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Economic impact modeling as a tool for community economic development

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Abstract. Smaller communities throughout the U.S. are experiencing significant economic, social, and political change. Increasingly, if these communities are to address these changes in a proactive manner they must undertake grassroots initiatives. Local leaders recognize the fact that federal and state programs are inadequate to address local issues. In this paper we review a university-based initiative designed to help provide communities with economic, social, and political information. Using community economic impact modeling programs as a foundation, we outline a variety of educational processes currently being employed by a number of state public universities.

1. Introduction

Change is the one constant that smaller and rural communities can count on in their daily lives. People have the choice to affect change or be affected by it. The growing complexity of social, economic, and political structures makes it almost impossible for a comprehensive state and/or federal program to be sufficiently flexible to address the specific needs of individual communities. Increasingly, community leaders and local residents realize that to effect change in any meaningfully sustainable way they must undertake and promote community-based initiatives.

The need for local initiatives for sustained change is reflected in the Bush Administration's 1990 six point Initiative on Rural America.[1] Here the federal

[1] Briefly the points were: (1) President's Council on Rural America to advise the Federal government on rural development policy; (2) State Rural Development Councils to identify local needs and coordinate delivery of Federal and State programs; (3) Rural Development Demonstration Program to test innovative use of existing programs and resources to meet the needs of rural persons; (4) Rural Development Technical Assistance Center and Hot Line to provide direct technical assistance on federal programs and help callers identify appropriate federal program officials; (5) target Federal Rural Development Programs with discretionary accounts to

government explicitly recognized the fact that "one size fits all" federal (as well as state) policies force rural areas to recast their problems into some artificial form to meet program eligibility. The creation of the State Rural Development Councils and the National Partnership of Rural Development set in place a framework to bring federal, state, and local parties together in equal partnership to craft local strategies to address local needs (Shaffer 1996).

Some communities possess the social, political, and economic infrastructure or the entrepreneurial spirit and skills to successfully undertake community-based initiatives. Others, however, can initiate, conduct, and sustain change with a little outside help. This help can come from many places and take many forms. Potential providers include federal and state agencies that administer specific programs aimed at helping communities adjust to change. One could argue that the State Rural Development Councils reflect a new governance approach to providing federal and state assistance to local communities. Other sources of external assistance include private consultants who may work with community members to identify specific solutions to specific problems.

Increasingly private and public institutions of higher education are finding that they have a positive role in aiding communities as they adjust to change. The land grant universities and the Cooperative Extension Service have a long, rich tradition in providing assistance to communities. The U.S. Cooperative Extension Service's recent initiative called "Revitalizing Rural America" is an excellent example of a program designed to provide assistance to help local communities: 1) promote economic development to maintain rural jobs and income; 2) build local institutions to meet expanding rural needs; and 3) enhance cultural change to aid in the adaptation to external national and international influences. Today, seeking to make their work more relevant to the public, university faculty and staff are finding themselves under increased pressure to support and participate in university outreach activities (Webb 1997; Phillips 1997). State and regional public universities are creating new administrative positions charged with the mission to make their respective universities more responsive to the needs of the public. Various institutes and centers are being created with the sole purpose of facilitating university outreach activities.

There are two typical roles that university faculty and/or personnel can assume when offering help to communities. The first (and typically the most common) approach is to provide technical assistance by providing focused insights into specific questions. Here the university acts as a quasi-consultant, whose specific expertise on an issue is sought by the community. Local communities directly or indirectly use the applied research and policy analysis conducted within the university. The second approach returns to the central mis-

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activities with greatest payoff; and (6) the Working Group on Rural Development would be a standing committee of the President's Economic Policy Council to implement policy initiatives.

sion of the university as an educational institution. Here the university provides situations in which community leaders and concerned citizens can become better informed about issues that are affecting them. Through conferences, workshops, or community seminars, the university facilitates educational opportunities for the community to better position itself to improve its own situation. *The overriding goal of many of these efforts is to help local communities undertake more informed discussions that we hope lead to better decisions.*

One specific type of request for information that provides an entry into the community for university faculty and staff centers on the issue of economic impact analysis. State and local governments increasingly require that economic impact analysis be undertaken before proposed investments or policy changes can be approved and implemented. These economic studies are comparable to environmental impact studies and are intended to assess all aspects, both positive and negative, of the scenario under consideration. These types of questions also arise when communities are forced to face economic shocks, both positive and negative such as a firm opening or closing. Within Wisconsin, for example, state and local officials routinely turn to University of Wisconsin researchers and UW-Extension personnel to provide this information.

