

CASE STUDY 1
DIGITAL GREEN

Transfer format: Wholly-owned subsidiary
Countries of operation: India, Ghana, Ethiopia, Tanzania, Niger, Mozambique

Digital Green (DG) mobilizes rural communities and educates them about agriculture, healthcare and livelihoods using videos and other multimedia. It works closely with grassroots organizations for outreach and engagement, and customizes media content for local language and context.

SNAPSHOT OF EXPANSION DRIVERS



INTENT



CAPACITY



DEPENDENCIES

OBJECTIVES AND PREFERENCES FOR TRANSFER	BUILDING READINESS FOR TRANSFER	ORGANIZATIONAL DEPENDENCIES THAT LED TO TRANSFER CHOICES
<p>Imperative: DG aimed to scale the impact of its model by transferring it to new markets, and was also motivated by donors' interest in supporting its expansion.</p> <p>Preparation: It conducted extensive due-diligence ahead of expansion. It examined donor interest and government support in different countries, and identified ways in which its model would need to be adapted to be effective outside India.</p> <p>Format preference: It transferred through country level branch offices started by its US based not-for-profit affiliate as its legal status of a Trust in India did not permit expansion to other countries.</p> <p>Country preference: DG's country choices were driven by donors such as World Cocoa Foundation, BMGF and DFID who funded its expansion to Africa.</p>	<p>Management readiness: DG's India team travelled to Africa to build market understanding and activate networks, and it also recruited a team of local professionals to drive operations. It subsequently hired senior staff in Ethiopia to focus on the Africa operations.</p> <p>Financial readiness: It secured grant funding from the World Cocoa Foundation and other international funders ahead of expansion.</p> <p>Operational readiness: It developed robust information technology systems for cost-effective program implementation, monitoring and evaluation.</p> <p>Validating need for product/service: The donors that funded DG's expansion helped to validate the need for its value proposition in destination geographies.</p>	<p>Local farmer organizations: Presence of a significant number of producer/ social groups that collectivize farmers and rural communities.</p> <p>Implementing partners: Presence of like-minded partners with existing relationships with farmers to facilitate adoption of GAP.</p> <p>Internet: Penetration of internet and telecom connectivity (broad-band connection) for storage and dissemination of videos among farmers and rural communities.</p> <p>Active donor organizations: Access to adequate and long-term grant support to implement projects.</p>

KEY CHALLENGES IN TRANSFER

Ecosystem: Inadequate penetration of telecom and internet connectivity, and erratic power supply
Sector: Limited aggregation of farmers and rural communities through farmer groups, cooperatives and producer organizations.
Business: Higher cost of skilled human resources in African countries than in India

KEY TRANSFER INSIGHTS

- Given its reliance on grant funding for operations, DG secured partnerships with donors ahead of expanding to new markets. In addition, it identified services that can be made remunerative to create long-term sustainability of the model
- It assessed the local environment in destination countries by partnering with grassroots organizations, which also assisted it in community mobilization
- It gathered on-ground information and feedback in order to identify what works in each market and accordingly modified its business model

Digital Green combines technology and social organization to build capacity of community members on improved, sustainable agriculture, livelihood, and health interventions. The firm was set up in 2008. Since inception, it has reached 5,000 villages across India, Ethiopia, and Ghana and improved the lives of more than 500,000 community members (70 percent women) in South Asia and Sub-Saharan Africa.

HEADQUARTERS: Delhi

YEAR OF FOUNDING: 2008

FOUNDERS: Rikin Gandhi

LEGAL STRUCTURE: Trust (in India)

BUSINESS MODEL: Business-to-business (B2B)

SECTOR AND SUB-SECTOR: Agriculture, Technology



Credit: Digital Green

INTRODUCTION

Rikin Gandhi started Digital Green (DG) as a project in Microsoft Research India's "Technology for Emerging Markets" team in 2006. The project spun out as a trust in 2008, and uses a digital platform to disseminate information on good agriculture practices (GAP) to small and marginal farmers to help improve crop yields. DG's agriculture extension³ methods have greater efficacy⁴ and cost effectiveness⁵ than traditional agriculture extension methods.

