



Participatory Development Communication and Natural Resources Management

Community Participation and Communication in Managing Land and Water

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Abstract

Globally, governments, civil society, and the private sector now recognize that the meaningful participation of local people is essential for sustainable natural resource management, agricultural productivity, and food security. However, traditionally, in the context of agriculture, forestry, and natural resources management, many communication efforts have focused on the dissemination of technical packages toward end users who were expected to adopt them or on the promotion of behavioral change. Not only did these practices have had little impact, but they also ignored the need to involve local people in decision-making and to address conflicts or policy gaps. Other more participatory approaches such as innovation circles or farmer's research have also met with limited results,

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mostly because they have been driven from the outside. This chapter discusses this situation and presents different cases from Asia and Africa illustrating how participatory development communication can enable local communities to identify their development needs and the specific actions that could help to fulfil those needs, while establishing an ongoing dialogue with the other stakeholders involved.

Introduction

Somewhere in a Sahel country, a small group of researchers and visitors are visiting a demonstration plot showing how live fences – an innovation that seeks to protect fields from the encroachment of desert sand – can prevent soil degradation and increase agricultural productivity for smallholders. Two farmers, who maintain the plot, explain the technology: what is it about, why is it useful, and what kind of vegetation can be used. Researchers and visitors ask a few questions, then the visit ends, and the group, enthusiastic about the experimentation and its potential, goes back to the cars. Lagging behind, I ask the two farmers if they use this technology in their own plots. “Oh no! “says one, “this is too much work!”.

Somewhere else, a group of researchers are on their way to one of their field experimental sites with the intention of visiting farmers that manage them and monitoring the performance of soil productivity-improving technologies that were introduced earlier in the year.

After having enjoyed the traditional hospitality of being offered some water during a visit to community elders, they were told: “Come with us now, we will lead you to your demonstration plots.” Of course, outside of these plots, which were not *theirs*, none of the innovative technologies were being used.

What is the problem? What do we need to do to facilitate the sharing and adoption of knowledge that can make a difference? What can be the role of development communication?

Conceptual Models

One of the conceptual models that had a large influence on agricultural communication practices has been the innovation dissemination model. Formulated more than 50 years ago (Rogers 1962, 1976), and originating from the extension of agricultural practices exported from the North to developing countries, it involves the transmission of information to farmers by a resource person (the researcher or extension agent) and rests on three main elements: the target population, the innovation to be transmitted, and the sources and communication channels. Of course, this model has been rightly criticized for its reductionism, but in spite of all the evidence, there are still practitioners today who regards innovation as coming from the outside and which is delivered through information and demonstration with the aim of convincing farmers to adopt it in order to increase their productivity.

One model that challenged this approach was formulated by the Brazilian adult educator Paolo Freire (Freire 1970). In his model, he insisted that the mere transfer of knowledge from an authority source to a passive receiver did nothing to help promote growth in the latter as a human being with an independent and critical conscience capable of influencing and changing society. For communication to be effective, it has to be linked not only to the process of acquiring technical knowledge and skills but also to awareness-raising, politicization, and organizational processes.

In the 1970s, another communication model, developed around the emergence of community media, and championed by UNESCO, insisted on community participation:

Whenever carefully developed programs have failed, this approach, which consists in helping people to formulate their problems or to acquire an awareness on new options, instead of imposing on them a plan that was formulated elsewhere, makes it possible to intervene more effectively in the real space of the individual or the group. (Berrigan 1981)

Through the use of these conceptual models and the learning acquired through experience, we began developing new ways of looking at the adoption of agricultural innovation. Participation, by putting the emphasis on the needs, perspectives, and knowledge of farmers and on inclusive decision-making processes, became the key concept of communication for the adoption of innovations. Many scholars engaged in agricultural research and extension, such as Röling (2004), have recognized that it is not useful to consider innovation as purely the outcome of transfer or delivery of results of scientific research to “ultimate users” or farmers and that participation needs to play a major role.