Responding to these requests, university faculty and staff have analyzed such questions in several ways, ranging from ad hoc seat-of-the-pants judgments to the construction of highly sophisticated systematic models (Glickman 1977). Regional economic models provide a particularly promising framework to address the questions posed by local policy makers. Constructed to reflect the workings of the local economy, these models can be used to forecast economic activity and predict the effects of alternative policies and various economic changes. Because local policy makers use this information for planning purposes, there is a need for accurate predictions of economic aggregates of interest such as income, employment, tax revenues, government expenditures, housing construction, retail sales, and population. Still, as noted by Scott and Johnson in an accompanying paper, even these economic aggregates at a minimum may be insufficient.

To help facilitate the ability of university faculty and staff to respond to these teachable moments in a timely and meaningful way, a national network a community economic modelers has been created under the umbrella of the Rural Policy Research Institute (RUPRI). RUPRI conducts policy-relevant research and facilitates public dialogue to assist federal, state, and local policy makers in understanding the rural impacts of public policies and programs. RUPRI utilizes an interdisciplinary approach to facilitate understanding of the rural impacts of public policies and to provide decision support to rural residents. Through topical research, policy impact modeling, and nationally recognized expert panels, working groups, and task forces, RUPRI has established an unique model for bringing objective external analysis to public policy decision making.

This comprehensive approach to rural policy analysis involves scientists from founding member institutions at Iowa State University, the University of Missouri, and the University of Nebraska, along with those from affiliate member institutions, as well as researchers, practitioners, and analysts from numerous universities, research institutes, governmental units, and other organizations. To date, RUPRI projects have involved over 176 scientists representing 16 different disciplines at 67 universities. This international collaboration includes community, regional, national, and international policy research and decision support programs.

A detailed review of RUPRI and the national network of community economic modelers as well as a description of a representative model flowing from this national initiative is provided by other papers in this symposium. In this paper we outline the manner in which these models present university faculty and staff with a unique opportunity to help local residents make more informed decisions. Using community strategic visioning programs as a model, we suggest a specific framework for interacting with communities to help them make more informed decisions.

2. The what and why of regional modeling

Regional models are built for a variety of reasons, with the end-use of a model often dictating the focus of the endeavor. Bolton (1985) lists four modeling purposes: pure economic science, economic forecasting, government revenue forecasting, and policy analysis (which subsumes impact assessment). Pure economic science as a motivation seems to be the least pervasive of modeling objectives; the literature would rightfully be characterized as evolutionary, rather than earmarked by path-breaking theoretical innovations. Significant contributions to the modeling process usually arise from new data sources, insightful applications of old data, or improved computational power. Shapiro and Fulton (1985) summarize the ambitions of the regional modeler: "If we have been successful, we have been skillful bricklayers rather than the manufacturers of new bricks in the sense that we have assembled, largely through the usage of existing techniques, a new structure rather than created new building materials" (p. xi).

The disparate purposes of modelers are reflected in the great variety of existing models; regional models come in all shapes and sizes. Despite this diversity, models can be classified as either *nonstructural* or *structural* (Treyz 1993). Nonstructural models make predictions based on past trends, analysis of regional changes based on national industry changes, and shifts in the local industry share of these national changes. A common approach to estimating nonstructural models is to use past values of the variables of interest to forecast future values. These models might be used to project future population,

employment, income, and the like, thus aiding regions as they plan for the future. For example, the State of Wisconsin's Department of Revenue has developed a sophisticated forecasting model that is used to project future government tax revenues. At the local level, local officials may want information on expected future school enrollments. While forecasts from nonstructural models are useful (and often good), they are inflexible in that the modeler can not easily manipulate them.

A second type of regional model is a structural model. These models are usually more complex because they investigate cause and effect *relationships* in an economy (Treyz 1993). Here, researchers develop models based on assumed behavior to predict how various actors will respond to changes in the economy. For example, we may want to investigate how household consumption patterns change in response to an increase in income. The true benefit of the structural approach, and the reason researchers dedicate so many resources to this approach, is the ability to simulate policy. In particular, detailed structural models contain a number of policy handles, which are variables that are at the discretion of governments, such as public infrastructure investment, property tax rates, minimum wage, and the like. Including these variables allows analysts to conduct forecasts under different policy scenarios.

