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# Agriculture Extension

Extension officer “commuting” between farms

Dissemination of expert agriculture information and technology to farmers

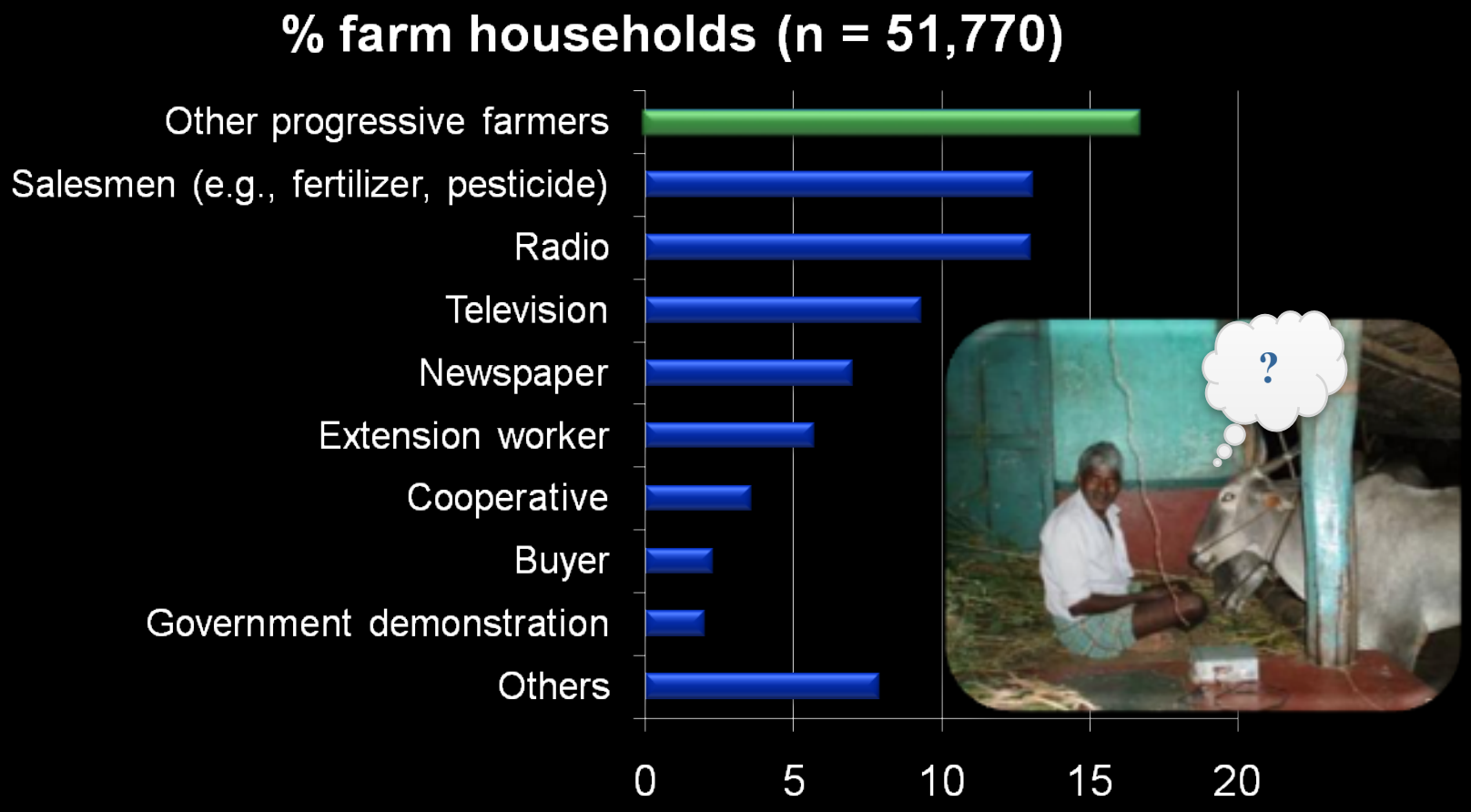
“Training & Visit” extension popularized by the World Bank in 1970s

