

# Methodological innovation in communication processes to foster co-production and exchange of agricultural knowledge in Burkina Faso: taking into account socio-cultural aspects

Eric PASQUATI<sup>1</sup>, Pierre GIRARD<sup>2</sup>

1. ICT project leader at the Foundation for World Agriculture and Rural Life (FARM), France, eric.pasquati@fondation-farm.org

2. Food project leader at FARM, pierre.girard@fondation-farm.org

## Abstract

This paper is a critical analysis of technocratic approaches in the design and implementation of communication processes related to rural development in Africa, including the application of information and communication technologies (ICT). Even as the basis for establishing trustful relationships and therefore prior to a smooth and effective communication, socio-cultural aspects have often been neglected by initiatives applying ICT to rural development in Africa. Recognizing the importance of socio-cultural aspects to the appropriation of any innovation in rural areas of developing countries, it is possible to define strategies for tailoring the application of ICT to local conditions. This article includes thus suggestions for methodological innovation in the design and implementation of communication processes to focus on co-production of agricultural knowledge in developing countries. It is based on the authors' field experience related to operational and research activities of the Foundation for World Agriculture and Rural Life (FARM) in partnership with the Union of Farmer Groups for Marketing Agricultural Products in the region of Boucle du Mouhoun (UGCPA-BM), Burkina Faso.

## Introduction

Beyond the means of production of a farm - land, labor and capital - information (relevant and timely) is also an important factor in the conduct of cropping and breeding. Information and communication technologies (ICT) can be useful to optimize information obtaining, exchange and processing, and the acquisition and renewal of specific knowledge to agricultural production. In the context of development projects, ICT use is often tailored by a technocratic approach: technologies are seen as bearers of intrinsic efficiency as if by their mere use, the efficiency could be transferred to local societies and solve some of their problems. Access - to technical devices and networks - becomes the priority, as if the convenient use would automatically follow tools availability. However, field experience shows that this is not always the case, especially in rural Africa. In addition, this approach does not promote the sustainability of local initiatives, which is fundamental for social change in African societies. Taking into account the social footprint of ICT application methods, it is possible to identify strategies for applying these technologies in the most suitable way to local conditions.

The suggestions that will be presented in this paper result from the authors' field experience related to operational and research activities of the Foundation for World Agriculture and Rural Life (FARM) in partnership with the Union of Farmer Groups for Marketing Agricultural Products in the region of the Boucle du Mouhoun (UGCPA-BM), Burkina Faso. The main objectives of this partnership are to support the increase in food production and to enhance the economic functions of the farmers' organization with the implementation of a mineral fertilizer supply chain.

The mere use of the package "*mineral fertilizers - improved seeds*" is not sufficient, however, to assure sustainable increase in grain production. Thus FARM initiated within UGCPA-BM a study about the sustainability of agricultural production systems. This gave rise to Pierre Girard's assignment in Burkina Faso between May and December 2009 aimed partly at examining farmers' soil fertility management practices in order to propose an agri-environmental action plan. From a methodological perspective, this work is based on a literature review and a survey conducted with farmers, members of the UGCPA-BM. UGCPA-BM elected officials and employees were involved throughout the process to facilitate the appropriation of these issues, which are fairly new within a farmers' organization.

In parallel, in partnership with Foundation FARM, Eric Pasquati is doing a PhD on the social and cultural aspects of ICT appropriation by farmers in West Africa. In this PhD project, FARM's main objective is to define its approach to integrating ICT into its operational projects. The fieldwork of this research was conducted from July to December 2009 in the region of the Boucle du Mouhoun, Burkina Faso, and in terms of methodology it was based mainly on observations, deep interviews with farmers, village visits guided by farmers and sessions of participation in agricultural labor.

In this paper, after recalling the heterogeneity of actors involved in rural development projects and the communication difficulties created by this, we explore the causes of failure of technocratic approaches in the dissemination of ICT use within Burkinabe rural communities. In conclusion we formulate some suggestions for methodological innovation in the design and implementation of communication processes in support of rural development in developing countries to encourage the appropriation of these processes by local actors, and thus the autonomy of their initiatives.

## Heterogeneity of actors

Development aid involves the contact between actors who differ in culture, in level of formal education, in access to resources. Dichotomies between foreign and local people, experts and practitioners, determine a complex field of relations to be established. In the case of intervention in rural areas these differences are more pronounced than in cities, both by the fact that countryside levels of formal education are lower than those in urban areas and also because in cities exchange between foreigners and locals has often been more effective, facilitating to some extent new interactions.

