

EFFECTIVE EXTENSION METHODS

January, 2017

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INTRODUCTION

What is extension? Traditionally extension has been an approach where information from researchers has been transferred to farmers through extension personnel. The information flow in that case was top down (from researchers to farmers). The assumption was that farmers lack knowledge and hence minimal feedback from farmers back to researchers was necessary. Over the years extension has evolved from such top-down approaches to more two-way approaches which include participatory extension, farmer field schools, etc. In some cases extension is now termed “communication for development” which emphasizes the importance of dialogue and feedback.

Why is extension important? Extension can help farmers adopt new technologies, improve marketing, and better management skills. Effective agriculture extension empowers farmers. However the success of extension, especially in introducing new technologies, depends on how well it addresses the farmers’ needs, and to what extent farmers participate in deciding their destiny. Thus, it is crucial that we review our extension approaches as we introduce new technologies to communities.

Participatory extension approaches used to promote agriculture innovations. With participatory extension methods, farmers are involved in problem identification, and the extension agent serves as a facilitator, guiding them through problem-solving strategies. Active farmer participation is encouraged from the assessment stage, through evaluation and promotion of an innovation. There are many variations of this approach, including farming systems research, participatory technology development, look and learn visits, participatory rural appraisal, farmer field schools, farmer to farmer extension, and lead farmer approaches.

In this paper we discuss some of the most important strategies to create effective extension services. These include facilitation through question-posing, developing an effective training curriculum, and conducting regular farmer visits after training. We also describe tools that can enhance extension such as farmer field schools, farmer to farmer training, field days, radio programming, etc.) Related issues include the use of incentives in promoting new technologies, and staffing for effective extension.

NON-DIRECTIVE (QUESTION-POSING) EXTENSION

The best learning comes when facilitators and participants join together in a genuine dialogue. Facilitators may bring knowledge of the scientific world, but farmers best know the reality of their local community and farming system. Lectures, where a teacher talks and the students passively receive information, are replaced by a dialogue in which all parties discuss the reality of their lives, and work together to identify solutions and action plans.

This approach, which grows out of the work of Brazilian educator, Paulo Freire, relies on asking critical “open-ended” questions, for which there are many possible answers, rather than “leading questions,” which a teacher might use to lead a student to a pre-determined answer. For this reason, it is crucial that the facilitator allows the farmer group to take time to present their ideas, and only adds to them if the group doesn’t have enough experience or exposure to fully understand the issue being discussed. Posters and farmer booklets can help these discussions by illustrating the issue at hand, but they should also be used in a question-posing mode, allowing participants to discuss and discover what they represent rather than to have the facilitator explain what they mean.

Ultimately, the question-posing process should lead the participants to develop an action plan for their own farms. After putting their plan into practice, they should return and discuss what they have learned from their experiences. This cycle of reflection followed by action, followed by more reflection should be repeated throughout the training period and will result not only in profound learning, but also a high degree of ownership by the farmers of the solutions which they have helped to develop.

A few tips on facilitating a Question-Posing Approach to training:

1. In order to allow all participants to contribute to the discussion, groups should never be larger than 25-30 farmers. An ideal group size is 15-20 farmers.
2. These lessons MUST be taught in the mother tongue/local language. Spend time researching and preparing terminology that all villagers will understand. Do NOT use technical terms you may have learned in another language.
3. Prepare yourself thoroughly to ask the critical questions in your outline, but be prepared for group members to take you in other directions! If they raise unexpected, but related, issues that contribute to the learning process, let the discussion flow in that direction. If, on the other hand, a participant raises an issue that distracts from the topic at hand, bring the discussion gently back on track.
4. Prepare yourself thoroughly by reading background resources and discussing with your colleagues and mentors, but be ready to say “I don’t know” when participants raise questions beyond your expertise. They will respect you more if you tell them you will return with an answer, than if you try to make something up!

Roles of a Facilitator: In order for a facilitator to lead an effective learning process, they need to do the following:

1. Ask important questions
2. Keep the discussion on track
3. Allow all participants to be heard
4. Summarize the conclusions of the group

Qualities of a good facilitator:

- He/she should be a good listener
- Values farmers' opinions
- Does not lecture but instead facilitates
- Pays attention to gender issues
- Technically competent and resourceful
- Is trusted by farmers
- Is always punctual

Resources for Question-Posing Training Approaches

Freire, P. 1970. *Pedagogy of the Oppressed*. New York: The Continuum Publishing Corporation.

