





# INTRODUCTION

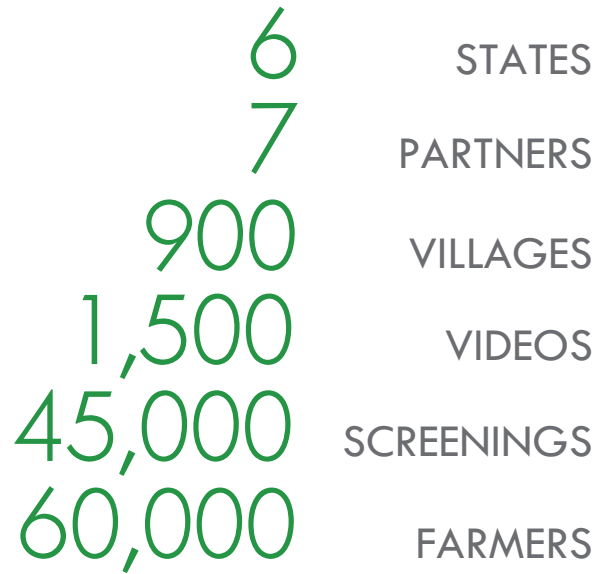


Digital Green started as an idea that became a research project that was evaluated and then extended and now is scaling up!

In Mahabubnagar, Andhra Pradesh, eleven women from the nearby area got introduced to filmmaking for the first time. In two and a half days, these women were developing storyboards, shooting videos in the field, editing them on a computer, and sharing tips to make them better.

That training program marked the beginning of our partnership with the Government of India's National Rural Livelihoods

Mission, one of the world's largest poverty reduction initiatives, in which we will be looking to connect with over one million farmers across 10,000 villages over the next three years. ■



Together with our partners, we're working to help build and support the aspirations that individuals seek to achieve. Our network of team members and partners has developed our capabilities considerably over the last three years. Seven NGO partners now work with us in over 900 villages across 6 states in India and have produced over 1,500 videos that have been screened to over 60,000 farmers. All these videos are available online on the Digital Green Repository on YouTube.

In a rough assessment in Orissa, we found that the cost-effectiveness of two of our partners' existing interventions increased by a factor of 4-5x and had resulted in gains of around US\$ 242 per farmer in the first year of our work together.

We're humbled to see that sort of impact and plan to work with Innovations for Poverty Action for a more rigorous assessment. We also continue to capture, analyse, and share data on the progress we've made on our analytics dashboards.

We're iterating our standard operating procedures based on the learnings and challenges that we're encountering in the field and have drafted a broader framework for ensuring quality as we go to scale. As we work with the Government of India's Ministry of Rural Development and others, we'll be leveraging the platform to integrate initiatives in public health and nutrition and primary school education.

We're also in the process of extending to other parts of South Asia and East Africa through franchisees who are committed and able to drive the model forward. As you can imagine, our team and board is growing. We're looking for a few good men and women to join us as we accelerate our scaling up in India and beyond. ■

For more, visit

 [www.digitalgreen.org](http://www.digitalgreen.org)



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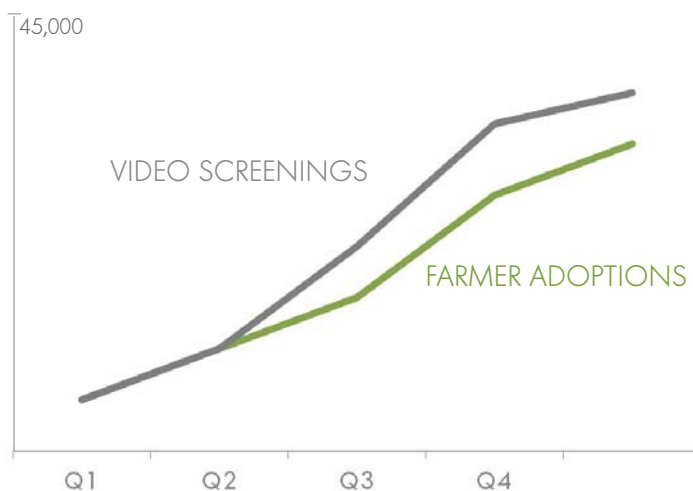
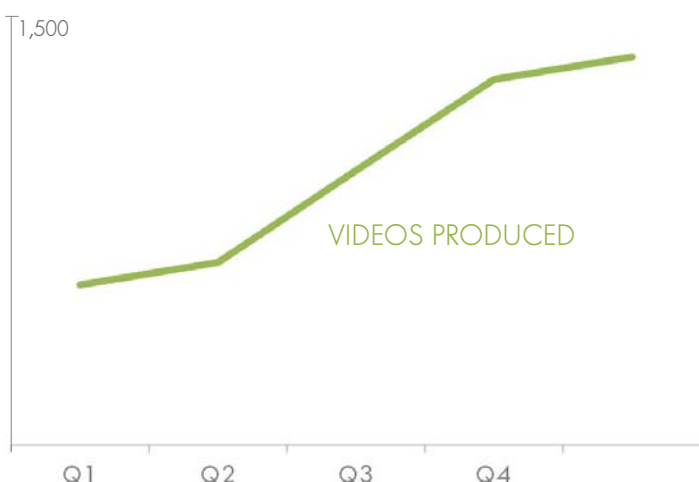
# 1. PROGRESS

Digital Green has primarily scaled by building on its partnerships with seven non-governmental organizations - namely, PRADAN, BAIF, Samaj Pragati Sahayog, ACCESS, Action for Social Advancement, PRAGATI, and VARRAT - and recently began a partnership with the Government of India's National Rural Livelihoods Mission. These partnerships were established after a comprehensive due diligence process. Sub agreements then were finalized in which mechanisms for cost effectiveness, and quality assurance were emphasized.

