




Comparative effectiveness of video animation delivered by smartphones versus printed images in communicating bean-growing recommended practices to farmers in Uganda and Mozambique

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Presentation prepared for 2017 Feed the Future Legume Innovation Lab Grain Legume Research Conference, August 13-18, 2017, Ouagadougou, Burkina Faso



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The Problem

- Most farmers lack access to good information that would help them increase legume production
- New communication technologies offer alternative ways to reach farmers
- Most communication studies do not systematically compare alternative methods to reach farmers

Three Major Studies

Method	Topic	Author	Country	Date
Video vs. Lecture/Demo	Bean Row Planting	Tian Cai	Uganda	2011
Video Animation Vs. Lecture/Demo	Jerry Can Bean Storage	Sostino Mocumbe	Mozambique	2015-2017
Video Animation vs. Visual Print	Bean Production	Eric Abbott	Uganda	2017



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Participatory Methods

- All videos and printed materials were in local languages;
- Local farmers were interviewed prior to creation of messages and identified their methods and problems; they also pre-tested videos and printed materials;
- Video animations were scientifically validated and produced by SAWBO
- Videos were shared with farmers by smartphones, pico projectors, laptop computers or tablets



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Farmers Were in Small Groups



Viewing via Smartphone in small groups. Could view multiple times. Discussed what they were seeing informally.



Each farmer viewed printed visuals, and often discussed informally as they viewed. Literate farmers read text to illiterates.



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Experimental Procedures

Study	Pre-test	Treatment	Post-test Measures	
			Learning	Adoption after 2 years
Bean Row Planting	Knowledge	Video or Lecture/Demo	X	
Jerry Can Storage	Knowledge	Video Animation or Lecture/Demo	X	X
Bean Production	Knowledge	Video Animation or Visual Print	X	



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2011 Uganda Bean Row Planting Study



Kamuli District, Eastern Uganda



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Bean Row Planting Study

Bean Row Planting Uganda Lecture/Demo Versus Video 2011 (N=325)			
Treatment	Pretest Knowledge Score	Posttest Knowledge Score	Significance
Ext. Lecture/Demo	10.0	13.93	SIG <.01
Video	8.64	13.93	SIG <.01
BOTH Lecture and Video	9.34	13.81	SIG <.01



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2015 Jerry Can Bean Storage Study



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Jerry Can Storage Method Study

2015 Study Bean Farmers in 2 Districts, Gurúè, Mozambique (N=314)

Treatment	Pretest Knowledge Score	Posttest Knowledge Score	Significance test
All treatments	.48	2.29	SIG. .000
Ext. Lecture/Demo	.40	2.02	SIG. .000
Video Animation	.43	2.34	SIG. .000
BOTH Ext. Demo and Video	.64	2.56	SIG. .000



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Jerry Can Re-Test 2 Years Later

2017 Repeat Jerry Can Adoption Study of 104 of 314 Farmers in Gurúè, Mozambique			
Training Method	% Adoption	Knowledge recall of 8 key steps	Using Method More than Once (% of those who used at least once)
All Treatments	91.3%	7.69	97.9%
Ext. Lecture/Demo	100%	7.72	97.4%
Video Animation	95.2%	7.48	95.1%
Both Ext. and Video	81.8%	7.77	100%

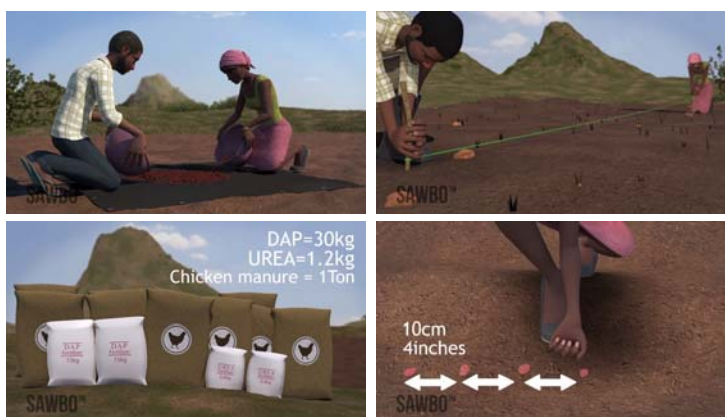
Note: Re-test included 67% to 75% of original participants in areas selected.



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Bean Production Video Animation (SAWBO) 2017



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Bean Production Uganda Study

Uganda 2017 Bean Production Video/Visual Print Study (N=104)	
Video Animation Bean Production	Post-test Score: 9.49 of 13 correct
Visual Print Version Using Still Color Photos from Visual Animation Version	Post-test Score: 10.48 of 13 correct
	(No sig. difference in learning)

This study was carried out in Masaka and Rakai Districts, southwest Uganda



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Key Findings

- Farmers learned significantly from ALL four methods used in all three studies:
 - Traditional extension lecture/demonstration
 - Video
 - Video animation
 - Visual print
- Note that small groups were used in all four of these approaches



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Key Findings

- Since all four methods led to significant learning, the best method(s) to use depend on availability and cost.
- Each of the four methods has advantages and disadvantages



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Key Findings

- Traditional Extension Lecture/Demo.
 - Usually extension agents are in short supply and they often lack resources to travel extensively.
 - Agents often are men, who may not be able to work with women bean farmers.
 - Extension agents know local conditions and people, and can adapt message to them.



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Key Findings

- Video shot locally in local language.
 - Effective, but requires a skilled videographer, and its generalizability may be limited.
 - Requires pico projector/smartphone, etc.
 - Illiterate women learned very well from this method.
 - Low-cost smartphones can now be used to create and show relevant local videos



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Key Findings

- Video Animation in local language.
 - Very effective in getting attention and creating excitement about message.
 - Excellent for illiterate women.
 - Requires pico projector/smartphone, etc.
 - High in initial cost; best for situations where there is a general message that can be shared in many countries/languages
 - SAWBO scientific validity is a plus



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Key Findings

- Visual Print.
 - Large colorful illustrations/photos attract attention and focus on important details.
 - Print can be saved and shared later
 - Can be costly to print and distribute
 - Women had a hard time reading messages printed in their local languages. Many local languages are mainly spoken



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Recommendations

- Communication is a vital part of any project designed to introduce new ideas/practices
- Communication experts need to be involved in a project from the beginning, not just when videos or pamphlets need to be produced



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Recommendations

- Focus communication attention and resources on identifying what farmers perceive as the key problem, what might motivate them to act, and what resources they have or would need to act.



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Jerry Can Project Keys to Success

- 1. Whatever is recommended must be something farmers perceive that they need and is important. (Mozambique farmers could not buy new seed, and had to save their own seed. Weevils were destroying their saved seed.)



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Jerry Can Project Keys to Success

- 2. Farmers must either have or easily obtain whatever is needed to make the recommended change. (In Mozambique, almost all farmers already had 20 L sealable plastic containers that could be used to store seed)



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Jerry Can Project Keys to Success

- 3. One or more communication methods must reach farmers in their local language with a tested and clear message. (In Mozambique, either the Extension lecture/demo or video animation worked equally well. Two years later, farmers still recalled almost all the steps correctly).



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