AN EXAMINATION OF ILLINOIS EXTENSION'S MISSION AND THE ROLE OF LEARNING PARTNERSHIPS IN NATURAL RESOURCE MANAGEMENT PROGRAMMING

BY

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THESIS

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Abstract

The field of natural resource management increasingly focuses on including multiple stakeholders and different sources of knowledge through the use of collaboration, interdisciplinary, and social learning. One of the many institutions engaged in natural resource issues is the state Extension system. Extension is an education network designed to connect research, science, and technology to the needs of the public. In Illinois, the mission of Extension is to improve the well-being of individuals and community through the use of learning partnerships. This thesis assesses the effectiveness of the Illinois Extension mission to create learning partnerships from the perspective of Extension personnel and applies concepts related to collaboration, interdisciplinarity, and social learning from natural resource management literature to an assessment of five Illinois Extension case studies in natural resource programming.

Findings from the research indicated an overall agreement and understanding of the mission across various perspectives within Illinois Extension. However, divergent perspectives were found on how Extension's mission and goals are expected to be accomplished and in terms of the challenges faced by Illinois Extension during a time of structural reorganization. Findings from five case study learning partnerships revealed varying degrees of evidence in how learning partnerships characteristics function in practice. For example, results suggest the context of the learning partnership and the overall purpose and goals of the partnership dictates the level of collaboration, interdisciplinarity, and social learning. Overall, this thesis provides managers, policy makers, and local stakeholders with an examination of how learning partnerships can be incorporated in an organization's overall mission and through the development and delivery of education programming and outreach within the natural resource management field.

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Chapter 1

Introduction

In the field of natural resource management, due to the complexity and interaction of ecological, economic and societal factors, researchers cannot approach natural resource issues as the sole experts. Instead, researchers, managers, decision makers, and local stakeholders need to work together in order to effectively plan and develop solutions for managing natural resources. Through developing partnerships among people from various backgrounds, elements such as collaboration, interdisciplinarity, and social learning can be incorporated in natural resource management projects. This idea is not new and literature on how these elements can individually be incorporated in natural resource management is abundant. However, a clearer understanding of how these factors function in practice is still needed. This study proposed to do just that. Illinois Extension was selected as the organization for this study based on two reasons. First, the overall mission in Illinois Extension is to improve individual and community well-being through the use of learning partnerships (Extension Committee on Organization and Policy 1995). Secondly, Illinois Extension works on developing and implementing programming in the natural resource management field therefore allowing for an assessment to be made on how themes from the natural resource management literature connect to learning partnerships in practice.

Background of Extension

A brief background of Extension provides important context for this study. After the American Revolutionary War, agricultural societies and clubs were created by upper class farmers as a way to share information on how to improve agriculture (Rasmussen 1989). In the 1850s, discussion emerged focused on the need to create agricultural universities to expand the

knowledge of agricultural education to the working class. In 1862, the Morrill Land-Grant College Act was signed and passed by President Abraham Lincoln to provide access to land to build state universities. In response to concerns about a lack of new scientifically supported knowledge regarding agriculture, the Hatch Act was passed in 1887, creating funding for agricultural experiment stations to conduct research to promote innovation and new knowledge. The experiment station later became the foundation to the Extension system and was formalized by the passing of the Smith-Lever Act in 1914 by President Woodrow Wilson. The purpose behind the Smith-Lever Act was to provide public users with information and knowledge created by the research conducted at state universities. It was stated by President Wilson that the creation of the Extension system was "one of the most significant and far-reaching measures for the education of adults ever adopted by any government" (Rasmussen 1989, vii). The Extension system is in essence a partnership between the United States Department of Agriculture and the land-grant institutions and funding is provided through federal, state and local funds.

Although Extension was originally created for the purpose of sharing the results of agricultural research, over the course of its ninety-seven years of existence, Extension evolved to encompass a variety of program areas for public users ranging in age, gender, race, and geographic location. The resulting program areas across the county today include agriculture, family and consumer sciences, health and nutrition, 4-H and youth development, natural resources and horticulture, and community and economic development. Recently, state Extension programs across the United States have been criticized as outliving their usefulness and not being applicable to the general public (McDowell 2001). Population dynamics have changed drastically since Extension was created. Fewer than 2% of people in the United States population claim farming as their occupation. However, Extension is still predominately viewed

as an organization whose audiences reside in rural communities with a dominant program focus on agriculture and 4-H activities (McDowell 2001; Warner et al. 1996). However, state Extension systems have been trying to become more relevant to a larger audience. Examples include targeting programs to specifically engage populations from urban areas, developing web delivered programming to reach audiences beyond state borders and restructuring from single county offices to multi-county units (Fehlis 1992; Heatley & Gardner 2004; Rockwell et al. 1993). State Extension services vary depending on location and the needs of local people.

The mission of Illinois Extension is "to enable people to improve their lives and communities through learning partnerships that put knowledge to work" (Extension Committee on Organization and Policy 1995, 3). Illinois Extension is supported predominantly through research from the College of Agricultural, Consumer and Environmental Sciences at the University of Illinois. The main program areas in Illinois focus on agriculture, 4-H and youth development, horticulture, environment and natural resources, family life, health and nutrition and community and economic development. Extension in Illinois has been hit recently with severe economic challenges. In 2010, Illinois Extension announced a drastic budget cut of $7 million dollars and major changes were made throughout the state (University of Illinois at Urbana-Champaign 2010). For example, the reorganization changed the model of Illinois Extension from a traditionally seventy-six single county unit system to twenty-seven multi-county units. This resulted in a large reduction of employees and questions about how to proceed with programming are still under debate. Therefore, this study examined Illinois Extension during a time of structural reorganization. This context allows insights to be made regarding implications of the reorganization on program development and delivery.

Research Questions & Methods

The overall focus of the research for this study was to determine how an organization interprets their overall mission of developing educational programming and outreach to include learning partnering and if those learning partnerships in practice exemplify themes from natural resource management literature. First, the study examined perspectives on the Illinois Extension mission from within the organization. Second, the study assessed how learning partnerships function in practice in natural resource management programming. Common themes from the natural resource management literature framed anticipated components of effective learning partnerships. A qualitative approach was used in this research due to gain explanations of experiences and perceptions from the perceptive of the participants (Conley & Moote 2003). Face to face and phone interviews were conducted to capture detailed descriptions and explanations of the participants' interpretations of Illinois Extension's mission and definitions of learning partnerships. A mixed methods approach of face to face interviews, phone interviews, review of documents, participant observation, and on-site observations, were use in the second part of the study to gain in depth assessment on how learning partnerships function in practice. Overall, the findings from this study expand knowledge of how partnerships function between the scientific or academic world and public users and to provide lessons for future collaborative program development.

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Chapter 2

Assessing Illinois Extension's Mission of Creating Learning Partnerships During a Time of Structural Reorganization

Introduction

Collaboration within natural resource management emphasizes the active involvement of diverse stakeholders and allows for multiple viewpoints and levels of knowledge to be incorporated within decision making and planning processes. Extension is an organization where collaboration is an integral factor in the overall purpose of providing the public with a connection to land-grant university research. The knowledge and technology developed from the university are transferred into a usable format by Extension in order to be implemented in daily life circumstances and practices. Extension is intended to provide the public with knowledge and information, and to provide a channel for the public to help identify areas for future research and shape program development (Archer et al. 2007). At the University of Illinois, the Extension mission is to create learning partnerships to aid in creating knowledge and improving individual and community well being and one of the many program areas Illinois Extension is involved in is natural resource management.

This paper focuses on an assessment of Illinois Extension's mission through the eyes of administrators, Extension specialists and educators, and affiliated faculty working on issues related to natural resource programming. The assessment also includes a focus on how collaboration and learning partnerships are incorporated throughout Illinois Extension's natural resource management programming. Focusing on the area of natural resource programming within Illinois Extension allows for comparison with the literature in natural resource management which has strongly emphasized the role of collaboration and social learning. This paper also compares the goals and vision of Illinois Extension from top administrators and

regional directors to Extension county directors and employees working in the field and on campus to assess the degree to which framework of collaboration and learning partnerships are spread throughout the organization. This study was conducted during a time of severe budget cuts and structural reorganization. This context allows insights into how organizational change can affect program development and delivery.

Literature Review

In the area of natural resource management, collaboration is defined as providing multiple stakeholders opportunities for active involvement in decision making and collectively engaging all stakeholders in problem solving processes on complex issues (Allen et al. 2001). Collaboration creates an arena for people to collectively solve problems, resolve disputes, and help build support around a particular issue (Bryson 2004). However, it is also important to be aware of possible challenges that can arise when using collaboration. There are two types of barriers that can diminish the likelihood of collaboration, institutional barriers and perception barriers (Wondolleck & Yaffee 2000). Institutional barriers occur when organizations do not provide opportunities for collaboration to occur. Organizations requiring certain policies or procedures (red tape) are not always flexible in allowing for collaboration. Institutional barriers can also emerge when partnering organizations have conflicting goals on a certain issue. Lastly, a lack of resources (time, money, and personnel) can result in a failure of collaboration where it is not feasible (Margerum 2007; Yaffee 1998). Perception barriers occur when there is a strong history of mistrust between organizations and when there is a lack of support for collaboration initially among participants.

Despite barriers, collaborative resource management creates a sense of ownership for people engaged in the learning and decision making process. When parties are actively engaged in the planning and decision making processes, individuals become more skilled and knowledgeable on issues and therefore the relationships and partnerships created through collaboration can be fundamental for future endeavors (Guerin & Guerin 1994; Howard et al. 1994). These partnerships are essential components of building a sense of community around natural resources and environmental issues and help create future relationships. Collaborative efforts provide participants with a sense of common identity and interests that further develop a sense of community (Wilkinson 1991; Wondolleck & Yaffee 2000).

Collaborative partnerships can also lead to social learning or in what Extension has declared "learning partnerships". Although Extension may not define their relationship between the university and the public as social learning, the literature on social learning in the realm of natural resource management parallels the foundation of Extension programs. Social learning is referred to as sharing and collaborating on information from multiple disciplines to incorporate multiple views on an issue or topic (Berkes 2009).