Digital Green has regional offices in Bangalore, Bhopal, Bhubaneswar, Hyderabad and New Delhi to provide the necessary technology development and resource agency support to each partner. The Digital Green system now involves 58,902 farmers across Andhra Pradesh, Bihar, Jharkhand, Karnataka, Madhya Pradesh, and Orissa. Supporting these activities, the Digital Green team includes **22 core team members, 102 partner staff, and 524 community intermediaries.**

An internal team has been established to refine our training programs to advance the capabilities of the community intermediaries involved in producing videos, mediating video screenings, and capturing farmer level feedback to sustain participation and adoption levels over time.

With quality assurance; in a preliminary assessment with two partners, PRADAN and VARRAT, in Orissa, we found that the classical extension systems that these NGOs oper-



ated had a cost per adoption of US\$ 10-18 whereas the Digital Green model had a cost per adoption of US\$ 3-4.

Additionally, a very preliminary, limited sample analysis found that in the first 8 months in which the Digital Green system had been deployed resulted in an average cumulative increase in incomes of US\$ 242 per farmer in one cluster of villages in Orissa. We have planned a more rigorous evaluation both internally as well as in collaboration with researchers from Innovations for Poverty Action, Yale University, and University of California, Berkeley using multi-intervention controlled trial methods for the next phase of our work.

We continue to iteratively develop our **standard operating procedures (SOPs)** framework based on the learnings and experiences. The SOPs essentially frame the technology and social organizational components of the Digital Green system - from topic identification to video production to dissemination to feedback analysis - which ensure coherence and consistency in the processes and outcomes of the model. We have also refined our backend technology stack to better capture and analyze progress data and farmer feedback from areas that have limited to no electricity and Internet connectivity through paper-, phone-, and web-based channels.

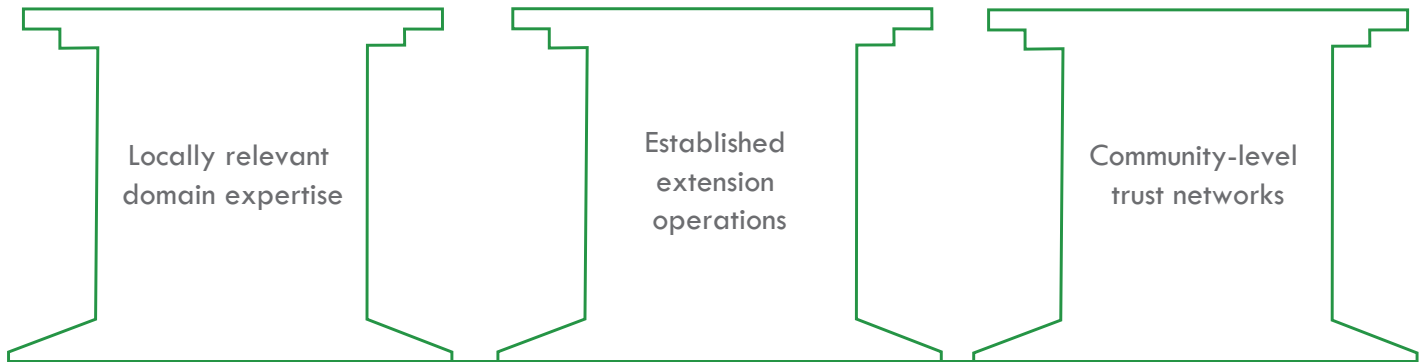
We have identified four areas in our work that require particular focus: partnership management, impact assessment, quality assurance, and sustainability. We have also recently expanded our board of directors. ■



# LEARNINGS AND CHALLENGES

# 2.1 PARTNERSHIP MANAGEMENT

Partnership remains fundamental to Digital Green's approach which builds upon the foundation of our collaborators.



We continue to build on these collaborations over time. This has included mechanisms to strengthen the operational and financial management of these partnerships as well as the sharing of learnings, challenges, and content across partners at state-, regional-, and national-levels. Many of our partners, for example, work in proximate locations to one another and these processes have proven worthwhile to clarify and resolve issues in a collaborative manner as well as to explore institutional synergies that might extend beyond the immediate project.

Further, we purposefully selected a variety of partners with differing expertise and scale to facilitate a richer exchange.

We are expanding the type of partners that we work with through collaborations with private agribusiness (Godrej Agrovet), government (Government of India's Ministry of Rural Development), and agricultural research organizations (International Rice Research Institute).

We are keen to explore opportunities to converge these partnerships in focused geographies to use our entry point of extension to link aspects across the value chain (e.g. inputs, production, aggregation, market linkages, government schemes) to improve the socioeconomic well being of farming communities in a sustainable manner.