Some of the simplest structural models used to estimate economic impacts for rural areas are economic base and input-output models (Richardson 1985). Unfortunately, these simple approaches are often piecemeal and ad hoc, failing to adequately capture the complexities of individual local markets. Because these deficiencies are significant, several alternative models have been devised, most notable of which are econometric models, conjoined input-output/econometric and computable general equilibrium (CGE) models.[2] All of these have been used extensively in state and national modeling and have compiled credible forecasting records (Schreiner et al. 1996). These models have a number of weaknesses. First, many are mystifyingly constructed, hence a black box to those not familiar with the particular model. Others are inflexible, designed to address a single policy question. Finally, few have been constructed specifically for rural areas.

As a result, there is a conspicuous and critical absence of consistent theoretical and/or empirical representations of rural economies that provide a compelling framework for analysis. This deficiency has important practical implications—without an accessible and acceptable model of rural economies, it is difficult to examine potential impacts of proposed policies. This hinders our ability to fashion effective development strategies.

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[2] The REMI family of models of Treyz and Associates offers a detailed conjoined model. Kraybill, Johnson, and Orden (1992) develop a noteworthy state-level CGE.

Small regions are undergoing substantial change in their local economies. As a result, local policy makers are asking more sophisticated questions. Unfortunately, many tools traditionally used by planners, economists, and others can not provide satisfactory answers. Compounding the problem is a rather underdeveloped theory of rural economic structure (Shaffer 1989; Amos 1989). As a result, local leaders often must make policy decisions with only minimal information and/or misinformation. Regional economic models offer a potential framework to better understand local economic structure and analyze these more complicated questions.

3. Roles of interaction with communities

In a detailed review of the community development literature, Christenson (1989) found three major roles, or themes, that community development practitioners can assume when working with communities. Christenson labels them (1) the self-help, nondirective, or cooperative approach; (2) the technical intervention, planning, or assistance approach; and (3) the conflict or confrontation approach. Such a categorization of approaches necessarily creates divergence across approaches where considerable overlap may occur. Christenson notes that many if not most successful community development efforts mix and match the three approaches, depending on the particular situation dictated by the community.

3.1 Self-help

The idea of the self-help approach to working with communities as they adjust to and cope with change is based on the premise that persons can, will, and should collaborate to solve community problems (Littrell and Hobbs 1989). In addition to the practical problem solving of this approach, self-help builds a stronger sense of community and a foundation for future efforts. It has been argued that the self-help approach fosters an environment within the community that enhances the sustainability of change. Local residents become enabled through their active participation in creating strategies to cope with the issues facing the community and therefore become more adept in dealing with future issues (Ayres 1996).

Many advocates of the self-help approach to working with communities focus more on the process than on specific tasks. Cebotarev and Brown (1972) describe the process as the approach by which persons arrive at group decisions and take actions to enhance the social and economic well-being of the residents of the community. They reason that the process aspect of the self-help approach is emphasized over the task aspect because the subject matter is not as important as the process through which persons achieve a goal. Ploch (1976), for example,

describes how a small number of citizens in a Maine community who were concerned about the level of health-care available in their community were able to organize and affect sustainable change. Through an organized and proactive grassroots initiative, the group was able to establish a community-based health care center. Ploch argues that the process the community went through in organizing and acting proved to be more important than the actual opening of the health care center. The success of the process appeared to strengthen community networks and created an entrepreneurial spirit within the community that has better positioned the community to effect change across a range of issues.

The role of the community development practitioner in the self-help approach is educational and organizational. While the practitioner may advocate the importance of the decision-making process, they generally do not advocate a particular policy or strategy. Rather, the practitioner helps the community refine the questions being asked, explore alternatives, and organize for action. The role of the practitioner is to provide persons with the skills and information to facilitate their decision-making process and to accomplish specific actions. Frequently, the practitioner slides between roles as facilitator of the process and as an educator. The practitioner may interject specific pieces of information that help expand the base of knowledge upon which the participants base their decisions. This information can take the form of sharing results of appropriate applied research efforts, policy analysis, or economic, social, and political trend data. But here again, the practitioner is serving in an advisory or educational capacity and as an unbiased consultant.

The primary advantages of the self-help approach include: (1) it builds a stronger sense of community; (2) it evolves into a holistic approach; (3) it builds a self-sustaining ability to deal with problems; and (4) it allows for community-specific solutions. The primary disadvantages include: (1) it works best in smaller communities; (2) change or action is often slow; (3) special interests within the community may cloud issues; (4) accomplishment of specific tasks becomes secondary; and (5) decisions can be based on impression rather than fact.