DG adopts a participatory approach to make videos on GAP in crop husbandry, from pre-sowing to production and post-harvest phases.⁶ The DG team partners with local public, private, and civil society organizations to disseminate these videos among small farmers to encourage GAP adoption. Currently, DG operates in six Indian states - Karnataka, Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh, and Odisha – and is engaged with over 1 million farmers across 11,000 villages. In 2010, DG registered its not-for-profit arm in the U.S. to undertake projects in other countries such as Mozambique, Ghana, Ethiopia, and Tanzania.

DIGITAL GREEN'S BUSINESS MODEL IN INDIA

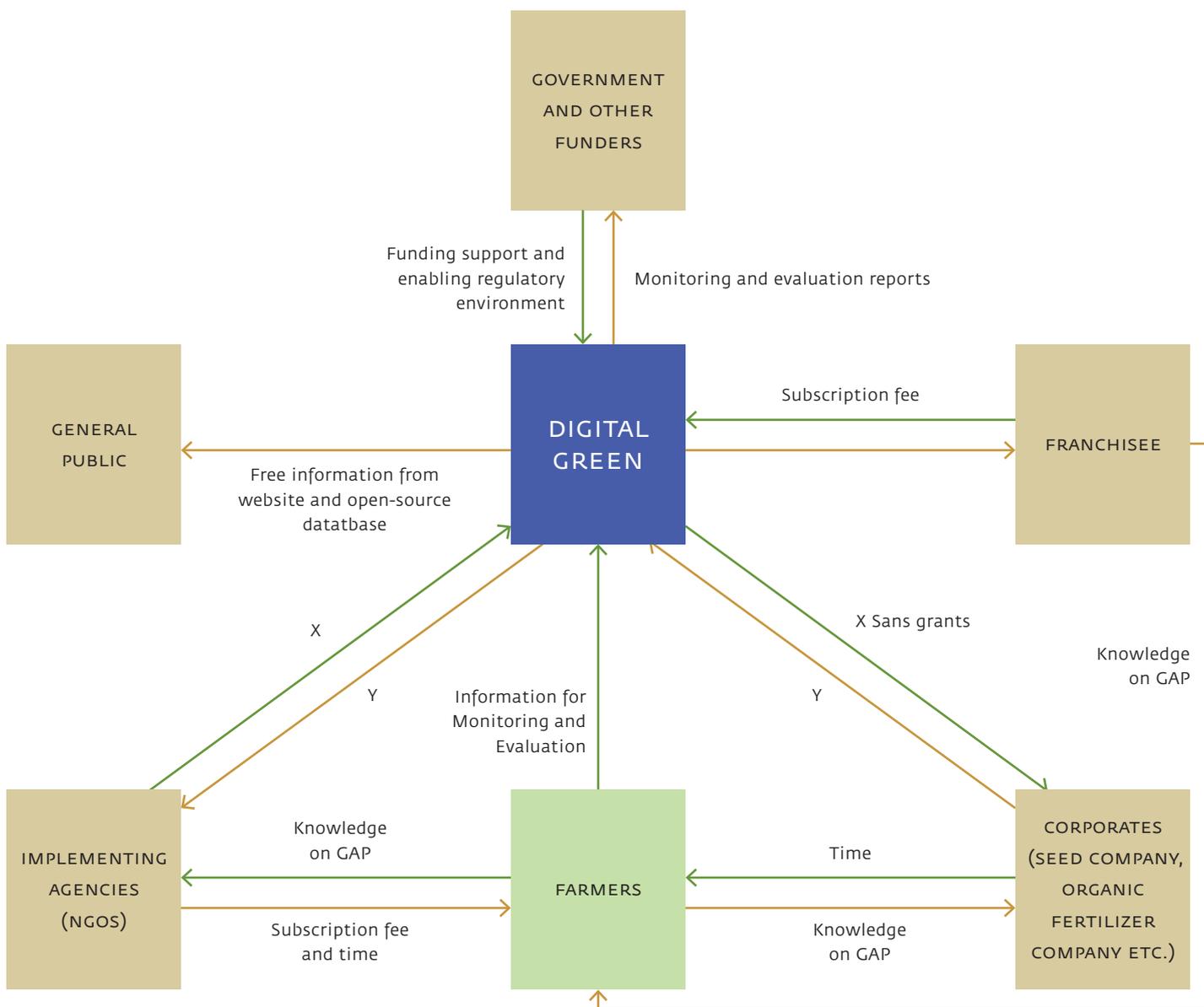
A majority of small farmers in India have limited access to agriculture extension services. The existing agricultural extension system in India is not very effective in moving farmers to adopt scientific and modern techniques. Moreover, the costs of reaching small farmers, especially in remote regions, are high. DG addresses this information asymmetry by focusing on knowledge dissemination, process innovation, and channel innovation.