The Freire Institute: <http://www.freire.org/paulo-freire/concepts-used-by-paulo-freire>

Global Learning Partners: <http://www.globallearningpartners.com/resources>















Sam Rupiny facilitates a Situation Assessment in Uganda

BUILDING AN EFFECTIVE TRAINING CURRICULUM

As noted above, adults learn best when they participate in a cycle of training sessions (reflection) followed by practical applications (action). This praxis, as it is known in English, allows the learner to master and adapt one idea before moving onto something new. In an agricultural curriculum, this means we should spread the training process throughout the cropping cycle rather than to hold one long training session just before the rains start falling.













The first step in designing such a curriculum is to map out the cropping cycle. Once you've identified the suitable time for field preparation, planting, weeding, etc. you can plan trainings to fit these practices (usually a week or two before farmers need to put the learning into practice).

For example, the modules in the CFGB Conservation Agriculture Facilitator's Guidebook include suggested timing for each lesson. A typical first-year Conservation Agriculture (CA) training schedule in parts of East Africa might look like the chart below. But for other farming systems, you will need to adjust this timing according to your local cropping cycles.

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Year 1 CA Training Schedule												
Field Operations	Plant minor crops		Field-Prep	Field Prep	Plant main crops	Weed-ing	Weed-ing		Harvest	Harvest		Minor field prep
Training Workshops												
Situation Analysis/ Introduction to CA		X										
Minimum Tillage with Planting Basins			X									
Importance of Soil Cover			X									
Planting with Precision				X								
Cover Crops				X								
Weed Management with CA					X							
Crop Residue Management								X				
Follow-up Visits			X		X	X			X			

Note that in this schedule follow-up visits are also planned throughout the year. It is not necessary to visit every farmer every month, however, each participant should be visited by an Extension Agent, Field Officer or Lead Farmer at the critical times when they are implementing new ideas on their farms. These visits help to encourage participants and clarify misunderstandings. They also provide an opportunity for field staff to learn from the experiences and insights of the farmers.

Multi-year projects should plan a multi-year curriculum in which farmers learn progressively more each year (just like a school curriculum where each year builds on the previous year). Project staff and farmer-participants should work together to identify these subjects. Using the above cropping cycle, for example, a 2nd and 3rd year training schedule might look like this:

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
												
Field Operations	Plant minor crops		Field-Prep	Field Prep	Plant main crops	Weed-ing	Weed-ing		Harvest	Harvest		Minor field prep
Second-Year Participants												
CA Refresher		X										
Minimum Tillage with Oxen (Ripping)			X									
Manure Management	X											
Herbicide Use					X							
Grain Storage									X			
Open for Other Subjects??												
Follow-up Visits		X		X		X				X		

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Third-Year Participants												
CA Refresher		X										
Fencing			X									
Insect Management					X							
Marketing								X				
Open for Other Subjects??												
Follow-up Visits				X			X		X			
Graduation											X	

Note that in later years, training time should be left open for unanticipated subjects which arise and are of interest to participants. Training materials for many agricultural subjects are listed in Appendix A, at the end of this document. As you develop your own training materials, please share them with us, so that we can promote them for others to use.

Follow-up and Visitation after Training

Many agriculture extension projects include farmer training, but do not include strong follow up services to farmers or their communities. In many cases farmers are trained and then largely left on their own to implement (or not) the things they learnt in the training. Training alone rarely leads to long-term change in communities and should be complemented with strong follow up extension services.

Good follow-up support doesn't tell the farmer what they should be doing. Instead, extension workers simply share what they have seen working in the community, allowing the farmers to draw their own conclusions. The best extensionist deeply respects the knowledge and resilience of the farmers they are working with. They know they have a lot to learn and are genuinely interested in the farmers' experiences. Often the best post-training support comes from other farmers who have "graduated" from a similar training and have successfully adopted the techniques being promoted.

Follow-up visits should be scheduled according to the agricultural and training calendar. During the cropping season, farmers should be visited at least once after each training session. At times of the year when training is less frequent, follow-up visits need not happen as often. Farmer visits are a critical output that should be tracked by the project's monitoring and evaluation framework.