Over the years, there have been many efforts in trying to articulate this participation into concrete models aiming to share agricultural knowledge. In Africa, the Forum for Agricultural Research in Africa (FARA) (Together with the West and Central Africa Council for Agricultural Research and Development (CORAF-WECARD), the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), the Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA), and National Agricultural Research Systems (NARS)) has been championing Integrated Agricultural Research for Development (IAR4D) multi-stakeholder processes using innovation platform (IP) as a key tool to facilitate livelihood and development initiatives’ impact. The principles of this approach integrate:

- The perspectives, knowledge, and actions of different stakeholders around a common theme
- The learning that stakeholders achieve through working together
- Analysis, action, and change across the economic, social, environmental, and livelihoods and welfare of end users and consumers
- Analysis, action, and change at different levels of spatial, economic, and social organization (CORAF-WECARD 2011)

IAR4D's conceptual framework involves all stakeholders (communities, R&D organizations, and private sector) in the different phases of the process aiming to the adoption and setting in place of innovations. This approach "seeks to transform the organizational architecture of R&D actors from a linear configuration (research→dissemination→adoption) to a network configuration, comprising all actors in the agricultural **Innovation Sphere**" (Adekunle et al. 2013, p. 8).

This model is encouraging and has been shown to deliver promising results (Id., p. 27 ss). However, there are still a number of issues linked to the adoption of improved agricultural technologies that deserve attention. The nature of the relationships between researchers and communities, the communication methodology, and the costs of technology adoption are some of the main ones.

Building Relationships Between Farmers and Researchers

First and foremost, relationships between farmers and researchers need to be built and nurtured, and this usually takes time. Some researchers have had to work for many years with the same communities before mutual trust developed.

In other situations, researchers work with the same community members for many years, without engaging with the community as a whole.

Recently, in the context of needs analysis with a farming community, farmers told us "You need to respect us, even if we are illiterate, and do not have nice clothes. You need also to listen to us. Often, you come here and discuss with our sons that have received some education, you don't come to us."

We can add to this that too often, women as well as the poorest farmers are not involved in the relationship a researcher establishes with a community. Gender and equity are essential to take into consideration.

Often, researchers are perceived by communities as very important and smart people who come from the city in big 4x4, do all the talking, and sometimes provide some sort of monetary or in-kind benefits. If this perception is not challenged, it may be difficult to see a collaborative relationship develop between researchers and farmers. Moreover, if farmers see researchers only as monetary and in-kind benefits providers, (regretfully, this has been one of the side effects of many development projects), the new relationship might start on a wrong footing.

Some work certainly has to be done to establish and nurture relationships with the communities before establishing new field sites, and the strategy used to approach community members is critical for success.

I once met a researcher who was working by himself in the desert. I asked him what was going on. He explained that he was studying rainfall pattern and that initially, he was part of a multidisciplinary team. Social scientists in the team started off by asking what the community members perceived as intrusive questions to which they were reluctant to provide answers, such as "How many heads of cattle do you possess?", or "How many wives do you have?", They were therefore asked to leave. "And what about you?" I asked?

“Oh, me” he said, “I’m just a specialist in natural sciences. I install my equipment to record data on rain and humidity and when someone would come and ask me what I was doing, I would explain. They would then invite me for tea and I would go. Then, once inside, I would look at the tea and at the food, and tell myself ‘If I drink this water and eat this food, I’ll be sick’. I would then drink the tea, eat the food, get sick, and do it again and again, and I’ve been working here now for ten years.”

Using a Participatory Communication Approach and Methodology

The concept of dissemination is a tricky one. It is a bit like traditional class teaching methods used in formal education. It is not because a teacher explains a subject in a clear and logical way that students will automatically understand. Teaching and learning are two different complementary processes. And it is not because a researcher presents and explains a given technology to farmers that they will adopt and experiment with it. Some farmers, often the one that are more successful and who have had some contact with researchers in the past (not unlike a few bright students in a class), will take advantage of the information and experiment with the improved technology. But in most cases, the majority will not, because it is an answer to a question they did not ask.

This is why it is useful to move from information dissemination, to engaging farmers and researchers in a joint dialogue. A discussion on how climate change is perceived and how it affects productivity in the field for example, can lead to a decision to test more resilient plants and adopt improved agricultural technologies.