Social learning creates partnerships among individual citizens, communities, and partnering organizations (i.e. Extension and other affiliated organizations like USDA, IL Department of Natural Resources, and public/private organizations) that improve relationships during current programs and issues, but also for future situations (Grudens-Shuck 2000). Social learning is found to be created through the use of eight processes: open communication, diverse participation, collective thinking, constructive conflict, democratic structure, multiple sources of knowledge, extended engagement, and neutral facilitation (Schusler et al. 2003). Although these processes are important elements to help build learning partnerships, an even more important

variable is trust (Schusler et al. 2003). Trust is not only necessary between the public and Extension but also between Extension and partnering organizations and within the public in general. Trust is a complex element involved within natural resource management issues and how trust is developed and obtained can be integral in forming working relationships between management agencies and the public (Davenport et al. 2007). In the public perception of risk literature there is debate over how fragile trust is between public stakeholders and resource managers or decision makers (Flint 2007). One side of the debate views trust as a fragile component in the relationship within partnerships between the public and organizations or state agencies (Freudenberg 1996). The other viewpoint sees trust as a deeply rooted factor among collaborative partnerships, based on shared values and having past working relationships (Earle & Siegrist 2006). Instead, this perspective views confidence within partnerships to be more fragile but trust is not as easily shifted. In Extension's case, another contributing factor to building trust is through the organization's longevity and visible historical relationship working with the public, suggesting there may be more opportunities for social learning and collaboration to be applied through Extension programming. However, the question still remains as to how Extension staff and administration view their mission and if there is agreement about how to achieve goals within the organization.

Extension Background

Illinois Extension is part of a national organization, previously called the Cooperative Extension Service that is approaching its 100th anniversary of regulated operation that began with the Federal Smith-Lever Act in 1914 (McDowell 2001). Extension is a partnership between the United States Department of Agriculture and land-grant universities across the country. At

the University of Illinois, the Extension mission is "to enable people to improve their lives and communities through learning partnerships that put knowledge to work" (Extension Committee on Organization and Policy 1995, 3). Illinois Extension works on many different issues including agriculture, natural resources and horticulture, 4-H and youth development, community and economic development, and nutrition and health.

The Extension framework was in place long before the Federal Smith-Lever Act of 1914. The ideas and structure of Extension date back to shortly after the American Revolutionary War when upper class farmers formed agricultural societies and clubs to discuss ways to improve agriculture (Rasmussen 1989). After the Morrill Land-Grant College Act was passed in 1862, universities discovered there was a lack of scientifically supported agricultural knowledge. The need for agricultural research for both farmers and students led to the Hatch Experiment Stations in 1887 which later became the foundation for the Extension system (Dillman 1986).

There are many definitions of the term "extension" and depending on what domain a person is referring to (i.e. agricultural, social, or economics) there are different interpretations of the term. In general, "extension" refers to a transfer of information or communication for the purpose of increasing knowledge and problem solving (van den Ban & Hawkins 1996). The role of Extension has changed over the course of its existence. Originally, Extension was thought of as strictly agricultural with the 4-H program as a dominant feature and the four main program areas traditionally found in Extension were agriculture, family life, 4-H and youth development, and community development (Seevers et al. 1997). However, over the course of Extension's existence, programming areas have expanded to include natural resource management programs. State Extension systems differ on whether or not natural resource program areas are part of the overall agriculture program area or are a separate program area. Extension programming in the

natural resources field include water quality/quantity, soil conservation, forest management, wildlife management, pest management, and renewable natural resources (Seevers et al. 1997).

In the 1980s, Extension shifted programming development to include an interdisciplinary focus, particularly in the area of resource management, to addressed issues at local, state, and regional scales (Seevers et al. 1997). Since less than 2% of the US population farms for a living and only 17% of Americans live in rural communities, Extension has slowly begun to see the need to expand to new audiences particularly within urban and minority populations, in order to stay relevant and survive during changing times (McDowell 2001). These shifts within Extension have expanded traditional programs areas to six categories: agriculture, 4-H and youth development, leadership development, environment/natural resources, family and consumer sciences, and community/economic development.

Changes in Extension's role and how the programs are supported financially affect how Extension functions as an organization (Rasmussen 1989). Extension in Illinois is currently federally and state supported with matching funds from local county boards. In FY2009, the Illinois Extension budget was $65.3 million, with 18% from federal funds, 46% from the state, 21% from county board matches, 13% from grants, and 2% from revenue generation (College of Agriculture, Consumer and Environmental Sciences 2010). With state budgets being cut, these changes led Extension to have a stronger need and reliance on evaluation of impact to maintain programming effectiveness and efficiency and to show accountability for future funding (Rennekamp & Arnold 2009).

In 2010, due in part to an economic crisis within the state of Illinois, Illinois Extension began to implement dramatic budget cuts and structural reorganization. The reduction in state funding for Extension is estimated at seven million dollars. As of the spring of 2010 the map of

Illinois Extension county office locations consisted of seventy-six county unit offices, five regional offices, and eight Extension Centers. Due to budget cuts, multi-county units were developed to create twenty-seven unit offices and all of the Extension Centers and regional offices were to be closed within the following year. Illinois Extension is not the only state with budget cutbacks and structural reorganization. State budgetary crises across the country have forced many state Extension services to reevaluate how they function as an organization during changing times. In 2004, Minnesota Extension responded to a 13% reduction in state funds by reorganizing from a traditional county based system to having specialized regional extension educators (REEs) that reported to state specialists on campus (Morse & O'Brien 2009). In 2009, Iowa State Extension responded to a 10.9% reduction in state funding by eliminating single county offices and shifting to a regional focus consisting of twenty regions (Iowa State University 2009). In the spring of 2011, South Dakota State University Extension was also undergoing structural reorganization and budget cuts resulting in a decrease in overall staff positions and reduction of county offices to seven regional offices (South Dakota State University 2011). This assessment of Illinois Extension occurred during a stressful, but important time for examining the purpose of the organization. By establishing a clearer understanding of Illinois Extension's mission of collaboration and learning partnerships, this assessment can eventually be implemented into the overall program development and delivery.

Methods

For this project, a qualitative approach was used to capture the range of initial themes on how Illinois Extension interpreted the mission and goals and what the roles of collaboration and learning partnerships were in Extension programming. Personal interviews were conducted with

Illinois Extension administration and employees and University of Illinois faculty affiliated with Illinois Extension programming to gain an understanding of how the mission of Illinois Extension was interpreted internally, and also to understand how collaboration and learning partnerships were implemented in natural resource programming. The context of the research was exploratory and therefore using a qualitative approach, through face-to-face and phone interviews, allowed for common themes to emerge from the interviewees (Creswell 2007). The interviewees were indentified using the online employee directory. Interviews were conducted with Illinois Extension administrators, regional directors, and affiliated employees and faculty within the Natural Resource Management Team for a total of nineteen interviews out of a potentially identified thirty-six. The Natural Resource Management Team is a core group of personnel involved with natural resource programming. The team is comprised of county directors, Extension specialists, Extension educators, and affiliated Extension faculty across the state of Illinois. It should be reiterated that data were collected during a time of stressful budget cuts and structural reorganization. Some key informant interviewees were unable to be reached as they had found different employment or opted out for early retirement. It was also determined during the interview process that some of the potential interviewees, based on the online directory, were in fact not currently active with the Natural Resource Management Team. Thus, the actual number of potential interviewees may in fact be lower than the initially identified thirty-six.

Interview questions focused on understanding Illinois Extension's mission and goals, how communication functioned between the administration and extension employees and ultimately with the public, and if (and how) collaboration and learning partnerships were incorporated within natural resource management programming (Appendix A). The interviews

varied in length from 30 minutes to 2 hours and were audio recorded when consent was given by the interviewee. The interviews were transcribed and analyzed thematically in order to determine the common themes emerging from the semi-structured interview.

Results

Perceptions on Defining the Mission

After asking for a brief description of their responsibilities within Illinois Extension, the first question interviewees were asked was how they defined the mission of Illinois Extension in their own words. Every interviewee stated that the mission of Illinois Extension revolves around providing research-based knowledge from the university to the public in a form that can be utilized to help improve the publics' quality of life and promote community and economic development:

> *"We are a research based organization and the mission is to take research based information from the university and not limited to just U of I information and bring that to the local level and implement it and teach it and collaborate and facilitate in such a way that we can improve the lives of individuals and help improve the quality of life in communities." (County Director)*

The mission of Extension was also stated to include teaching beyond the campus walls or to be the liaison between the university and the public users (Appendix B). Only one person explicitly stated "learning partnerships" as being a part of the mission of Extension, but the majority of interviewees stated similar concepts.

Interviewees were also asked if there was overall agreement on the mission and goals of Illinois Extension within the organization. Overall, there was general agreement on the mission of Extension. However, understanding of the ultimate goals of Extension and how they hope to achieve them were less clear:

> *"Every campus should have that discussion. To see how.. what is the overall goal of the campus? Sometimes people get confused with Extension, outreach, engagement. These are all different activities, but they are sometimes mixed together. As a campus, we need to define what they are. Every campus has to get its own goals and also the campus not just Extension but the University, as well as many other things that we are doing.. How should Extension be integrated into the overall [campus] goal, is something that needs to be discussed." (Department Head in College of ACES)*

Perceptions on the Reorganization

Responses were split as to whether or not interviewees felt the current restructuring of Extension would change the mission and goals for Extension in Illinois (Appendix B). A majority of the interviewees felt that the mission of Extension, bringing research-based knowledge to the public to better improve their quality of life, would remain the same after the restructuring. However, most felt Extension would accomplish the mission in a very different way compared to previous efforts. According to higher level administration, programming development within Extension in the future will revolve around the five NIFA (National Institute of Food and Agriculture) initiatives set forth by the United States Department of Agriculture. These five initiatives are childhood obesity prevention, climate change, food safety, global food security, and sustainable energy. This is drastically different from program development and

planning in the past because Extension has always been thought as having more of a grassroots, bottom up approach in terms of programming:

> *"And we have pretty well laid out what our program priorities. And that is a little different then what Extension used to operate. Extension has always been thought of as a grounds up. So that the local people decided what they wanted in their programs. And that will still happen but we are going to be a little more guided in what those programs can be. Those are really the five big ticket items that we can have an influence on through our educators." (Administrator)*