To support this aim, we plan to partner with the International Rice Research Institute (IRRI) in the second phase of the Cereal System Initiative South Asia (CSISA) as well as a possible project on improving rice-based rain fed agricultural systems in Bihar, India that would build upon the work of the Stress-Tolerant Rice for Africa and South Asia (STRASA) project with a focus on agronomy and agricultural extension. ■



Cereal System Initiative of South Asia

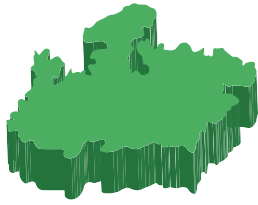


International Rice Research Institute

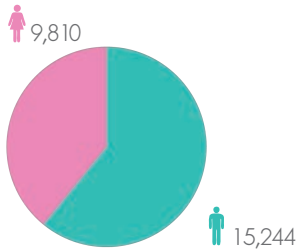


Government of India  
Ministry of Rural Development

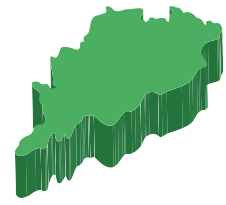
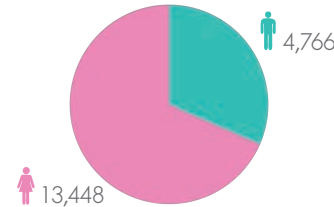
# 2.2 IMPACT



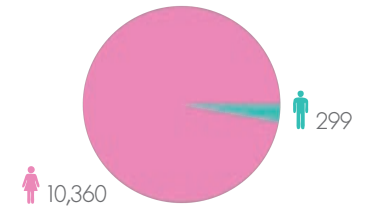
**Madhya Pradesh**  
 October 2009  
 PRADAN, SPS, ACCESS, ASA  
 25,222 FARMERS  
 791 VIDEOS  
 16,216 SCREENINGS  
 17,104 ADOPTIONS



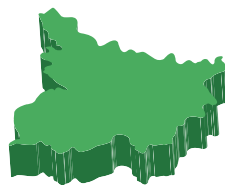
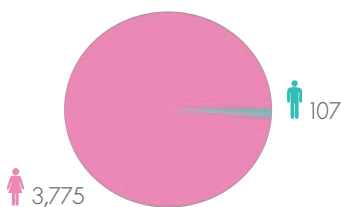
**Karnataka**  
 September 2009  
 BAIF  
 18,196 FARMERS  
 264 VIDEOS  
 12,270 SCREENINGS  
 1,927 ADOPTIONS



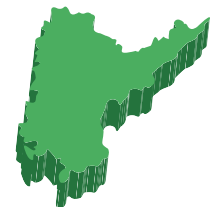
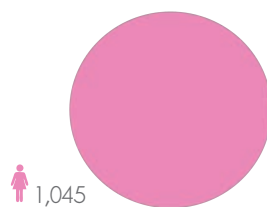
**Orissa**  
 May 2009  
 PRADAN, PRAGATI, VARRAT  
 1,3415 FARMERS  
 310 VIDEOS  
 12,883 SCREENINGS  
 15,351 ADOPTIONS



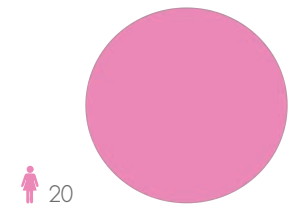
**Jharkhand**  
 May 2009  
 PRADAN  
 3925 FARMERS  
 180 VIDEOS  
 3,543 SCREENINGS  
 2,177 ADOPTIONS



