

**RESEARCH FOR TELECENTER DEVELOPMENT:  
OBSTACLES AND OPPORTUNITIES  
Raul Roman and Christopher Blattman**

***Rationale***

Conducting field research in the developing world is, under any circumstances, a complex affair, and the study of information and communication technologies (ICTs) in this context adds yet another series of special challenges. Nevertheless, telecenter research offers tremendous opportunity to understand the role of communication and information in development. More importantly, a participatory research approach provides the tools to meet community needs, foster participation, and monitor the financial viability of the telecenter. The special challenges of ICT research must, therefore, be met and openly discussed. Accordingly, this is a paper about the particular challenges of research in telecenter development, and what is hopefully the beginning of a practical literature on responses to these issues.

The obstacles and opportunities that inspired this paper were encountered during several months of fieldwork by two separate researchers on two different telecenter projects in rural India. Consequently, we begin with a brief description of the two ICT initiatives, and our respective research agendas. This is Section 1. Section 2, generalizing somewhat from our specific field experiences, describes a set of challenges for research fieldwork in the area of ICT for development. In it, we describe methodological concerns such as measurement issues and inevitable tensions and conflicts in conducting ICT research. In Section 3 we review the opportunities in telecenter research and propose a set of recommendations for conducting research for telecenter development.

***Purpose and audience***

It is important to emphasize that the description of the challenges we encountered and the opportunities we foresee may serve as guidelines rather than prescriptions. This set of condensed guidelines is directed to telecenter project managers and practitioners, and professionals in international and national organizations interested in ICT for rural development. Experienced researchers and social scientists should not expect an innovative discussion on field methods; this is simply an account of our field experience as researchers. Our ideas are intended to contribute to the debate on the use of ICT for economic and social change. Because there has often been a blind confidence in ICT as a tool for development, it is especially important to discuss what is really happening in the field

**I. Overview of our projects and approach**

***The Cornell-TANUVAS Project***

The Communication Department at Cornell University, in partnership with the Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), is setting up a research and development telecenter project, with financial support of the International Development Research Center of Canada. The project, modest in scale, aims to test the role of universities as a support unit for rural telecenters. In the first phase, TANUVAS is converting three of its research and training offices to telecenter support units in the districts of Tiruchy, Vellore and Madurai, and installing sub-centers in three villages located in those districts.

## ***The Sustainable Access in Rural India (SARI) Project***

The SARI project is part of the Digital Nations consortium of the MIT Media Lab and Harvard's Center for International Development (CID), in collaboration with the Indian Institute of Technology-Madras and the I-Gyan Foundation. Its aim is to foster access, effective and innovative use of information and communications technology for economic and social development (for example, education and literacy, health, income generation) in under-served rural Indian communities. Presently in its Pilot Phase, SARI is deploying computer and Internet kiosks in up to 100 villages in the Madurai district of Tamil Nadu, kiosks that are being adopted and integrated with the assistance of local entrepreneurs and the DHAN Foundation, a regional community organization. (Additional information on the SARI Project can be found on its homepage: <http://edevelopment.media.mit.edu/SARI/mainsari.html>)

### ***Research Approach***

Cornell University and Harvard's CID have each borne primary responsibility for research coordination in the TANUVAS and SARI projects, respectively. The research includes three interrelated approaches:

- ? **Community Information and Communication Needs Assessment.** This is the first step: a thorough baseline study of community needs, habits, and perceptions. It is also our most basic tool, as it will influence the design of the telecenter, and determine the quality of subsequent evaluation exercises. The needs assessment uses a range of different qualitative and quantitative methods, depending on the needs of different stakeholders.
- ? **Telecenter Evaluation.** This is an ongoing monitoring of telecenter use, operations and finances. Usage data can be collected through telecenter log-sheets (use patterns and equipment performance, for example), focus groups, and informal interviews. This kind of evaluation is strongly linked to assessing project sustainability.
- ? **Social & Economic Impact Evaluation.** This is a more complex research objective, and it is linked to the interest of specific stakeholders (probably external agencies, universities, and government institutions) for specific purposes (including informing policy-making, encouraging investment, and meeting the requirements of donors), and presupposes the practice of more sophisticated quantitative methods of measurement and analysis.