Administrators felt the NIFA initiatives were broad and flexible enough to allow the public to still be involved in program development, but educators and specialists were more skeptical on how much involvement the public will have:

> *"Although our Extension administration tells us that it is going to still be grassroots from the bottom up. I don't think that a lot of the employees believe that. I think most people believe that we are going to be doing programming based on those five national initiatives and we are going to be told that from Extension administration down." (Extension Specialist)*

In addition, the number of employees within Extension will be reduced requiring fewer Extension employees to reach the same if not greater audience. Therefore, delivery methods were anticipated to change from a strong previous use of face-to-face contact to more reliance on technology delivery methods:

> *"I think the mission is going to be the same, but I think that the programming is going to be vastly affected because we are going to end up with 50% fewer employees. So I don't think that the mission is going to be any different, but we are not going to be reaching*

nearly the same amount of people and I think our delivery is going to be much different. I think that we are going to have to go to a lot of technology versus face-to-face. So we are not going to be reaching as many audiences and we are going to have to be changing the focus." (Extension Specialist)

Perceptions on communication between Extension on campus and in the field

Interviewees also explained how communication was achieved throughout Illinois Extension and how connected Extension educators were with what is going on in terms of natural resource management research within the College of Agriculture Consumer, and Environmental Sciences (ACES). From an administrative viewpoint, the channels of communication within Extension appeared to be between campus administrators and regional directors, regional directors with county directors, country directors with educators, specialist with educators, and specialists with non-affiliated faculty in their department. According to administrators, these channels seem to function fairly well. However, educators and specialists stated the communication between specialists and educators and between specialists and non-affiliated faculty had declined due to a combination of a drastic decrease in the number of specialists within the college and through a lack of understanding of job responsibilities (Appendix B).

According to administrators, the responsibility of the specialists was to be a "mediator" to inform and update Extension educators on research going on within the specialists' department by non-affiliated faculty members:

*They [*the Specialists*] don't necessarily have to do the programs but what you are asking is do the educators have access to that information? That should be the job of the*

specialists to compile that and to get those people on to training programs to the educators. It is happening in some, some departments do much better at it than others. There is a huge need for that because there is a tremendous amount of research down here. (Administrator)

However, when interviewing specialists, a lack of communication was highlighted due to that fact that they report to department heads and not an Extension administrator. They also mentioned increasing time constraints and responsibilities to allocate more time to teaching and research:

I have a 50% extension appointment and 50% research appointment now. That wasn't the case several years ago but obviously with funding and budgetary issue across campus. I was 100% extension… However I also do a little bit of teaching now and it has become pretty complicated. So now it is 25% teaching, 25% extension, and 50% research. So, it is very difficult. (Extension Specialist)

Extension educators and administers reported that in some areas there is a lack of research support on campus, requiring them to look to other institutions or perform research activities themselves:

"But increasingly a lot of our educators too are going to other states to other specialists at other states. Because many land-grants, including the University of Illinois, no longer have the luxury of having specialists in as many different areas as we did at one point." (Extension Administrator)

"The way the model is set up is that the research base would be generated on campus with state Extension specialists. They would work through educators and field people to kind of get the word out. But with all of the changes over the last 10 years it has been

really, the people in the field like myself have really had to generate their own research and kind of develop your own base as opposed to waiting for it to come from campus." (Extension Educator)

These disconnects between campus research and Extension educators in the field could also be attributed to the lack of understanding of Extension by non-affiliated faculty members. Some faculty may be unaware of the collaboration opportunities with Extension across the state due to the fact the existing times were never explained within their department:

"This department doesn't have a big tradition of Extension. Some people probably, I would guess some of the newer faculty aren't even aware of what it is. To tell you the truth. [Interviewer: And there is no education on it when you become a new faculty?] *Not really. We talk about outreach a lot but we don't talk about Extension specifically." (Department Head)*

Although not all departments within the college have struggled with this disconnect, interviewees felt that there needed to be a stronger emphasis on creating programming supported with research knowledge in order to successfully accomplish Extension's mission:

"Some educators have very strong ties to campus and some of the specialists and some of them don't. And at times there seems to be a disconnect between campus and the field. I think we need to get back to some of our programming. Maybe the research basis has gotten a little bit weaker and so I think that we need to get back to tying our program to where it has a solid research base." (Extension Regional Director)

Perceptions on the Role of Learning Partnerships

Interviewees were given the current Illinois Extension mission, which is "to enable people to improve their lives and communities through learning partnerships that put knowledge to work" (Extension Committee on Organization and Policy 1995, 3) and asked to describe what they thought was meant by learning partnerships. The interviewees generally all described learning partnerships as a working relationship where multiple parties benefit, not only from the knowledge that is transferred, but also from the building of relationships and trust (Appendix B). Learning partnerships were seen to be extremely important within Extension activities because of the recent decrease in employees and resources. During budget cuts and restructuring, partnerships with multiple entities were seen as helpful to reach audience members and to help share the cost of programming:

> *"Partnerships are absolutely important to achieve the mission and are going to be absolutely more important because we are going to have fewer staff, and we are going to have to partner with other organizations for support." (Extension Educator)*

Interviewees stated that partnerships were useful for tackling complex problems (i.e. environmental problems containing ecological, economic, and social issues) because one single party cannot be experienced and knowledgeable in every area. Extension develops these partnerships through long standing relationships and networking within certain fields of study. For example, within the natural resource field in Illinois, everyone more or less knows everyone working on certain issues and therefore partnerships were developed through past experiences and trust between groups. Extension also was seen as fortunate to have been around for over ninety years and personnel have formed many connections with public audiences and fellow organizations:

"Extension should come, research should come all together, and our teaching people should come together and then solve a problem. So somebody can benefit from that. So we have to earn their respect and it is hard to do that if we don't have a close collaboration with the public out there. We should not pretend that we know everything and they know nothing which is totally wrong because they know a lot of things and we only know a part of it. You have to make them see that they can trust you." (Affiliated faculty in College of ACES)

The challenges and constraints to creating learning partnerships were stated by the interviewees as including problems with funding, staff time, different priorities among organizations, staff turnover, forming of new groups, and competition for programming and services from other organizations and agencies. It also was seen as important to remain visible when partnering in programming or information delivery so the audience is aware and understands where and who the information is coming from. Although learning partnerships take time and trust to build, partnerships were seen as necessary for tackling difficult issues. Interviewees implied that the lasting benefits obtained through building relationships and experiences outweigh the challenges.

Discussion and Conclusion

Findings from this study show that although it may appear that there is agreement on what the mission of Illinois Extension is, there were opposing viewpoints on how the mission should be achieved and how the relationships are working between campus and the field in Illinois. All of the interviewees stated that University of Illinois Extension was designed around the idea of connecting research-based information and technology to the needs of public users to promote individual and community well-being. However, when asked how well communication

occurred between campus researchers and extension employees out in the field, there appeared to be a significant disconnect. This makes one wonder, how well are we actually doing in achieving this mission?

There are multiple factors currently contributing to this growing disconnect. First, the number of campus specialists has drastically decreased over the last fifteen years. In 1996, Extension in Illinois consisted of 92 state specialists and in 2009 there were 34 state specialistists (College of Agriculture, Consumer and Environmental Sciences 2010). Currently in 2011, according to Michael Gray, the Interim Assistant Dean for Agriculture and Natural Resources Extension, there are now only 23 state specialists (personal communication, April 21, 2011). This reduction is state specialists result in fewer faculty members within the College of ACES with Extension appointments and therefore, fewer opportunities for Extension educators to collaborate and provide research-based programming. There also appears to be differences in opinion between administration and specialists on the role and responsibilities of the specialists. This can be attributed to the fact that campus specialists report to a department head on campus and not an administrator within Extension. This can lead to a lack of clarity on how the specialists are performing their Extension responsibilities confounded with conflicting job expectations of specialists having to devote more time to teaching and research. This suggests a lack of support system or connection between Extension educators and researchers on campus.

Communication between Extension administrators, campus department heads, and Extension specialists is the key to reducing the confusion occurring about job expectations and responsibilities, including clarifying teaching requirements within the department which competes for time (Radhakrishna 2001). It also was expressed in the interviews that there appears to be a limited understanding among non-affiliated faculty on what exactly Extension

entails and what its roles are within departments. More effective communication within the college on Extension's goals, staff expectations, and how administrators hope to see these goals carried out through programming and information delivery would be helpful (University of Florida and Institute of Food and Agricultural Sciences 2005).

It has been suggested that there is a need to expand Extension outside of the traditionally agricultural colleges at state universities (McDowell 2001). An Extension review committee was created as a university initiative to develop recommendations for how campus administrators should approach issues on a reduced budget. One of the main recommendations developed from the project was a call for more discussion as to whether Illinois Extension should be moved outside of the College of ACES (University of Illinois at Urbana-Champaign 2010). In essence, the report recommended that University of Illinois Extension be broadened beyond just the College of ACES. By expanding to a campus-wide focus, Extension's visibility would expand across multiple campus disciplines. This might also lead to a potential increase in collaboration between faculty and Extension employees on research projects. Not only would this create another source of funding for Extension but this collaboration could also deepen the mission of bringing research-based knowledge to the public and strengthen the foundation of the land-grant institution. However, given the lack of institutional understanding of Extension outside of the college, building relationships, sharing resources, developing trust agreeing on a collective vision on the mission of Extension would likely be difficult.

As stated in many interviews, the utilization of learning partnerships within Extension activities is becoming increasingly important due to budget cuts and a reduction in staff. Although only one interviewee explicitly stated how learning partnerships were a part of the overall mission of Extension, the majority of the interviewees expressed concepts related to

learning partnerships as being a necessary component in Extension's mission and program delivery. These learning partnerships were described by the interviewees as two-way relationships where all parties benefit from the process. These definitions of learning partnerships coincide with the literature on how to incorporate collaboration and social learning in the realm of natural resource management (Allen et al. 2001; Berkes 2009). Learning partnerships are essential components to be included when dealing with complex issues in the field of natural resource management because there are many factors that need to be taken in to consideration (i.e. ecological factors, economical factors, and social factors). Learning partnerships imply that there cannot be only one party involved. Extension, an outside agency, or a community group cannot be the sole expert on a complex issue. Therefore, by approaching partnerships with an understanding that there are multiple sources of knowledge and that each group comes to the table with its own expertise, the chances of collaboration and social learning occurring are more likely. Throughout the interviews, interviewees also stated how partnerships are formed through networking and past relationships working together. The sense of trust and previous successful interactions encourage future collaboration and further strengthen bonds from working together and transferring knowledge and information (Schusler et al. 2003).

