

Keynote Paper

The what, who, and how of shaping change in African communities through extension

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Abstract. This paper provides positive examples of shaping change in African rural communities. First the author discusses perceptions of change and what change really is. Education, extension, and learning are all about change. We need to move beyond simple information, technology transfer, and 'old-school' top-down training as means of bringing about change, to real learning opportunities that are empowering, grassroots-based, and holistic. Different frameworks for change in rural areas, including the technology transfer paradigm and the innovation systems approach, are discussed. The paper then discusses who needs to change, and stipulates that people at all levels of development need to change. It is not only rural communities or the poor who should change, but also the educators, practitioners, researchers, and politicians. Skills needed by change makers and by communities in order to effect beneficial change are given. These skills go much beyond technical aspects, and include features such as critical thinking, problem-solving, decision-making, and creativity. The paper then discusses how change needs to occur. Using examples gained through field and desk research over the past five years, the author discusses extension and education initiatives that have been bringing about change in African rural communities. These change initiatives attempt to be sustainable, holistic, grassroots- and demand-driven, and sensitive to culture and gender. The examples fall into three levels: community, organisational, and institutional. The community-level examples are focused on individuals and groups. Organisational examples typically involve one particular organisation, while the institutional examples are broader and may include changes across several different organisations. The initiatives focus on several issues surrounding change: empowerment issues using the farmer field schools approach at the community level, cultural and gender issues in providing rural services at the organisational level, and various trends in extension in Africa at the institutional level (involving multiple organisations). While change is very important for improving incomes and livelihoods in rural communities worldwide, practitioners, policy makers, and researchers have not always gone about bringing about change in the right way. Change has been implemented in top-down ways, or imported from another part of the world without regard to local conditions. Thus communities and others have not made beneficial changes in the long run. Based on some examples from Africa, the author discusses some of the new approaches to positive and lasting change in rural communities. The aim is to improve education and extension approaches worldwide.

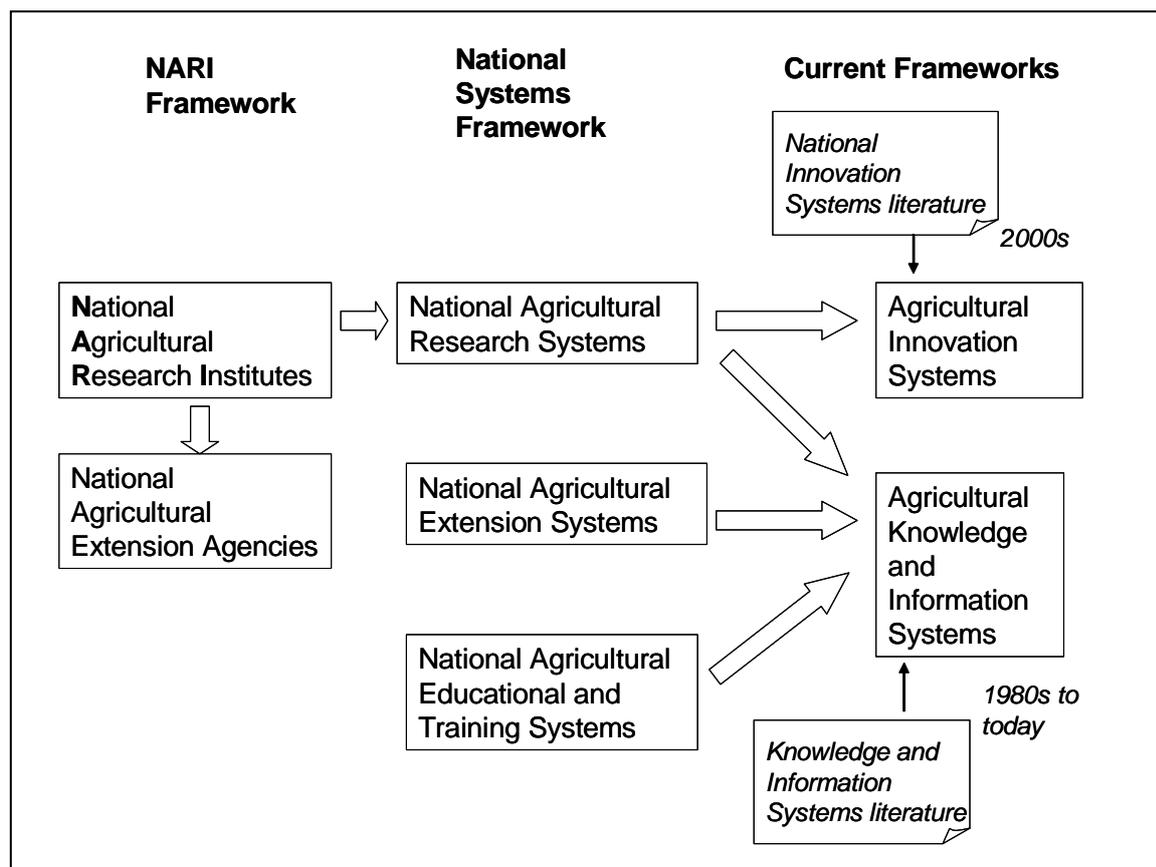
What is change?