Both projects will ultimately use all three approaches. This paper, however, stems from our experience with the first step: a community needs assessment data collection coordinated over the summer of 2001. In both projects the study was conducted before the telecenters were installed.

## **II. The special challenges of telecenter research**

In conducting needs assessments in several communities, we were tempted (and ultimately chose) to combine the analysis of needs with the establishment of a baseline of activities and living standards from which to measure the impact of telecenters. With these two objectives in mind, both projects pursued a three-pronged approach of field interviews, participatory group exercises, and a household survey. The effort, however, was frequently complicated and occasionally stalled by special challenges related to our topic of research. These challenges can be crudely grouped into 'methodological challenges' (specific technical problems that limit how telecenter research is designed and carried out) and 'contextual obstacles' (characteristics of the contextual environment where the study takes place that influence how research is conducted). It is important to note that this is an artificial classification made to facilitate our exposi-

tion, as it is clear that technical issues cannot be separated from the social environment in which research is practiced.<sup>1</sup>

### **A) Methodological challenges**

Conducting surveys in rural India is expensive and time-consuming, and the researcher always runs the risk of getting multiple sampling and non-sampling errors. The list of technical problems is long and has been mostly addressed elsewhere by other authors (Casley & Lury, 1987; Deveraux & Hoddinott, 1993). Yet there are methodological problems, specially related to measurement (what to measure and how to measure it), that are inherent in needs analysis for rural ICT projects.

Central to these methodological challenges is the simple fact that information needs and the value of communication access are intangible, complex and multidimensional in nature, and thus naturally difficult to understand, assess, and most of all quantify. The following obstacles posed significant challenges to our research efforts, whether conducting qualitative or quantitative studies.

#### ***Absence of specific indicators***

Because research on 'ICT for development' is at a premature stage, few reliable measures are available for the evaluation of community ICT needs and (ultimately) of social and economic impact. Even with well-defined telecenter services and initiatives, this is a considerable challenge. When telecenter services are ill-defined, as often happens in needs assessments, the operationalization of indicators can become a problematic process.

Rural development projects nevertheless attempt to obtain quantifiable information in two principal ways: through the familiar survey instrument and through the Participatory Rural Appraisal (PRA). In our experience, a PRA (properly conducted) is an effective and efficient tool for identifying community needs, especially before the objectives and plans for a telecenter project are established.<sup>2</sup> The participatory approach, moreover, has other (and perhaps more important) purposes than data collection, purposes that we will discuss momentarily.

The true measurement challenge begins in the effort to collect quantitative baseline data through a survey instrument, especially data that can be used to assess a cause-effect relationship. Several authors have already attempted to address this issue, and several indicators have been proposed (Whyte, 2000; Ernberg, 1998b).

What is less frequently discussed is the actual use of such indicators (i.e., in the form of survey questions), and the delicacy and strain involved in the task. There is much talk about what should be done, but not much on how to accomplish it in the field. Even after we designed our questionnaires and gathered the data, we remained puzzled by the same problems: What factors can we expect to change as a consequence of access to communications and information? Which of these should we measure as a baseline? Even assuming we see an impact, how do we assess and demonstrate causality? What makes an appropriate control group or control variable in a telecenter context? We *begin* an answer to these questions in the final section of this paper. But first there are other challenges to discuss.

#### ***The 'play-safe' syndrome in a situation of uncertainty***

The challenges of measurement hold further consequences in that the exploratory nature of our inquiry may tempt us to cover too many issues. In our telecenter research we undoubtedly fell prey to "the 'play-safe' syndrome – the attempt to guard against neglect of a causal feature

by covering any remotely related topic” (Casley and Lury, 1987: 209). This is a tendency that was particularly exaggerated by the difficulty in identifying indicators for our baseline study.