3.2 Technical assistance

As noted by Christenson (1989) the philosophy behind the technical assistance role or theme is that structure determines behavior. In many cases, advocates of this approach work *for* individuals rather than *with* individuals. These advocates are charged with addressing specific issues or accomplishing set tasks. In other words, technical assistance emphasizes accomplishing a specific task such as expanding a local highway, creating a new health care facility, attracting a new manufacturing firm to the community, or developing zoning ordinances for a specific locale. Here a practitioner is often responding to a spe-

cific event or request for information. For example, downtown merchants may respond *after* Wal-Mart or another mass discount merchandiser comes to town. The practitioner may seek insight into the impacts of a mass discount merchandiser on downtown businesses as well as specific strategies to counter or coexist with a major competitor. The community (or, in this example, downtown merchants) seeks specific answers to specific questions.

The technical assistance approach to working with communities generally takes one of two broad approaches: policy development and policy implementation (Fear, Gamm, and Fisher 1989). In the area of policy development the practitioner uses scientific methods to identify community strengths and weaknesses—usually, but not necessarily, with respect to the local economy. Based upon the analysis, future policy directions can be mapped again using scientific methods to compare and contrast alternative policy options. The policy implementation approach is based on the premise that the community has identified a specific set of goals or objectives and designed policies to achieve the goals or objectives. Implementation of the policies, however, requires certain technical expertise that often is not readily available within the community. The practitioner either provides the expertise directly or helps identify the expertise.

The practitioner's role is that of an advisor or consultant. The practitioner is less interested in the process of citizen involvement and decision-making and instead is focused on the specific task at hand. While under the self-help approach the target audience is the broader community, the technical assistance approach targets community leaders and administrators. The primary advantages of the technical assistance approach include: (1) change can be rapid; (2) it works in any size community; (3) task driven (easier to sink your teeth into it); and (4) decisions based on fact. The disadvantages of this approach include: (1) gives illusion of finality of the process; (2) process may be lost to task accomplishment; (3) often lose holistic view; (4) presumes practitioner has, or can obtain, the necessary technical skills.

3.3 Conflict

The founder of the conflict approach, Alinsky (1969), maintained that community development practitioners must take a much more normative approach to their work. The approach stresses that there should be a more equal distribution of resources in society and usually focuses on those individuals or groups with limited power and resources (e.g., minorities and the poor). As noted by Christenson (1989) the operational procedure suggested in the conflict approach is similar to that of the self-help approach. The procedure is to get citizens together to articulate their needs and problems, to develop local leadership, and to help organize viable action groups. While the self-help approach emphasizes individuals working together to affect change in their community,

the conflict approach emphasizes polarization of groups on community issues and stimulates confrontation between opposing sides. It has been argued that the use of nonviolent conflict as a means of unifying diverse local interests can facilitate sustainable social and economic change (Robinson 1989).

More directly, the conflict approach is based on the premise that there are several subgroups within the larger community that are driven by special interests or views of the community. Barriers are erected within the community, the process becomes gridlocked, and development efforts are prevented. The practitioner acts as a facilitator to open lines of communication between and within subgroups and then works toward compromise to effect change.

There are generally two approaches to the conflict role or theme to community development: the advocate and the mediator. With the advocate approach, which has strong ties to traditional Marxian thinking, a segment (perhaps a silent majority) of the community is assumed to be suppressed by the leadership of the community or other more vocal groups. The role of the practitioner is to act as an advocate for the oppressed group. Through the practitioner's actions, the views of the oppressed group are heard and addressed. In other words, the practitioner works to dislodge the good-old-boy network of leadership and decision-making. With the mediator approach the practitioner acts as a facilitator to open lines of communication between and within sub-groups and then works toward compromise to effect change.

The primary advantages of the conflict approach include: (1) change is rapid; (2) communication within the community is opened; and (3) future alliances can be forged. The disadvantages include: (1) the practitioner may be viewed as biased and labeled (a side effect that university administrators may frown upon); (2) opponents may become enemies; (3) change is often not sustainable. Given our focus here on the use of community economic modeling as a mechanism to pursue community development, the conflict approach may be the least suitable approach.

4. Community economic models in development

As communities struggle to better understand the changing environment in which they live, local leaders and community residents often turn to university faculty and staff with questions about the economic impact of some event. Generally these questions follow the announcement of some firm either opening or closing and the community is discussing special abatements, assistance to the firm, or other responses associated with the loss of an employer. Questions range from the impact on jobs and income to property tax levies and government expenditures. Another increasingly common request for economic impact analysis follows some tourism event such as a fair, festival, show, or sporting event. As a growing numbers of smaller rural communities look to tourism as a

means to diversify their local economy, questions about the impact of these strategies are becoming increasingly common.