EFFECTIVE EXTENSION TOOLS

A variety of extension approaches should be used to support farmer training. In order to create a broad community consensus for adoption of new farming methods, the same message needs to be received through multiple channels.

Audio-visuals such as posters, brochures, training handbooks, etc. are easy to transport to the village, are customizable and are relatively inexpensive. They attract people's attention, and help generate discussion, particularly when the images they contain resemble the local context. They can also be used to help farmers visualize ideas or technologies which are not present in their own communities. Editable audio visual materials for many training subjects are available at: <http://www.act-africa.org/library.php?com=5>.

Traditional media (proverbs, songs, riddles, etc.) are also very effective in spreading extension messages. These can be shared freely within the community and cost nothing to disseminate! Consider engaging local musicians or story tellers to develop materials that convey or support the ideas you are promoting in your extension project.

Electronic media (Powerpoint, video, etc.) are very effective in capturing people's attention and conveying images and ideas from outside the community. They are, however, more expensive to develop and disseminate, and thus less sustainable than the above media. Where they are used, they should supplement, but not replace, non-electronic training materials.

Practical, hands-on exercises should be included in training wherever possible. People understand and retain new concepts far more effectively when they have actually implemented them. When developing and using hands-on exercises, be sure you have practiced the exercises yourself before attempting to lead them in a group. There is nothing more embarrassing and counter-productive than leading a demonstration that doesn't work!

Learning by experimentation — Encourage farmers to experiment: We recommend that farmers start in year 1 with a 20 m x 20 m to 40 m x 40 m trial plot on their own fields. We do not generally recommend communal or project-run demonstration plots, since they have less ownership and credibility. Inclusion of a control plot side by side with the new technique helps farmers to understand the process of experimentation. In subsequent years farmers should be encouraged to increase their plot size, but also to continue experimenting with other factors (plant spacing, varieties, etc.) on small plots.

Field Trips/Exchanges — Farmers learn best from other farmers. A new idea presented by an agronomist with a university degree is never as convincing as seeing the same idea implemented on a large scale by a farming community. Such exchanges should be a part of every extension project budget.

Radio Programming can disseminate your extension message to a wide audience as well as reinforce it for those who are receiving in-person extension services. Some radio stations will broadcast your programming for free as an attractive community service, while others will charge you for airtime. Some ideas for radio programming:

- Make sure to include farmers of different ethnic groups and both sexes.
- Get farmers to discuss important issues on air with panel discussions and call-in programs
- Develop a mini-drama featuring a technology you are trying to promote
- Engage local musicians and traditional storytellers to improvise on a related issue
- Provide regular local and regional crop prices

Farm Radio International has lots more information on effective radio programming, including training opportunities and ready-made scripts, on their website: www.farmradio.org.

Field Days are a great way to showcase the successes of your project. They can help convince and generate support from government officials and other community leaders. Use farmer-groups as hosts for field days rather than having them at your organization's compound or demonstration farm. This will provide more credibility in the eyes of those attending, and will also build up the pride and confidence of the farmers who serve as hosts.

TARGET POPULATIONS FOR EXTENSION SERVICES

Start small and increase farmer numbers in response to demand. In pilot areas, start with a maximum of two to three farmer groups per extension agent depending on the capacity of the implementing partner. Spontaneous adoption by non-trained farmers is the best indicator to guide the pace of scale-up. Project plans should estimate the pace of scale-up, but should also have enough flexibility to allow projects to slow down or speed up their increase in farmer numbers depending on local demand for training.

Don't exclusively target the most resource poor. While improving food security for the most vulnerable is an important goal, it can sometimes be counter-productive to limit agricultural programming to only these groups. For example, working with just the most resource poor farmers in an area may create the perception that you are promoting a poor-person's technology. Resource-poor farmers are often more risk-averse, but may follow the lead of local opinion leaders. Project participation should be open to all interested farmers including community leaders and opinion makers.



Mungu Bi Konyo group members perform a role-play describing CA promotion in Kucwiny, Uganda

Don't select all beneficiaries at the beginning of the project.

Successful agricultural promotion will generate interest among farmers who were not targeted by initial training plans. These “spontaneous adopters” should be invited to join the training in subsequent years. Projects which restrict programming to a set of farmers identified at the beginning of the project will miss this opportunity, often resulting in lower adoption rates.