For example, in order to measure the potential benefits to village farmers of improved access to agricultural market price information, the SARI researcher attempted to assess price search activities and price gaps between the actual and potential market prices received. The complexity in such an assessment, however, was seemingly unbounded. Consider that in addition to understanding how a farmer obtains price information, it is desirable to identify where, when, through whom, and how often he does so. The cost, quality, and helpfulness of this price information are also relevant, but equally complicated to assess. For market prices received, furthermore, it is critical to understand how much, when, and where crops were sold. Were brokering or transport fees included? Was the seller bonded to the buyer? These questions are relevant, but add to the complexity, especially in the case of multiple crop varieties or harvests. What was the quality of this information? Was it necessary?

### ***Assessing ICT needs in a context of poverty and isolation***

There is limitless potential for error in any developing country survey. Often these errors are committed by surveyors: errors in coding or interviewing, for example. This revelation is hardly new, and intensive training and supervision (as we tried) have been shown to reasonably control such errors internal to the research team. On the other hand, there are sources of error that reside within the respondents, both in responses and in non-response. Naturally some respondents are unaccustomed to the rigid structure of a survey questionnaire, and this may have been the reason for some misunderstanding (not uncommon in fieldwork research).

In ICT studies, however, we have seen that we must also contend with an intangible and unusual subject matter. In this case, the new and exceptional source of error will be that many respondents do not understand the questions simply because they are not familiar with the technology or the abstract concept of information. This is a specific problem of needs assessment for telecenter projects. Ernberg (1998a) best summarizes the fundamental problem that poverty, isolation, and the consequent unfamiliarity with technology pose for the ICT researcher:

“Pre-project surveys in communities, where most people are poorly educated (if at all) and have not even seen a telephone, let alone computers, are unlikely to identify needs other than those already imagined by the survey designers. Most people are unable to imagine the potential of ICT until they see, and actually *try out* the tools. Only then can they express their needs as they see them.

For the same reasons, pre-project surveys will not provide much information about the actual *demand* for ICT in rural and remote areas. Considerable efforts of marketing, including free or nearly free use of the facilities, as well as of user training will be required to stimulate the demand.”

In Madurai District, for instance, familiarity with telephones, including mobile telephones, was virtually universal among villagers of all income levels and castes. Even small villages, in fact, often possessed at least one private connection, although public access was usually non-existent. Knowledge of computers, or at least their existence, was common, especially among the middle and high-income villagers. Few, however, have ever seen a computer in operation, and in general villagers possessed only a vague idea of its function, let alone its potential for communication and information provision. Many equated computer skills with obtaining well-paid employment, but seldom could the nature of such employment be described. The Internet,

finally, was familiar only to select families with sufficient incomes to send their children to university or computer school.

Naturally, villagers were unable to envision the usefulness of a telecenter for the village. Beyond easier and public access to telecommunications, few envisioned much use for such a setup, except to the extent that computer skills were associated with employment opportunities. The villagers simply could not demand what they do not know, and they cannot ask for what is beyond their daily experience or expectations.

At root, the problem is that the rural villager (let alone the researcher) *has no ability or basis on which to judge the costs and benefits of access to technology and information*. This is as much due to unfamiliarity with the technology as it is to a relative lack of education and isolation from modern communications. Consequently, the villager has no way to assess the value of potential services, or the value of previously unavailable information. The researcher and telecenter manager, furthermore, are unable to assess the viability of telecenter services, along with the community's willingness to pay for new kinds of services.

### ***Confusing expectations: feeding response errors***

Another problem encountered as a result of the novelty of ICTs and ICT research was the tendency, most commonly among survey staff, to promote and advertise the advantages of ICTs and the telecenter project. The arrival of research facilitators and survey administrators in a village, whether Western or native, naturally enlisted a great deal of curiosity, and researchers were frequently encouraged to explain the nature of the project and the advantages offered by the technology and information.