- Face-to-face interactions of extension officers and farmers

100,000 extension officers in India

- Extension agent-to-farmer ratio is 1: 2,000
- 610,000 villages in India with average 1,000-person population

# Agricultural Social Networks




*Main source of information about new technology and farm practices over the past 365 days (India: NSSO 2005)*

# The Problem

*How can the speed and effectiveness of agriculture extension be improved at a reasonable cost?*

Extension officer  on-field demonstration

# Digital Video for Extension

Video provides…

- Resource-savings: human, cost, time
- Accessibility for non-literate farmers

# Early Experimentation
# Parameters Varied

**Background of actors in video**, Type of content,
Location and timing of screening, Method of dissemination,
**Degree of mediation**, Background of mediator, etc.

Over 200 days of surveys, ethnographic investigation, and iterative design

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# Participatory Content Production

Introduction to innovations
- Standard extension procedure

Rough “storyboarding”
- Repetitive pattern; easy to learn
- Minimize post-production

Local farmers on their own fields
- Reduce perception of “teachers”
- Promote “local stars”

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# Video Database

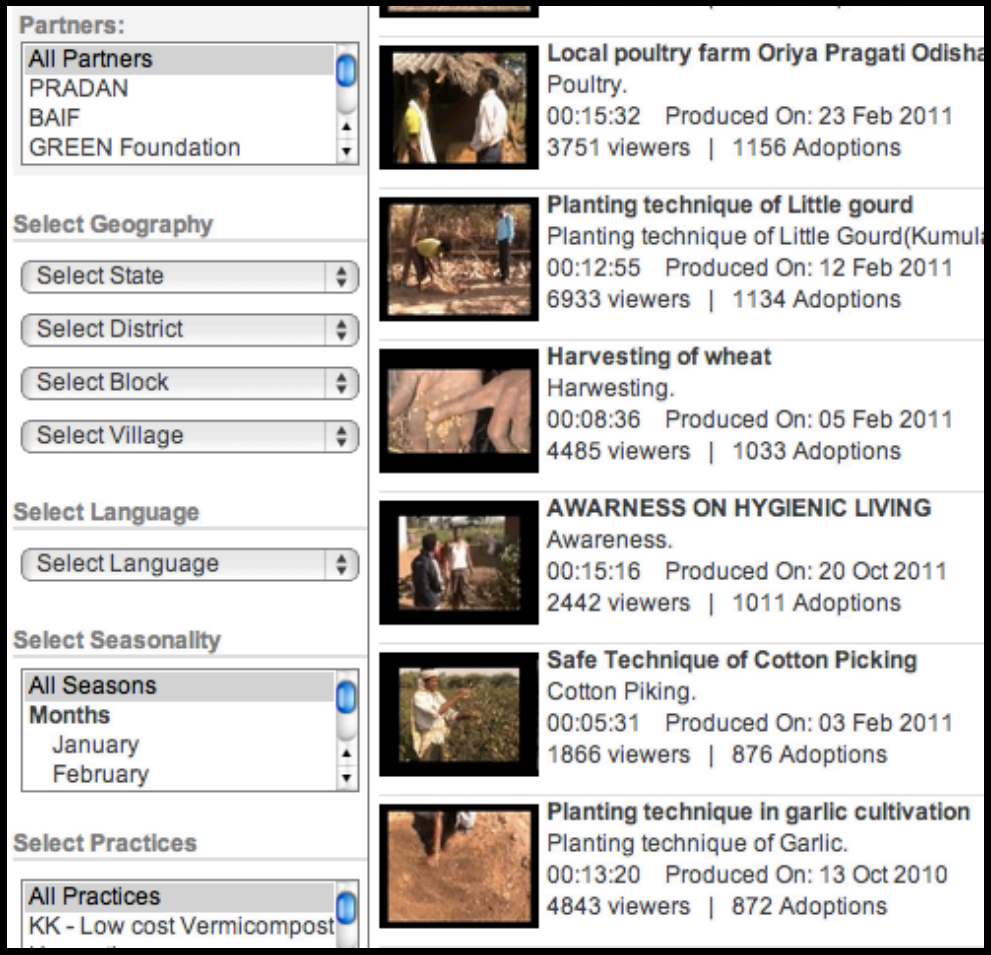
Online video database
http://www.digitalgreen.org