For example, common questions include whether the additional costs of over-time police pay, solid waste disposal, and other costs associated with the event are less than the purported benefits. Common questions center on who benefits from tourist events: the common perception is that restaurant operators and hotel owners are the only ones that benefit from tourism. The notion of the multiplier effect or the connectedness of various sectors within the community is commonly misunderstood by local residents. Yet promoters of tourist events often claim multiplier impact levels of six, seven, or even as high as ten. When such impacts are not realized, local leaders and concerned residents begin to question the economic value of the event.

As previously noted, responses to these requests for information can take numerous forms ranging from educated guesses to the application of sophisticated modeling systems. What is often overlooked (or not considered) by the person responding to the request for information is that these questions create a teachable moment. For some communities who have a full-time staff of professional administrators, planners, and community development practitioners, the teachable moment may be short, direct, and focused. A well-thought, exact question, or set of questions, may warrant a precise response. For these communities the appropriate role for the university faculty or staffperson may be that of technical assistance. Here the community is in need of someone with specific expertise and seeks the university's help as a consultant or advisor.

For smaller and more rural communities, local leaders are often community volunteers who lack technical skills in the area of community economic development. Questions that are asked are often not well formulated, often are misdirected, and commonly reveal a lack of understanding of the economic issues. For these smaller communities the challenge presented to university faculty and staff is to take advantage of this opportunity. The application of community economic impact simulation models is a wonderful opportunity to help community leaders and concerned citizens better understand the changes that are occurring in their community.

An example of such a teachable moment in Wisconsin occurred in the summer of 1993 when the Chicago Bears, the professional football team, began renegotiations of their contract with the University of Wisconsin-Platteville for the use of the University's facilities for their summer training camp. The Platteville Chamber of Commerce was concerned that public sentiment would sway the University to look unfavorably on the contract negotiations. One must remember that this is Wisconsin, and the Green Bay Packer - Chicago Bears rivalry is taken seriously. The county's University of Wisconsin-Extension community development agent was approached by the Chamber to see if the University was in a position to document the impacts of the Chicago Bears'

training camp on the local community. A teachable moment was at hand. The University of Wisconsin-Extension agent, working closely with a state specialist, undertook a standard input-output (i.e., IMPLAN) analysis of the tourism event. The undertaking of the study involved community volunteers, members of the Chamber, and representatives of the UW-Platteville's Chancellor's Office. By working closely with this team of community members, discussions about the nature of the study, the data required to undertake the study, and the research methods underlying the study allowed the UW-Extension community development agent numerous opportunities to educate those involved about the economic relationships defining the community. The final release of the study (Lewis and Deller 1994) drew media attention to the impact of the injection of money into the local economy that the training camp represented.

The University of Wisconsin was able to provide multiple services to the public. On the one hand, the results of the research project provided direct answers to direct questions. For example, the multiplier effect was not ten, but about two. The spillover from the event affected many, but not all, parts of the local economy through the multiplier affect. Here, the University of Wisconsin-Extension acted as a technical assistant in providing specific information. But in the undertaking of the study, the study design allowed for several examples of the community working together to reach a common goal. Assuming the role of a self-help facilitator, the University of Wisconsin-Extension was able to aid the community of Platteville to better understand its local economy and the positive economic benefits of hosting the Chicago Bears' summer training camp. In the end, the contracts were re-signed and the Bears' training camp has become a late summer tradition for southwestern Wisconsin.

While the RURPI network of community modelers is still in its formulation stages, several states have years of experience in using these models to help local communities. The Chicago Bears' training camp is a prime example of the latter. A complete detailing of how each of these states interact with communities is beyond the scope of this paper. Rather, the intent here is to offer some alternative approaches that have been used and to discuss some of the issues and concerns facing university faculty and staff.

4.1 Three common steps

In each of the three states examined here (Iowa, Missouri, and Wisconsin) three common questions are presented to the community: (1) what is the scenario under consideration; (2) what does the baseline analysis look like; and (3) what is the simulated impact of the scenario under consideration.[3] Each step in

[3] For a more detailed discussion of the various elements of the community economic impact models themselves, see the other papers in this presidential symposium.

the process of addressing these questions creates a teachable moment for the community. The process of describing the scenario is akin to helping the community focus on the particular question with which they are struggling. In addition to gathering the relevant information needed to conduct the actual analysis, the process of the community thinking through the details of the event under consideration helps citizens better understand the dynamics of the local economy. In some instances, the process of describing the scenario steers the community in certain directions that it may not have considered otherwise.