Challenges can arise when working in partnerships. Not only does it take time to build and form trust between the partnering groups, but personality factors can also inhibit collaboration and social learning. A key point that needs to be considered before forming a partnership is to understand the goals and expectations of each party. Forming partnerships solely on the basis of sharing the cost of resources can be dangerous because it is also equally important to have similar goals and expectations for the partnership (Yaffee 1998). It is important for groups, like Extension, to understand what role they should play within the

partnership. Knowing what you bring to the partnership is necessary and articulating this to the group allows for the partnership to collaboratively discuss roles and responsibilities.

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Chapter 3

Collaborative Learning Partnerships: A Case Study Examination of Illinois Extension's Natural Resource Management Programming

Introduction

This paper examines how learning partnerships are utilized in natural resource management programming within Illinois Extension. Extension in Illinois is founded on the mission of creating learning partnerships to help educate and improve individual and community well-being. Collaborative learning partnerships are in essence the inclusion of multiple partners in a mutual relationship and the collaborative use of each partner's knowledge and expertise to provide a stronger comprehensive learning opportunity than possible through a single institution (Saltiel 1998). Illinois Extension provides educational programming and outreach to the public on issues ranging from a variety of topics including agriculture (both industrial and small farm), family life and health, 4-H and youth development, community and economic development, and natural resources and horticulture. For the purposes of this paper, the focus is solely on natural resource programming within the natural resources and horticulture program areas to draw on the connections from literature pertaining to collaboration in natural resource management and recent emphasis on interdisciplinary and social learning in this context.

In chapter 2, findings from research performed through semi-structured interviews with Illinois Extension administration, specialists, educators, and affiliated faculty found learning partnerships to be a valuable aspect within natural resource management programming. The objective of this current research is to investigate how learning partnerships are developed and utilized as well as the benefits and challenges arising within natural resource management programming. This paper first looks at learning partnerships in the context of natural resource management and discusses how Extension came to include learning partnerships within their

mission and program development. Next, themes and frameworks from literature on collaboration, interdisciplinary work, and social learning in the context of natural resource management are discussed in order to frame key characteristics of learning partnerships. Then, findings from the five case study programs are presented and evaluated in light of the initial literature-based framework regarding learning partnership characteristics. Lastly, this paper looks at the implications of this study for future development of learning partnerships within natural resource management programming and how organizations involved with community outreach and education can adapt these principles.

Illinois Extension and Learning Partnerships

Collaborative natural resource management involves multiple stakeholders in environmental decision and planning. Complex natural resource issues have environmental, economic, and social dimensions with considerable uncertainty about how development, globalization, and technological advances will affect local, national, and global natural resources (Blackmore 2007). Organizations responsible for approaching this dilemma look for ways to incorporate a more holistic approach through the involvement of multiple stakeholders in the planning process.

Extension in Illinois has a mission "to enable people to improve their lives and communities through learning partnerships that put knowledge to work" (Extension Committee on Organization and Policy 1995, 3). This mission relates to the land-grant mission of providing public users with access to information from research derived from state universities and to promote public engagement and collaboration between the university and the public through educational programming and outreach (Grudens-Shuck 2000). Learning partnerships are used

within Illinois Extension educational programming and are comprised of working relationships with the public, local/state agencies, local organizations, and affiliated faculty members within the College of Agriculture, Consumer and Environmental Sciences on the University of Illinois campus. While originally designed for agricultural emphasis, programs in Illinois Extension grew to encompass natural resource and horticulture dimensions. Natural resource management programming in Illinois consist of programs ranging in topic and longevity. For example, natural resource management programming in Illinois has at times included topics ranging from integrated pest management, responding to disasters, water quality/quantity management, youth environmental awareness, homeowner gardening, and wildlife management. Programs are developed for single county purposes and for state-wide implementation. Single county programs are developed from issues emerging from local communities and a majority of the programs are developed on an as needed basis. Most statewide programs are developed from federal and state initiatives and cover broader topics that can be adapted to specific locations.

Specifically within the natural resource management programming, learning partnerships also are seen as a way to collaborate with multiple stakeholders and to provide programming that encompasses a wide range of viewpoints and expertise necessary when dealing with complex natural resource issues. Learning partnerships also are increasingly important components in program delivery to help offset time and money required for resources and personnel time by distributing the costs among multiple partnering organizations. Challenges can arise from conflicting goals among partnering organizations and issues of trust. However, the benefits of having learning partnerships include creating a foundation for networking and relationship building among organizations that work within the natural resource management field.

Literature Review

Learning partnership theory and models are extensive within the education realm and service learning literature. Learning partnerships are thought to be derived from the assumption that knowledge is created not only through an individual's own experience but also through social interaction with others (Baxter Magolda & King 2004). The concept of learning partnerships is incorporated by Illinois Extension in their mission of creating knowledge and improving human and community well-being. This notion of learning partnerships parallels literature on collaboration, interdisciplinarity and social learning in the context of natural resource management. Collaboration, interdisciplinary, and social learning are related terms revolving around similar ideas but through the use of different terminology and contexts. Examining concepts and themes from the natural resource management literature helps to frame a more thorough understanding of learning partnerships.

Collaboration in natural resource management

Collaboration in natural resource management is developed through the use of collective communication, action, and learning between managers, policy makers, researchers, and local stakeholders in a particular setting for a specific issue or purpose (Allen et al. 2001). Calls for more collaboration between public and private stakeholders are increasingly coming from the field of natural resource management in order to provide solutions that incorporate ecological, economic, and social dimensions (Bouwen & Taillieu 2004; Koontz & Bodine 2008). Collaboration also is being expressed as a necessity and an increase in state funding is being set aside for collaborative efforts. A study covering all 50 states showed that 35 states were going

above and beyond the necessary funding set forth by the Clean Water Act's Section 319 to support collaborative watershed initiatives (Hardy and Koontz 2008).

Collaboration coincides with the idea of approaching complex real world issues through the use of systems thinking. Systems thinking is created by integrating multiple sources of information from a variety of backgrounds (Bosch et al. 2007). Collaboration is a key method for including public participation on natural resource management issues. Having the public involved in the planning process and creating an environment for collaboration ultimately improves the likelihood of developing higher quality management plans the public is more willing to accept (Brody 2003; Bryson 2004). This is due to the fact that the public creates a sense of ownership and common identity on the issue and becomes more vested in the outcome (Wilkinson 1991; Wondolleck & Yaffee 2000).

It is important when using a collaborative approach to be inclusive of local knowledge and identity early on in an open and democratic setting (DeCaro & Stokes 2008). Including local knowledge pertains to providing local stakeholders the opportunity to voice their own perspectives on the issue and to be actively involved in the process (Brody 2003; Bryson 2004). This helps ameliorate multiple constraints and barriers that can appear when trying to develop collaboration around a natural resource problem. Power and organization limitations can lead to a lack of collaboration if the public or stakeholders feel they have no say or involvement on a problem or project (Selin & Chavez 1995; Walker & Hurley 2004). Collaboration can also be difficult to obtain when stakeholders frame issues in relation to their own individual needs and are not open for collective communication (Gray 2004). Another constraint for collaboration is that the focus is often on the local scale due to feasibility and cost and therefore can lack the ability to scale up to encompass institutional and policy change (Margerum 2007).

Although collaboration has challenges, the ultimate benefits from developing working relationships improve the likelihood for future collaboration (Guerin & Guerin 1994; Howard et al. 1994). Collaboration also has contributed to increasing social interaction within communities by improving trust, becoming more adaptable to change, and being open to adopting innovations (Wagner & Fernandez-Gimenez 2008). Overall, collaboration allows managers, decision makers, communities, and individuals to collectively approach natural resource management issues, cut across multiple disciplines, and create forward-oriented working relationships.

Interdisciplinary in natural resource management

In natural resource management, specialists focus on a particular subject matter background such as soil fertility or water quality. Problems with specialization occur when managers are dealing with issues in a real world setting requiring input from multiple disciplines (Pohl 2005). Therefore, the need for interdisciplinary work, or the inclusion of multiple disciplines, is necessary in order to effectively assess and approach natural resource management issues accurately and fully (Janseen & Goldsworthy 1996). It is important to note that there is a broad spectrum to the degree of interdisciplinary in any given project. Growing literature explains the differences between *interdisciplinarity* (where individual from different disciplines come together to create a new language of understanding), *multidisciplinarity* (where disciplines are used as complementary, but separate domains), and *transdisciplinarity* (where consensus and common conceptualization is sought among participants from different disciplines with an objective to seek new emerging knowledge) (Ramadier 2004). For the purpose of this paper, interdisciplinarity will be used as a common term to mean the inclusion of multiple disciplines working together to varying degrees.

The idea behind interdisciplinarity is an incorporation of multiple viewpoints from a variety of backgrounds to promote new, transformed way of thinking (Dickens 2003; Ewel 2001; Ramadier 2004). Interdisciplinary work most often revolves around a real world setting that has a problem focus and is open to the inclusion of evolving methodology (Wickson 2006). Interdisciplinarity can also be a way for collaboration to occur through the use of integrating the knowledge of researchers, managers, policy makers, and local stakeholders through an integrated effort that allows for a mutual learning environment to occur among the group collectively (Stokols 2006). Interdisciplinary projects are appropriate to use when incorporating local knowledge on a particular project and have the ability to encourage local stakeholders to be actively involved in the decision making processes (Raedeke 1997; Walter et al. 2007).

