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Perceptions of Community-Based Participatory Research in the Delta Nutrition Intervention Research Initiative: An Academic Perspective

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Lower Mississippi Delta Nutrition Intervention Research Initiative (Delta NIRI) is an academic–community partnership between seven academic institutions and three communities in Mississippi, Arkansas, and Louisiana. A range of community-based participatory methods have been used to develop sustainable nutrition intervention strategies. Focus groups were conducted with 22 faculty and staff members from the academic partners on the project to document their perceptions of community-based participatory processes in a federally funded, multi-academic–community partnership spanning a decade. Focus groups were conducted to glean insights or lessons from the experiences of academic personnel. Focus groups were transcribed and analyzed using the constant comparative method. Two researchers analyzed each transcript independently and reached consensus on the consistent themes. Participants candidly shared their experiences of working with community members to devise research plans, implement programs, and evaluate outcomes. The majority of faculty and staff members were attracted to this project by an excitement for conducting a more egalitarian and potentially more successful type of research. Yet each academic partner voiced that there was an underlying disconnect between community practices and research procedures during the project. Additional barriers to collaboration and action, located in communities and academic institutions, were described. Academic partners stressed the importance of open

and ongoing communication, collective decision-making strategies, and techniques that support power sharing between all parties involved in the project. Findings from this research can inform academic–community partnerships and hopefully improve the community-based participatory research process implemented by academic institutions and communities.

Keywords: *community-based participatory research; academic–community partnership; rural nutrition program*

Community-based participatory research (CBPR) is an evolving orientation to research that accentuates individual, organizational, and community empowerment. This approach shifts the decision-making power away from being solely in the hands of professionals or “experts” into a shared relationship with community representatives with the intention of having more successful health interventions and a greater likelihood of community-sustaining changes (Leung, Yen, & Minkler, 2004). Because of the inclusiveness of the approach, CBPR has proven effective for addressing a variety of health issues such as asthma, chronic diseases, and many risk factors associated with a community’s environmental health (Boltri et al., 2006; Christopher, Gidley, Letiecq, Smith, & McCormick, 2007; Krieger et al., 2002;

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each state's university Extension Service; and the funding agency, the Agricultural Research Service (ARS) of the United States Department of Agriculture, were actively involved in the collaborative initiative. Unlike most grant-funded CBPR projects, the funding agency entered into a cooperative agreement with each collaborator, including each academic partner institution, each state university Extension partner, and with an entity or organization representing each community, which also served as its fiscal agent.

The three communities of interest, as defined by local residents during community entry by academic and funding partners, were an incorporated town, a community defined by local public school district boundaries, and an entire county unit and ranged in population from 1,500 to 21,000. Unlike most urban campus-community partnerships, in this collaboration the academic partners were located an average of 128 miles from the rural communities with whom they were engaged. Each community established a committee composed of community, academic, Extension Service, and ARS representatives to provide oversight and guidance of the CBPR process.

The study described here illuminate the academic partners' perception, a critical but often overlooked perspective in the literature, of CBPR processes in a rural, federally funded, multi-academic-community consortium. In this article, the experiences of academicians are explored, teasing out benefits and challenges of working with and in communities, and also highlighting the difficulty that academicians face in meeting the community's and funding agency's requests or recommendations. In conclusion, recommendations are made for harnessing the benefits of CBPR for change, overcoming barriers, and addressing academic institutional challenges. Findings and discussions presented in this article will broaden the "lessons learned" by including academicians to provide their personal and professional perspective, as well as their experiences of conducting CBPR within institutions.

► LITERATURE REVIEW

CBPR is defined as "a collaborative research approach that is designed to ensure and establish structures for participation by communities affected by the issue being studied, representatives of organizations, and researchers in all aspects of the research process to improve health and well-being through taking action, including social change" (Viswanathan et al., 2004, p. 3). CBPR is a community-driven approach to change, not discipline-driven, that reduces the traditional need for power that belongs to the researcher (Boser, 2006; DeLemos, 2006). The goal of CBPR is to strengthen a

Mohatt et al., 2007; Parker et al., 2003; Vásquez, Minkler, & Shepard, 2006).