**Bihar**  
 January 2011  
 ASA  
 1,045 FARMERS  
 17 VIDEOS  
 332 SCREENINGS  
 143 ADOPTIONS

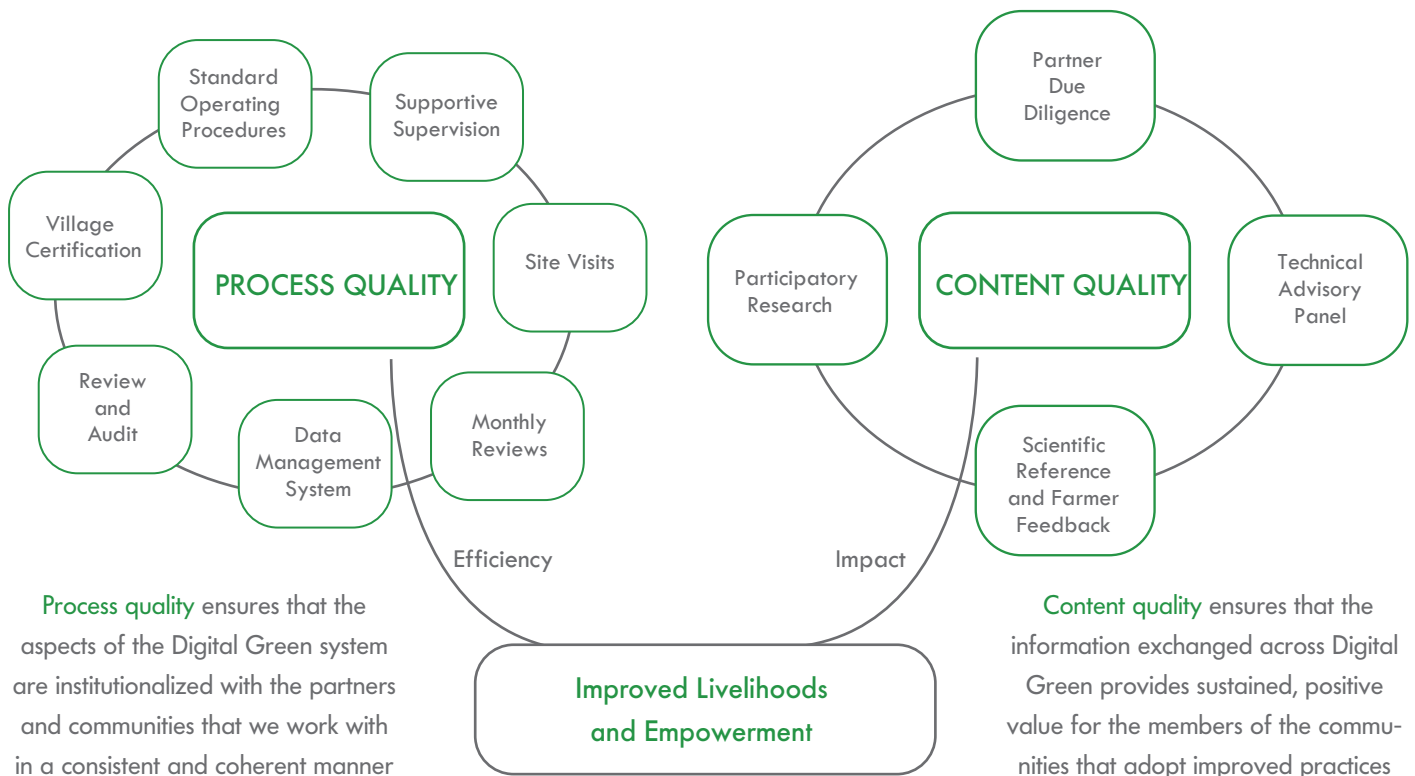


**Andhra Pradesh**  
 August 2011  
 SERP  
 20 FARMERS  
 4 VIDEOS



# 2.3 QUALITY ASSURANCE

As the Digital Green system scales, we are proactively committed to maintaining quality both in terms of (1) the efficiency of the extension system, which includes the production and dissemination of locally relevant content, as well as (2) its impact, which includes the increased uptake of modern sustainable agricultural practices and the ultimate sustainable improvement in the socioeconomic status and self-efficacy of the communities that we work with.



**Process quality** ensures that the aspects of the Digital Green system are institutionalized with the partners and communities that we work with in a consistent and coherent manner to improve the efficiency of existing extension systems.

**Content quality** ensures that the information exchanged across Digital Green provides sustained, positive value for the members of the communities that adopt improved practices and technologies for themselves.

To support these protocols, we will establish a directorate of quality assurance to anchor these processes and to coordinate exchanges and learnings across the organization. The directorate will also work with Digital Green's partners and create supportive structures to manage the process quality and content quality assurance mechanisms. For instance, a technical advisory panel of experts will be constituted to provide input into assessing and documenting the quality of content and assuring the ultimate impact that we seek to make in improving livelihoods and empowering the community.

Digital Green captures a variety of process, output, and outcome metrics that are both qualitative and quantitative in nature. This data is captured, analyzed, and shared across our technology stack: our online/offline data management framework, analytics suite of dashboards, videos library, and public website. To ensure the quality of this data, our technology stack provides automated consistency checking functionality are used for cross-validation in the field. Technical dimensions of produced videos and mediated instruction of video disseminations are assessed through checklists and surveys. ■

# 2.4 SUSTAINABILITY

Extension services for smallholder farmers should primarily be considered a public good and we expect our collaboration with government extension systems to provide an opportunity for both scale and sustainability. Still, we believe it is important that the community take ownership of the system to drive its relevance and value. Concretely, our objective is to have the recurring costs of the system supported by the community over time. We have experimented with a variety of modes for financial sustainability over the last two years.

Initially, we used individual usage fees (e.g., US\$ 0.04-0.08 per farmer per screening). We found that such ticket-based models led individuals to take unanticipated actions: maximizing the number of videos shown in a single screening, attending only those videos screenings that offered an immediate, tangible economic return, etc. To mitigate these effects, we explored usage fees that were

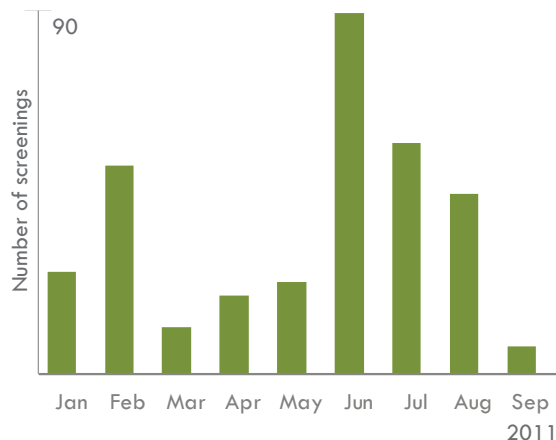
designed as an annual or semi-annual subscription with our partners. To make further progress on sustainability, we will focus on two aspects:

- (1) Ensuring a positive value proposition for the community
- (2) Productizing our service. Our initiatives in quality assurance and impact assessment will directly determine the value that farmers realize primarily based on: (a) quality of videos, (b) quality of dissemination and (c) cost-benefit of the practices in the local context.