It is also necessary to be aware of potential challenges that can arise through interdisciplinary work. Common language among the different disciplines ensures a common understanding among the different disciplines for effective communication. Also, when attempting to create new knowledge, people involved in interdisciplinary projects need to be aware of possible gaps or problems when information does not transfer well among participants. For example, one cannot assume that information labeled as common knowledge from a biological viewpoint will be as clearly understood from a social science viewpoint or vice versa (Perz 2007; Dickens 2003). Interdisciplinarity can also create tension due to the presence of multiple viewpoints and can cause the process to take longer to achieve goals due to the difficultly of having so much input (Stokols 2006). However, benefits of interdisciplinary projects aid in providing stakeholders with decision making tools most applicable for real world problems and often the success of the project goes beyond the mere achievement of initial goals to create new working relationships and new forms of knowledge (Pregernig 2006).

Social learning in natural resource management

The way in which people learn or gain knowledge can differ widely among individuals and across social entities. The role of social interaction throughout the learning process can be a contributing factor to how people retain information. Social learning is defined as a process whereby individuals learn through their own experiences within a social context and therefore their learning is influenced through social interactions and shared experiences (Berkes 2009; Reed et al. 2010). Social learning is thought to have emerged from many learning theories containing social aspects (Blackmore 2007). A strong influence on social learning comes from themes associated with observation learning. Particularly, social learning is influenced by how people observe and recall information and how outside factors and personal values influence how people adapt the information they learned (Bandura 1986). This concept of social learning has been increasingly incorporated in natural resource management due to changes managers and policy makers are making from a traditional problem-solving approach of relying on solely scientists and experts to a more multi-stakeholder involvement including social sciences and local knowledge (Bouwen & Taillieu 2004).

Social-environmental learning is a core concept in this new approach and it is defined as "collective and collaborative learning that links the biophysical and the social, cultural, and political spheres, the local to the global arena, and action to reflection and research" (Finger & Verlaan 1995, 503). In the terms of natural resource management research, the role of social learning is being incorporated to better understand how research can be translated to the understanding of public users and how the public's knowledge can in turn help determine the areas in need for future research. Social learning can be applied to a variety of natural resource management issues and research focus such as water quality and nitrate management (Toderi et

al. 2007), assessing local knowledge on pasture management (Millar & Curtis 1999), indigenous knowledge and natural resource and environmental management techniques (Davidson-Hunt 2006), sustainable water management (Ison et al. 2007; Steyaert et al. 2007), and the governance of natural resources (Grove-White 2005; Rist et al. 2007).

Social learning also appears in natural resource management research and planning efforts as a way to incorporate public participation. Having the public actively involved not only allows them to learn how to adopt new information but also provides them with an active stake in the issue or prospective action (Daniels & Walker 1996; Pohl-Wostl et al. 2007). There are many factors to take into consideration to facilitate social learning and public participation and buy-in. Some of these factors include involving the public during the early phases, having a neutral facilitator, trust between all parties involved, multiple sources of knowledge, and allowing the process to evolve and change knowing that it is not always quick and speedy (Schusler et al. 2003; Tippett 2005). It is also necessary to be fully aware of the possible challenges or drawbacks to involving social learning within a participatory approach. Social learning can be difficult to quantify and measure and it often involves a lengthier process than using a utilitarian decision model. Defining social learning also can be different depending on if it is approached as a process (i.e. to strengthen social networks) or an intended outcome (i.e. to promote environmental responsible behavior through social interaction) (Reed et al. 2010; Muro & Jeffrey 2008). Social learning also requires an element of trust among participants which can be difficult to develop and contains similar barriers associated with developing collaboration (i.e. past relationships, conflicting goals, power and decision making authority, etc) (Schusler et al. 2003). Overall, social learning can be an integral component for promoting new knowledge and

gaining public participation in the decision making and planning process within natural resource management.

Framing Learning Partnerships

In natural resource management literature, collaboration, interdisciplinary, and social learning frame a general theme of people working and interacting together for decision making, planning and project implementation. When dealing with natural resource issues in the real world context, developing learning partnerships that incorporate collaboration, interdisciplinarity, and social learning can be fundamental to achieving public participation throughout the process. Similar challenges appear in all three elements. Incorporating collaboration, interdisciplinarity, and social learning typically lead to lengthier planning and implantation processes due to the inclusion of multiple stakeholders. A history of conflict and a lack of open and democratic communication can hinder collaboration, interdisciplinarity and social learning. However, facilitating social interactions and relationship building can set a precedent for managers, decision makers, researchers, and communities to work together on future projects.

This study examined natural resource management literature which illustrated the utilization of collaboration, interdisciplinarity, and social learning to assess if these characteristics appear in practice in learning partnerships within Illinois Extension's natural resource programming. Therefore, based on the existing natural resource management literature the following five intended characteristics of learning partnerships were developed for examination of the five case study partnerships.

The five hypothesized learning partnership characteristics are as follows:

1. allow for resources and personnel to be more evenly distributed among partnering organizations;
2. build trust that can further develop working relationships among partnering organizations;
3. include collaboration among partnering organizations;
4. incorporate knowledge and viewpoints from multiple disciplines and backgrounds; and
5. provide a venue for social learning to occur among the partnering organizations and the intended audience.

Characteristics 1 and 2 were developed from previous research conducted with Illinois Extension employees on assessing how Illinois Extension defines learning partnerships (chapter 2). Characteristics 3, 4, and 5 were developed through a review of natural resource management literature on collaboration, interdisciplinarity, and social learning. The five case studies in this research were examined to assess the degree to which these hypothesized characteristics were a part of learning partnerships in practice.

Methods

Illinois Extension provides natural resource management programs across the state. Depending on the location and level of community involvement, the content of the programs can differ dramatically. Due to budget cuts and reorganization, multiple programs within Illinois Extension were put on hold and, therefore, the selection of active programs for examination was limited at the time of this study. Five partnership programs were identified based on their active involvement with Illinois Extension in the summer and fall of 2010 and the willingness of

partnering organizations to participate. The programs were designed for different audiences and therefore provided an opportunity to determine if programs geared toward different stakeholder groups function differently in terms of their learning partnerships. A case study approach was selected for this study given the exploratory nature of the inquiry (Yin 1981). A multiple case design was used to examine if similar occurrences of resource and personal allocation, trust, collaboration, interdisciplinarity, and social learning occurred throughout the five selected partnerships and to allow for a comprehensive understanding on how learning partnerships function within natural resource management programming (Yin 1981).

Data Collection and Analysis

Data were collected to determine how learning partnerships develop and function within Illinois Extension natural resource programming using a combination of in person interviews, telephone interviews, on-site observation, participant observation and a review of documents during the fall of 2010 (Table 1). The use of a multiple method approach is appropriate in case study research to provide multiple ways of looking at the cases to capture information that may be missed when using only one method (Conley & Moote 2003). Nonetheless, it is important to have a clear protocol and common research questions to ensure that the scope of the research remains intact (Fiedler 1978; Jick 1979; Yin 1981). Interviews were conducted with Illinois Extension personnel affiliated with the selected programs and partnering organizations (Appendix C). Site observation and participant observation were performed in two of the programs due to the convenient timing of the programs being offered. Project documents and memoranda of partnerships were reviewed when available (Appendix D). A total of 13 in depth interviews were conducted across the five case programs. A qualitative approach was used in this

study because the initial themes were unknown and also to determine if the anticipated learning partnership outcomes tied to collaboration, interdisciplinary learning and social learning were found in practice. Formal interviews were analyzed thematically along with personal notes to assess the applicability of the five anticipated characteristics. Lastly, challenges and lessons learned were compiled from the interviews and observations to discuss approaches for future development of learning partnerships in the field of natural resource management.

Table 1. Sample programs with partnering organizations, topic and methods used. The number of individuals interviewed is indicated in parentheses.

	Partnership with…	Program Topic	Methods Used
IL Extension's Champaign County Master Gardener	Crisis Nursery	Adult education on gardening and youth education	In Person Interview (1); Telephone Interview (1), Review of Documents
	Juvenile Detention Center	Adult/Youth education on gardening and youth skills development	In Person Interview (1); Telephone Interview (1); Review of Documents
IL Extension's McLean County Master Gardener	David Davis Mansion	Community education and awareness on historical preservation of garden	In Person Interviews (2); Telephone Interviews (1); Observation, Review of Documents
IL Extension's Effingham County Conservation Day	Ballard Nature Center, SWCD, Effingham County Farm Bureau, IL DNR, Wild Turkey Federation, NRCS, Extension Mt Vernon Center, local elementary schools	Youth environmental education	In Person Interviews (2); Phone Interviews (3); Participant Observation
IL Extension's Web Delivery Programs	IL EPA and IL DNR	Education on pesticide handling and living with wildlife	In Person Interview (1); Review of Documents

Background on Selected Partnerships

The case study programs were designed for a variety of different intended audiences and covered topics ranging from adult and youth gardening education, historical preservation, youth environmental awareness, proper pesticide handling, and education on wildlife management (Table 1). Three of the partnerships examined were developed through Illinois Extension's Master Gardener program. The Master Gardener program is individually organized through Extension county offices and involves educating adults on managing natural resources and promoting home and urban gardening education. The volunteers, or Master Gardeners, are required to complete an 11 week training session and contribute a set number of volunteer hours through a variety of activities like community gardening projects with local schools, churches and other local organizations and to provide volunteer hours by answering calls on a community garden help line. The volunteers are also required to attend a specified number of hours for continuing personal education. The youth environmental awareness program was selected for this study to examine the partnerships in relation to the Conservation Field Day program through Effingham County Extension Office. The Conservation Field Day program educates youth students on environmental awareness and issues pertinent within their local community. The proper pesticide handling and educational on wildlife management programs examined partnerships developed through two of Illinois Extension's web delivered programs. The web delivered programs were selected for this study due to a new initiative throughout Illinois Extension to develop web delivered programs to reach new and underserved populations.

Crisis Nursery Partnership

In Champaign County, Extension's Master Gardener program is in partnership with the Crisis Nursery. About ten years ago, a Master Gardener who was volunteering at Crisis Nursery

proposed that the Master Gardener program help create a children's garden. The children's garden was designed to provide the center with an educational tool to teach children about senses, colors, and shapes through the use of gardens. The Master Gardeners' role in the partnership was to help build the garden and teach the staff how to utilize the green space to provide an educational setting.