Traditionally, researchers tend to identify a particular problem and try out different solutions (including improved technologies) with the collaboration of local farmers. Then they try to disseminate their findings and have other farmers to adopt these solutions. It seldom works. But when communities are engaged in looking for a solution to a problem that affects them, and after having jointly found the solution, farmers then share their own experiences with other farmers; the situation evolves in a very different manner.

This approach demands a change in attitude and practices. Many researchers still perceive community members as beneficiaries and end users of research results. Even though it has been well documented that the one-way delivery of technologies to end users has had little impact, the required attitudinal shift is apparently not easy.

One methodology that can support and accelerate this process of change in attitude and practice is participatory development communication (See Bessette 2004, 2006). It is usually represented as having four main interlinked phases, diagnosis, planning, intervention, and assessment, and comprises the following 18 steps:

Phase 1: Understanding, relating, researching

1. Clarifying the mandate and the intervention

2. Developing a prior understanding of the local setting (situational analysis or preliminary research)
3. Establishing a relationship and negotiating a mandate with a local community
4. Setting the goal: involving the community in the identification of a problem, its potential solutions, and the decision to carry out a concrete initiative;
5. Identifying the key stakeholders concerned by the identified problem and initiative and learning from them (participatory communication appraisal; stakeholder analysis; SAGA, social and gender analysis; KSAP, knowledge, skills, attitudes, practices analysis; analysis of communication resources; social network analysis)
6. Identifying other stakeholders and potential partners concerned by the identified problem and initiative

Phase 2: Formulating and developing the strategy

7. Identifying and formulating communication objectives
8. Identifying key messages, content, and topics
9. Selecting appropriate communication tools and media
10. Facilitating partnerships and establishing agreements
11. Identifying the communication materials and activities to develop
12. Planning the pretesting of communication content and materials
13. Planning participatory monitoring and evaluation
14. Planning documentation
15. Defining participation modalities at each step of implementation, monitoring, and evaluation
16. Planning the sharing and utilization of results

Phase 3: Validating and organizing

17. Validating the whole strategy with the community
18. Producing a communication plan to implement the strategy

Other methodologies (vg. Acunzo et al. [2014](#)) suggest different variants of this process, but they all have one thing in common: the emphasis on a systematic planning process that enables and encourages the active participation of stakeholders and the implementation of two-way communication between farmers and researchers.

Discussing the Issue of Costs

As we saw earlier, in order to promote the adoption and use of an improved agricultural technology, the innovation must go hand in hand with the building of a two-way relationship between farmers and researchers and with using a systematic methodological approach to engage communities in a process of experimentation and adoption. There is also a third element at play: costs.

Any technology has costs associated with it. It could be extra labor costs or additional input costs. This complicates things for poor farmers who struggle to

survive and who do not have the means to buy what is needed. Moreover, in many settings, labor-associated costs often have to be assumed by women, on top of their heavy responsibilities.

Usually, researchers will demonstrate an improved technology, but without considering the associated costs. This is why, in many rural areas, in spite of the improved yield related to the use of certified seeds of improved varieties, a majority of farmers still use traditional seeds. This is also why, in the example mentioned above, farmers did not practice the new technology of live fences, although they were highly efficient.

There is no easy solution. The issue of costs has to be discussed between researchers and communities. In some cases, solutions can be found, if farmers decide they want to adopt an innovation. In other cases, it would be necessary to discuss the issue with other stakeholders such as the state decentralized services and policy-makers.

Engaging with Government Stakeholders

Engaging with government stakeholders is not something researchers are usually trained to do. But in their new roles as facilitators of change, it is an important dimension of the work of promoting innovative technologies for improving food security.

Sometimes, solutions to the cost issue can be found through in-kind support from the state decentralized services, including extension services of the Ministry of Agriculture. Such in-kind support may come in the form of material or farm inputs, such as seeds or fertilizers, or advices. But this, of course, remains at a small scale and is sporadic.

What is often needed is to engage government actors and civil society organizations in policy dialogue, in order to advocate for in-kind loans to farmers, subsidies for farm inputs, certified seeds or for conserving traditional seeds, extension services for improving organic soil management techniques, access to microcredit, improved distribution network for seeds, secure land tenure, etc.