We are also evaluating the possibility of flipping our model of having farmers subscribe or pay membership fees to cover the recurring costs of the system (mainly, the service provider's compensation) and instead have the community pay to purchase the access device (i.e., the pico projector) and have the community mediators services be provided for "free". ■

## TOP VIDEOS

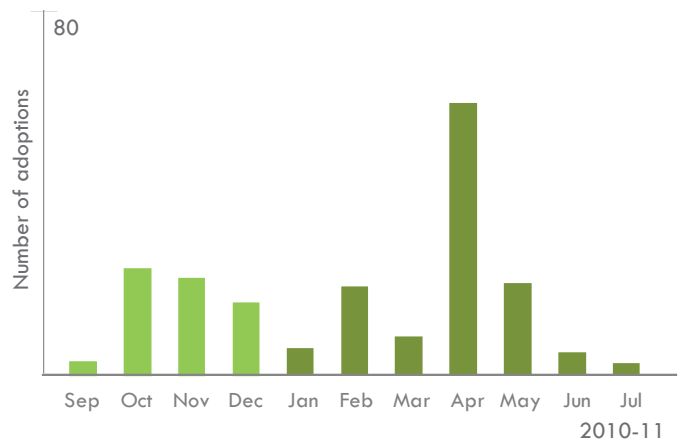
**Most Screened:** Lime Water feeding  
BAIF, Karnataka - Kannada



**Farmers' Questions**

- “Can I use this practice during monsoons?”  
-Gowramma | Mysore, Karnataka
- “Can all cows be fed lime water?”  
-Pushpa | Mysore, Karnataka

**Most Adopted:** Mandala Chasa  
Pragati, Orissa - Oriya



**Farmers' Questions**

- “What would be the cost of this entire setup?”  
-Jambati Kuldip | Koraput, Orissa
- “Can this be practiced on a commercial scale?”  
-Kamala Gadaba | Koraput, Orissa





# TECHNOLOGY

# 3.1 WONDER VILLAGE

Digital Green's technology stack is primarily geared toward operationalizing our work with partners and communities in the field. At the same time, progress monitoring tools, like our analytics dashboards, are accessible via our website to the general public.

Recently, we began to see how our core work in the field might connect with other audiences who could learn and engage with the issues of agriculture and rural development. To this end, our technology team developed a social game, called Wonder Village, which was launched on Facebook.



Through the game, players set up a simulated village economy and have opportunities to relate with the actual farmers that we work with in the field.

Players are placed in a resource-constrained setting and pursue quests like setting up small farms of paddy and maize and supplying raw materials to farmers' markets. The game follows a so-called "freemium" model which allows users to play for free and allows users to purchase virtual currency to advance more quickly. ■



[apps.facebook.com/wondervillage](https://apps.facebook.com/wondervillage)

## VILLAGE GURUS



# 3.2 ANALYTICS

## COCO, Connect Online | Connect Offline

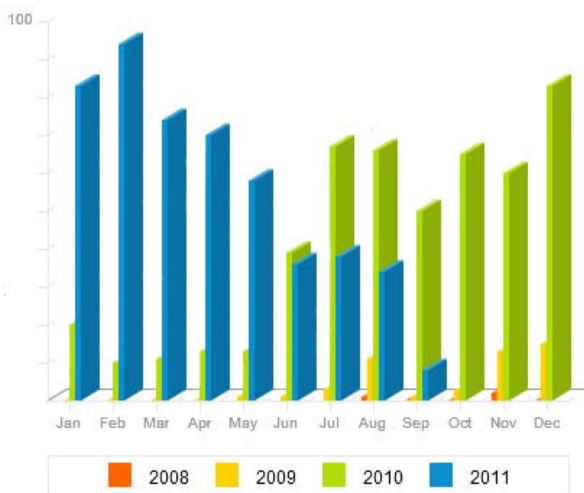
COCO is a highly sophisticated data input system that forms the base of Digital Green's software stack. The creation of this system was inspired by persistent and at times debilitating issues at the field level, specifically technical issues in gathering and storing information. To alleviate these problems, Digital Green's software team conceived of a highly flexible and robust alternative that sought to make information gathering and input at Digital Green less error prone, fast, and resilient to persistent data connectivity issues in remote locations.

Most applicable to NGOs with a sizeable field operation, COCO's singular unique selling proposition is the ability to take the application offline in low and limited bandwidth locations, with uninterrupted usage in the browser. COCO is designed to support up to 100,000 users located anywhere in the world and only requires internet connectivity whenever a user is ready to synchronize their data with our global repository. Built as a robust standalone application in the Internet browser, COCO requires no additional software installation or maintenance. The system is designed so that can be deployed without the need of IT/engineering staff.