What is change? Many things come to mind when we hear the word 'change.' In 2008 we heard about 'Change we can believe in' during Barack Obama's presidential campaign. Today we hear constantly about climate *change*. Essentially, change is about making something different, or altering it in some way. In rural development, this usually entails bringing about improvement in people's lives and livelihoods. For example, there has been a focus on adoption of new technologies, literacy and training programs to bring about change.

Education, extension, and learning are all about change. But there have been many different approaches to change within these fields. Some of these have proved ineffective because they were not accepted by the people being changed, or because they only brought about short-term change. There is a need to move beyond traditional modes of change, for instance, 'banking' education (Friere 2000), technology transfer in extension, and 'old-school' top-down training. Instead, real and sustainable change comes through learning opportunities that are empowering, grassroots-based, and holistic. Such change involves facilitation, sustainability, and innovation.

This section will discuss the evolution of frameworks for bringing about change. There are many different frameworks for change in extension and development, covered quite adequately in other papers (FAO/World Bank 2000; Rivera et al. 2006). This paper will briefly cover major frameworks for change in rural areas, including the technology transfer and diffusion of innovations paradigms, the agricultural knowledge and information systems framework, and the innovation systems approach (Figure 1).

Figure 1. Evolution of Frameworks for Change in Rural Communities



Source: Rivera et al. 2006

One of the most well known theories of change for extension is the diffusion of innovations concept (Rogers 1995). The diffusion of innovations theory states that technologies are communicated over time among the members of a social system, and adopted according to various characteristics of both the technology and the user (Rogers 1995, p. 5). The diffusion of innovations model was focused on a very linear process of technology development and transfer. Thus the transfer-of-technology approaches, including the 'national agricultural research institutes (NARI)' approach and the national systems approaches are strongly linked to the diffusion of innovations philosophy. These approaches also came about partly as a result of the Green Revolution, where high-yielding varieties of wheat and maize were developed at international research stations and passed on to farmers via national agricultural research systems and extension.

However, Rogers' model and the technology transfer approach have been critiqued for many shortcomings, including the linearity of the proposed innovation-diffusion process, pro-innovation bias, blame of farmers for 'non-adoption' of technologies, lack of recognition of farmer innovations, and focus on the change agency and change agents instead of the farmers and others in rural communities who are traditionally seen as 'end users.'

The thinking that followed the linear approaches focused on models that were more iterative, dynamic and cyclical in nature. This included the agricultural knowledge and information systems (AKIS) approach, first promoted by FAO and the World Bank (FAO/World Bank 2000; Rivera et al. 2006). The AKIS approach, which focused on the knowledge triangle of education, research, and extension—with farmers in the middle—broadened the technology transfer approach to include more actors and a focus on the ways that they interacted to generate and share knowledge.