New technologies and the telecenter project are understandably interesting subject matters, and knowledge of these matters conferred attention and status on the researchers. It seems the temptation was often too great for many well-trained and well-warned staff to resist, and we now vie with an unexpected difficulty: that communities may contaminate their responses by providing the information they think is expected of them or that they think would benefit them most. This difficulty only contributes to the confusion of the data, the researcher, and the village. How so? Despite extensive training and encouragement to the contrary, time after time survey staff would go to great lengths to explain the potential for telecenter development to village leaders and residents. Accordingly, when pre-informed of the nature of the opportunities available through new information and communications, some responses were inevitably tainted. Questions about a farmer's price search activities sometimes elicited packaged responses that reflected information fed to the village by survey and translation staff. Furthermore, once contamination occurred, the germ spread fast. More than once we arrived in a new village only to find the leader ecstatic over the advantages of telecenter initiatives. This issue is strongly connected to the previous section, even though it may appear as contradictory.

## **B) Contextual obstacles**

Still, as challenging as these methodological issues were to identify and solve, a subtler and equally important issue was how would we resolve the internal conflicts and tensions inherent in telecenter research. Each stakeholder – including researchers, project managers, and villagers – possessed different objectives, ideologies and priorities. Aligning and resolving tensions was easily as important in conducting effective research as the concerns already expressed.

### ***Research versus implementation objectives***

In our experiences performing telecenter research in India, in some instances there was a tension between research methods and the practical decisions on project implementation. Research is by nature a relatively slow and systematic endeavor, while implementation is at its best nimble and entrepreneurial in its approach. Emphasis in one area thus has the potential to frustrate the other.

A balance of interests was difficult to achieve because our project stakeholders were composed of people with different educational and cultural backgrounds, and each one had different expectations about which objectives, research or implementation ones, should receive priority. As a result, implementation decisions were often taken before research was conducted and community needs assessed. For example, during the Cornell-TANUVAS research training and planning sessions, while still facilitating needs assessment research in the field, the team had already begun to identify the technology required and the urgency to negotiate a location for the telecenter with the villagers. Decisions needed to be made before an adequate understanding of the needs was formed.

A connected issue is there may be discrepancy between what the community perceives as needs and 'normative' needs, i.e., what an outside 'expert' source suggests. We need to take into account this potential discrepancy in the design of the research and interpretations of results. How to reconcile normative needs and community demand is a major challenge in telecenter development.

### ***Tensions between expectations and reality***

Two forces act to push the expectations beyond reality among local communities. One is the natural enthusiasm and optimism promoted by telecenter organizers and staff. Even the most evenhanded spokesperson for telecenter development will actively promote the potential for ICT—the opposite sort of people typically do not find themselves leading telecenter initiatives in the first place. The second force is the unbounded optimism surrounding development in local communities. Consider that, certainly in India and perhaps in general, there is a tendency to place great hope in information technology as a tool for rapid development. Similarly, rural villagers (particularly the most desperate) are willing to put their hopes in any development effort, hopes that are frequently improbable.

The consequence can be a telecenter adaptation of “irrational exuberance”. Effects range from the predictable (expectations of immediate gains for the village) to the disheartening (desperately poor villagers who, regardless of the nature of the initiative or discussions, beg for and presume employment and well-being as a result of a development effort). Therefore, aside from the practical considerations of this expectations gap, namely the inevitable consequences of disappointment and disillusionment, there is an ethical element in setting expectations.

### ***Ideological and cultural asymmetry***

From the outset, the Cornell-TANUVAS research methodology embraced a philosophy that was especially bottom-up and participatory in nature (participatory in design, data collection, and data interpretation). However, the researchers encountered a substantial amount of resistance (often passive resistance) to such an approach. During the preliminary research phase in India, some stakeholders expressed their concern about the viability of participatory methods in the Indian rural context.

