNOs
- Most services are not reaching scale or financial viability
- There is a vast variety of services ranging from information/advisories, supply chain and financial services

Source: GMA mAgri Deployment Tracker
## Agri VAS by number of users

<table>
<thead>
<tr>
<th>Country</th>
<th>Product name</th>
<th>Lead Organisation</th>
<th>Launch Date</th>
<th>Users</th>
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<tbody>
<tr>
<td>Bangladesh</td>
<td>Krishi Jigyasha 7626</td>
<td>Banglalink</td>
<td>2008</td>
<td>1.3m</td>
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<tr>
<td></td>
<td>RMLdirect</td>
<td>Reuters Market Light</td>
<td>2007</td>
<td>1.4m</td>
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<tr>
<td></td>
<td>Green SIM</td>
<td>IFFCO Kisan Sanchar Ltd</td>
<td>2008</td>
<td>3.3m</td>
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<tr>
<td>India</td>
<td>mKisan</td>
<td>Handygo Technologies</td>
<td>2014</td>
<td>0.8m</td>
</tr>
<tr>
<td></td>
<td>Monsanto Farm AgVisory Services (MFAS)</td>
<td>Monsanto</td>
<td>2013</td>
<td>0.8m</td>
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<tr>
<td></td>
<td>Kisan Mitra</td>
<td>Vodafone</td>
<td>2015</td>
<td>0.5m</td>
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<td>Kenya</td>
<td>iCow</td>
<td>Safaricom</td>
<td>2013</td>
<td>0.3m</td>
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<tr>
<td>Tanzania</td>
<td>Tigo Kilimo</td>
<td>Tigo</td>
<td>2012</td>
<td>0.4m</td>
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<tr>
<td></td>
<td>Kilimo Klub</td>
<td>Vodacom</td>
<td>2015</td>
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<td>Vodafone Farmers’ Club</td>
<td>Vodafone</td>
<td>2009</td>
<td>1.0m</td>
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<td>Turkcell Farmers’ Union</td>
<td>Turkcell</td>
<td>2011</td>
<td>1.1m</td>
</tr>
</tbody>
</table>

Agri VAS forecasts methodology

Potential Agri VAS users

- Labour force in agriculture
- Agricultural workers with a mobile phone
- Agricultural workers with a mobile phone and subscribing to Agri VAS

Applied rural mobile subscriber penetration rates to labour force in agriculture
Applied Agri VAS penetration rates to agricultural workers with a mobile phone

Mobile subscribers Split by smartphone/feature phone
The subscriber split by smartphone/feature phone was estimated by applying the share of smartphones/feature phones as a percentage of total connections to total subscribers

Rural mobile subscriber penetration
The rural mobile subscriber penetration rate was estimated by:
1. Taking the urban and rural population split according to the World Bank
2. Calculating the total mobile subscriber penetration split by smartphone/feature phone
3. Taking “Penetration Urban” = 1.3 × “Penetration Rural” (over time this factor will reduce as urban and rural get closer to parity)

Agricultural workers with a mobile phone
The number of agricultural workers with a mobile phone split by smartphones and feature phones was estimated by applying the rural mobile subscriber penetration rates to the labour force in agriculture
The Agri VAS user base in emerging markets has potential to grow to 90+ million by 2020

Data from 66 countries in South Asia, Sub Saharan Africa and Latin America. Source: Market size and market opportunity for agricultural value-added-services (Source: GSMAi 2015)
We estimate that 60% of Agri VAS users will access rich media services by 2020.

Potential Agri VAS Users by Delivery Channel

Data from 66 countries in South Asia, Sub Saharan Africa and Latin America. Source: Market size and market opportunity for agricultural value-added-services (Source: GSMAi 2015)
Some key lessons learnt so far

• Farmers’ information needs
• Marketing activities along the customer journey
• Pricing models
Lesson 1: Localise content and understand farmers’ pain points at different stages of the farming cycle

<table>
<thead>
<tr>
<th>Plant</th>
<th>Seed</th>
<th>Grow</th>
<th>Harvest</th>
<th>Market</th>
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<tbody>
<tr>
<td>Farmer</td>
<td>Calls to agriculture specialists (helpline)</td>
<td>Farming how to tips (IVR)</td>
<td>Calls to agriculture specialists (helpline)</td>
<td>Market prices (SMS)</td>
</tr>
<tr>
<td>success story (IVR)</td>
<td>Farming alerts on milestones, pests and disease (SMS)</td>
<td>1/2 day weather forecasts</td>
<td>Farming how to tips (IVR)</td>
<td>Marketplace service</td>
</tr>
<tr>
<td>Nutritional tips (SMS)</td>
<td>Seed prices information (SMS)</td>
<td>Seed prices information (SMS)</td>
<td>Seed prices information (SMS)</td>
<td>Seed prices information (SMS)</td>
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<tr>
<td>Seasonal weather forecasts</td>
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<td>Seed prices information (SMS)</td>
<td>Seed prices information (SMS)</td>
<td>Seed prices information (SMS)</td>
</tr>
</tbody>
</table>

### Pain Points and Potential Gains for Farmers

- **Market access**
  - Price trends and fluctuations
  - Cost and availability of transport
  - Market pricing
  - Potential price fluctuations
  - Availability, cost and location of storage services
  - Instructions for self-storage