Development of the baseline upon which the simulation is run is also insightful for the community. For the Missouri and Iowa models, the baseline involves forecasting key variables (e.g., population, income, government revenues and expenditures, housing starts, etc.) five to ten years into the future, while the Wisconsin model emphasizes historical patterns. Here the baseline presents a detailed picture of the status quo. Presenting the baseline to the community often creates an environment where community residents are forced to think about what their community looks like today and may look like in the not too distant future. The process of working with the community to refine and improve the baseline estimates not only improves the quality of the simulation, but also helps the community think through different aspects of the local economy. Following the self-help theme of community development, the process of seeking community advice and input at these early stages creates a sense of ownership in the model and the resulting analysis.

The final step in the process centers on the presentation and discussion of the actual simulations or, more accurately, the difference between the simulation and baseline analysis. This usually is in the form of a formal presentation of the baseline scenario and simulation to the community. Here the analyst working with the community assumes the role of a provider of technical assistance. In other words, the results of a technical analysis are shared with the community. Through the discussion of the simulated impact, the community is often surprised to discover that the multiplier effect is not ten, as the developer has implied, but more likely one and a half. Discussions of dollar circulation and leakage along with the notions of capacity to accept change often help the community better come to grips with how the local economy functions.

In Wisconsin, a fourth step includes working with the community to identify strategies to affect change. This last step typically uses nominal group processes to identify priorities and force field analysis to define specific tasks and actions. Here the practitioner-analysts resume the self-help role and help facilitate a community discussion of ways in which the community can proactively affect change using tools such as nominal group processes or force field analysis. At the end of the process, the community has a report detailing the structure of the local economy along with a community-driven plan of action.

The time demands placed on the university faculty and staff and on members of the community may limit the ability to work with numerous communities at once. In many instances, communities return to the university for additional analysis or for help with a different set of issues. In these cases, the time commitment may be less because much of the basic work has been completed. Here communities may request only the results of the simulation and are not in need of additional support. In other cases, the community may have a professional staff that is in need of only the technical information provided by the model.

4.2 Community interaction

While each application of the modeling systems discussed here goes through each of the three basic steps outlined above, the level of community involvement varies significantly across states and even across communities within a state. In Missouri and Wisconsin, for example, community involvement at all steps of the analysis is integral to the effort. Here the model could be perceived more as a teaching tool rather than an analytical tool. In Iowa, conversely, the approach taken follows more closely the theme of technical assistance. The university is perceived as a source of technical information and cost-benefit type of analysis as opposed to a source of facilitation leadership. But in Wisconsin, and to some extent Missouri, the modeling efforts and economic impact simulations serve as focal points for broader attempts to engage the community in a community strategic visioning or planning effort.

The Wisconsin and Missouri programs typically entail three to four meetings with the community. The first meeting focuses on introductions, describes the modeling effort or what the model can provide, and discusses the event under consideration. At this time a local contact person is identified (often the county extension agent), and a community advisory panel is assembled. The latter is intended to encourage broad community participation in the effort. If the event is controversial, reasonable persons from all sides of the issue are identified and asked to serve on the panel. The second community meeting has two central objectives. The first objective is a detailed review of the baseline generated by the model. Any changes to the baseline recommended by the community panel can be incorporated into the model. The second objective is to thoroughly discuss the scenario to be considered. To facilitate comparison-contrasts, often more than one scenario will be simulated. The third meeting focuses on the results of the simulation and discussions of the implications of the event and is used to start a dialog about possible strategies to adapt to the change or event. The fourth meeting centers on crafting an action plan; strategies are reviewed and specific steps to be taken by the community are defined. At this

last stage, the program provider, or university faculty/staff team, acts as a facilitator to move the community forward.

While a complete review of community strategic visioning is beyond the scope of this paper, the lessons learned from studies of community strategic visioning programs can be insightful. For example, in an analysis of preconditions for successful community strategic visioning programs, Woods (1996) identifies seven key characteristics of successful communities. These characteristics include:

1. *Local Commitment.* If local residents and leaders do not endorse the effort, it will in all likelihood not be successful.
2. *Broad Community Involvement.* The effort should include more than a small handful of community leaders. Wide participation from many groups within the community is essential; otherwise, the community will not own the resulting plan of action.
3. *Community Ownership.* The community should take an active role in planning the effort. Outsiders can facilitate and interject information, but the final plan of action must come from the community itself if it is to be sustainable.
4. *On-Site Visits.* Successful programs require that the service provider work in the community. While much of the technical information required to run the community impact models can be obtained over the phone, face to face meetings with local leaders and concerned citizens in their community are essential.
5. *Reliable Information.* Any type of action planning requires that the plan be based on good information. This is one of the strengths of the community economic modeling effort—quality baselines and simulations are preeminent.
6. *Exposure to New Information.* The program must challenge communities to think about the local economy in new ways. Old assumptions must be challenged, and new ideas must be explored. Community residents should begin to think strategically about the change the community faces.
7. *Timely Response.* The program, by design, creates teachable moments. Service providers must be flexible and reasonably responsive to community requests for assistance.