Pay attention to gender issues. Ensure women's access to training by adjusting the timing and location to fit their schedules. In some cultures projects may need to use female trainers or hold separate training for men and women. Hiring female field officers/extension staff may necessitate providing staff benefits such as child care and family leave.

GROUP APPROACHES

Farmer Field Schools (FFS) are adult experiential learning tools where farmers experiment with a particular technology topic (e.g. Conservation Agriculture). A farmer field school has four elements:

1. A group of farmers with a common interest
2. A field where the training is done
3. A curriculum to be followed
4. A facilitator (this can be an extension agent or an FFS graduate).

Farmers learn together on a particular topic with the assistance of the facilitator. FFSs have become an increasingly important extension tool since they provide room for farmer decision making, empower farmers and build their capacity and confidence to deal with the problems they face.

Steps in the development of Farmer Field Schools

1. Capacity building: A good FFS facilitator should be an agricultural expert as well as knowing how to run a field school. They should, therefore be trained on specific technical skills, group dynamics and adult education. It is important that they go through an intensive season-long training with practical exposure to the technical and social challenges they will face.
2. Start up: Starting an FFS involves identification of group members with a common interest. These individuals identify problems and possible solutions, and a field site for experimentation.
3. Running a FFS: Participants set up experiments, meet regularly at the field to observe and discuss what is happening, and develop priorities for subsequent learning. In addition to the experiment itself, topics such as gender, markets, and health can also be discussed during these meetings.
4. Evaluation and graduation: At the end of the season FFS members evaluate outcomes, interpret results, and share lessons through field days where other members of the community are invited. They then graduate, and based on performance and with mentoring from the facilitator, some graduates become facilitators of additional farmer field schools.

Other (non-FFS) Group Training Approaches

Another common group approach is to provide training or organizing meetings with a group of farmers (20-30) that have an interest in a particular topic. This method is also efficient in terms of reaching a wider network of farmers than one-on-one meetings. Ideally, the extension agent tries to encourage independence in the group so that they continue to meet even in the absence of the extension agent. Sometimes group approach can build on already existing farmer groups instead of forming completely new ones. It is often the expectation of the extension agent that group members will share information with others outside the group.



Beatrice Acen, extension worker in Kotido Uganda, learns together with farmers in a Farmer Field School approach

USING FARMERS TO TRAIN FARMERS

Using farmers to train farmers is a common strategy employed by many partners in the CFGB network. Farmers who lead Farmer-to-Farmer extension are sometimes called master, model, or lead farmers, and are chosen according to their agricultural expertise. In other initiatives they are called animators, farmer motivators, or promoters; emphasizing their training role. Here we will use the term “farmer-motivator” to encompass all of these approaches.

We strongly encourage projects to consider using farmer-motivators as they expand their agricultural extension programming.

Why is there such interest in using farmers as trainers?

Development projects are increasingly using farmer-motivators because:

- They are an efficient method of reaching a wider audience
- Their credibility with other farmers is very high
- Serving as farmer-motivators empowers farmers with leadership skills
- Their sustainability is high since they usually remain in the community after the project ends

What are the roles of a farmer-motivator? A farmer motivator’s main role is to train other farmers. They may do this through one-on-one, hands-on training, or they may teach larger groups with a more formal curriculum provided by the project. Either way, it’s very important that farmer-motivators make regular follow-up visits to encourage the farmers they support and to answer questions. Other duties may include keeping records, organizing field days and managing demonstration plots.

Farmer-motivators should be trained to support other farmers on technical subjects like conservation agriculture, soil fertility, pest management, grain storage, etc. They should also receive training on extension/facilitation methods and working effectively with groups. They should receive regular support visits from field staff, and should be included in exchange visits to other projects.