## Analytics

Our Analytics dashboards form the second layer on the Digital Green software stack. Built on the COCO foundation, the Analytics System provides day-to-day business intelligence on field operations, performance targets, and basic ROI metrics relevant to the organization. The system is freely available and accessible online without the need of onerous technical infrastructure and expensive commercial licenses.

[analytics.digitalgreen.org](http://analytics.digitalgreen.org)



Number of videos produced

## Video Repository

All videos created by communities within the Digital Green programme are freely accessible online via our video search page. Videos can be searched by geography, seasonality, language, practices etc. Along with the video itself, visitors can find out where and when the video was produced, how many farmers has it been seen by and how many farmers have adopted the practices demonstrated in that video.

[www.digitalgreen.org/analytics/video\\_search](http://www.digitalgreen.org/analytics/video_search)

Video Title	Duration	Produced On	Viewers	Adoptions
Vermi Compost production in FYM pit Compost	00:16:58	14 Jan 2011	608	9
Mulching System for Plant Basin After Care of Plants	00:16:17	25 Jan 2011	2209	72
Dehorning for cross breed calves Animal care	00:12:12	26 Jan 2011	847	87
Basin preparation for Horticulture plants After Care of Plants	Duration:NA	28 Feb 2011	1006	3





# PEOPLE

# 4.1 PARTNERS

## Executive



**ACCESS** works in the areas of livelihood and microfinance development in six Indian states.



**Action for Social Advancement** is working with 120,000 families across 1,000 villages in 15 districts of Madhya Pradesh and Bihar.



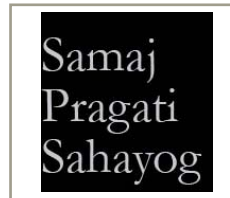
**BAIF** works in 47,000 villages in 12 states in India focused on the areas of livestock and land resource development.



**PRAGATI** works in the areas of soil and water conservation, promotion of sustainable agriculture and introduction of new crop production technologies.



**PRADAN** promotes self-help groups, develops locally suitable economic activities, and introduces systems to improve livelihoods.



**Samaj Pragati Sahayog** ensures water and livelihood security for the tribal communities living in backward districts.



**Society for Elimination of Rural Poverty** is an autonomous society of Department of Rural Development, Government of Andhra Pradesh.



**VARRAT** is working in the area of livelihood and rural development to empower village communities to enable their sustainability.

## Research



**D-Rev** is working to build an affordable device that will enable farmers' ready access to suitable and value-adding agricultural practices.



**GREEN Foundation** focuses on the conservation of indigenous seed varieties and promote sustainable agricultural practices based in Karnataka.



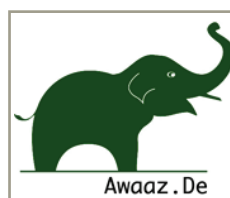
**Microsoft's** team incubated the Digital Green project as a pilot initiative that evolved from a research exploration into a spin-off, non-profit organization.



**Digital Study Hall** uses innovative approaches to improve education for the poor children in slum and rural schools in India.



**University of California, Berkeley** works with us to conduct a randomized controlled trial evaluation of the Digital Green system as its operations are extended to scale.



**Awaaz.De** is a voice-based question and answer service, information portal, forum, asynchronous call center and narrow-cast radio platform.

## 4.2 OUR TEAM



**Rikin Gandhi**  
Chief Executive Officer



**Vinay Kumar**  
Chief Operating Officer



**Saureen Shah**  
Chief Technology Officer



**Avinash Upadhyay**  
Reg. Program Coordinator



**Shivaji Choudhary**  
Reg. Program Coordinator



**Akbar Gulzar**  
Development Manager



**S. B. Nadagouda**  
Development Manager



**Praveen Sriramshetty**  
Senior Program Manager



**Abhishek Hegde**  
Program Manager



**Shabnam Aggarwal**  
Program Manager



**Aruna Katragadda Gali**  
Program Manager



**Shreya Aggarwal**  
Program Manager



**Chandra Shekhar**  
Asst. Development Manager



**Satyam Salil**  
Asst. Development Manager



**K Archana**  
Asst. Development Manager



**Rashmi Kanthi**  
Asst. Development Manager



**Sudha Jha**  
Asst. Development Manager



**Rahul Agrawal**  
Systems Engineer



**Nandini Bhardwaj**  
Systems Engineer



**Sreenivasula Reddy**  
Asst. Systems Engineer



**Debika Goswami**  
Operations Executive



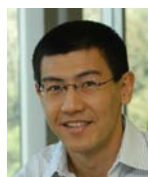
**Akhilesh Soni**  
Administrative Executive

“Our hiring bar is unabashedly high, and we insist on keeping our team size small. This means the person occupying each and every spot must be among the most gifted in his or her field.”

## 4.3 BOARD MEMBERS



**G.N.S Reddy**  
Vice President,  
BAIF Research Development Foundation



**Kentaro Toyama**  
Visiting Senior Researcher,  
School of Information  
University of California, Berkeley



**Indrani Medhi**  
Associate Researcher,  
Microsoft Research India



**Rajesh Veeraraghavan**  
Doctoral Candidate,  
School of Information  
University of California, Berkeley



**Tejesh Shah**  
Director,  
Topos Developers



**Melissa Ho**  
Specialist in Agricultural Policy,  
U.S. Congress



**Vanaja Ramprasad**  
Founder and Director,  
GREEN Foundation



**Aishwarya Ratan**  
Director,  
Microsavings and Payments  
Innovation Initiative,  
Yale University



**Srikant Vasan**  
Entrepreneur-in-Residence,  
Bill & Melinda Gates Foundation

## 4.4 INVESTORS



Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. In developing countries, it focuses on improving people's health and giving them the chance to lift themselves out of hunger and extreme poverty.