Partnerships between academicians and community members are a key tenet of CBPR and have been noted as a positive alternative to the professional-centered approach that has historically been top-down (Metzler et al., 2003). In light of the shortcomings of traditional research methodologies and the manner in which they are used within public health, this contemporary research approach specifically supports community contributions. It recognizes that both types of expertise, academics' professional training and community members' wisdom and knowledge, are needed to effectively design, implement, and evaluate community interventions (Green & Mercer, 2001).

The Lower Mississippi Delta Nutrition Intervention Research Initiative (Delta NIRI) is an academic-community funding agency partnership in the rural Delta region of Arkansas, Louisiana, and Mississippi whose primary goal has been to design, implement, and evaluate nutrition intervention strategies aimed at addressing the high rates of nutrition-related chronic disease in the region, using community participatory approaches (Lower Mississippi Delta NIRI, 2004). Community members from three communities, one each in Mississippi, Arkansas, and Louisiana (hereafter referred to as community partners); seven academic institutions in these three states (hereafter referred to as academic partners);

community's problem-solving capacity through collective engagement in the research process (Viswanathan et al., 2004).

As Israel, Schulz, Parker, and Becker (1998) suggest, CBPR is a collaborative approach where community members, organizational representatives, and researchers contribute unique strengths and share responsibility for community-centered action to improve the health and well-being of local citizens. Community-based approaches among universities, practitioners, and community members are not a new research phenomenon. It is a relatively new concept, however, for communities and academicians to jointly define a research question, determine how to gather the data, and decide what actions to take after the information is gathered (Baker, Hormann, Schonoff, & Kreuter, 1999). Berkowitz (2000) purports that academic and community collaborations offer a great deal because (a) both have critical knowledge to share with each other; (b) information, resources, and skill disparities can be reduced between public health and communities; (c) collaboration can provide researchers with understanding of community needs and assets; and (d) a process for continual improvement could be developed among multiple partners.

Israel et al. (2005) provide a comprehensive list of principles that suggest that genuine CBPR facilitates equitable partnerships in all phases of the research, fosters co-learning among all partners, disseminates results to all partners, and involves all partners in the interpretation and dissemination process. Similarly, Shoultz et al. (2006) argue that CBPR should result in a sharing of knowledge, valuable experience, more effective culturally appropriate methods, and a deeper understanding of the unique circumstances of community dynamics. Continuity of both university staff and community membership, acceptance of all partners, power differentials, and ownership of data are documented challenges to building effective academic-community partnerships in CBPR (Israel et al., 1998; Matsunaga et al., 1996; Shoultz et al., 2006).

Relatively few studies have provided an academic perspective on CBPR or given attention to academicians' perspectives as participants in CBPR. Viswanathan et al. (2004) note that CBPR reports typically focus on community capacity building and outcomes rather than capacity building within the academic community. Limited guidance has been provided on the "institutional capabilities necessary to support and sustain CBPR" (Faridi, Grunbaum, Gray, Franks, & Simoes, 2007, p. 3). As Faridi et al. (2007) explain, there is a dearth of information on the time, energy, resources, tenure structures, organizational hierarchy, research focus, and power-sharing arrangements needed to conduct CBPR and nurture

strong partnerships between institutions and communities. As a result, this research seeks to answer many questions that are not currently presented in the literature.

► METHOD

Focus group interviews were conducted with 22 participants from seven institutions that were designated as academic research partners in the three communities of interest. Each focus group was organized along state lines, because academic partners in each state were engaged only with the single community located in their state. Participants from the seven institutions were purposively sampled, with the criteria for selection being active participation in a local NIRI community committee, defined as having attended a committee meeting at least three times in the past year. Meeting attendance logs were used to identify eligible participants. Focus groups were conducted early in 2006, a little more than three years after initial community entry by the academic and funding partners. All participants were initially contacted through the principal investigator at their respective institutions. Reminder letters were mailed to each participant at two intervals, two months and two weeks, prior to the actual focus group. Reminder e-mails were sent to each participant four days prior to the focus group. Each focus group was conducted at the institution chosen by the principal investigator where participants would be the most comfortable and would have to travel the distance. The informed consent process began with the informational mailings provided to each eligible participant, and written consent was obtained at the beginning of each session, according to protocols approved by The University of Southern Mississippi's Institutional Review Board (IRB). No incentives were provided other than snacks and reimbursement for travel to the focus group site.