>4,000 videos, 28 languages, 8-12 minutes each

Quality-control, minor video editing, and metadata tagging

Indexed by type, topic, locale, season, crop, etc.

Distributed via memory cards



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# Mediated Instruction

Local mediator
- Performance-based honorarium

Human engagement
- Field questions, capture feedback, encourage participation
- Balance genders

On-demand screenings
- Choice time and place
- Not “stand-alone” kiosk

Support and monitoring
- Daily metrics and feedback
- Official extension staff

# Digital Green: Early Results

**7 times more adoptions** over classical extension

Sustained local presence

Mediation

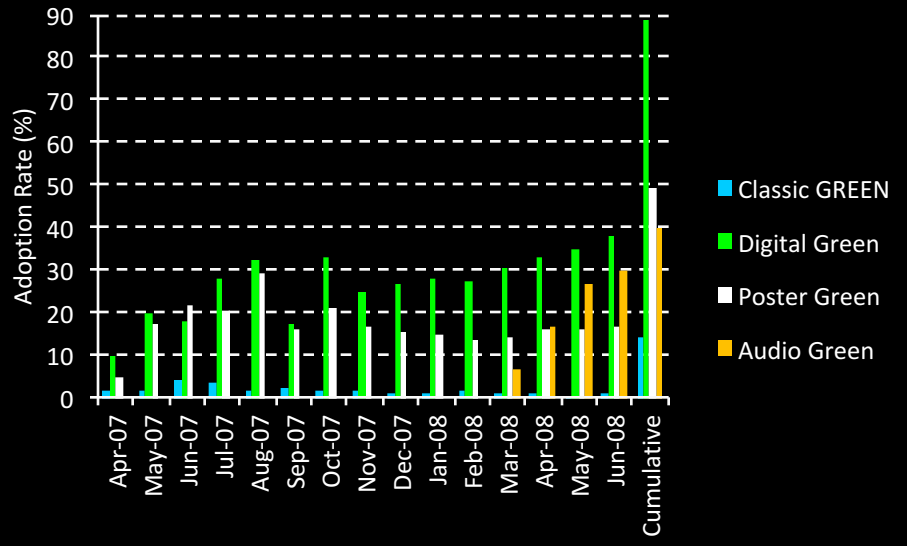
Repetition (and novelty)