Juvenile Detention Center Partnership

Also in Champaign County, the Extension's Master Gardener program partners with the Juvenile Detention Center. In 2000, the partnership was created by a Master Gardener who approached the center to see if help was needed to assess what could be done with the backyard space. With the help from a landscape designer who donated his services to the efforts, a garden was created that would allow Master Gardeners and detention center staff to create a garden. At first the partnership mission was solely to create a garden and to teach the center staff how to maintain it. However, over time the gardened evolved to be a way to educate the youth at the center on gardening and provide them with a set of skills and knowledge they can take with them when they leave the center.

David Davis Mansion Partnership

In McLean County, the Master Gardener program partners with the David Davis Mansion. The David Davis Mansion is a historical site consisting of a house and property dating back to 1872. On the property of the site is the original garden that belonged to David Davis' wife, Sarah. Through historical documentation, Sarah's Garden has been determined to have the original location, design, and pathways, and to contain at least seven of the original plants. The partnership was initiated by the museum to have the Master Gardeners work on preserving as many of the original plant materials as possible. The partnership was officially created in 2007

through a memorandum that clearly stated the goals and responsibilities of both parties. At first the goals revolved around preserving the historical significance of the garden and provided access to the garden for the local community. The partnership recently attempted to incorporate more educational programs and create marketing plans to increase the local awareness of the garden.

Conservation Field Days Partnership

The Effingham Conservation Field Days program was selected as an example of program designed for a youth audience. The Conservation Field Days is a program put on by Illinois Extension and aided by partnerships between Illinois Extension in Effingham County and many local organizations and agencies. The purpose of the program is to provide environmental education to local 5th grade students. The students are exposed to different stations focused on multiple subject areas including information on birds, wild turkeys, terrariums, water quality, insects, and fishing. The partnership is with Ballard Nature Center (the site for the field days), Effingham County Soil and Water Conservation District (SWCD), the National Wild Turkey Federation, Effingham County Farm Bureau, Natural Resources Conservation Services (NRCS), the Illinois Department of Natural Resources, and local schools. The Conservation Field Day program was started in 1982 and in the fall of 2010, over the course of three days, the program served 13 different local schools and 1 home school group for a total of 446 students. The goal of the partnership is to have the students involved in the outdoors and to learn about environmental awareness.

Internet Program Partnership

The final program selected was Illinois Extension's web delivery program. This program was selected for its focus on "new" audiences. Illinois Extension is beginning to shift to a

stronger emphasis on web delivery programs to bring in audiences not previously being reached through face-to-face programming. Two web delivery partnerships were recently created with Illinois Environmental Protection Agency (IL EPA) and the Illinois Department of Natural Resources (IL DNR). The project with the IL EPA focused on creating a website to educate users on proper pesticide use handing (http://web.extension.illinois.edu/psep/). The IL DNR project emphasized website construction for education for homeowners living with white tailed deer (http://web.extension.illinois.edu/deer/). These partnerships were developed through funding proposals from the IL EPA and IL DNR, with the intended goal to produce web content material for the public. The players involved in these partnerships included the funder, specialists (to provide content material), web designers (programmers, editor, audio, graphic artist), and ultimately the public user.

Results

Among the five case study partnerships, the findings showed varying degrees of supporting evidence from interviews, observation notes, and review of documents articulate the five hypothesized characteristics (Table 2). The following section includes results on how the partnerships were created and how the overall goals and expectations of developed with the partnerships. Then, results of the five hypothesized characteristics of learning partnerships are explained in detail.

Table 2: Degree of presence of hypothesized characteristics for the five partnerships.

	Allocation of Resources and Personnel	Trust	Collaboration	Interdisciplinary	Social Learning
Crisis Nursery Partnership	√√√	√√√	√√√	√	√√√
Juvenile Detention Center Partnership	√√√	√√	√√	√	√√√
David Davis Mansion Partnership	√√√	√√√	√√√	√√√	√√
Conservation Field Days Partnership	√√	√√√	√√√	√√√	√√√
Internet Program Partnership	√√		√	√√	

Check marks indicate relative strength of evidence for each outcome as interpreted by the author as follows: no check = no supporting evidence or not discussed, √ = some supporting evidence, √√ = moderate supporting evidence, √√√ = strong supporting evidence.

Creating Learning Partnerships and Their Goals

The five Illinois Extension partnerships studied encompassed multiple program topics and were designed for different audiences. There appeared to be both similarities and differences in how the partnerships were initially formed and how the goals of the partnerships were created. In three of the five partnerships, Illinois Extension initiated the partnership. In two partnerships, a volunteer Illinois Extension Master Gardener was working with the partnering organization or aware of their work and approached them to see if a partnership could be created. In the David Davis Mansion case, the mansion contacted the Master Gardener program to see if they would be interested in being a part of the preservation and education efforts going on in Sarah's Garden. The web delivery partnerships were created and functioned very differently from the other partnerships in that they were driven through funding proposals by state agencies. In the web delivery programs, the partnering organization offered a funding announcement for

organizations to submit proposals in order to create a content website to be used by both organizations.

The goals of the partnerships also varied. For example, all three master gardener program partnerships required partnering organizations to submit an application to start a partnership and in the David Davis Mansion partnership, a formal memorandum was created. Within this application the partnering organization stated the purpose and objectives of the project, any historical background about the site, how they hoped to achieve these objectives, any sources of funding available, who represented the organization in the project, and an outline of educational opportunities provided by the project. There was also a Master Gardener committee that met monthly to ensure that the project and partnership were meeting the overall goals and objectives. The Extension coordinator for the Master Gardener program stated that you need to have a common goal between the partnering organizations and not being able to afford to do the work yourself is not reason enough to create a partnership. The partnering organization needs to be willing to take ownership of the project. In the David Davis Mansion partnership a formal memorandum of understanding was created between the Board of Trustees of the University of Illinois (on behalf of the McLean County Extension) and the David Davis State Historic Site. The memorandum clearly stated the goals of the Sarah's Garden program, what services the Master Gardeners will provide, how resources will be provided, and ultimately who would supervise the project and have decision making authority. The web delivery partnerships were created with a specific goal and designated subject matter. Illinois Extension provided the technical and content support to create the proposed website. The Conservation Field Day partnership was the only partnership that did not have clearly defined and structured goals. The overall goal to have the students involved in the outdoors and learn about environmental

awareness was implicit in program development and the individual organizations had the opportunity to design and cover topics of their choice.

Learning Partnership Characteristic #1 – Equal Resource Allocation

In all of the partnerships studied, resource allocation and personnel invested in the project were distributed among both Illinois Extension and the partnering organization although sometimes funding was solely provided by one entity. In the Crisis Nursery partnership, the Master Gardeners provided a small budget that purchased mulch, soil, and edging. The partnership also was able to bring in additional contributors to help provide additional resources. For example, a local greenhouse donated six trees and leftover flowers after the selling season. Other local groups donated plants in memory of loved ones and there was a wish list for people who wanted to donate in the future for the garden. The project also has included the help from local boy scouts and 4-H groups to create benches, paving stones, and assistance with planting bulbs. Having local organizations and community members provide resources not only helped alleviate the burden of buying supplies on the partnership but also increased the awareness of the project. Increasing public knowledge and participation in the partnership programming, allows for future program development and public participation to possibly occur.

The David Davis Mansion partnership functioned differently in that the budget for the project was generated by an event put on through the Mansion every summer called the Glorious Garden Festival. The labor was solely provided by the Master Gardeners with decision making authority given to the David Davis Mansion site manager. Due to the nature of the project and the historical significance of the garden, the Master Gardeners provided suggestions for improvement to the garden; however, documented historical proof (i.e. a historical letter stating a

certain flower or plant or a photograph of the plant in the garden) was required for the changes to be made. The Conservation Field Day partnership had slightly more resources provided by Extension due to its organizational leadership. However, all of the partnering organizations provided their own equipment and content material for their field day stations. The web delivery programs functioned with funding provided by one source (i.e. IL EPA or IL DNR) and the labor and personnel provided by Illinois Extension. Specifically during budget cuts, developing programming through learning partnerships can help share the overall cost of managing effective programming.

Learning Partnership Characteristic #2 – Trust

Many of the partnering organizations expressed how Illinois Extension has brought an element of "professionalism" to the partnership that allowed for trust to develop within the partnership. Partnering organizations expressed how factors such as organization and open communications helped promote a value of trust between groups. The Crisis Nursery staff stated that the Master Gardeners were "well educated, committed, and community- minded citizens". Informants also stated having mutual missions or goals among partnering organizations allows for trust to develop due to the fact that both organizations work for the same outcomes. Trust was also seen as a challenge when partnerships required strict rules and guidelines due to the environment and location of the program. For example, the environmental setting of the Juvenile Detention Center required certain restrictions and decision making authority set by the center that required all volunteers to follow. Trust between organizations can be a struggle if there is not a clear understanding of the rules and guidelines. Informants from partnering organizations stated that remembering that people were volunteering their time earned them mutual respect and

with respect trust can develop. All but one partnership in the study were ongoing for at least eight years allowing a relationship of working together to develop which provided an opportunity to build trust. The David Davis Mansion partnership was formally organized about three years ago, however, past working relationships between the organizations had occurred for multiple years before the creation of the current partnership.

Learning Partnership Characteristic #3 – Collaboration

All of the partnerships examined in this study contained some level of collaboration, though some partnerships exhibited more formalized collaboration then others. The Crisis Nursery partnership was described as being "a true community collaboration". Not only was there collaboration between the Master Gardeners and the Crisis Nursery, but outside community groups and volunteers also contributed to the program. There was involvement through local school field trips, 4-H and boy scouts, and community members and local organizations were involved through plant donations. Some of the partnerships were more flexible than others in how the partnering organizations collaborated within the program. For example, in the Conservation Field Day partnership, partnering organizations were allowed to create their own exhibits and to provide their own set up for the stations. Extension provided feedback and suggestions for changes from previous years, but the organizations were more responsible for their own equipment and teaching content. In the web delivery programs, collaboration was not as visible and was more behind the scenes through the sharing of funds and resources to create the website or web program.

Other partnerships included collaboration in a more structured format where different parties carried out different roles or functions within the program. For example, with the David

Davis Museum partnership everyone had their own job responsibility (i.e. the Master Gardeners worked in the garden, the David Davis Museum worked on marketing and scheduling of garden visits, and the Foundation Board oversaw the funding). Collaboration was also developed from existing working relationships and allowed for future involvement between the partnering organizations to occur. For example, the National Turkey Federation talk about how their organization assisted with Extension programs and Extension would assist them in their programs. Having collaboration and building on working relationships creates a sense of "I help you, you help me" initiative.