The focus groups were conducted in meeting venues at a single institution in each state. A majority of the participants were female, with approximately half being Caucasian and half being African American, reflecting the composition of academic research staff associated with this initiative. The discussion guide consisted of 14 questions assessing personal experiences, changes in institutional research style, personal and institutional benefits, perceptions of community involvement, necessary changes for sustainability, perceived institutional roles, community committee successes, and concerns that needed to be addressed by the community committees in the future. The content of the discussion questions was derived from those originally used by Ndirangu, Yadrick, Bogle, and Graham-Kresge (2008) in a previous study to assess the perspectives of community members

in the three communities of the CBPR process. The same moderator led all three sessions to maintain consistency. The audiotaped interviews ranged from 1½ to 2 hours long. Audio tapes were transcribed, cleaned, and reviewed by the moderator and compared to moderator's notes to ensure accuracy of the responses and their meanings.

Transcripts were analyzed following the strategy of grounded theory or constant comparative methodology, beginning with open coding, followed by composing categories of codes and designating the interrelationship of codes (Strauss & Corbin, 1990). Qualitative Solutions and Research Non-numerical Unstructured Data Indexing Searching and Theorizing software program (QSR NVIVO) was used to facilitate data management and to enhance the systematic organization and examination of the data (Richards, 1999). Two researchers analyzed each transcript independently and reached consensus on consistent themes.

► RESULTS

Thematic analysis of transcripts revealed three broad themes, followed by subthemes reflected in Table 1. As the model indicates, the three main themes were (a) CBPR process issues, (b) institutional advances and challenges for grappling with the nature of CBPR, and (c) researcher benefits and challenges that emerged as a result of this CBPR project.

CBPR Process Issues

As is typical of most CBPR projects, the process associated with implementing and maintaining projects in these three Delta communities was difficult for many of the academic partners. Researchers and staff on the project repeatedly cited many issues that made this research more difficult than traditional research. Issues included the time and difficulty of making decisions, facing the tension between funding agency requirements and community requests, and communication. The process issues were categorized as challenges based on partner perceptions of the issues.

Discussion with partners from all seven academic institutions emphasized the importance of ongoing, regular, and systematic communication among all partners. One partner stated, "The biggest challenge I would say is communication between [academic] partners and community, us understanding each other, what we expect from each other, and the timeframe that it's expected in." Communication among various partners is necessary in CBPR decision-making processes, but the difficulty

associated with it was new to researchers and community members in this initiative. It was recognized that communication among the three types of partners—funding agency, academic partners, and community members—resulted in unique challenges and affected the whole intervention research process. As one academic partner said, "Who communicates to who, when, where, why, the whole line of supervision, both within the government (funding agency) and institutional partners and also down into the community affects our overall communication." Communication challenges were further confounded by the diverse nature of topics that had to be communicated among the various groups and individuals, as well as by the geographic distance between the communities and respective academic institutions. Processes that seem second nature to academicians, such as institutional review procedures, administrative logistics, and multiple job obligations of academic faculty and staff members required a great deal of discussion with community members. If these situations were not appropriately discussed, it appeared that the varying agendas of the collaborators could lead to misinterpretation or misunderstanding.

One partner, speaking about the complexity of the initiative, stated, "I think the biggest challenge in a lot of ways is the complexity of what we're doing and the different parties that are involved . . . understanding roles and responsibilities." The lack of communication or miscommunication became a key source of tension and turmoil during the CBPR process. All of the partners stated that the communities, researchers, and staff members worked through the communication issues and learned a valuable lesson through the process: Communication is critical to functioning well. Lessons learned about CBPR processes appeared to be the principal benefit derived by researchers.

Many of the academic partners perceived community members' frustration and acknowledged their own frustration at times as a result of slow progress and communication challenges. One stated, "I think that you always hear about how much time it takes, but this is reality, and it takes a lot of time. And I find that they (the community) get frustrated but I think that we, in turn, get frustrated because we have to all agree, and communicate what we want so that we can succeed. So I think that is this challenge."