Integration into existing extension operations

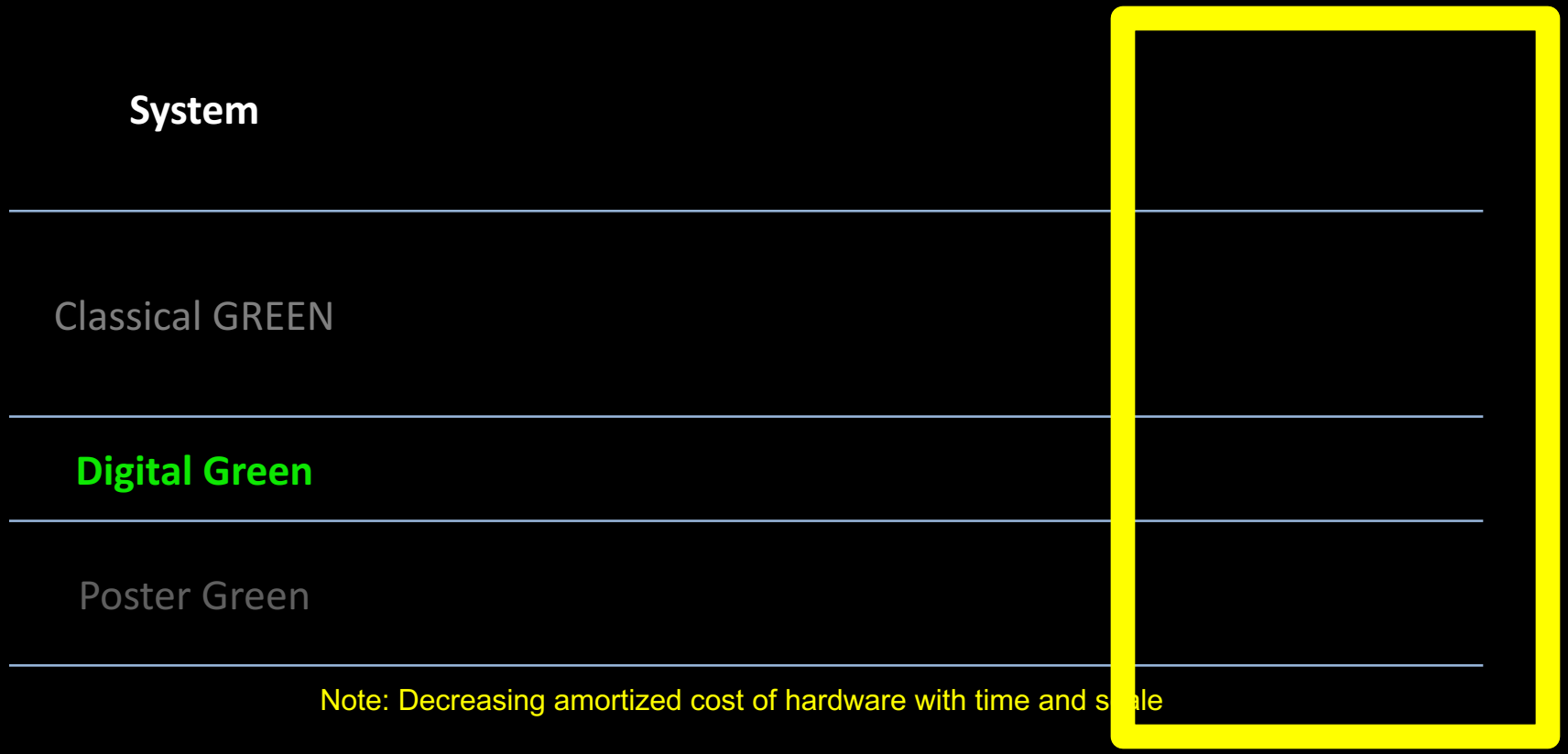
Social homophily between mediator, actor, and farmer

Desire to be “on TV”