Learning Partnership Characteristic #4 – Interdisciplinary Partnerships

The level of interdisciplinary knowledge and backgrounds within the partnerships ranged from nonexistent or not discussed to the inclusion of multiple backgrounds and disciplines. The levels of interdisciplinarity within the partnerships were determined by how inclusive the partnerships were of individuals and organizations from various backgrounds and viewpoints. The Crisis Nursery and the Juvenile Detention Center partnerships were found to have the least amount of interdisciplinary involvement in the partnership. However, it is important to note that the education and training for the Master Gardeners is very interdisciplinary and the topics taught to the youth ranged from gardening skills, plant and animal identification, teamwork, and individual responsibility. The David Davis Museum partnership was very interdisciplinary in the beginning years. During the researching and planning phases of the garden, multiple researchers from the University of Illinois and other universities, with horticulture and historical preservation backgrounds provided input on how to preserve the historical garden integrity and biological significance. At the time of this study, the garden program was working to increase awareness

and marketability of the garden to encourage more audiences to come to the garden and possibly attract future researchers. The Conservation Field Day partnership incorporated interdisciplinary efforts through the involvement of multiple partners from a variety of backgrounds and organizations. Although, Illinois Extension was in charge of organizing and implementing the program, all of the partnering organizations contributed to the delivery of the program. Multiple educational stations were provided for the students and created a diverse exposure across the environmental sciences. Lastly, the web delivery programs incorporated interdisciplinarity in the partnerships through the involvement of workers from various specialties. For example, not only was the information developed through Extension specialists (both individually and in teams) but there was also input from web designers, graphic artists and audio specialists. They provided suggestions on how to transfer the information into a usable format for web delivery.

Learning Partnership Characteristic #5 – Social Learning

No data were collected as to whether or not participants gained knowledge by participating in the studied programs; however, the programs were assessed to determine if the partnerships and environments facilitated social learning. Social learning was not seen to appear in the web based delivery program partnerships due to the fact that the programs were designed for individuals to gain information with little to no social interaction. Some of the programs did provide audiences the opportunity to leave customer feedback or to post questions that could be viewed and answered by the program managers. However, the lack of social observation and active participation created a barrier for social learning to occur. In both the Crisis Nursery partnership and the Juvenile Detention Center partnership, social learning was highly possible through the hands on involvement and working relationships among the Master Gardeners, the

organizations' staff, and the youth. The Master Gardeners educated and led demonstrations not only for the youth involved but also through educating the partnered organizations' staff on how to effectively manage the gardens and incorporate the youth involvement. Demonstrations and having the Master Gardeners present to facilitate the work on the gardens; provided both the staff and the youth a chance to observe and replicate the knowledge and skills. Not only were the staff and youth learning from the Master Gardeners, but they also were developing knowledge and skills through their interactions with each other and by actively participating in the program.

In the David Davis Museum partnership, social learning occurred through the educational programs the partnership provided to local schools and through community events like the Glorious Garden Walks. Allowing participants to actively experience the garden and simultaneously provided them with information and teach them about the historical significance of the garden, provide a venue for the participants to engage in social learning. Social learning was also possible within the partnership by having current Master Gardeners involved in the program to educate new Master Gardeners and staff from the museum about the program and the skills needed to actively participate in the preservation the garden. Lastly, in the Conservation Field Day partnership, social learning could occur through the interactions between the students and the partnering organizations, but also in students' interactions with each other in small groups. Learning through observation and hands-on activities allowed students to gain knowledge not only by observing but through active participation.

Discussion

The findings from this study suggest learning partnerships do connect to themes from the natural resource management literature on collaboration, interdisciplinary, and social learning

and also incorporate a sharing of resources and building of trust among partnering organizations. However, the context of the natural resource programming sometimes hinders the ability for all three of these factors to occur. The five intended characteristics did appear throughout the five case examples, but the degree of supporting evidence of the roles of each differed among the five learning partnerships. The goals of the partnerships were developed differently by some having very formal agreements and others with more flexible arrangements. It is important for partnerships to have an open dialogue about program expectations, agree how the goals are to be achieved, and define appropriate roles and responsibilities. For example, the Crisis Nursery partnership and the Juvenile Detention Center partnership provided this communication by including an application for the partnering organizations to fill out prior to working together. It was stressed by the Master Gardeners that their garden projects need to go beyond just beautifying a place and instead the programs need to incorporate some educational aspect. By having the partnering organizations agree on the program's goals, the opportunity for a collaborative process is increased by having all of the parties involved understand the expectations. Having common goals and successful working relationships also can improve the likelihood of future projects and collaboration.

Learning partnerships provide programs with a sharing of resources and personnel involvement where everyone is contributing and the burden of the cost is not on only one provider. Sharing the cost of resources and personnel time also allows for partnerships to develop programs that encompass a larger capacity than if managing a program through only one entity. It is important to note that the sharing of costs does not always to money. Often times donating facilities space or extra equipment can be more useful than having to purchase the resources or renting out a space. All of the studied partnerships showed a sharing of resources

and personnel. The Conservation Field Day partnership is an excellent example of how a learning partnership can help share the cost of delivering a program and to allow for the intended audience to have a more educational and enjoyable experience than if only Illinois Extension was managing the program. The site of the program, which included a building, acres of space, a fishing pond, and pavilions, was provided by the Ballard Nature Center. Fishing poles for the students to use were donated by the IL Department of Natural Resources, and each partnering organization provided their own equipment and materials for the students to use at their designated station. Since Illinois Extension did not have to allocate resources to cover the entire program, Extension personnel were able to take on more of the management responsibilities and coordination with local schools. Lastly, incorporating outside organizations and the public in helping to share the cost allows for the visibility of the program to expand beyond only those that participate. The example of the Crisis Nursery partnership incorporating donations of plants and materials provided a connection for the community and developed a common identity between the partnering organizations and local community through the efforts put forth in the development of the program. Understand how a community defines oneself and the existing social interactions and relationships can provide partnerships with the ability to tap into existing resources and knowledge by incorporating community participation (Wilkinson 1991).

Trust was found to be a key element in each partnership except in the internet program partnerships. All of the partnering organizations describing trust within the partnership were involved in the partnership for many years and had established strong working relationships. Past experiences of successful collaboration and satisfaction with program delivery allows trust to be established and maintained between partnering organizations (Yaffee 1998). Other factors contributing to the building of trust were having open communication between partners and

organization within the partnership. This allows for differences or conflicts to be resolved without them being detrimental to the program. Power and authority can also be barriers for trust to occur (Walker & Hurley 2004). The informants from partnering organizations expressed how trust can be hindered when partnering organizations do not communicate effectively and if environmental factors like site restrictions or guidelines are not followed by all who are involved in the program. Overall, creating a collaborative working environment and having mutual respect and appreciation between organizations allows trust to develop.

In order for learning partnerships to develop and function, collaboration among partnering organizations is important. In all of the studied partnerships, collaboration was seen to occur to vary degrees. Collaboration is seen as a contributing factor allowing partnerships to share in the allocation of resources and labor. However, collaboration goes deeper than just sharing the costs. Collaboration in learning partnerships also revolves around the use of different sources of knowledge and integrating multiple viewpoints on a particular issue or program (Bosch 2007; Ison & Carr 1997). Collaboration among multiple stakeholders helps create programs that are more applicable in real world settings where multiple dimensions need to be factored into the discussion. Policy makers and managers are increasingly requiring more collaboration in the natural resource management field in order to achieve the goal of having multiple viewpoints in the planning and decision making process (Bouwen & Taillieu 2004; Koontz & Bodine 2008). Natural resource management issues are multifaceted and require not only the involvement of expertise from both the biological and social sciences fields, but also through the inclusion of local stakeholders and the public (Brody 2003). The Crisis Nursery partnership is an example on how collaboration includes participants with various expertises, but also through the involvement of the public through community volunteers. Collaboration with

the public provides stakeholders an opportunity to be represented in the planning and decision making process. Having a voice in the process also increases the likelihood that the public will be more accepting of the proposed plan and willing to adopt future endeavors (Bryson 2004). Collaboration is often used at the local level due to the readily available working relationships, existing trust, and common identities (Margerum 2007). Therefore, it can be difficult to scale up programs to encompass a wider audience. For example, taking the Crisis Nursery partnership and incorporating it across the state in different childhood development centers can be challenging because those existing relationships between the centers and Extension may not be developed and therefore, collaboration can often be only applied in certain contexts. However, collaboration among partnering organizations can also lead to future involvement together by developing new partnerships or collaborations.

Another way of looking at collaboration among learning partnerships is through interdisciplinary work by incorporating viewpoints from multiple disciplines. Interdisciplinarity is important in natural resource management issues because of the complexity and multiple dimensions that need to be included (Janseen 1999). Interdisciplinary work can also lead to new ways of thinking and concepts that go beyond what only one discipline can cover (Ramadier 2004). When developing resource management programming, it is important to include interdisciplinarity among learning partnerships when appropriate. The degree of supporting evidence for interdisciplinarity was found to be connected to the initial purpose of the partnership instead of being a necessary characteristic. For example, the Conservation Field Day partnership was created for the purpose of exposing youth to local environmental issues and awareness. Therefore, the partnership exhibited strong supporting evidence of interdisciplinarity through the inclusion of partnering organizations from various backgrounds in order to

effectively achieve the overall goal of promoting environmental awareness (Pohl 2005). On the other hand, the Crisis Nursery partnership and the Juvenile Detention Center partnerships exhibited less supporting evidence of interdisciplinarity because the overall goal of the partnership was on issues regarding gardening education and therefore did not required the inclusion of multiple backgrounds and expertise.