Farmer-motivators should understand what is expected of them and indicate their willingness to accept these responsibilities by signing a contract with the project. This document should include:

- Roles and responsibilities
- How much time is expected of them
- Benefits/incentives etc.
- Term of service (is it a one year contract, or 2-3 years?)
- An annual evaluation and renewal of their contract

How are farmer-motivators selected? Farmer-motivators should not be chosen at the very beginning of a project. The best individuals to choose are those who have used the promoted technology on their own farms and have already begun showing their neighbours. Farmer-motivators are usually selected by the community together with project staff. They should be selected based on a clear set of guidelines including:

- Demonstrated skill as a farmer and agricultural innovator
- History of encouraging and showing others how to adopt new agricultural technologies
- Willing to volunteer time to serve the community
- Good relationships and respect within community
- Communication skills, usually including literacy



Lead Farmer Monica Mudenda confidently delivers CA information to a group of farmers in Zimbabwe

- Record keeping ability
- Willing to participate in further trainings to increase their skills
- Honest, dependable and committed
- Patient and caring
- Permanently settled in the community with home and family
- Can be a man or woman
- Can be of any religious affiliation
- Should not be an excessive drinker

Farmer-motivators should be selected in later years of a project after they have demonstrated the above qualities. After being selected, they should be given 2-7 days to discuss with their family and decide if they are willing to commit to serving before signing the contract. They should understand the personal consequences, positive and negative, of becoming a farmer-motivator (there can be conflicts and or misunderstanding in their families, or with relatives, leaders, or extension officers in the course of performing their duties). The project should not promise anything as a way to attract them to accept. The contract should be signed in front of village leaders and project beneficiaries, and the group they serve should have a copy of that agreement.

Should farmer-motivators be compensated? Some projects provide an allowance or salary to farmer-motivators to compensate for the time that they commit themselves to be of service. Some provide materials to carry out their duties like bicycles, inputs for demonstration fields, note books, t-shirts, hats, etc. Other projects do not provide any form of compensation. The major challenge with providing incentives is that farmer-trainers often reduce their level of service when the project ends. On the other hand, since they remain as leaders in the community, their presence is more sustainable than field staff hired from outside. Sometimes conflicts arise when some projects provide incentives whilst other projects operating in the same community don't. It is therefore important for projects to coordinate with other local players.

How many farmers can a farmer-motivator serve? Farmer-motivators who receive no compensation typically serve 4-5 farmers in their own neighbourhood. Farmer-motivators who receive compensation often work with larger groups of 10 or more farmers. As with any extension staff, farmer-motivators should only be expected to reach out to the number of farmers which they can effectively visit and follow up with.

Following all of the above guidelines does not assure that 100% of your farmer-motivators will be effective. Preparing them before they start their work, close follow-up, field visits and refresher trainings plays a big role in building their capacity, confidence and trust.

STAFFING FOR EFFECTIVE EXTENSION SERVICES

Human resources are critical inputs in a project and need to be taken seriously when designing a project. The size of the project and the organizational structure will determine staffing requirements. The section below will focus on field staff because they are critical to providing good quality, reliable and accessible extension services.

Recruitment: In most recruitment processes there is a tendency to focus more on academic qualifications than other attributes that are important for agriculture extension such as communication skills, experience and knowledge of the area. Many agricultural development projects find it difficult to attract personnel with academic degrees to perform duties of frontline extension staff due to the conditions in which most field staff work, such as limited infrastructure and access to basic services. In some cases projects may need to lower the academic scale or balance their team with both professionals and para-professionals (those with a secondary education and some training in agriculture).

Gender considerations: In most projects, gender is only considered at the farmer level. However gender sensitivity should start



To help achieve 50% women in lead roles, World Renew South Sudan established a nursery at their offices.

with organizational staffing.

Organizations should develop gender policies that cater for the needs of both men and women and should strive to have an equal number of male and female employees. Gender policies can include generous maternity leave, ensuring that project staff have enough time to spend with their family (family leave), and flexibility to the needs of staff. For example, World Renew South Sudan built a nursery at their headquarters so that women with small children can bring them to work.

As an organization, there should be a deliberate effort to recruit both men and women by ensuring equal representation at interviews. If there is need for affirmative action or there is room to improve the capacity of local women who have experience or basic understanding of the technology, then the organization should consider those options when selecting candidates.