Researchers especially those working for the State could also play a role by sensitizing administrative authorities of their departments, who can then approach parliamentarians (especially those active in agriculture or environment commissions) to discuss the issue. They can also link up with and sensitize civil society organizations such as farmers' federations or NGOs who already support advocacy efforts on the matter or who can start work in this area.

Promoting the adoption of an improved technology that would enhance agricultural productivity cannot be done in a policy vacuum. The costs and conditions (such as tenure security for women or for migrant farmers, farmers' rights, distribution networks, etc.) linked to its use must be brought to the attention of civil society organizations and policy-makers, in order to open a policy dialogue on the subject.

Sometimes new laws and regulations may be required (e.g., for the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture); and such issues may require time and effective policy dialogue for a resolution.

Community Participation and Innovation Adoption

Salimata is sitting at a local radio station and is singing a few traditional and local songs. Then she reminisces about when she was trained to make organic fertilizers but had to stop doing it. This year she harvested only two bushels of peanuts. She had to stop using the technology because she was afraid that if her plot of land produced too much, her field, which was granted to her by her village chief, would be taken from her.

Not far from there, other women at a radio club are listening to the broadcast and start sharing their own experiences. The issue of land tenure and poor access to land and the consequences on food security are being addressed. Then back home at their village, they bring up the issue, and finally a community meeting with the village elders and men is organized. Pledges are made that women can now improve their plot of land and put more food on the table without fear of losing their field.

This is a real story. The outcome might not be so positive every time, but the participatory communication process, where farmers and community members take the lead, nurtures change.

Improved agricultural technologies, whether modern or traditional, need to be shared widely to increase agricultural productivity and food security. For this to happen, there is a need to move from practices of information dissemination and demonstration to engaging community participation, fostering the appropriation of development initiatives by the communities, and supporting dialogue between all stakeholders.

Learning About Participatory Development Communication

In Southeast Asia, a project led by a group of regional organizations (The College of Development Communication of the University of the Philippines Los Banos, (CDC-UPLB), the Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC), the International Institute of Rural Reconstruction (IIRR), the Community-based Natural Resource Management Learning Center (CBNRM LC) and the International Potato Center-Users' Perspectives With Agricultural Research and Development (CIP-UPWARD)) promoted an innovation in learning among multiple groups of learners, involved at different degrees in community-based natural resource management (CBNRM), as community organizations, NGOs, researchers, and government members and located in different countries of Southeast Asia. As a capacity-building and networking program, ALL in CBNRM (adaptive learning and linkages in CBNRM) focused on the social, communication, and collective problem-solving processes enabling communities to manage their

environment (Adaptive learning and linkages in community-based natural resource management, CDC-UPLB 2007).

The program was a continuation and an evolution from the Isang Bagsak program, aiming to build capacities in participatory development communication in Southeast Asia and in East and Southern Africa. In Southeast Asia, Isang Bagsak involved more than 50 NRM researchers and practitioners in government, non-government, research and academic institutions, and community-based organizations in Cambodia, the Philippines, and Vietnam. The African program was active in Uganda, Malawi, and Zimbabwe. ALL in CBNRM built on this experience by integrating the participatory development communication approach more closely with knowledge related to community-based management in wetlands, forests, and coastal ecosystems.

The learning modalities were the following: (1) an introductory workshop; (2) face-to-face discussion of learning themes on participatory development; (3) exchange of experiences and reactions between the different learning groups through a regional online thematic discussion, with technical inputs from institutions and resource persons; (4) research support and field mentoring; (5) development of learning resources designed for community members and local stakeholders; and (6) two regional workshops at midterm and at the end of the learning cycle.

As for the learning themes, they integrated participatory development communication with the different approaches used in community-based natural resource management. There were 13 themes: (1) establishing a relationship with the local community; (2) involving the community in the identification of a problem, potential solutions, and the decision to carry out a concrete initiative; (3) identifying the different community groups and other stakeholders concerned with the identified problem(or goal) and initiative; (4) emerging understanding of roles and concepts in CBNRM; (5) arriving at a collective understanding of the local community and the CBNRM context; (6) enhancing the community's capacity for identifying problems and setting goals; (7) understanding stakeholders relationships in a CBNRM setting; (8) developing and implementing a participatory development communication plan; (9) enhancing processes for collective action; (10) developing partnerships; (11) monitoring, documenting, and evaluating CBNRM experiences; (12) encouraging CBNRM adaptation and innovation; and (13) participatory processes for policy change.