The AKIS approach was then expanded to the agricultural innovation system (AIS) framework in the 2000s (Hall et al. 2001; 2003). The AIS approach highlights how individual and collective absorptive capabilities translate information and knowledge into a useful social or economic activity in agriculture. The framework requires an understanding of how individual and collective capabilities are strengthened and how these capabilities are applied to agriculture. This suggests

the need to focus less on the supply of information (e.g. brick-and-mortar research organisations and educational institutions) and more on systemic practices and behaviours that affect organisational learning and change. The approach essentially unpacks systemic structures into processes as a means of strengthening their development and evolution (Spielman et al. 2009).

Thus there have been several main frameworks or theories for how change can and should take place in rural areas. The current innovation systems thinking is much more dynamic, complex, and process-focused. It also places more emphasis on capacities of individuals and organisations.

This section has discussed the concept of change, stating that change is about altering something, and in the case of rural development, contributing positively to people's livelihoods. Different frameworks of change, including the diffusion of innovations theory, the AKIS approach, and the AIS approach were explained. The next section will discuss who needs to change.

Who to change?

The previous section discussed what change is, and various frameworks that have been used in rural development to better understand change. This section discusses *who* needs to change.

Many times change paradigms focus on beneficiaries, end users, or program participants. They are the ones who should adopt a new technology, or change the way that they operate. This was seen in the transfer of technology paradigm for extension.

But from a systems perspective, such as the AIS approach described above, this is not good enough. Instead, change needs to occur at all levels. It is not only rural communities or the poor, who should change, but also the educators, practitioners, researchers, and politicians. This concept, of changing ourselves—the change makers—is provocatively discussed in Robert Chambers' book 'Whose Reality Counts? Putting the First Last.' In the book, Chambers challenges the 'uppers' and other powerful people to 'upend the normal, stand convention on its head, to put people before things and lowers before uppers' (Chambers 1997, pp 210-211). In other words, we must first focus on the people that we are 'trying' to change, and to understand their realities and worldview, before we can even think about devising programs and projects to 'help' them. While people at the local level can and should change, this cannot happen without the change makers themselves also modifying their way of thinking and acting.

In order for people at all levels of rural development to change, several things are needed. One major barrier is information. People need clear, appropriate, and (as far as possible) objective information to be able to make informed choices. This information needs to be provided or packaged in an appropriate way, and passed through the appropriate medium. For instance, policy makers need information in a short, digestible, actionable form. People that are not able to read very well may need information over the radio; through story-telling, song, or dance; or in pictorial form. Literate people need any sort of printed material to be in an appropriate language.

This issue of information channels is especially relevant in light of the popularity and promotion of information and communication technologies (ICTs). At the community level, while ICTs show much promise, these do not necessarily reach all rural areas, especially in Africa. This is due to topography as well as geographically dispersed populations. On the other hand, we see certain cases of people modifying ICTs to fit their unique circumstances to obtain the information that they need (Ochieng and Davis 2006). For instance, the mobile phone is being used in Africa to exchange market, health, and weather information.

In addition to information, people need capacity strengthening and education in order to change. There are many skills that are needed by change makers and by communities in order to effect beneficial change. These skills go much beyond technical aspects and include features such as critical thinking, problem-solving, decision-making and creativity. Communities also require capacity strengthening for increased empowerment, to be able to contribute effectively to their own development. And policy makers and administrators need capacity strengthening to gain a systems perspective and to appreciate the need to focus on gender, culture, and empowerment issues in creating a better policy environment and for designing and implementing prudent policies.

This section has discussed the fact that all players in rural development need to change. People in rural communities (men, women, and youth) need to change; so do change makers such as agricultural and health extension workers. In addition, the private and civil society sectors, and

government officials and policy makers need to change. Thus the examples below will highlight the fact that change needs to occur at all levels.

How to change? Examples from Africa

The previous section has discussed who needs to change and stipulated that people at all levels, from rural communities to policy makers and administrators, need to change. This section will use examples of extension and education initiatives that are bringing about change in African rural communities. These change initiatives attempt to be sustainable, holistic, grassroots- and demand-driven, and sensitive to culture and gender.