Representatives from each academic institution noted the influence of the funding agency and perceived its control as a challenge to the CBPR process. Over time, representatives of the funding agency were perceived as undermining decisions the community and the other partners had made and influencing decision-making processes

TABLE 1
Academic Partner Perspectives on CBPR Collaboration in the Lower Mississippi Delta

<i>Challenges</i>	<i>Benefits</i>
CBPR process	
Decision-making processes	Learning over time how to address and work through the challenges
<ul style="list-style-type: none"> • Differing expectations among partners • Differing communication styles • Differing pace of decision making and consequent slow progress toward goals • Lack of clarity, evolving understanding of roles and responsibilities within partnership 	
Funding agency requirements versus community preferences	
Communication among partners	
<ul style="list-style-type: none"> • Processes, roles, and responsibilities for communicating among and between funding agency and academic and community partners • Differing understanding of information to be communicated • Geographic distances among partners 	
Institutional advances and challenges	
University processes not congruent with needs of community-centered research	Addition of research faculty and staff with new capabilities
<ul style="list-style-type: none"> • Human Resources procedures versus hiring community members in part-time research roles • Financial accounting rules and procedures regarding payment of expenditures in community (e.g., participant incentives, meeting refreshments) • Institutional Review Board procedures versus keeping up the desired pace of activity in the community 	Financial support for academic units Enhanced student learning experiences in the community Expansion of academic graduate programs Enlarged scope of professional practice experiences for academics and, in turn, for students Enhanced university reputation for community nutrition research Increased university visibility in and service to the community
Researcher benefits and challenges	
Transitioning from the more controlled research environment found in laboratory and clinical settings	Professional growth associated with learning new research approaches and techniques Personal and professional enjoyment and satisfaction associated with being in the community and engaged with the community members Career advancement through opportunities for networking and publishing Opportunity to translate research experiences into improved professional practice

without due explanation. Most partners experienced a decreased level of influence in their community relations because if a decision was made, representatives of the funding agency had a reputation for hindering decision implementation and future progress. One

participant remarked, "I really think if our [agency] representative doesn't like the ideas even though it is consensual between the institution and the community . . . she goes into sabotage mode . . . this person does the manipulation . . . much of your time has to go into

fixing, instead of us moving forward." Another participant said, "Things went reasonably well [in the community], and then about a year later or so, it was decided by the central group that we needed to follow a specific process. . . . I actually felt like we had our hand slapped because we had moved along too fast and were ready to make some decisions with the community."

Institutional Advances and Challenges

Although the academic partners noted the many challenges with the CBPR process, they also cited many benefits to their institution. Benefits included financial support to many academic units and their faculty through the research funding, positive impacts on academic programs, increased capacity to conduct community nutrition research, and enhanced relationships with communities.

The benefits to academic programs occurred in a number of ways. Many partners noted the benefits of the initiative to students. One faculty member stated, "I would have to say that a benefit for us [as a result of this project] has been expanding teaching possibilities through the university, and opportunities for students." The project was specifically seen as beneficial to students by allowing them to gain more hands-on educational experiences in the community. One partner attributed the growth of and ability to attract students to its PhD program to the initiative.

The nature of the research, a unique approach to influencing healthy eating and physical activity behaviors, provided institutional units with the opportunity to retool for a new research focus, away from the traditional clinical and laboratory approaches in which the researchers had been trained and toward a community focus better suited to addressing nutritional problems in the region. Faculty members commented that this initiative put their units on the cutting edge of research, despite the difficulties along the way. One partner commented, "Another way to think about it might be that it's kind of like the trailblazers, always getting the bumps and bruises first. So this kind of puts Arkansas and this coalition of universities on the frontline with working out some of the traditional problems in doing this type of work. CBPR is definitely advancing in the arena for science and what we see as knowledge." In addition, the institutions were able to hire, as research staff, individuals who brought additional capacity in community intervention work to their units.

The institutions also benefited from the relationships developed between the academic partners and

the communities they collaborated with, enhancing institutional missions related to service and outreach. Communities in fact viewed the projects as institutional service, until they developed a better understanding of the research process undergirding the projects (Ndirangu et al., 2008).

The opportunities for institutional advancement were not without their challenges. Time after time, partners mentioned the difficulties associated with doing CBPR in an academic setting unfamiliar with the ways project needs intersect with institutional processes and with the overall nature of this type of research. Some of the issues were summed up by one partner who stated, "Well, I think that the most difficult things are more budgetary issues about people or things that you had to hire or buy that were different from your institution's normal pattern of purchasing, like refreshments, and it also goes into hiring people," making reference to an emphasis of the initiative on hiring local community members as project staff and data collectors. Implementing community-centered research in the face of standard procedures of IRBs was also a challenge, reflected in this comment, "We're trying to really make it a participatory process. Lots of problems exist . . . down to little details about how to get IRB approval for things." The difference between research procedures and community action or programs clearly resulted in some community (and academic partner) frustration. "They (the community) are not used to research protocol versus 'doing something'" (i.e., as with an outreach program).