Such efforts enabled the sharing of knowledge and the building of networks of practitioners, community organizations, researchers, and government stakeholders during 8 years (2001–2009). The lessons from this initiative are still available. Successfully facilitated participatory approaches depend on the sharing of knowledge and the creation of networks between community organizations, practitioners, researchers, and other stakeholders.

Empowering Community Members in Taking an Active Part in Their Own Development

There are many examples demonstrating the use of participatory development communication approaches for empowering communities so that they can take action. Here are some recent examples (Moving from information dissemination to community participation in forest landscapes 2017).

A project from People and Nature Reconciliation in Vietnam (Nguyen 2017) worked with two women's unions in ethnic communities in order to enhance women's capacities and knowledge to enable them to influence and take a lead in exploring alternative livelihood opportunities for their families and communities. The PDC approach led the project team to begin with a self-needs assessment and consultation with the women before planning training and activities. Those were identified by the women. The training courses helped them to identify potential forest products for market development. The participants chose to focus and explore the potential of three products. Through the process, the women also expressed their desire to be more involved in forest management in order to negotiate their rights and access to forest resources. The project supported them in identifying all the stakeholders involved in the management of the forest, their needs, and situation so that women could negotiate with them. Cooking competitions and cultural performances helped them to gain attention and interest.

Another initiative, in the Philippines (Diaz 2017), incorporated participatory development communication approaches to build the capacities of indigenous youth in participating in the production of communication tools to enable the sharing and expression of their cultural heritage. In this case, two-way communication among indigenous youth was supported in order to discuss priorities in terms of community development. At the end of the process, a youth festival including communication workshops, a newsletter, a video, and a declamation piece about youth's aspirations and dreams were produced by the participants, and all contributed to the promotion of indigenous people's identity, rights, and culture.

Participatory development communication was also used in the Philippines in the context of promoting and preserving indigenous people's sustainable food systems (Dagli et al. 2017). The project was able to facilitate a process where indigenous people identified innovative ideas and practices that could be further developed into community innovation projects to address specific food systems-related problems.

In Fiji, a similar approach was used in the context of adapting to climate change and ensuring food security (Elder 2017). At the outset of the project, PDC was used to develop relationships and trust between the communities involved in the project, the project team, and the government. It then led stakeholders in identifying problems and initiatives to address them in the context of rising sea levels. They identified a set of actions that they, together with external specialists, would carry on to address the identified issue of food security. In Ghana, Radio Ada also used participatory development communication to facilitate consensus-building and decision-making at the community level in order to restore a waterway which used to be at the heart of the lifestyle of the communities bordering it (Larweh 2006).

Involving Communities in Their Own Development

In the context of natural resource management and agriculture, many practices of researchers and extension agents still rely on top-down dissemination methodologies. In such a context, farmers are not involved in the decision-making process regarding technologies and practices to use in their field. Despite the hardship and difficulties associated with their traditional activities, they tend to overlook the technologies or practices shared by researchers or extension agents or use them only in the context of a given project that enlist and retribute them for a definite span of time.

Participatory development communication and its two-way communication model helps in improving the exchanges between researchers, extension agents, and farming communities, enhancing farmers' participation in experimenting different approaches and technologies, and fostering farmer to farmer training.

In Uganda, a project led by the Banana Program of the National Agricultural Research Organization used such an approach to foster active participation of local communities in identifying problems in their banana gardens, as well as their causes and possible solutions (Odoi 2006). The research team found that certain community members had extensive indigenous knowledge related to the concerns identified collectively, but it needed validation and complement of information, as well as a mechanism to share such knowledge among farmers and communities.

Farmers got involved not only in the experimentation of the techniques they had selected but also in producing and using communication tools to share their knowledge among their community and in a second step with neighboring communities. They made posters with photographs they took in their field before, during, and after experimentation and also produced a video with the help of the project team (This had not been planned. The team produced a video but the farmers were not happy with it and asked to be shown how to do one.) that they used during diversity fairs they organized or in which they participated. It is interesting to note that the community members involved in this project later organized themselves into a farmer association that became quite influent in the country.