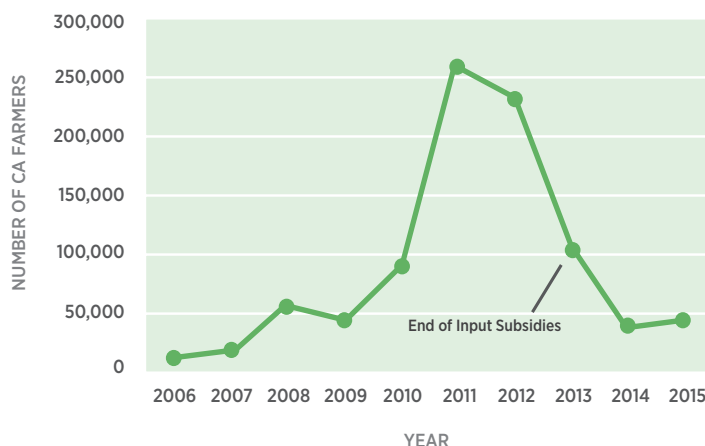
Staff-to-farmer ratios: The number of farmers each extension staff can effectively work with varies widely depending on the complexity of the program, its geographic spread, and whether the project makes effective use of farmer-motivators. In the early stages of a project, before effective farmer-motivators have been identified, an extension agent may only be able to train and support 30 to 50 farmers. Once farmer-trainers are helping with training and follow-up, each extension agent may effectively support 100 to 200 farmers. Farmers provide a sustainable source of knowledge to the community and are an efficient way of reaching a wider network of farmers.

Staff Training: It is important to provide staff with regular training and accompaniment. Many agricultural technologies are knowledge-intensive, and all project extension/field staff should either have extensive training or experience in the technologies they are promoting. Continued professional development, including regular refresher training and field trips can also be useful for improving the knowledge of staff. In addition to building technical capacity, organizations should also invest resources in building a good extension team by exposing them to training on effective extension methods.

Keep project staff motivated: Some projects suffer from high staff turnover due to lack of motivation, or an excessive work load. Managers need to keep staff motivated through acknowledgement of good performance, giving staff time to rest, exposing them to training opportunities, learning exchanges and paying them what they are worth. Awards for outstanding performance can be another way to motivate staff. Make the work environment enjoyable!!



Field officers from Malawi NCM and SOLDEV learn from Chitedze research station trials and this has motivated them in their work.



*Figure 2 Input Subsidies and CA Disadoption in Zimbabwe
Source: Agritex, 2016. Lessons from CA Promotion in Zimbabwe.
Presented at the 2016 CFGB CA Conference, Harare, Zimbabwe.*

USING REWARDS VERSUS INCENTIVES TO MOTIVATE FARMERS

An effective extension program promotes farming techniques that provide substantial benefits to farming communities. The motivation for any farmer to participate in such a program should be the expectation of such benefits, not other incentives such as seed or tools. A good technology, communicated effectively to farmers, needs no further incentives to get it to spread spontaneously in a community.

Free or subsidized inputs can encourage farmers to adopt new practices. However, when they are discontinued, farmers often abandon the new technology and return to their old practices (See Figure 2). In communities with a history of input incentives, a

project which doesn't provide incentives may experience a high drop-out rate in the first year or two. Don't worry!! If you have an effective extension message, many of the drop-outs will come back once they see the results of those who stayed.

If your project needs other incentives to attract participants, you should examine whether you may be promoting the wrong technology (one which doesn't provide enough benefit to attract local farmers) or whether your extension methods have been ineffective in communicating these benefits. Motivating farmers with inputs makes it difficult to judge whether your extension program is relevant and effective or whether farmers are simply there for the handouts. It also confuses the farmers over what you are actually trying to promote. For example, a farmer in Kenya once told us she was using CA when what she really meant was that she had planted a cowpea variety that the project gave her.

One alternative to providing incentives is to use inputs as a reward (given after farmers have adopted the technology being promoted) rather than an incentive (given before they have adopted the technology being promoted). This might be presented as a graduation present to all participants who have successfully completed the training process, or as an award given to recognize outstanding farmer-participants.

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APPENDIX A – ADDITIONAL RESOURCE MATERIALS

Conservation Agriculture

African Conservation Tillage Network: <http://www.act-africa.org/>.

Conservation Agriculture (FAO): <http://www.fao.org/ag/ca/>.

Conservation Agriculture Global Research and Resources (Cornell University): <http://conservationagriculture.mannlib.cornell.edu/>.

Conservation Agriculture (Wageningen University): <http://www.wageningenur.nl/en/Expertise-Services/Chair-groups/Plant-Sciences/Plant-Production-Systems-Group/Conservation-Agriculture.htm> Conservation Farming Unit (Zambia) <http://conservationagriculture.org/conservation-farming-information>.

C2Africa (CIRAD): <http://ca2africa.cirad.fr/>.

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