The examples fall into three levels: community, organisational, and institutional. The initiatives include several issues of change: *empowerment* issues using the farmer field schools approach at the community level, *cultural and gender* issues in providing rural services at the organisational level, and various *institutional* issues and trends in extension in Africa at the institutional (multiple organisations) level.

Empowerment issues using the farmer field schools approach at the community level

Farmer field schools (FFS) are an adult education and extension approach that have been around since the 1980s. FFS are 'schools without walls' where groups of farmers meet weekly with facilitators. They are a participatory method of learning, technology development, and dissemination based on adult learning principles such as experiential learning. The FFS approach is a method to assist farmers to learn in a non-formal setting within their own environment.

While FFS were originally set up to teach farmers integrated pest management in rice farming in Asia, the schools have drastically changed their scope as the program expanded around the globe (van de Fliert et al. 1995; Davis et al. 2009). FFS in the African region proved to be very dynamic, changing in response to outside influences. One major outcome of the FFS in East Africa has been the focus on empowerment of the participants. This comes out of the desire to make FFS 'demand-driven.' This means that rather than pushing technologies from the top, the FFS are enabling farmers to have the capacity to be able to demand the types of technologies that they want.

Friis-Hansen (2004, in Friis-Hansen 2005, p. 5) defines empowerment as 'a process that increases the capabilities of smallholder farmers and farmer groups to make choices and to influence collective decisions towards desired actions and outcomes on the basis of those choices.' Empowerment includes elements of having a voice, being able to approach authorities, to formulate and express demands, problem-solve, and whether or not one feels able to effect change.

The FFS programs build empowerment of the participants through the overall approach, as well as through specific activities and modules within the curriculum. From the very beginning, empowerment is emphasised. Because it is a demand-driven approach, the participants are first taught to prioritise and make decisions about what they want to learn in the school.

The approach of the FFS facilitation or teaching also leads to empowerment outcomes. In a FFS, the extension agent is not a teacher or a preacher, but rather a facilitator. This is a big paradigm shift for extension agents in the region, who are usually seen as the experts who tell the farmers what they need to do. Instead of a top down approach of lecturing or even giving the answers to questions, the facilitator attempts to help the participants find their own answers to questions. Through the regular agro-ecosystem analysis, designing and conducting experiments, and holding field days where the participants teach others what they have learned, the FFS build capacity of the farmers to problem solve, plan, speak in public, and to generally exercise their voice. When the farmers hold field days, they invite local government officials and other community members, who then start to realise that farmers are experts too.

Examples of empowerment through FFS can be seen in East Africa. For instance, livestock FFS in Tanzania increased the ability of participants to demand services. In Kenya, several farmers from the FFS have subsequently gained community leadership positions, such as chiefs or councillors, or have been hired by NGOs (Davis et al. 2009). De Jager and colleagues (n.d.) also saw a positive impact on knowledge, skills, experimentation, and innovation, all of which can be used as proxies for empowerment. Friis-Hansen found that the FFS led to improvement in analytical skills, ability to articulate demands and creation of trust among group members. There are also informal case studies and narratives of empowerment outcomes through FFS projects, such as building of social institutions, trust, and process skills for development (CIP-UPWARD 2003). For instance, the FAO-ILRI-KARI workshop report (2003) shows cases of strong

and cohesive networks that have emerged in Kenya without external support, and which serve as platforms for community-based extension activities.

In summary, extension and other rural development programs cannot go about just attempting to provide information or technologies without also providing the skills and assistance to be able to make decisions, to prioritize problems, to plan and to monitor evaluate and evaluate programs. This is what is entailed in empowerment and the farmer field schools allow for empowerment to be developed through their curricula. They also show scope for changing the attitudes and approaches of extension agents and government officials through their training and field days. By changing the mindset and approach to education and technology dissemination, the FFS program is building empowerment that brings about more lasting change in farmers' lives, as shown in the examples above.