Deshpande Foundation has established a "sandbox" in the northwestern region of Karnataka state to promote innovation and organizational collaboration which supports Digital Green's work there.



Ford Foundation supports Digital Green's efforts to engage policy makers and the broader public in bringing systemic change to the agriculture sector.

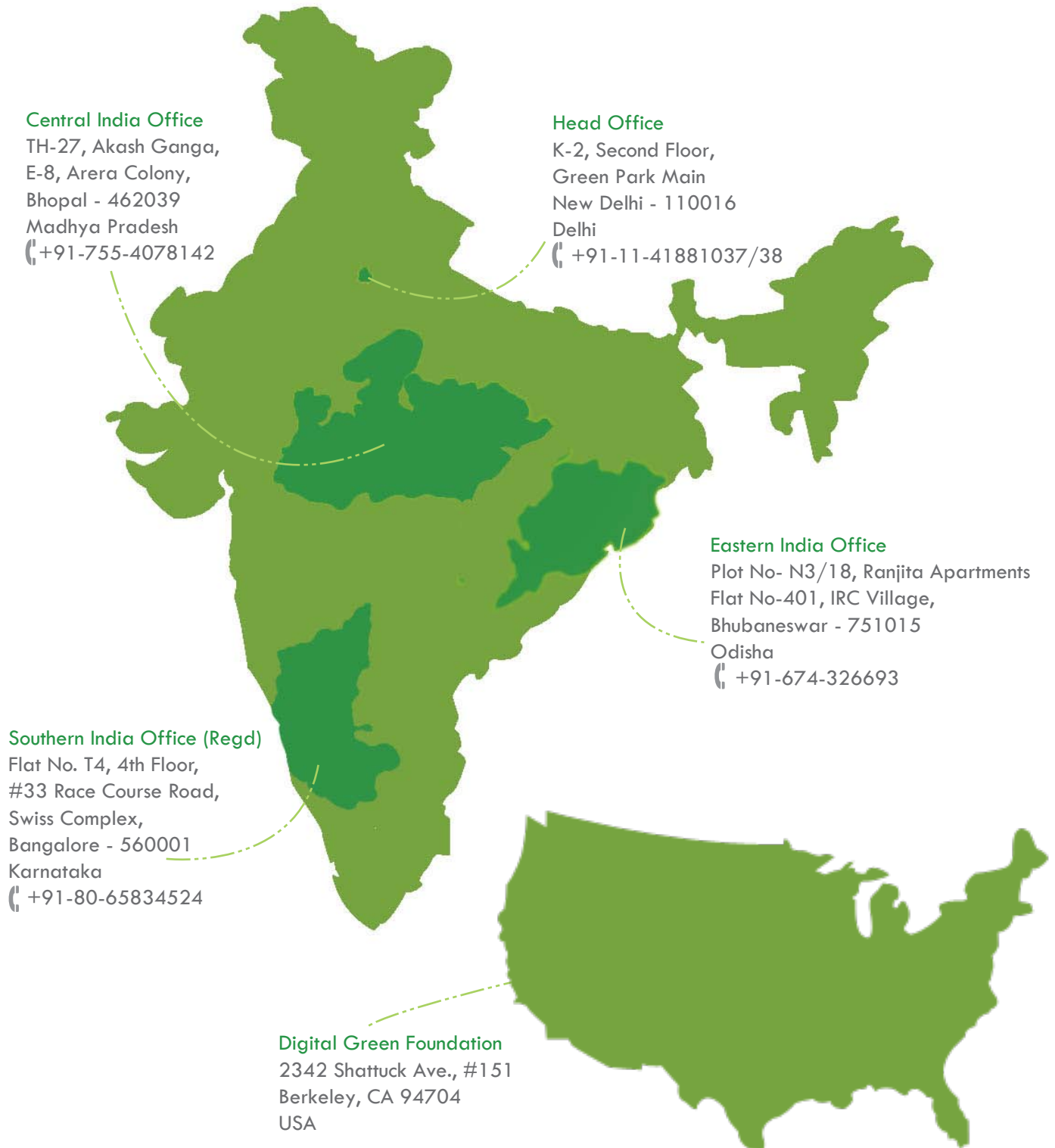


The Ministry of Rural Development, Government of India, is entrusted with the task of accelerating socioeconomic development of rural India. Its focus is on areas like agricultural productivity, sanitation solutions, employment generation, food security etc.