Trust built from identities of farmers and villages in videos



# Cost-Benefit



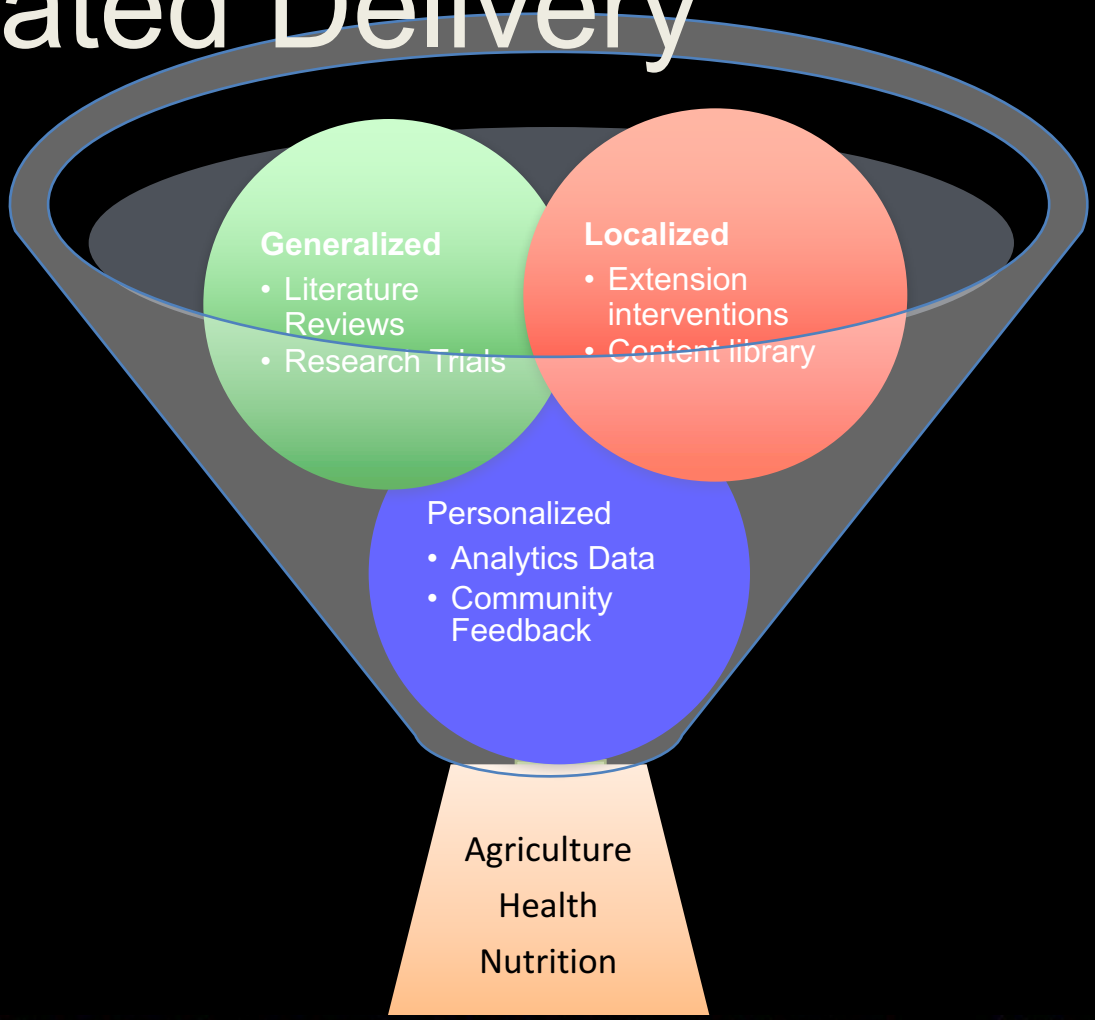

**Digital Green is <u>at least 10 times</u> more effective *per dollar* spent than classical extension!**

# Geographies

**Context specificity:**

- Farmer/marketing group cohesiveness
- Existing extension system investments
- Competition from other media channels
- Localized technical advisory committees
- Electricity and data connectivity
- Efficiency in remote training and QA support

# Integrated Delivery



Development Group Savings/Credit

Raised Bed Nursery

Seed Treatment

Exclusive/early Breastfeeding

...