"Good agricultural practices are effectively adopted by farmers only when information is shared by the community members who face similar constraints themselves."

Vinay Kumar
COO, DIGITAL GREEN

3. Agricultural extension is the application of scientific research and new knowledge to agricultural practices through farmer education. Traditionally, agriculture extension is facilitated by government-appointed agriculture extension workers or through special radio and television programs committed to agricultural extension.
4. In a controlled evaluation of DG's method, the uptake of new practices was found seven times more than with traditional methods.
5. A controlled evaluation of DG's method proved that it was ten times more cost-effective than traditional methods of agriculture extension.
6. Apart from agriculture, DG also produces videos on health, nutrition, and sanitation. However, the bulk of its work is in the agriculture sector.

FIGURE 1
DIGITAL GREEN'S OPERATING MODEL



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| <p>X</p> <ol style="list-style-type: none"> 1. Funding (grant) for program Implementation 2. Technology support (hardware like camera, pico-projectors, systems and accessories) 3. Maintenance support for hardware and software 4. Capacity building of management team and field staff of implementing agencies/corporates/Franchisees 5. Training on editing and uploading of approved videos in Digital Green's website and database 6. Program management, and inputs on better program implementation | <p>Y</p> <ol style="list-style-type: none"> 1. Progress report in terms of achievement against planned targets on number of videos shot, edited, approved, uploaded and disseminated 2. Recruitment of field staff and Facilitation of training for field staff 3. Cooperation on monitoring and evaluation for Digital Green implementation |
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THE KEY ELEMENTS OF DG'S BUSINESS MODEL INCLUDE:

Business process innovation

DG works closely with implementing partners, such as NGOs, public sector development agencies, or corporate firms such as Syngenta Foundation, to reach marginal farmers. It provides technical assistance, program management, and financial support to field agencies. DG maintains quality by adhering to its proprietary standard operating procedures and quality assurance framework. The videos are simple, easy to comprehend, and locally relevant. DG facilitates information dissemination by featuring progressive farmers from the same or neighboring villages in the GAP video. Video screening is synchronized with cropping schedules in that area so that the information is timely and is used within a few days of dissemination. Videos are screened to farmer groups in the presence of community mediators who moderate discussions. The mediators address farmer queries and participate in dialog during the screenings and feedback sessions. The videos are an efficient, cost-effective, and resource-light method to increase adoption rates.