While the participatory approach has been embraced, and indeed led, by non-governmental organizations in rural India, other stakeholders have been less enthusiastic. A common attitude is skepticism of the usefulness of group exercises, or questioning the validity of interview responses on the basis of the respondent's education or caste. It was evident that it is difficult to break the traditional philosophy of the traditional agricultural extension, top-down and authoritarian approach. On the other hand, it is also important not to foment an idealistic portrayal of village life, or an idyllic image of the otherwise abstract concept of 'community participation'. There are class and power asymmetries at the village level that any telecenter project needs to deal with. That asymmetry too will be reflected in how research is incorporated in the project, and it may also affect the research process.

### ***Bureaucratic versus constructive conceptions of research***

It is not uncommon to view research as an institutionally imposed requirement, a bureaucratic practice, conducted by 'experts' (usually outsiders), for purposes that are not perceived as relevant for the community or for the project, purposes that are often expensive and time-consuming. This perception, which has roots in the *history* of development and in the conventional foundations of social science, frames research as a bureaucratic burden rather than as an opportunity to learn and to share experiences.

There is also the constructive role to consider. In India, as foreign researchers, we were instructors and project partners at the same time. For example, the researcher wants to make certain that the survey is conducted properly. For this, he may have to act as an instructor (a foreign instructor, note). The researcher is also a partner who wants to empower local people to take ownership of the project, and to make the survey a learning experience for them.

The bureaucratic conception, however, has the power to overwhelm the constructive one. Consider the situation where a foreign consultant is considered by the field staff (and the villagers) as a simple data-gatherer (paternalistic or authoritative) who wants some information for his own analysis. During our needs assessment data collection in India, a member of the survey team told us: "Don't worry. You came all the way from the US to get this information, and we are not going to deceive you". This observation denotes a clear misunderstanding of the research process, and is connected with the issue of ideological asymmetry discussed above.

### ***Breaking some rules***

Finally, in telecenter projects, there is a pressing need to move forward and develop access and the services themselves. Hence, our research becomes a collaborative assessment for action, and the design of our needs assessment could not afford to follow some of the anthropological rules of fieldwork. As facilitators, for example, we possessed little time to collect the baseline data and to explore community issues. These are obvious constraints that may hinder the research process in different ways. This action-oriented research is important in project management and evaluation, and needs assessment is certainly not a 'one-shot' exercise. Nonetheless, some may argue that this type of fieldwork will have to struggle to fit into traditional academic protocols.

## **III. A practical approach to research for telecenter development**

As we have presented in the previous section, in research for telecenter development we have two broad specific problems to address: one relates to technical issues and measurement; the other relates to the social environment in which research takes place. Thus the first issue is the design of a research methodology that is appropriate given: (a) the difficulty in understand-

ing, let alone quantifying, something as intangible and complex as information needs and impacts; and (b) the difficulties, even if results were easily measurable, that rural communities will have in providing information about their information and communication needs, habits and values.

Second, we need to ensure that any methodology effectively balances the interests and ideologies of stakeholders which vary from achieving telecenter sustainability, to speeding implementation, to empowering communities, and to academic investigation. Below we suggest a condensed list of guidelines that will hopefully be of use to policy-makers, researchers and telecenter managers in dealing with these issues,

### ***Understand what surveys can and cannot do for telecenter research***

Quantitative data are naturally of interest in (1) assisting telecenters in identifying needs and telecenter opportunities, and (2) assessing the telecenter impact and demonstrating causality. Survey data, however, have important limitations in both of these respects.

In terms of assessing needs and opportunities, we found that the most valuable insights into the telecenter value and services sometimes arose from field visits and interviews, not survey data. Moreover, field study was by far the fastest and most efficient way to gain such information. Consider again our investigation of the value to farmers of on-line access to market prices. The most important input in assessing this opportunity was our understanding of market structure and existing price search habits. We learned through interviews with farmers, brokers, and government that local custom, government interventions, and market price behavior made the value of an on-line price application more dubious than not. Survey data on price search activities and prices received were of more limited use and, in light of our qualitative study, perhaps not the best use of our limited research resources.