Charting the institutional waters was a learning experience for community and academic partners. Ultimately, academic partners realized that the opportunities provided to their institutions through this project were vast and that the benefits would be long-lasting. Each of the academic partners figured out ways to overcome institutional challenges for the benefit of departments, faculty, staff, and partnering communities.

Researcher Benefits and Challenges

Participation in this CBPR initiative offered a great deal of opportunity for personal and professional growth of the individual researchers, as well as professional challenges to them as individuals. The transition to research in the community was perceived as challenging and rewarding. As one partner stated, "The reason why I wanted to join or wanted to be a part of it is because of the community aspect. It's not clinical, it's not benchwork, it's not, you know, sitting in the office most of the time or something like that. I actually get to get out and be involved. So that's what initially

attracted me to it." As this participant stated, many of the researchers involved changed their research focus from a clinical to a community one, developing a new skill set and a fresh approach, reflected in this comment by another researcher, "I think that I found it a very refreshing, not only interesting, but [a] refreshing way of doing research." Some researchers were inspired by the potential to be involved in groundbreaking work in the region, as indicated in this comment: "I was very excited because I see it as being a historical piece of research. Plus it gave me an opportunity to do the community piece that I like with that whole personal mission of helping others and using your professional background in that respect."

Although the change from a clinical to a community nutrition focus was viewed positively, some partners articulated the challenges of this process. "Trying to transition from something (nutrition science) that is usually more characterized as a hard science where you had pretty rigorous controls to something that is like a social science in a way is very difficult to control." Nonetheless, academics acknowledged the opportunities provided by the initiative to advance their own careers through increased opportunities to network and to publish research findings.

Using qualitative research methods along with quantitative also offered the opportunity to learn a new research process and engage the community more directly in research. In addition, it provided researchers the chance to overcome their biases toward qualitative research methods. A research scientist who had joined the project as a master's-level research coordinator reflected this sentiment thus: "When I [started working] . . . one of the first assignments that I was given . . . was to look up literature on qualitative research. And I thought what is this? Qualitative research. O.K. Then, the more I got into it, the more I thought, hey, this is really neat. You know, this is why I'm seeing all these people in the hospital (in prior job as a clinical dietitian). It's because of what they are eating in the community. So, you know, it evolved over time . . . my interest in this kind of research, in this project."

Although there were numerous challenges with working off campus, most of the academic partners clearly articulated the satisfaction that resulted from laboring with community members for change. This satisfaction was expressed by one partner who said, "I wanted to make a change. . . . That is what made it (the project) most appealing to me because I thought that through research, I could help make changes to the way we do counseling and the way we provide educational materials."

► DISCUSSION

As other projects using CBPR processes have repeatedly noted, the research process is full of fruit and friction. The challenges that academic partners encountered, such as decision making and communication issues among the various partners, varying collaborator perspectives and agendas, and institutional barriers to getting research accomplished in the community, were not unique to this project. Findings confirm what other research suggests: that academic institutions (as well as individual researchers) must recognize the differences in research objectives, practices, outputs, and institutional resources required in community-centered research, compared to more traditional research approaches. Furthermore, university researchers must be willing to advocate within their own institutions to gain institutional support for CBPR (Minkler, Vásquez, Tajik, & Persen, 2008).

This study illustrates that communities and researchers are not the only entities with competing goals and agendas. Academic institutions and other institutional partners, their leadership, policies, and procedures might present other goals or agendas that introduce another level of barriers. Bureaucratic structures and procedures common in institutional and organizational environments do not necessarily support a community-based research agenda and some could argue would hinder the process of collaboration.