Knowledge and information dissemination

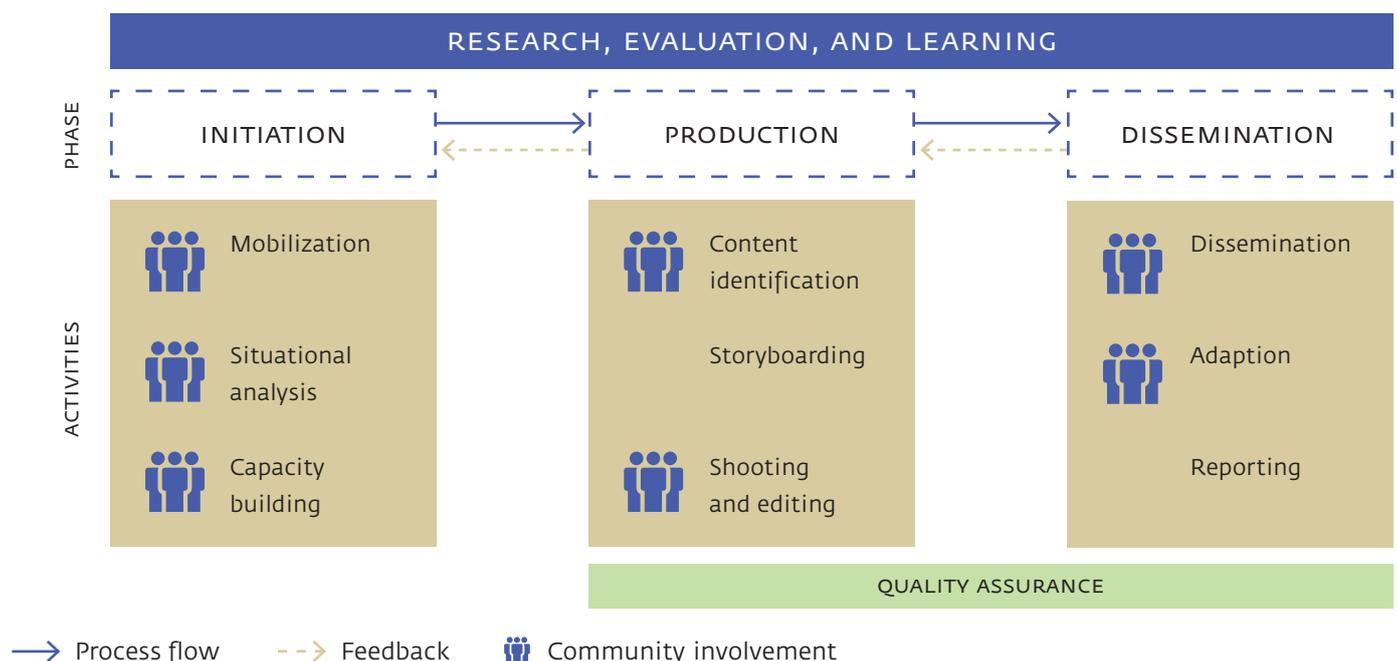
DG uses existing large-scale government programs to disseminate information to wider groups of small and marginal farmers. It partners with government agencies like the National Rural Livelihoods Mission (NRLM), its nodal

agencies at the state level, the Ministry of Agriculture and Rural Development, and state-level agriculture and rural development departments. It also partners with government and non-government agencies to secure grant funding. DG establishes forward links with the following players for effective dissemination:

- Local implementing agencies that work closely with farmers, carry strong credibility with the community, and possess domain expertise in agriculture
- Corporate firms that procure commodities from small and marginal farmers
- Individuals and agencies that help DG in strategy, research, documentation, capacity-building, and monitoring and evaluation
- Hardware and software vendors and agencies responsible for their maintenance.

DG is exploring ways to make its model self-sustainable. It shares recurring costs with partners according to cost-sharing agreements it enters into. It earns some revenue by charging farmers for video screenings. It is exploring other revenue streams such as advertisements by local dealers and merchants

FIGURE 2
KEY COMPONENTS OF THE DIGITAL GREEN APPROACH





Credit: Digital Green

and a franchisee model. DG intends to support and encourage organizations interested in its approach through its franchisee model. It will conduct due diligence to select franchisees that have relevant domain expertise and work closely with local communities. Under this model, DG will provide online and in-person training and accreditation on community facilitation, video production, data management techniques, and access to DG's open source technology stack, with technical assistance as needed. Franchisees will pay for services provided.

Channel innovation to improve access

DG's videos are stored at cloud-computing databases maintained by Amazon and Google services to help local mediators and extension agents access them. DG also has a technology service named COCO (Connect Online, Connect Offline), a reporting system that shares, monitors, and tracks information collected. COCO's unique proposition is its ability to take the application offline in low and limited bandwidth locations with uninterrupted use through a browser. The system is designed in an open-source, customizable framework that is deployed without need for IT/engineering staff. DG uses low-cost energy-efficient technologies such as pocket video cameras, pico-projectors, and a near real-time open-source data management and analytics framework. This approach lowers costs of operation and helps DG remain sustainable on a donor-funded model.