In order to take full advantage of the opportunities presented by a tool such as a community economic impact model, there must be a commitment to work with communities. Given limited resources, the experiences in Missouri, Iowa, and Wisconsin suggest that a complete educational program can only be conducted in half a dozen or so communities each year.

5. Issues to consider

When designing an educational program that builds upon community economic impact modeling, there are several issues to consider prior to model development. To review these issues, we again turn to lessons learned from studies of community strategic visioning programs (Walzer, et al. 1995; Walzer 1996).

5.1 Community preparedness

The community needs to be sufficiently prepared and ready to engage in activities that have the potential to change its future. Part of this preparedness is a detailed understanding of the questions and the nature of the educational program. Evidence suggests that the better prepared the community is, the clearer the goals of the program are understood, and the better the contact between the community and the program provider, the more productive the group will be. Not all communities, however, are equal in their ability to take advantage of the educational program outlined here. Ideally, a community should be willing to tolerate change, manage internal conflict, work together, commit local leadership and volunteers, involve existing organizations and new groups in sustained efforts, devote time and money, and take risks. Without these characteristics it may be difficult to maintain on ongoing effort.

As important as readiness is, few community strategic visioning program providers use any formalized assessment tool to judge community preparedness. Part of the explanation for so few program providers formally assessing the readiness of the community is the difficulty associated with measuring readiness. One can identify organizations, review past efforts, and gain an overview of the willingness of residents to work together, but it is difficult to quantify these characteristics to predict their successes in instituting the strategies identified. Over time, program providers are said to develop a gut intuition about the preparedness of the community. In the initial meeting with the community, the program provider needs to be sensitive to the community's responses to questions and suggestions. The readiness and willingness to form a broad community reaction panel is one simple key indicator.

When communities seek advice on economic impacts, they generally are reacting to some event or opportunity, such as the closing of a local firm or a proposal for a new residential development. Loss of a business or other major adjustment forces residents to pressure community leaders to take action. This call to action may force local officials to seek information and advice from the university. The literature is unclear if efforts undertaken in periods of crisis are sustainable in the long run. When assessing a community in crisis, one must understand that the community may rush to decisions when it should be plan-

ning for the long term. A crisis motivates citizens to work together to solve a problem, but once the crisis subsides, sustaining that effort becomes difficult.

The intent of working with communities via community economic modeling is to not only provide the technical information that has been requested, but also to help the community step back and reflect on the issues at hand. By discussing in detail the scenario to be considered, the patterns underlying the model-generated baseline, as well as the impact results themselves, gives the community the opportunity to slow down and more carefully consider its options. Whether the community is prepared to take a more sustainable approach is difficult to assess; it is something the program provider must consider at the beginning of the process.

5.2 Notions of program success

There is a growing need for organizations, institutions, and agencies to monitor, measure, and demonstrate the success of their educational outreach programs (Green and Deller 1996; Mohr 1992). This issue is important in order to allow program providers a mechanism to review and revise their outreach program and to maintain legitimacy and support from funding sources, including, but not limited to, university administrators and the public at large. The problem is that little agreement exists over what should be considered a successful educational outreach program that emphasizes community development. Some program providers see the objective of these outreach efforts as improved citizen awareness of and participation in community activities. Others view the aim as concrete projects that result in tangible benefits to local residents.

One could reasonably distinguish the diverse opinion on notions of success in light of the roles the program deliverer feels most comfortable assuming. If the deliverer is inclined to subscribe to the self-help view of community development, the success of the program will likely be associated with the implementation and completion of the educational program itself. If the community can organize the community advisory panel, work with the program providers to develop the scenarios, refine the baseline, and gain insights from the simulations to the point of identifying specific strategies or courses of action, the program can be deemed a success. On the other hand, if the program provider is more likely to subscribe to the technical assistance view of community development, the completion of the impact study may be viewed as a successful implementation of the educational program. This latter view, as widely accepted as it is, falls short of the potential impact the outreach educational program may have.