The diversity of languages poses an initial barrier to communication between actors from different origins. In many West-African countries, although the local official language is often that of the foreign development actor - due to both the colonial past and a correlation between this history and the origin of foreign aid - most farmers have insufficient knowledge of that language. For many African countries the question of language arises not only between foreign and local people but also between peasants and the intellectual elite of the country. Indeed, given the multitude of regional languages, any person from the intellectual elite cannot know all of them. Furthermore, translations always produce interpretations and adaptations to the reality of the target language, in terms of structure but also in terms of richness of vocabulary. As a result, translation represents a considerable barrier to the fluidity and the accuracy of the communication.

Regardless of language, the difference in levels of formal education generates an additional constraint to communication between actors from different backgrounds. For example, farmers in Burkina Faso often have a level of formal education fairly low; Burkinabe agronomists do not necessarily use the language in the same way as farmers do: the words are different and sometimes the same words can have different meanings.

Beside these objective issues, specific to the communication between people of different origins, other questions arise - much more subtle, subjective and difficult to identify - mainly linked to socio-cultural aspects. In the particular case of West-African farming communities, social codes of communication are extremely important in defining speech-making, forms of address, the use of eye contact and silence in social interaction. Ignorance or neglect of these codes can affect communication and thus the establishment of good relations between different actors. For example, in Burkina Faso, when a visitor arrives in the precincts of the house the discussion always starts with the usual greetings: the host wishes a "*good arrival*" to the visitor, then everyone asks for family news, and finally the host asks to know the purpose of the visit. The visitor shall immediately respond that "*there is nothing bad*", meaning he or she is not bringing bad news. Only then, the visitor may explain the purpose of his visit.

Moreover, foreign actors, usually from developed countries, often think in terms of objective resolution of problems. Local development - often a vague concept - is seen as a target, and its realization is clocked by the pace of project management. But local actors do not always follow this kind of reasoning. They have their own ways to assess aspects of their lives susceptible of being improved, and generally, their notion of time does not match the one dictated by the stages of a project.

In short, differences in language and levels of formal education, socio-cultural codes of communication, reasoning structure and the social perception of time are aspects that reflect the complexity of creating a fluid communication and a basis for trust in the relationship between farmers and "*development experts*".

## Technocratic failure

Many of the projects applying ICT for development, particularly for rural development, do not pay enough attention to adapting proposals to local context. Despite the intentions to create lasting benefits for local actors, these projects are often characterized by an idealized vision of ICT and by a simplistic design of the process of their appropriation by locals. Here, we consider appropriation as both the gain of confidence in using a technical device or in implementing a method, and the feeling of symbolic identification with the device or method in question.

The sociologists Philippe Mallein and Yves Toussaint analyze different modes of appropriation of technical devices by comparing the ICT offer with actual practices and devices' representations by users. The authors identify two main rationales in the construction of the offer: the rationale of "*socio-technical coherence*" and rationale of "*technocratic performance*". The rationale of socio-technical coherence considers that "*the new device and the products/services associated with it should find their place in this whole social, cultural, technical, organizational, familial, existing context*" (Mallein & Toussaint 1994 p.319). On the other hand, in the rationale of technocratic performance, one "*imposes to users the role they will play, the new practices they will develop and the ideal representations they must tend to have*" (ibid. p.320). We see that the first rationale "*is a process of 'feedback' between the social and technical*" (ibid. p.319) arenas, attributing a central role to users and their culture. The authors speak of an "*alliance*" between offer and demand. The second rationale, however, implies a "*'impact' of technology on the social*" (ibid. p.319) domain, and tries to impose technological innovation to users, leaving little space for dialogue between offer and demand.

In their research, these two sociologists have come to the conclusion that "*the social integration of an ICT, its integration into the everyday lives of users, depends less on its 'intrinsic' technical qualities, its performance or its sophistication, then on the meanings of use designed and built by the users about the technical device that has been proposed to them*" (ibid. p.318). The communities' specific socio-cultural characteristics are therefore more important for ICT appropriation than the devices' technical qualities.

However, leaders of development projects using ICT are often primarily concerned about technology itself. The cognitive modeling of reality peculiar to the way of reasoning based on solving problems objectively determines successive simplifications of the local context, up to the extreme perspective of trying to find standard solutions that would apply regardless of context. The technical aspect is prioritized, and a "*solution*" is designed to meet the alleged "*problem*", most often without any involvement of local actors. The foreign actor plays the role of an ICT application provider, the local actor that of a mere consumer.