EXPANSION OF DG'S BUSINESS MODEL IN AFRICA

Ghana and Ethiopia have very low ratios of farmers to extension workers, 1500:1⁷. This results in low levels of access to relevant and reliable agri-information. Farmers mostly follow traditional agricultural practices and there is a need for extension services to improve agricultural productivity.

In 2011, after working in India for over three years, DG decided to transfer its operations with help from local partners and implementing agencies in the destination countries. Around the same time, the World Cocoa Foundation (WCF) approached DG seeking help to promote GAP for cocoa and improve cocoa production. WCF and DG implemented a successful pilot project in which cocoa farmers were provided access to extension and credit services through community-based business service centers. By 2013, around 1,800 farmers had watched the videos and about 85 percent had adopted at least one GAP in Ghana. DG also partnered with commercial trading groups such as the Noble Group and Armajaro Trading to expand its outreach in Ghana.

Management Readiness

Leveraging India team experience to build Africa operations

DG initially deployed senior and experienced team members for its Africa expansion. Senior managers from India travelled to Africa to understand the agriculture extension sector. They garnered insights on the state of agriculture and built relationships with local stakeholders. Once DG established partnerships with key implementing agencies and was ready to commence operations in Ghana, it appointed a senior manager and recruited a local team for its operations. Strategic decisions for Africa are still made by senior management in India. DG, however, intends to transition this role to a locally recruited team of senior managers. This will free up senior management bandwidth and help DG achieve its goal to expand to new geographies in Africa.

Format and Country Selection

Transferring to countries with an enabling regulatory environment

Funding agencies like UKaid's Department for International Development (DFID), World Cocoa Foundation (WCF), and Bill and Melinda Gates Foundation (BMGF) supported DG's expansion. They determined entry market choices of Ghana and Ethiopia. Other critical factors for country selection included supportive government policies and government interest in DG's model. For instance, encouraged by their success in Ghana, the government of Ethiopia invited DG to implement an efficient agricultural extension system at the national level. DG is now engaged in a seven-year project with the Ministry of Agriculture in Ethiopia.

Scaling impact through country-level branch offices and partner agencies

DG's legal status as a trust⁸ in India did not permit its expansion to other countries. So it chose to transfer through country-level branch offices started by its U.S.-based not-for-profit affiliate.

DG expanded into Ghana, Ethiopia, and Tanzania in partnership with local players. These partnerships with local NGOs and other implementing agencies helped it understand local socio-cultural contexts better. By working closely with local partners, DG broke the image of being an 'outsider' among the farming community and leveraged complementary partner strengths to improve GAP adoption rates.

Financial Readiness

Securing donor funds and building capital reserves for expansion

DG's expansion move was largely funded by donors keen to use technology for development in the destination countries. DG forged such partnerships to pilot and implement projects in Ghana, Ethiopia, and Kenya. DG planned operations in these countries only after funding commitments from donors.

Apart from receiving donor funds from individuals and organizations, DG plans to strengthen revenues by charging a small fee for farmers watching GAP videos, advertisements from local input dealers, and franchisees.

Operational Readiness

Leveraging partnerships with large organizations to access new markets

DG chose to partner with large organizations that could enable it to scale and transfer its strengths of technological know-how, video content development, and ability to involve communities in operations. In Ghana, DG initially worked with WCF and partnered with commercial trading groups. Its success in Ghana garnered interest from government agencies and existing funders in other African countries. In Ethiopia, it signed up for a seven-year project with the Ministry of Agriculture to promote locally relevant agricultural technologies across high impact value chains. Similarly, it aimed to promote locally relevant soil management practices among subsistence farmers in Ethiopia, Tanzania, Mozambique, and Ghana.