MORE

# 5.1 CONNECT

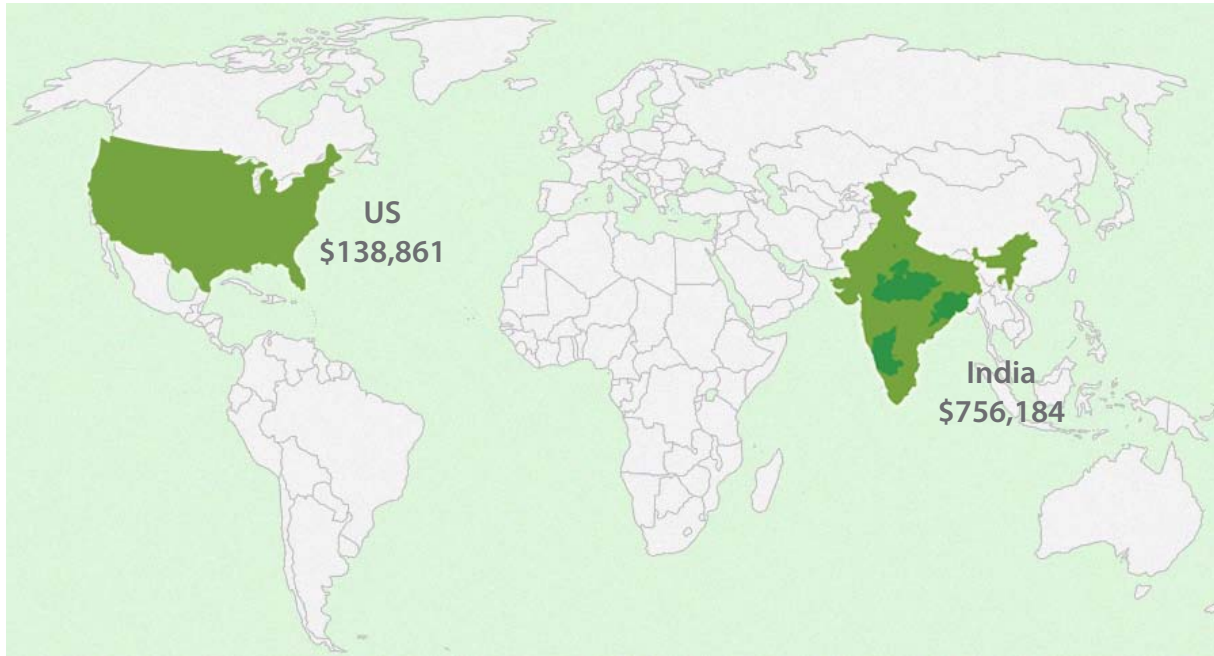


[twitter.com/digitalgreenorg](https://twitter.com/digitalgreenorg)



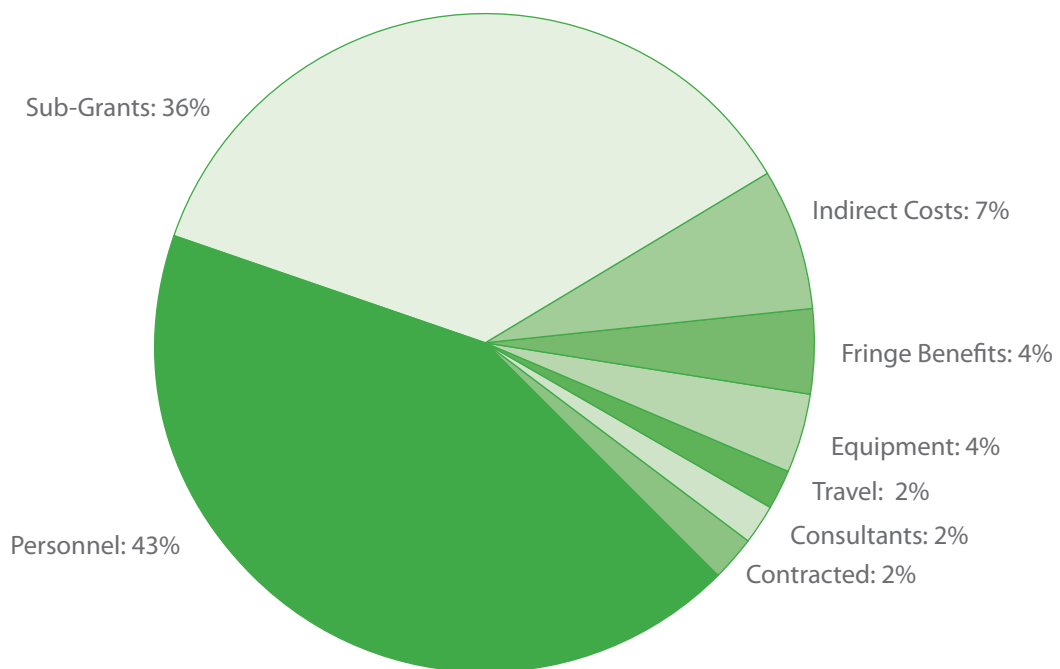
[facebook.com/digitalgreenorg](https://facebook.com/digitalgreenorg)

# 5.2 FINANCIALS



Digital Green's chartered accountants and auditors in the U.S. and India have developed a robust financial management system that defines how we maintain and administer our accounts within and between the countries in which we operate. Digital Green, as an organization, has transi-

tioned from an embedded approach in which our team operated from the field offices of our partners to a hub-and-spoke model in which our team operates from regional offices and provides training and back-stopping support to our partners through regular field visits. ■





[www.digitalgreen.org](http://www.digitalgreen.org)