However, farmers are not mere consumers; they do not define their behavior depending on novelty alone, but first according to their own perspectives on running their farm. What does this innovation could bring them? What are the risks? Indeed, farmers are often suspicious about technical innovations, especially when these are proposed by foreigners, irrespective of the proposals' technical efficiency. One reason for this distrust may be the fact that farmers are uncomfortable with the risk of applying new techniques. And that does not refer only to ICT; for example, 11%<sup>1</sup> of the seeds used in Burkina Faso are improved seeds, quite low compared to the efforts that have been done in this research area. This is partly due to the fact that farmers are not confident about the better results of using improved seeds (which cost more), but also due to the risk that may be related to the use of such seeds, often more sensitive to climatic conditions.

If the innovation is not tailored to local reality in terms of relevance and in terms of socio-cultural coherence, the appropriation of the communication methods, whether applying ICT or not, simply does not occur. This appropriation is not possible either because the innovation does not interest farmers, or due to incompatibilities that make the socio-cultural integration of the method in question simply inconceivable from the point of view of locals. Again, appropriation of external proposals by local actors depends on their own perception of the proposals, and not on that of the authors of the proposals.

Moreover, given the complexity of the relationship between local and foreign players there is always the danger of a distorted appropriation of new methods. Indeed, outward signs of acceptance of innovations do not necessarily reflect true appropriation. Depending on the nature of the relationship between foreign and local players, they can choose an initiative without being entirely convinced. What matters at this stage is to please the stranger who, ultimately, is the one that provides financing, can provide per diem to farmers for participation in training and ensure stable incomes for fieldworkers.

For example, regarding the production of manure in farms, the technique most popularized during the 1990's in western Burkina Faso is the manure pit. Farmers with a manure pit are most often involved in training and have no problem to "*recite*" the method of manufacturing manure, but that does not mean they put it into practice. Paradoxically, this does not prevent these farmers to seek further training on these methods...

Finally, dissemination of numerous technical innovations is done through development projects that have a relatively limited duration in time if compared with the time it would be necessary for the adoption and appropriation of a technique or methodology to take place. The project may initiate the use of a technique or methodology but cannot accompany its evolution over time which calls into question the sustainability of some initiatives.

A technocratic approach based on a project cycle challenges the appropriation of proposals and new methods. Without the gain of trust and the symbolic identification of local actors with the methods or the applied technical devices it is difficult to envisage the creation of autonomous initiatives vis-à-vis foreign financial support. In short, technocratic approaches hardly generate sustainable initiatives.

## Methodological innovation

Communication processes, whether using ICT or not, will not be really useful for rural development in developing countries unless they are well adapted to local conditions both in terms of relevance of content and in terms of socio-cultural coherence. If the proposed process does not meet the information needs of local actors, they will simply not be interested. If the process, by its design or method of implementation, does not respect the local traditions, it will probably be rejected, consciously or unconsciously, by the population. In practice, ensure a social and cultural coherence with the local reality is more difficult than creating a useful application for local actors. In this regard, an Indian agronomist, leader of a project working on distant technical advice, says that the application of ICT in rural development is *"less about technology than psychology"*.

We have identified four basic elements to promote the appropriation by farmers of communication processes in developing countries. First, ensure the relevance of content exchanges: to be useful, information must be specific, the content must be local. It may be interesting to know the price of corn in Ouagadougou and Bobo-Dioulasso, the two main cities of Burkina Faso, but if the challenge for me is to sell my sorghum in the area of Nouna town distant from these two centers and without paved road connection with major cities, the information I need first concerns the price of sorghum in markets close to Nouna.

Then, the form of communications must be adapted to the socio-cultural reality of farmers: once orality is very important in the cultures concerned and the levels of illiteracy are very high among locals, an audio and/or visual interface is desirable. In addition, if ICT is used in such a system, one would rather be realistic in choosing the technology to be used, giving priority to those already well established, and for those accessible for most people. Currently in West Africa that would be the case of the radio and increasingly of the mobile phone.

Still in the perspective of facilitating the appropriation of communication processes by the local population, the mediation of the communication may be of interest at least two levels: as training for local actors to use technical subjects devices of communication and as human proximity link in the communication chain. This latter aspect is particularly important for establishing high-trust relationships between the various stakeholders. Even when the exchange is done through a technical interface greatly simplified, the absence of a mediator may affect the appropriation of messages exchanged and the sense of identification with the communication system<sup>ii</sup>. In all cases, the legitimacy of the mediator with the local population is greatly enhanced if he or she is from the local community. Members of a community, especially farmers, normally trust their peers, people who face a reality close to theirs. It is the fact that the mediator comes from the local community, and thus its natural understanding of local socio-cultural reality that matters most in the establishment of productive exchanges between local people.