7. mFarmer: Providing Kenya's farmers with agricultural information via mobile, CABI, July, 2014; Major Challenges facing Kenyan Agricultural sector, Extension Conference. June, 2011.

8. The Indian Trusts Act, 1882.

Undertaking extensive planning and due-diligence to gain local insights

The DG team conducts extensive due diligence before transferring the model to new geographies. For instance, it explored the state of the agriculture sector, presence of producer/social groups among farmers, infrastructure, and availability of partner agencies in Ghana. The team also scanned for possible government support and other regulatory directives that could

impact DG's operations. DG's senior management travelled to Ghana and Ethiopia to understand local environments. In addition, initial interactions with various governments and NGOs helped DG understand the socio-economic situation and agricultural extension value chain in Africa.

FIGURE 3
TRANSFERRING DIGITAL GREEN FROM INDIA TO AFRICA

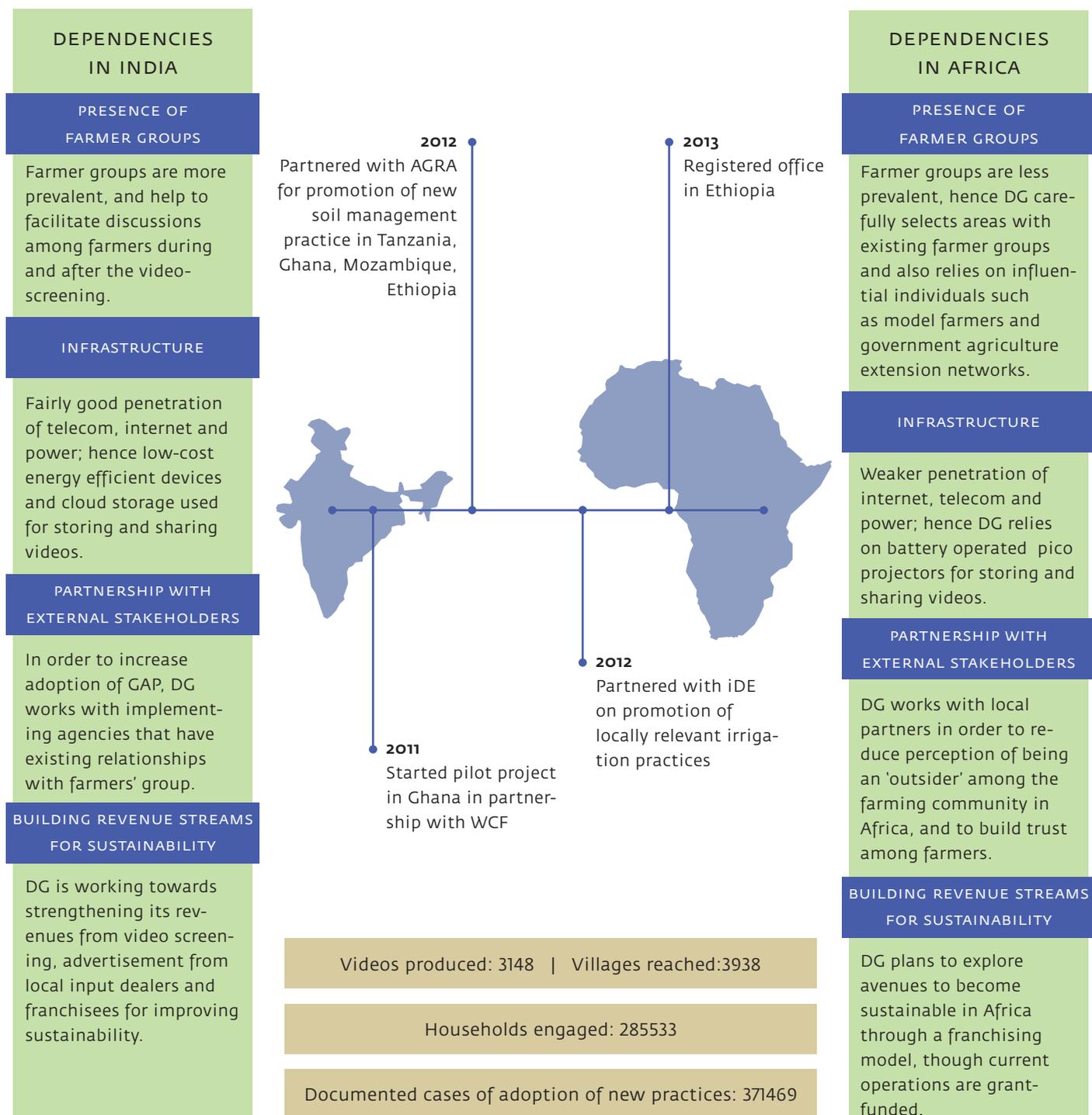
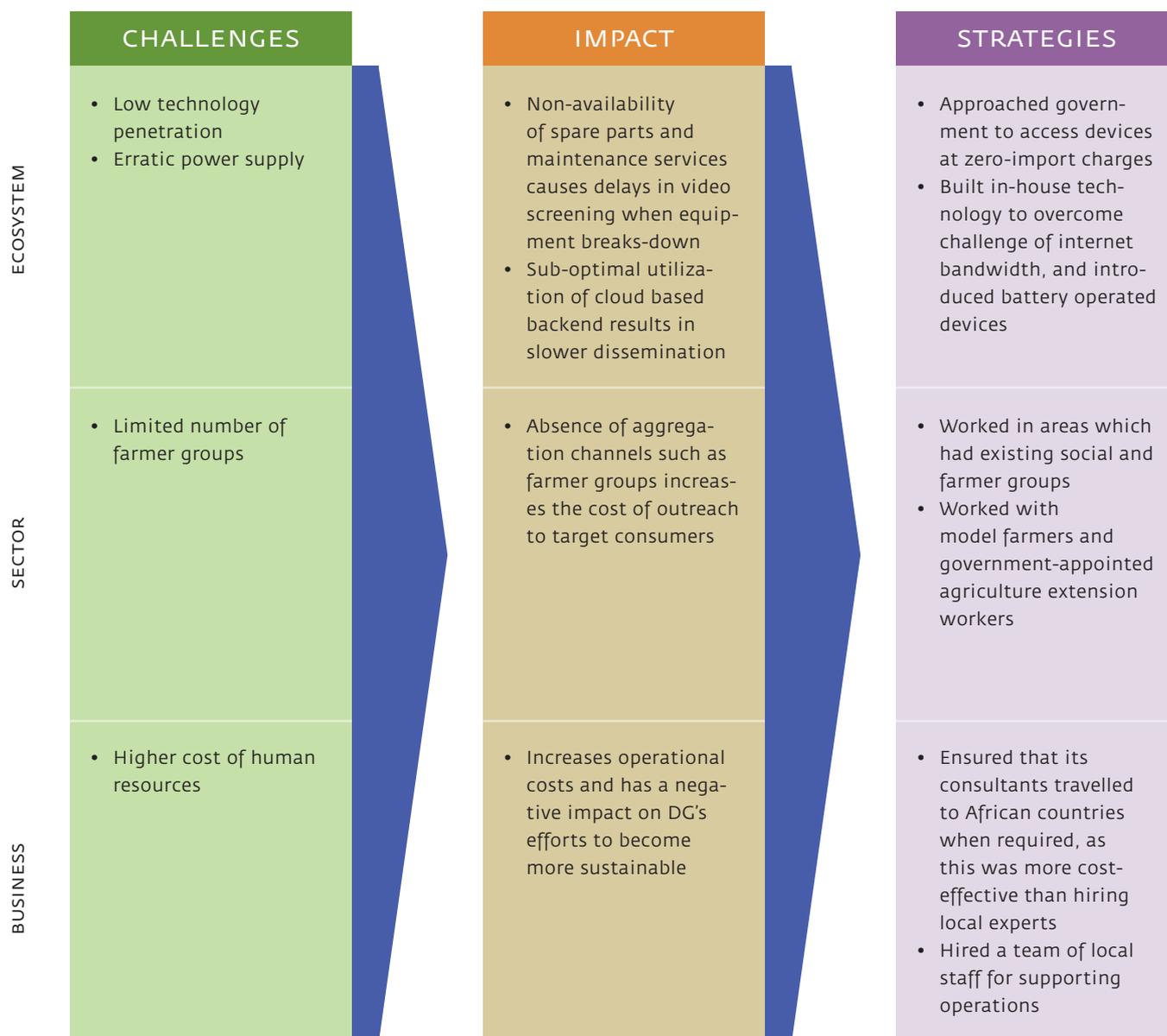