Norris et al. (2007) identified numerous challenges for the academic side of community-based partnerships. Findings presented here echo many of Norris and colleagues' challenges, including building effective relationships and acknowledging that community partner goals may not mirror academic goals. During focus group discussions with the academic partners, these challenges emerged. Yet it was obvious from partners' comments that they learned how to work through these challenges and learned a tremendous amount in the process. The degree of co-learning and capacity building by both researchers and communities has been noted as a criterion for assessing CBPR projects (Viswanathan et al., 2004). The level of learning described by the partners, often through trial and error during the initiative, suggests that there is a potential need for CBPR capacity building for academicians. Academicians might benefit from trainings that explore how to transition into a new type of research. For example, such training could focus on enhancing academicians' skills, such as communication, power sharing, and conflict resolution, that are necessary for successful relationships.

with community partners and among diverse institutional partners. Additional research could clearly define the type of training that would benefit academicians who are not versed in community work or CBPR. Ethically, this training is necessary for certain researchers to “do no harm.”

Findings presented here indicate that researchers must labor to address issues that institutions might not have previously encountered outside of CBPR. For example, CBPR protocols reviewed by university IRBs reflect a community perspective unfamiliar to most IRBs accustomed to reviewing more traditional research. Flicker, Travers, Guta, McDonald, and Meagher (2007) note that many university IRBs operate within a biomedical framework that does not take into account the community perspective on risk or joint ownership of research knowledge. Similarly, the way that monies are allotted and spent in CBPR projects may require different mechanisms for expenditures than those typically needed in more traditional university research endeavors. Institutional roles must be flexible to give genuine power to all partners (Shoultz et al., 2006). Regrettably, few higher education institutions have made clear strides in adopting policies and procedures that support and encourage faculty members to engage in CBPR. Fortunately, however, organizations such as Community-Campus Partnerships for Health (<http://www.ccpn.info/>) have devoted time and energy to identifying infrastructure needed to support academic-community partnerships. One leader on the Commission on Community-Engaged Scholarship in the Health Professions (2005) suggested that without leadership from the top, inclusion in mission statements and budget priorities, and faculty incentives, community efforts cannot succeed. It has previously been recognized that university structures, processes, and policies required to support academic-community partnerships are ambiguous at best (Seifer, Shore, & Holmes, 2003). These authors advocated for additional studies to further specify the infrastructure elements that foster effective and productive research.

► CONCLUSION

The benefits and challenges perceived by the academic partners involved in the Delta NIRI initiative provide valuable information about factors that influence the CBPR process in a rural region where local resources are limited, and academic partners with health and nutrition expertise are not close at hand. The benefits noted may encourage institutions and researchers who have not engaged in CBPR to consider this approach. Knowledge of challenges such as those described here may help future academic-community

partnerships identify potential challenges early and address them before the research procedures begin. Partnerships that adhere to the principles of CBPR would benefit from discussions or workshops that address, early in the life cycle of the academic-community project, research procedures, such as the IRB processes and expectations for project timeline, and the role, responsibilities, and procedures of the funding agency. Although there were discussions of these during the project, they may not have occurred sufficiently throughout the evolution of the CBPR interventions in each community. In any CBPR project, both community and university partners are engaging cooperatively in the same research; however, they cannot initially be expected to fully understand the requirements and commitments to which their counterparts must adhere. As understanding and communication increase and equality between the different entities occurs, relationships among the community, funding agency, and academic partners should strengthen. As community members take greater control of the project, the role of the researcher must be redefined. This dynamic relationship between researchers and community partners could create a stronger research component and ultimately a greater likelihood of project sustainability.

For CBPR to fully advance, additional research is needed to evaluate methods used to address the challenges and to harness the benefits noted in this article. Continued monitoring of academic-community relationships, the issues of CBPR process, and institutional support and management of CBPR projects is pertinent to the future of the field. Similarly, documenting the academic and institutional benefits reaped from community-based projects is critical to fully articulating the advantages of CBPR to institutions currently participating in this type of research or considering participation in the future. Short- and long-term outcomes from participatory research will only be met when community and university infrastructure are operating in tandem for the improvement of health in communities. Continuous attention to and reporting of the processes that work well and lessons learned through those processes can help those engaged in CBPR find the most advantageous processes that enhance community competence and quality of life and at the same time further the development of an innovative approach. Development of this approach must continually place a great deal of faith in the fact that solutions to community growth and issue resolution lie in the community. Moreover, it might recognize that academicians, although perhaps better versed in science, grantsmanship, and bureaucracy, function best in communities as facilitators of growth and change.

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