Finally, the active participation of local actors in the design, implementation and funding financing of initiatives, is the main factor conditioning their true appropriation and ownership. Their level of participation in the design and implementation ultimately determines the relevance of the communication process and its coherence with the local socio-cultural context in all its complexity. On the one hand, it is hard to be relevant to a specific activity without consulting those who know best the activity in question. On the other hand, the objective contribution of any new process of communication is not sufficient to ensure its sustainability. It also requires that the modalities its implementation are seamlessly integrated into the social and cultural dynamics of the local population. Without the active participation of local actors, it is unlikely that such socio-cultural harmony is reached. The financial contribution is also desirable because it creates a harder level of commitment and identification of the farmers with the process.

Based on these four elements and the field experience, we can make some methodological suggestions for the design and implementation of communication processes for rural development in developing countries. If the goal is to have relevant content, we must think of involving farmers in building this content, and motivate their knowledge exchange about farming techniques or even tricks and tips on how to practice agriculture. A dynamic exchange of information and knowledge can lead to co-production of new knowledge.

In order to remain realistic in terms of access about which technology to use on the field it is better to explore the possibilities of mobile phones, which are already in the hands of many of the farmers, and which is also based on oral tradition. Text messages via mobile phones are still little used, but may become an interesting alternative if coupled with functional literacy training. For the exchange of agricultural knowledge, participatory videos produced locally can be a good option. The fact that an experience in this area has been conducted for some years by West African NGOs<sup>iii</sup> encourages local partnerships. The video can also help to overcome the current theoretical training on technical topics. For example, for the production of manure, the majority of current training is theoretical. Video can achieve a higher number of farmers than classic training. In addition, if videos are made locally, with farmers showing their own practices, other farmers who watch the videos feel more concerned by the theme developed: farmers talking to farmers. The intervention of a technician may be very relevant after the projection to deepen some technical points raised by the documentary.

If trust is established more easily between peers and if the commitment of local stakeholders is desirable to increase the chances of creating sustainable initiatives, and especially autonomous from external financial support, it's necessary to promote local participation and at the same time a certain distance of foreign actors. These can effectively play the role of supporters, but they must be aware that their too strong presence on the field - including financially - undermine the possibility of a deeper ownership of initiatives by the locals. In this context, farmer organizations (FO) seem to provide a good institutional framework for the mobilization of farmers for their own development. For this, it is necessary that the organization comes from the peasantry. Projects can then support these local initiatives creating an indirect contact between farmers and the project through the organization. The legitimacy of the FO is greater than that of traditional development projects: farmers, that can be called leaders, are involved in developing services and activities to other farmers (even if they are not all from the same social category of farmers and do not share exactly the same problems on their farms). To ensure the sustainability of their activities - including relevant use of ICT -, it is necessary for FO to strengthen their economic functions which allow them to accumulate capital that, in turn, can make them autonomous from foreign aid.

The implementation of the suggestions put forward in this article should generate new forms of partnership between local and foreign actors for agricultural development in developing countries, especially regarding the application of ICT: partnerships that focus on the gain of autonomy by local people, an indirect support by foreigners and an exploration of the ICT potential in coherence with the reality on the ground, pragmatically and sustainably.

## References

### Article

MADON S., 2008. Researching eGovernance for Development. *Community and Communications*, Royal Holloway, University of London, Egham, 15<sup>th</sup> November 2008.

MALLEIN P., TOUSSAINT Y., 1994. L'intégration sociale des technologies de l'information et de la communication: une sociologie des usages. *Technologies de l'information et société*, 6 (4): 315-335.

---

<sup>i</sup> [http://www.commodafrica.com/fr/actualites/matieres\\_premieres/burkinaagri](http://www.commodafrica.com/fr/actualites/matieres_premieres/burkinaagri)

<sup>ii</sup> Shirin Madon, researcher from the London School of Economics and Political Science, working on the topic of e-governance in rural areas in India, even suggested that the role of mediators is crucial to overcome the blocking of some farmers in relation to ICT. She cites the case of Indian farmers who use community call centers just if the mediator is present.

<sup>iii</sup> For example, the Burkinabe NGO Sahel Solidarité, in partnership with the Dutch NGO IICD, uses participatory videos to educate rural populations on health issues.