In a discussion of measuring success of outreach education programs, Flora and her colleagues suggest a more structured format to consider the issue (Flora, Flora, and Wade 1996). They identify four elements to consider when thinking

about program success: inputs, process, output, and outcomes. For the community economic modeling educational outreach program outlined here, components of each of these elements are easily identified. University faculty and staff time and resources represent inputs. Processes are represented by the designed interaction with the community (i.e., scheduled meetings/workshops, specific agenda items covered). Outputs include the actual development of the baseline and simulation study and the ensuing written report and may also include the identification of specific strategies or actions to address the issues facing the community. Outcomes are viewed in this framework as the true measure of program success. Here outcomes may include the successful implementation and completion of the identified strategies, increased willingness to diversify their thinking about community development and consider a fuller range of options, and increased willingness to consider risky strategies.

A complicating dimension to defining notions of success is the preparedness of the community. Those program deliverers that favor the self-help approach correctly note that strong assumptions about preparedness or sophistication must be made about the community before considering what constitutes as successful outreach program. For some communities, the organization of the community advisory panel may be a wonderful accomplishment in and of itself and may be something that would not have occurred without the program. For communities that have higher levels of entrepreneurial social infrastructure, expectations can be elevated; a different yardstick of success should be applied. Unfortunately, quantifying community organization, sophistication, or entrepreneurial social infrastructure is a difficult undertaking.

Another complicating wrinkle to success focuses on the distinction between the success of the educational outreach program and the success of the community itself in its efforts to effect change. For the program to be successful it is a sufficient, but not necessary, condition for the community to succeed in its efforts. If the community does not reach its objectives, has the program been a failure? Conversely, if a community is able to create change, does that necessarily mean that the outreach program was a success? Some program providers are reluctant to claim that the outreach educational program caused the community to succeed (Green and Deller 1996). Many program providers, however, are equally quick to claim that they would not consider the failure of the community to successfully achieve the desired change as necessary proof that the outreach program itself was not successful. Thus, while some correlation may exist between community and program success, the two should be considered separately in the discussion of program impact on community outcomes. Recognizing the problems or limitations of objectively measuring success, it is important that program providers have a well-defined set of objectives that they want their program to achieve.

5.3 Role of continuing support

Maintaining contact with the community following formal sessions is difficult. The most successful approach is to have a system of field staff available to provide ongoing support to participating communities such as in Wisconsin with the network of Cooperative Extension community development agents. This system, of course, is expensive and may be beyond the resources available. While a portion of the continuing support will come from agencies other than the university, there is no substitute for continual follow-up with community leaders after the end of the formal sessions. This support should be in at least six-month intervals and even more often if events warrant. It may be necessary to reconvene the community advisory panel to reexamine the strategies identified by the group and discuss why more progress is not occurring. Just maintaining regular contact with someone from outside the community may cause local leaders to keep interest in the project alive and is certainly worth the effort, if funds are available.

Not enough can be said about providing an organized continuing support program. Just giving the community advisory committee a list of contacts with names and phone numbers is not sufficient. Sometimes it is necessary to work directly with state and federal agencies or other support groups so they are aware of the issues in the community and can be prepared to assist the community. It is often useful to ask state agency representatives or locally elected state legislators to become members of the community advisory committee. While these noncommunity representatives may not be in a position to implement the action plan, they can provide vital insight into existing programs and will provide a point of entry for follow-up support.

6. Conclusions

As the issues facing smaller communities become more complex, there has been a corresponding increase in demand placed on universities to provide assistance. The development and use of community economic impact models create mechanisms to provide focused assistance. When communities have turned to university faculty and staff for information, the role historically assumed has been that of technical advisor providing specific answers to specific questions. The argument advanced here is that the role of the university can be, and should be, broader. These requests for information represent a teachable moment where the program provider can help the community think more broadly about the issues that initiated the original request for information. The challenge presented is how can university faculty and staff, the program providers, move beyond using community economic impact models as analytical tools to their uses as educational tools.

Using community strategic visioning programs as a model, a process has been outlined to accomplish the stated goal. By working closely with communities in an organized and structured manner, university faculty and staff help communities move beyond the immediate crisis to consider the broader, long-term issues affecting the community. The education outreach program outlined here, while moving community economic impact models beyond just analytical tools, places great demands on university faculty and staff time. But the question that must be asked is if working closely with a small handful of communities can create more sustainable and meaningful change than simply providing a technical analysis. To answer this question, the university faculty and staff involved must carefully think through their motivations for developing the modeling capacity represented in the Rural Policy Research Institute's (RUPRI) community economic modeling initiative.

While the modeling initiative is still in its infancy, university faculty from Maine and New Hampshire to Texas and Idaho are undertaking the task of building a family of community economic models. In addition to providing the backbone of educational outreach programs targeting communities struggling with change, the network will provide a mechanism to conduct national policy analysis from the bottom up. Much work is to be done, but the potential impact of local and national outcomes is significant.

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