This discussion is not, however, intended as a polemic against survey methods. The survey, in fact, is invaluable in assessing demand for services, identifying profiles of those who use (and don't use) telecenters, and in assessing impact and causality. However, a few recommendations for making rural ICT surveys more germane include:

- ? **Focus on familiar and measurable characteristics.** The problems of measurement and reliability appear to have been minimized when surveys were confined to items that were familiar and straightforwardly calculable to the average villager. Demographic characteristics, economic activities, communication habits and expenditures, and finally where and how frequently villagers sought information were the most dependable sorts of data we collected.
- ? **Avoid abstract questions about information and activities.** Questions requiring subjective judgments such as assessments of the usefulness, quality and value of information (and potential information) delivered results of questionable reliability. Not surprisingly, villagers often had difficulty commenting on any abstract concepts in survey format. It is easy to take for granted our own familiarity with information technology, as well as survey methods. Given the lack of familiarity with these issues in the rural context, it is unclear that such assessments belong in a survey instrument.
- ? **Use surveys to refine opportunities and impacts already identified through thorough qualitative study.** Surveys make sense (and are the most cost and effort-effective) when specific telecenter services have been identified and a thorough qualitative investigation has

been performed. Consequently, as we will discuss below, the ideal research approach is multi-disciplinary.

### ***Develop a multi-dimensional, multi-instrument research approach***

Above we discussed one reason why a multi-dimensional, multi-instrument approach is of value. It pays to first identify ICT needs and opportunities qualitatively, based on familiarity with the region and the inclusion of as many locals from all walks of life. This includes extensive anthropological interviews, participatory group exercises, and informal surveys of villages and households.

A participatory approach can be important in additional ways, as it has the potential to empower the community, create self-efficacy and enhance self-esteem. It can persuade local villages, entrepreneurs and NGOs to take informed action, and fosters a sense of project ownership. However, we also found participatory activities problematical in the ICT context. They were effective at helping us understand aspects of daily life, from economic activities to village social and spatial organization. But even well-administered activities experienced difficulty in producing results -- both informational and in terms of group empowerment -- that were directly relevant to the telecenter initiative. Again, the concepts of information and technology were too unfamiliar for participants to (a) understand and take advantage of opportunities, and (b) provide valuable field data about information and communication needs and habits.

We will have to be creative, therefore, in finding ways to estimate social change attributable to a telecenter project. Longitudinal surveys are undoubtedly helpful for scientific and political reasons. Nevertheless, a complementary qualitative and participatory approach is essential for putting the meat around the bones of a survey, and also for integrating telecenters into the community, and encouraging local ownership and innovation.

### ***There is no 'one-size-fits-all' research approach***

It is important to keep in mind that not every telecenter project needs to use the same research tools or adjust to conventional research plans. There is no 'one-size-fits-all' research agenda for telecenter needs analysis and evaluation. The project stakeholders need to decide what methods are going to be used after they decide who is going to conduct the research, and for what purpose. It is also important to understand who are the stakeholders in the telecenter project, namely who is going to use the research results and what are their needs and expectations. To avoid tensions and misunderstandings, it is important that right from the start the stakeholders clarify the following issues:

- ? What are the objectives of research: Project design? Community 'empowerment'? Academic and scientific knowledge dissemination? Awareness building? Fund raising? Project sustainability? Policy-making?
- ? Who is in charge of research: Who decides what methods are going to be used and who carries out the research? Who has a stake in the research results? Communities? Universities? Local and national governments? Project staff?
- ? What research tools do we use? There are multiple qualitative and quantitative research methods for needs analysis and evaluation, and not all of them are difficult to master, or expensive to carry out.