In Vietnam, reversing the top-down dissemination approach to a participatory one helped engaging disadvantaged groups in local development. Following a policy change in the central mountains, new regulations aimed to protect the forest drove ethnic minorities used to a slash-and-burn model of agriculture in search for alternative livelihood solutions. A team of the Hue University of Agriculture and Forestry (Le Van An 2006) developed an initiative to engage these community members, and especially the most disadvantaged groups of the community, in participating in a collective journey to develop new livelihood practices. Community members regrouped according to their farming activities and interests and shared ideas and opinions on the problems they now were confronted with. With the help of the researchers, they then started looking for solutions and experimenting them. For example, in the case of rice production, farmers decided to test new varieties and to try out the application of a fertilizer, together with transplanting and direct sowing

methods. Training was organized to support the different initiatives. Role plays, videos, posters, and leaflets were used as needed.

Managing Local Conflicts

Conflicts and opposed interests are linked with the management of natural resources. Finding solutions is never easy, and sometimes these are out of reach of the communities themselves. The case of land reform is a good example.

But there are many conflicts at the local level on which people can act and where a participatory development communication approach can make a difference.

In Lebanon, conflicts over land use among animal herders, fruit growers, and quarry owners in a semiarid area were addressed by the intervention of a research team from the American University of Beirut who set up a user's network between different stakeholders, using a wide range of tools, including traditional communication tools such as the *majlis*, tribal get together during which issues are brought up in the community, short video documentaries on different issues which were used as powerful participatory tools, a series of workshops related to natural resource management and community development, etc. The network provided an environment in which conflict resolution could take place among different land users since the needs of conflicting parties could be voiced and compromises explored (Hamadeh et al. (2006) in Bessette G (ed), op. cit.).

In Burkina Faso, a local conflict over land use between men and women was addressed through a process of involving the women, who were victims of a local usage of taking good land from them, into addressing the situation (Thiamobiga 2006, in Bessette G, op. cit.). Five villages participated to this initiative. The issue could not be discussed publicly in regular community meetings because women of this area did not have the right to speak in public.

They used a traditional custom: once a year, women would dress themselves as men and could do as they wished without retaliation of any sort. With the help of a local NGO, CESA0, and the Théâtre de la Fraternité, a group of women from the five villages developed and organized a play in which, dressed as men, they addressed a number of issues linked to property rights but also soil productivity. A debate followed the theater play and served as a learning experience for everyone. Farmwives giving advice on soil fertility to men was a first to the region. At the end, the village elders took a pledge of respective women's land rights. If their plots produced more than others, they would not be taken from them anymore.

Conclusion

There are many examples of applying PDC in natural resource management. In all of them, the common trend is the use of communication to empower people to identify and understand the problems they face (it could also be the case of a collective vision they wish to contribute to) and identify a set of actions to address them and then to

support such initiatives. In a review of similar cases from Africa, Indonesia, Lebanon, and others, it was suggested that the processes that PDC practitioners concentrate on can be grouped in four categories (Saik Yoon 2006), communicating effectively, creating knowledge, building communities, and enabling action.

As the author of this review puts it, “Conventional communication for development efforts usually concentrate on the first and last cluster (communicating effectively and enabling action. PDC covers two additional clusters (creating knowledge and building communities) that aim to self-empower people through augmenting and validating their knowledge of critical issues and subjects that affect their lives, and through forging strong alliances between people, groups and communities so that they can consult and act effectively together in order to address problems and realize aspirations” (Idem. p. 275).

This being said, as Nora Cruz Quebral, one of the main founders of our discipline puts it, “New models of communication do not necessarily replace older ones. They just co-exist” (Quebral 2006). What is important for practitioners is to be clear about the kind of communication and what kind of development they advocate. Participatory development communication takes a stand on empowerment as the key to effective community-based natural resource management.

It is also a communication of proximity. As such, it is most effective in working with local communities. It is also a useful complement to working at a policy level on issues such as climate change, agricultural policies, land tenure, etc., because at the end, such policies can only be effective if people see them as an answer to their needs and implement them.

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