Cultural and gender issues in providing rural services at the organisational level¹

Rural services allow the poor to make use of agricultural innovations, become integrated in markets, and improve their well-being. However, rural services such as extension and education need to apply cultural and gender lenses both in practise and in research. Extension has traditionally focused on crops, production technologies, major ethnic or caste groups and male farmers. This usually leaves out women, pastoralists, fisher folk, ethnic minorities and others who are traditionally marginalized.

One example of the need to apply the cultural and gender lenses can be seen in the Participatory Demonstration and Training Extension System (PADETES) program in Ethiopia. The PADETES program was an aggressive extension intervention that has resulted in a total number of 4.2 million participants from a total of about 10 million small-scale farmers in the country (Kelemework and Kassa 2006). While the program did reach many farmers and increased adoption and productivity, an evaluation found that:

- The majority of extension packages were on cereal crop production
- Extension was supply-driven
- Extension packages were formulated at the federal level rather than the local level
- There was a limited focus on cash crops and livestock
- There was limited participation by women farmers (EEA/EEPRI 2006).

However, in some pockets of Ethiopia, there is evidence of expanding economic opportunities for small-scale women farmers and pastoralists (Davis et al. 2009). In northern Ethiopia, producer groups composed of and led by women were producing fruits, vegetables, eggs, broilers, and other high-value products for the market. This broadening of the extension from production to marketing and high value crops, and creating space for non-traditional clientele, allowed more households to increase farm and pastoral household income (Davis et al. 2009).

Access to extension services by women was shown to be as high as 20 percent, which was reasonable, especially in comparison to Ghana and India in a recent study of rural services by the International Food Policy Research Institute's Gender and Governance Team (2009). Ethiopia is also trying to mainstream gender through its public administration, with gender desks and focal persons at the district and village governments (Gender and Governance Research Team 2009).

Like women, pastoralists are also often traditionally left out of extension. Pastoral and agro-pastoral areas make up almost 65 percent of the total land of Ethiopia (EEA/EEPRI 2006) and include at least six million people. Due to the culture and lifestyle of these traditionally nomadic people, they are difficult to reach using traditional extension methods and topics. For many years there was no pastoral or agro-pastoral extension package; however, packages are now being developed for pastoral households, including water, feed resources, and animal health (EEA/EEPRI 2006). Among pure pastoralists, the government is promoting rangeland management and improved forage.

This case illustrates the necessity of change at the policy and administrative level. Farmers and pastoralists may be empowered to demand technologies or information, and extension agents may be trained in more participatory methods. However, without change at the administration and policy level, the current transfer of technology paradigm that focuses on production, crops, and men will never be challenged or changed.

¹ Based in part on: Davis, K., B. Swanson, and D. Amudavi. 2009. *Review and Recommendations for Strengthening the Agricultural Extension System in Ethiopia*. Final Report for the Bill and Melinda Gates Foundation and the Government of Ethiopia. Addis Ababa: International Food Policy Research Institute.

While there is always a temptation to focus on the majority groups that are easier to reach with greater impact, it is important that extension and other rural development programs do not leave out minority groups that tend to have fewer resources. This means applying a culture and gender lens to programs and policies for rural development, extension, health and education. In addition, it means educating policy makers, administrators and extension agents on the need to reach these people, as well as the communities themselves.

Various trends and challenges in extension in Africa at the institutional level²

There are several ongoing institutional trends in extension in Africa. These include the development of new institutional arrangements for more sustainable extension models, methods focused on learning processes for enhanced participation and demand-drive and the development of a new profile of skills needed by extension agents.

New institutional arrangements are coming about as a result of the withdrawal of state interventions, due to the lack of budget and/or commitment by the government. This has led to new models such as privatisation of service providers to improve the quality of service provision, or decentralisation to make extension providers more accountable to the demands of local communities.