### ***Capacity building can be a powerful product of your research***

The ideological asymmetry described in the previous section may be dissuaded, in part, with a determined effort of capacity building. Here, we are not referring to training personnel to administer a survey or to conduct focus groups and interviews (as we, in fact, did). We mean a change of attitude. In the case of Cornell, we did not foresee the importance of capacity building as we were planning telecenter activities from a social science perspective; we did not give much thought to the fact that our Indian research team partners were veterinary doctors, not community facilitators or experts in social research methods or participatory approaches.

### ***Integrate the role of community development into the research approach.***

This is not the place to argue for community empowerment as a strategy for development. However, it is worthwhile to note that a telecenter research strategy that advocates participation frames the research design in at least two ways:

- ? **Avoiding the pitfalls of “Information Brokering”.** In our position as researchers and representatives of academic institutions, and as stakeholders in international telecenter pilot projects, we need to be more sensitive about our role as information brokers (that is, non-partisan advocates of a cause, in this case rural community development through ICT). There are obvious limitations to the outside researcher’s knowledge and judgment. As Wilson states, “the use of brokers, the deployment of consultants and the seeking of advice by ‘area specialists’ are often presented as ways of ensuring the airing of people’s wishes or of ‘objectively’ determining their needs. Yet, if policies are really to be of benefit, those people – who are the real experts – need to have a real voice themselves, rather than being represented by a broker chosen and perhaps paid by outsiders. Researchers working for outside bodies play a genuine role only if they work to reorient attitudes and structures towards allowing local people to take more power” (Wilson, 1993: 183-4).
- ? **Community building through self-learning.** In this project, research methods can be tools for training others and involving them in understanding and solving their own problems. It is not only about data collection, analysis and interpretation, and use in decision-making. It tries to help build community members’ confidence in their own problem-solving abilities. Moreover, it helps establish a communication link and a collaborative base between the communities, the telecenters, and the project managers.

As a consequence it is necessary to promote a new research culture based on ongoing collaboration and multi-stakeholder participation. This means finding and partnering with local organizations with research capability and objectives. All the partners, furthermore, should explicitly define their role in the research process, their objectives and expectations. There are many roles and many stakeholders, and there is a need for partnering and collaboration. The intervention of a foreign or external consultant does not need to have a negative connotation. If the research frame is openly and creatively negotiated among different stakeholders, the help of an external foreign or local facilitator can be very helpful.

## **IV. Conclusion**

Research for needs assessment and project evaluation is an important component of telecenter projects, because a research program suggests the tools to meet community needs, foster participation, and monitor the financial viability of the telecenter. Despite these contributions,

research is not a common practice in telecenter deployment. Even though many telecenter endeavors are self-labeled as *research* and development projects, or simply pilot projects, not many of these projects carry a rigorous research program (Hudson, 2001). There might be many reasons for that deficiency, including cost, time, or disenchantment with the process. All the same, we argue that discussion of the importance of research for telecenter development must be taken beyond that observation, *as that observation focuses only on the needs and interests of a single stakeholder.*

Since telecenters are generally 'development projects' that try to foster community participation and have a strong emphasis on sustainability, we believe that research for needs assessment and evaluation should be integrated as a natural component of *any* telecenter project, not just internationally funded initiatives with a mandate to report feasibility studies and evaluation documents. The purpose of research is not simply for such organizations to learn, manage or meet bureaucratic requirements. Research can also assist the stakeholders (such as telecenter managers or community advisory groups) in learning about themselves, so that *they* can take informed actions. Needs assessment and evaluation should not be an exclusive task of externally supported research projects, rather they should be ongoing practices of any community telecenter initiative.

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<sup>1</sup> In this respect, Deveraux & Hoddinott point out that “the distinction between methodological and other questions is at best blurred....Unless and until [the] contextual dimension of data collection is fully recognized -and accepted as integral to the process - fieldwork results risk being reported in a way which is misleadingly ‘precise’ and ‘objective’” (Deveraux & Hoddinott, 1993: 4).

<sup>2</sup> The characteristic description of PRA objectives and methods, in particular for quantitative data gathering, is that presented by Chambers (1987).