Cooperative Linkages

Government Schemes

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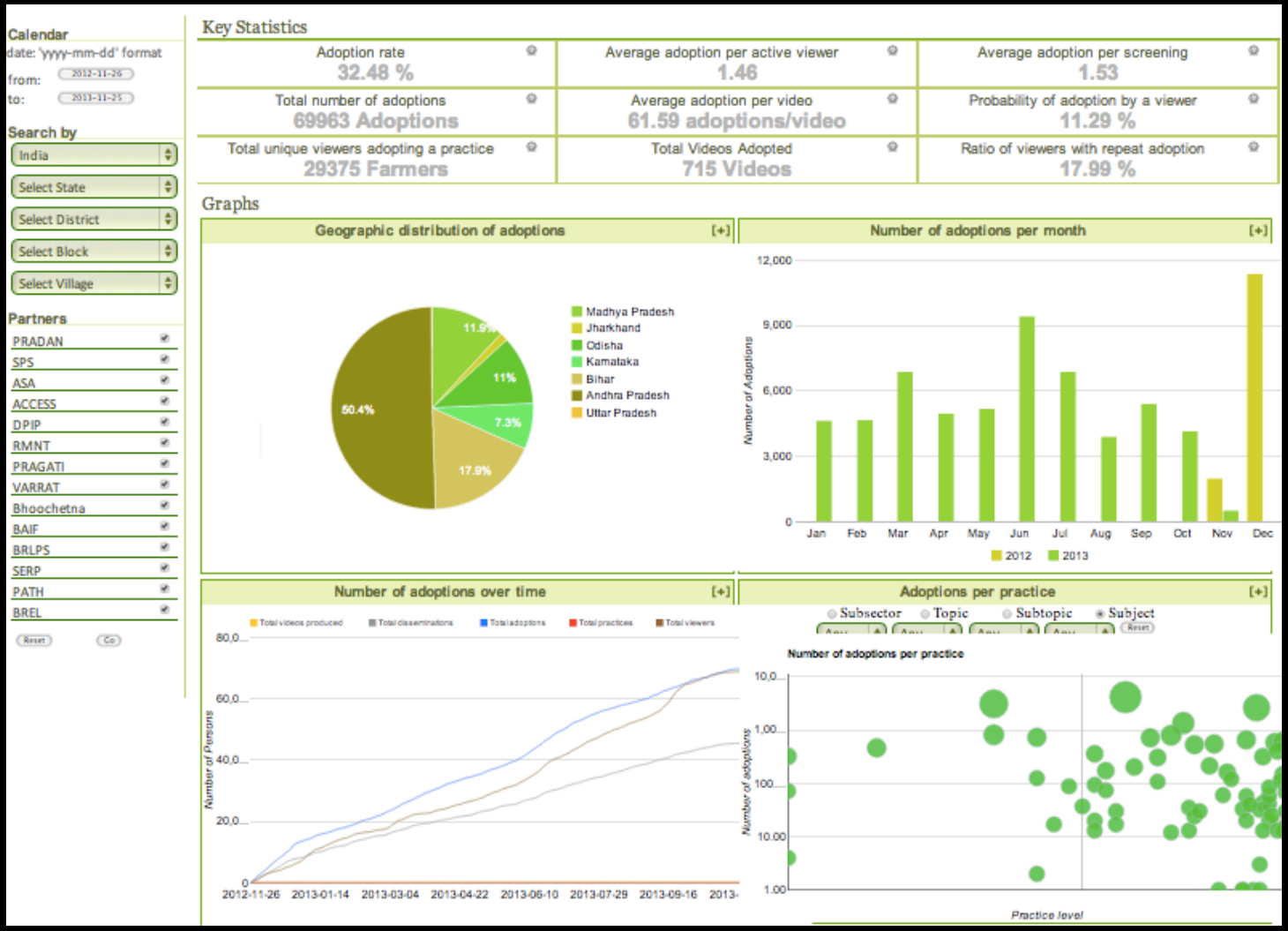
# Analytics