FIGURE 4
KEY CHALLENGES OF TRANSFER



CHALLENGES AND KEY INSIGHTS FOR TRANSFER

Relying on the technology to increase outreach

DG strongly believes in the use of technology for easier mass dissemination. Hence, its business transfer too hinges on the same premise. DG relies on low-cost open-source technology to store and disseminate videos, monitor and evaluate progress with feedback, and other product refinement support. It leverages cloud computing databases for video storage, COCO for reporting, and other low-cost technology platforms.

By using technology to manage core operations, DG made its model efficient and strengthened operational readiness. DG's internal processes are fairly standardized. It has developed checks and balances to ensure quality standards are met. It adheres to its proprietary standard operating procedures and quality assurance framework in all its operations. Institutionalization of procedures and internal processes improves operational readiness.

Securing donor support and identifying remunerative services to scale operations sustainably

Inclusive businesses, especially not-for-profits, often require infusions of donor funding to pilot and accelerate operations sustainably. However, they must identify products/services that can be offered at a small fee to cover operating costs. Securing grants and financial incentives played a key role in DG's choices of countries and formats for transfer. DG's senior management believes it is important to identify remunerative services to create long-term sustainability. It charges \$0.03 to 0.07 per farmer per screening to cover operating costs and plans to augment revenue through advertisements by input providers. DG also plans to roll out its franchising model targeting government agencies, corporates, and civil society organizations in new geographies. The franchising model is likely to support scale and contribute significantly towards gradually reducing DG's dependence on grant funding and make it financially sustainable.

In addition to funding, local government support helps inclusive businesses scale their models cost-effectively. In Ethiopia, building relationships with government agencies resulted in access to existing government extension structures to deliver the program and import duty exemption on hardware devices, which helped reduce program costs.

Understanding the local context and identifying the right partners to enter new markets

Inclusive businesses that provide knowledge dissemination services must work closely with target customers. They need to invest in understanding context and economic and socio-cultural dynamics when entering a new geography. Identifying partners, who understand context, have domain expertise, and carry strong credibility with target customers, can contribute significantly to success. Digital Green's senior management spent adequate time on the ground and forged partnerships with field agencies to understand the farm sector in Ghana. They found that the farming community in Ghana and Ethiopia is organized by commodity groups, unlike in India where it is organized in SHGs formed by farmers of similar socio-economic backgrounds. This prompted the team to change the way it mobilized the community. It worked with model farmers and government-appointed agriculture development agents to reach out to small farmers. Further, field visits helped the team assess relative costs across regions and plan expansion strategies carefully through cost minimization. For instance, although Ghana has an adequate talent pool, it came at higher costs. Hence, DG moved staff from India on a short-term basis to train local resources and support implementation.

"Our geographic expansion will primarily depend on the investment climate and availability of sufficient financial resources to help us remain operational there."

Vinay Kumar
COO, DIGITAL GREEN



Credit: Digital Green

Continuous monitoring and evaluation of operations

Inclusive businesses benefit from monitoring and evaluating performance of their products and services among target customers. Digital Green monitors its operations on a continuous basis, and this helps in iteration of the business delivery model and progressively address the needs and interests of the local community, resulting in greater uptake of GAP.

FUTURE PLANS

Digital Green's future expansion to other Sub-Saharan African countries will depend on availability of grant funding and enabling policy environments to minimize cost variation across the region. Another important factor is the presence and scale at which local organizations work with farmer groups. In the next few years, Digital Green aims to reach 20,000 villages in India and Sub-Saharan Africa.