More generally there is the emergence of new arrangements between stakeholders to strengthen new service providers. These include extension services that are directly managed by farmers' organisations or by non-governmental organisations (NGOs). They also comprise public-private partnerships that include inter-professional bodies or contracts between a private firm and the state. The ongoing trend is moving from 'national advisory service systems' towards more pluralistic 'agricultural innovation systems' where all the stakeholders (extension, research, education, private firms, producer organisations, public services) have a role to play to promote more sustainable farming systems with better access to markets. These include market-driven extension, such as the National Agricultural Advisory Services (NAADS) model in Uganda (Benin et al. 2007). The main challenge institutionally with these new arrangements is the development of sustainable institutions for service provision with the capacity to provide more market-oriented extension services.

With regards to methods, there is a new focus on learning processes. This entails a shift from top-down approaches, which proved to usually be inefficient in improving farmers' practices, to more participatory approaches to strengthen farmers' capacities to make their own decisions according to their objectives and resources. At the same time, based on the demand of farmers and other actors (traders, processors, exporters), there has been a progressive evolution of extension advice content, from technical to economic, from production to marketing and natural resources management and from the farm level to the collective level. The main challenge for this evolution of learning processes is the development of methods that can enhance participation and demand drive of the extension services.

The trends outlined above pose a particular problem for the existing extension staff to deal effectively with the changes that are occurring. The challenge is to develop skills to work with new types of institutions, communicate with demanding farmers and be professionally capable of providing MOAAS. As mentioned earlier, in the extension climate existing in Africa today, extension agents need more than the usual technical skills. They need soft skills, including marketing, communications and group development, as well as critical thinking, problem-solving, decision-making and creativity skills. In many countries there are few mechanisms to train or re-train extension agents, such as in-service training, refreshment courses and experience sharing between agents.

In summary, we are seeing trends in extension in Africa towards new institutional arrangements for more sustainable models of extension that are pluralistic and market- and demand-driven. This move necessitates new skills for extension agents and other extension staff, as well as their clients. As mentioned earlier, policy makers also need new skills and mindsets, such as systems thinking and the use of cultural and gender lenses.

Conclusions

This paper has used examples from change initiatives in Africa to show issues that are important for positive and lasting change in rural development. The paper first discussed what change is and explained different frameworks for bringing about change. Next, the author made

² Based on the paper 'Institutional Changes and Challenges for Agricultural Advisory Services in Africa' by K. Davis, G. Faure, M. S. Nahdy, and S. Chipeta, presented at the 19th European Seminar on Extension Education, 15-19 September 2009, Assisi, Italy.

the point that change needs to happen at all levels. Change is not just for 'beneficiaries' or clients, but for change makers such as extension workers and for policy makers as well.

Next the paper gave examples of extension and education initiatives that have brought about change in African rural communities in the past five years or so. The examples given fell into three levels: community, organisational and institutional. The initiatives included several examples of change.

The first example of change was empowerment issues using the farmer field schools approach at the community level. Here the author states that we cannot go about attempting to provide information or technologies without also providing the skills and assistance to be able to make decisions, to prioritize problems, to plan and to monitor evaluate and evaluate programs. This is what is entailed in empowerment and the farmer field schools allow for empowerment to be developed through their curricula and activities. In addition, the FFS make room for educating local government officials and other community members on more demand-driven extension paradigms and the contribution of farmers to technology development.

The second example was related to cultural and gender issues in providing rural services at the organisational level. While there is always a temptation to reach the majority groups that are easier to reach, it is important that extension and other rural development programs do not leave out minority groups that tend to have fewer resources. This means applying a culture and gender lens to programs and policies for rural development, extension, health and education. When this is done, we have seen positive examples as shown by the Ethiopian case. Again, this entails the education of policy makers and extension staff to better appreciate the need for the use of the cultural and gender lenses.

The third and last example was with regard to various institutional trends in extension in Africa. Here the author stated that trends in extension in Africa were occurring with new institutional arrangements for more sustainable models of extension that are pluralistic and market- and demand-driven. This move necessitates new skills for extension agents and other extension staff, their clients and policy makers.

These change initiatives focus on bringing about change through capacity strengthening at all levels of rural development. Important components of the initiatives include the attempt to empower clients, to be more sustainable, holistic and systems-focused, demand-driven and sensitive to culture and gender.

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