analytics.digitalgreen.org

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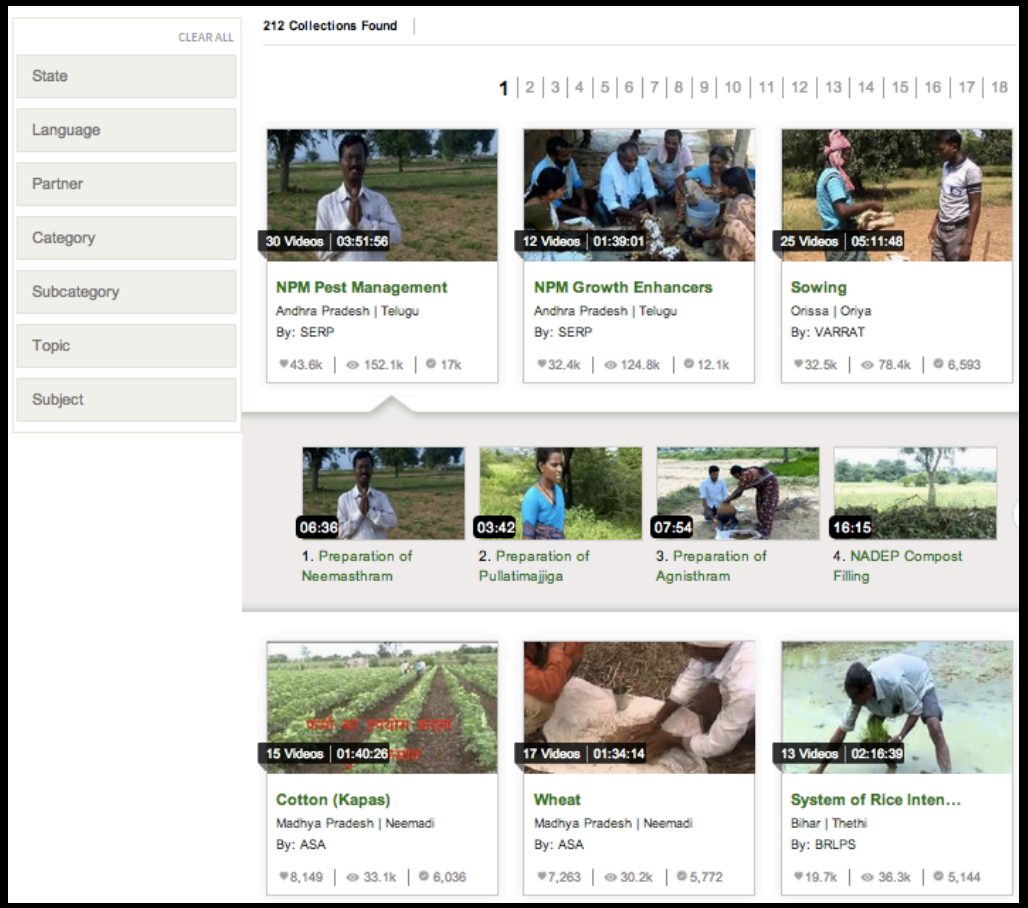
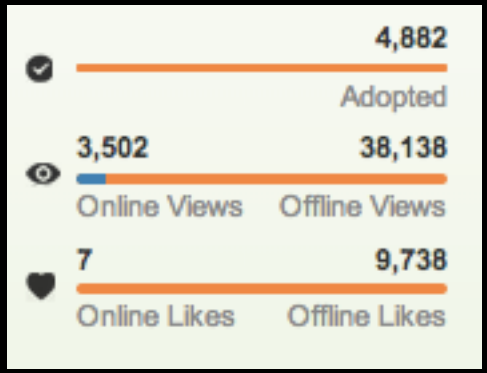
# Video Courseware