- **Inputs**
  - Seeds/fertilizer availability, prices and locations
  - Techniques to protect against and prevent disease and pest infestation
  - Weather advisory growing advice

- **Agronomic advisory**
  - Crop and seed selection
  - Land preparation
  - Diagnosis and treat disease and pest infestation
  - Weather adaptive growing advice

- **Weather forecasts**
  - Long term (seasonal) weather forecasts
  - Short-term, localized weather forecast (e.g. to know when to plant)
  - Weather forecasts and implications for storage
  - Long term (seasonal) weather forecasts

- **Financial services**
  - Credit and insurance (crop, weather, price insurance) availability, rates and contacts
  - Credit availability and rates for non-farming activities
  - Credit and insurance (crop, weather, price insurance) availability, rates and contacts
  - Credit availability and rates for non-farming activities

### Pain Relievers and Gain Creators: Agri VAS Solution (Examples)

Source: GSMA, Agri VAS Toolkit 2.0
Lesson 2: Time new launches and releases to the farming calendar

Timeline for Grameenphone Bangladesh’s Agri VAS launch

Source: GSMA, Agri VAS Toolkit 2.0
Lesson 3: Focus on experiential marketing. It plays a critical role at each step of the customer journey.
Lesson 4: Use face-to-face marketing for educating users and for cross-selling

Users generated by two marketing campaigns

- **SMS blast**
  - Non-user: 69%
  - Trial user: 18%
  - Repeat users: 13%

- **Marketing event**
  - Non-user: 61%
  - Trial user: 21%
  - Repeat users: 17%

Source: GSMA mAgri, operator
Lesson 5: Leverage freemium models, users like to try before they buy

- Although Agri VAS subscribers are less likely to be below the national poverty line, most common **pricing-related bottlenecks** are overall **cost of services** and a **lack of awareness and understanding of the pricing model**

- **Freemium services** has proved effective in **alleviating price concerns** by delivering content with sufficient value to attract users at no direct cost, but with well-defined and achievable objectives for the MNO (e.g. greater customer loyalty, customer acquisitions).

Source: GSMA mAgri, operator
Focus on weather content

- Weather forecasts in mAgri services
- New emerging use cases
- Weather services and evolution to an mAgri holistic bundle
Where is the potential to increase the value proposition with weather content?

- As part of the content bundle, service providers have offered weather forecasts from national meteorological agencies at regional, or at best at district level.

- The availability of this type of generic content across multiple channels (including radio and TV) has meant weather forecasts have mostly served as additional components rather than the core element of the Agri VAS value proposition.

- New emerging use cases mean that weather services can become more central to the offering of MNOs and VAS providers for smallholder farmers, and potentially even transform the whole value proposition.

Source: GSMA mAgri
Weather monitoring and forecasting: What opportunities have emerged?

- Mobile Money enabled
- Gateway to Agri MFS
- Weather monitoring
- Farm-level geo location

Use Cases

- Weather Index Insurance
- Mobile Weather Forecasts
- Climate Smart Advice
- Weather Adaptive Agronomic Advice

- Transforming value proposition
- Weather monitoring and forecasting
- More content partners

- More granular
- More localised
- More frequent
- More content partners

- Transforming value proposition
- Highly localised content
- Demanding content volume
- Predictive analytics?
Weather services and evolution to mAgri holistic bundle

Source: GSMA, Weather Forecasting and Monitoring: Mobile Solutions for Climate Resilience
Evolution to Agricultural Mobile Financial Services (Agri MFS)

- Understanding agricultural value chains
- Identifying entry points for digitisation
- Agri MFS use cases
Agricultural value chains: What do they look like?
How to identify entry points for digitisation?

Potential of value chain

- **Size of value chain**: Volume produced, number of players engaged (agribusinesses, farmers)
- **Commercial activity in value chain**: Ratio of crop sales VS crop harvested
- **Future prognosis of value chain**: Growth trends, price trends, regulation

Opportunity for mobile money

- **Structure of value chain**: Formal VS informal value chains
- **Size of transactions**: Transaction limits, liquidity management, wallet balancing challenges for agents/customers
- **Frequency of transactions**: Seasonal calendar, stability of revenue for agents
Agricultural MFS Use Cases

Transactions

- B2P Agri Subsidies
- B2P Salary Payments
- B2P Output Payments
- P2B Merchant Payments
- P2B Loan Repayment
- B2B Supplier Payments

Derivative Services

- Price Insurance
- Weather Index Insurance
- Area-Yield Crop Insurance
- Livestock Insurance
- Operational Costs
- Input Supply
- Credit
- Savings
- Input Saving

US$450bn Smallholder demand for financing (Dalberg 2012)
GSMA Mobile For Development
http://www.gsma.com/mobilefordevelopment

Our Grantees:
http://www.gsma.com/mobilefordevelopment/programmes/magri/our-grantees

mAgri Design Toolkit:
http://www.gsma.com/mobilefordevelopment/magri-design-toolkit

Agri VAS Toolkit 2.0:
http://www.gsma.com/mobilefordevelopment/programme/magri/agricultural-value-added-services-agri-vas-toolkit-2-0

mAgri Deployment Tracker:
http://www.gsma.com/mobilefordevelopment/m4d-tracker/magri-deployment-tracker

Weather forecasting and monitoring mobile solutions for climate resilience:

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