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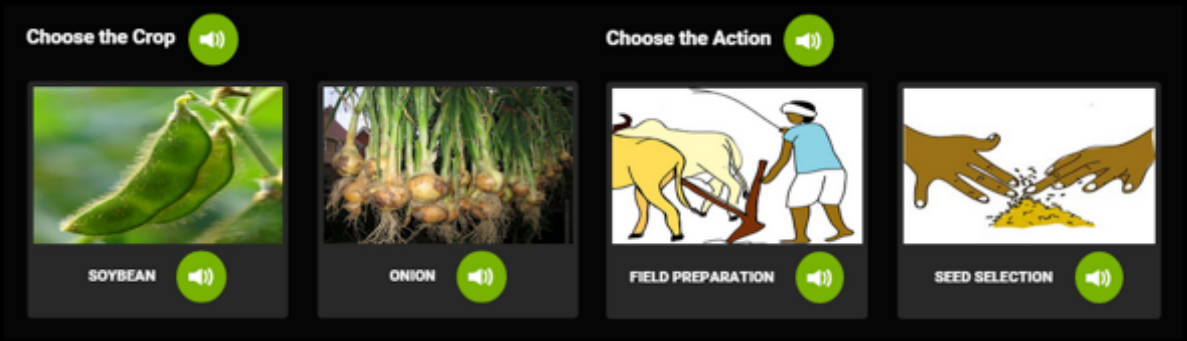
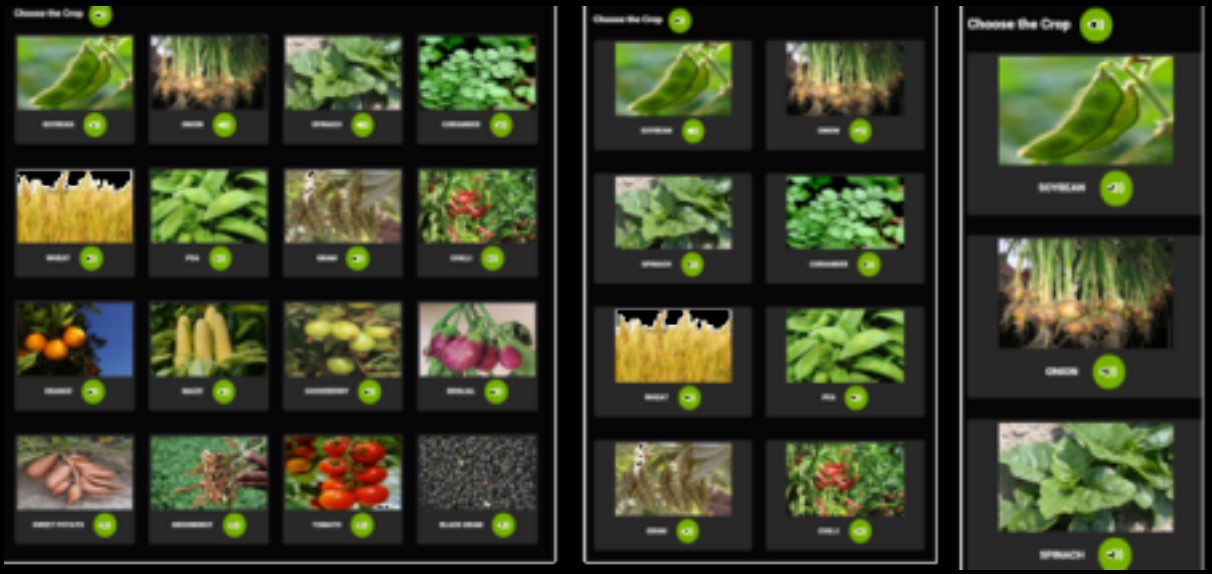
# Video Kheti (Web App)

Multimodal interface




Responsive Design



videokheti.digitalgreen.org

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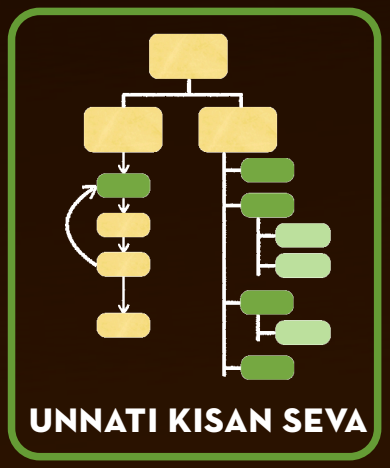
# Voice Services

AGRI-SP/CSP/FARMER

Question

Answer




Question

Answer

CMS

Review

Approve, Assign

MODERATOR

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