Not only are collaboration and interdisciplinarity important functions within learning partnerships, but learning partnerships can also provide a venue for social learning to occur between the partnering organizations and the intended audience. Although this study did not examine if social learning did in fact occur, through the use of natural resource management literature on social learning, the partnerships were assessed to determined if social learning was likely to occur among the partnership and ultimately with the program audience. The web based delivery program partnership did not show evidence of social learning likely due to the nature of the program designed for independent users with social interaction. Findings from in chapter 2 indicated how Illinois Extension is currently moving to have more reliance on internet delivery programs, due to budget cuts and job reductions and therefore the goal of promoting social learning may be increasingly difficult to reach through web delivery programs. However, all of the other partnerships provided evidence that social learning could be achieved among partnering organizations through their collaboration and with the intended audience by providing opportunities for active, hands-on participation (Bouwen & Taillieu 2004). The David Davis Mansion partnership had slightly less evidence of social learning because their educational outreach was still in early phases. However, they described plans to incorporate more opportunities for the community to become educated on the importance and historical significance of Sarah's Garden. Incorporating social learning throughout the partnership and

programs can go beyond just education about natural resource to include social interactions skills such as teamwork, leadership, and responsibility as was the case in the Juvenile Detention Center partnership. Public participation allows for social learning to develop and ultimately to further increase more collaboration and future involvement between partnering organizations and local stakeholders (Daniels & Walker 1996; Pohl-Wostl et al. 2007).

Conclusion

Overall, this study examined how themes from natural resource management literature on collaboration, interdisciplinarity and social learning could be utilized to assess how these elements function in practice through learning partnerships in natural resource programming. This study also examined how programs targeted to different audiences can play a role in how these characteristics are incorporated within the learning partnership. Learning partnerships do allow for resources and personnel to be more evenly distributed among partnering organizations. Therefore, learning partnerships are important during times of budget cut backs and personnel reductions and allow organizations to continue providing programming by helping to share the overall cost. Trust was also a characteristic of learning partnerships and can be developed through open communication and built from past successful working relationships. Findings suggest that although the hypothesized characteristics of collaboration, interdisciplinarity, and social learning appeared in varying degrees throughout the studied learning partnerships, the degree of supporting evidence was determined by the context of the partnership and the ability to incorporate these elements. Collaboration and social learning were more likely to occur between partnering organizations developing face-to-face programming due to active participation among partnering organizations. Level of interdisciplinarity did not appear to result in more successful

learning partnerships. Instead, the context of the partnership and the initial goals determined the level of interdisciplinarity the partnership needed to include.

One of the major findings from the research was that web delivery program partnerships differed from face-to-face programming in how they were developed and in their ability to achieve elements of social learning among intended audiences. Illinois Extension is increasingly focusing efforts on providing web delivery programs to provide information to larger audiences. This study suggests this may have substantial implications for Illinois Extension's ability to meet their mission of developing learning partnerships. More research is needed on how web delivery programs can develop partnerships which incorporate collaboration, interdisciplinarity, and social learning within virtual, web-based communication.

The following are explicitly stated lessons learned from Illinois Extension and partnering organizations employees gained from developing natural resource management programming through learning partnerships:

- *"All of the partnering organizations need to have ownership of the project, trust among each other, and the same vision" (Crisis Nursery Partnership)*
- *"These programs are so much more than gardening – we are teaching communication skills, team work, and responsibility" (Juvenile Detention Center Partnership)*
- *"It is important to have open communication on both ends" (David Davis Mansion Partnership)*
- *"To make the process a win-win working environment for everyone and to not take the volunteers times and efforts for granted" (Conservation Field Day Partnership)*
- *"Providing the information that the users want when they want it in a way that can be utilized"(Internet Program Partnership)*

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Chapter 4

Conclusion

The purpose of examining Illinois Extension's mission and the role of learning partnerships in natural resource management were to bridge a gap between the natural resource management literature on collaboration, interdisciplinary, and social learning to determine how these elements are incorporated in learning partnerships related to natural resource management program. Illinois Extension was selected as the organization to study due to its mission of creating learning partnerships to help improve individual and community well being. The current context of budget cuts and personnel reductions with Illinois Extension provided a view into an organization going through major structural change.

The first part of the study assessed how the mission of Illinois Extension was viewed internally by administrators, regional directors, county directors, state specialists and educators. Overall, interviewees agreed the mission of Illinois Extension was to transfer information and knowledge developed from research on campus to the public in a usable format that can help improve individual and community well-being. Interviewees also were asked how they defined learning partnerships and how learning partnerships were created and how they functioned in Extension's natural resource management programming. Interviewees stated similar concepts pertaining learning partnerships as being important factors in program development and delivery. Learning partnerships were found to help alleviate the burden of program costs and provided opportunities to collaborate with other organizations to delivery programming that encompassed multiple viewpoints and backgrounds.

The second part of the study focused on five case study partnerships within Illinois Extension's natural resource management programming to further investigate how learning

partnerships function in practice. Illinois Extension employees and representatives from partnering organizations were interviewed. A use of mixed methods, including face-to-face interviews, phone interviews, review of documents, participant observation and on-site observations were used in this part of the study because of the exploratory nature of inquiry.

Limitations

Although the context of reorganization allowed the study to examine how institutional change impacted programming planning and delivery, it also created challenges due to the stressful environment. One of the limitations of the study was the inaccessibility of some employees within Illinois Extension due to their decision to retire early or distractions due to time constraints and stressful situations. This study focused only on natural resource management programming within Illinois Extension. An investigation on how programs from different areas incorporate collaboration, interdisciplinary, and social learning would allow for a more in depth examination of learning partnerships with Illinois Extension. Due to exploratory nature of the study, a case study approach was used to examine five learning partnerships in practice in the state of Illinois. Therefore, the results of the study cannot be generalized across all types of natural resource management programming. An assessment of a greater variety of natural resource management programming and within Illinois or in other states would be an appropriate research model to effectively evaluate how learning partnerships function in natural resource management programming.

Discussion & Recommendations

Overall, the mission of Illinois Extension was generally agreed upon among administrators, regional directors, county directors, state specialists, and educators. Though only one interviewee explicitly stated creating "learning partnerships" was part of the mission, the majority referred to concepts that embody the spirit of learning partnerships when describing the mission of Extension. Interviewees described the mission of Illinois Extension as being a bridge between the University of Illinois and the public. They saw Illinois Extension as a way of "teaching beyond the campus walls". When asked if they thought the mission was agreed upon with Illinois Extension there was a mixture of responses. The majority felt there was widespread agreement that the mission of Illinois Extension was to provide the public with educational and outreach programming supported by research from the university. However, the way specialists and educators were to achieve the mission was less clear. Interviewees recommended clearly defining goals need to be established by the administration to promote a clearer understanding of how Illinois Extension fits in with the overall university's goals and expectations. Illinois Extension administrators on campus, along with university administrators, would be wise to communicate together about what the role of Illinois Extension should be now as a result of the reorganization and for stronger communication between state specialists, educators, and the public as to how they can fit within the new model.

Interviewees were also asked if they thought the budget cuts and reorganization would change the overall mission of Illinois Extension. Again, a majority saw the mission remaining the same, but the current model of program development and delivery was strongly perceived as being affected. Due to the reduction in staff and the consolidation of single county offices to multi-county units, a smaller staff will have to provide programming to a large area of audiences.

Therefore, the previous method of face-to-face contact maybe strongly shifting to more web-based delivery programs. In the past, program development and needs assessment were mainly driven by the local public. However, administration is now encouraging programming efforts to consider national program initiatives developed through the National Institute of Food and Agriculture (NIFA). Federal funding in the form of grants from the USDA will be driven by these new initiatives which include childhood obesity prevention, climate change, food safety, global food security, and sustainable energy. Illinois Extension in the past was framed as having a grassroots, bottom-up approach to program development. State specialists and educators were skeptical as to how much input the public will have in future program development. One the other hand, these changes may lead to less public input, concentrating on five distinct program areas may in fact be beneficial for Illinois Extension to develop expertise in certain areas and help increase their visibility with the public and local stakeholders.

Other challenges expressed by interviewees included the level of communication and connection field educators have with state specialists on campus. Within the College of ACES, the number of faculty with Extension appointments has dramatically decreased over the last twenty years and currently faculty have more responsibilities for research and teaching. This has resulted in a disconnect between Extension educators and state specialists on campus. In order to maintain the mission of delivering programs with a research base, this disconnect has led educators to have more reliance on conducting research on their own or going to other land-grant institutions for guidance. Therefore, there needs to be a stronger connection in how field educators can be brought up to date on research conducted at the university. Possible suggestions for increasing the connection between faculty on campus and educators out in the field could be developing a web portal to allow educators and faculty to connect on research efforts across the

state or expanding Illinois Extension beyond the College of ACES to connect to faculty in other departments.

The final part of this research examined the role learning partnerships have in programming development and delivery, particularly focusing within the natural resource management programs. Illinois Extension employees indentified learning partnerships as an integral factor in program planning and delivery for a multitude of reasons. First, within the natural resource management field, Illinois Extension cannot possibly be the sole experts on this broad area. Therefore, through the use of partnerships with other local and state agencies, organizations, and local stakeholders, Illinois Extension can provide educational programming and outreach that encompasses a variety of sources of knowledge and backgrounds. Also, due to budget cuts within Illinois Extension, creating partnerships to deliver programming can help to alleviate the cost and personnel requirements that are invested into a program. Coinciding with how Illinois Extension defines learning partnerships is the natural resource management literature that focuses on collaboration, interdisciplinarity, and social learning.

Therefore the last part of this research investigated how learning partnerships were developed in Illinois Extension's natural resource management programming and assessed if connections from the natural resource management literature occurred within learning partnerships in practice. Five learning partnership characteristics were developed from the natural resource management literature and initial interviews with Illinois Extension employees. The original anticipated characteristics are presented with brief explanations of the findings.

1. *Learning partnerships allow for resources and personnel to be more evenly distributed among partnering organizations.*

In all of the partnerships some degree of resource allocation and personnel time were distributed among partnering organizations. A majority of the partnerships had defined roles and certain parties provided funding for specific purposes for the program. Two of the partnerships had rather unique funding. The David Davis Mansion partnership generated its own funding from a yearly event and the web delivered program partnership's funding was provided by one organization while the work to develop the web program was performed by Illinois Extension.

2. *Learning partnerships build trust that can further develop working relationships among partnering organizations.*

All of the learning partnerships except one expressed some level of trust developed between the partnering organizations. Interviewees stated how having open communication and mutual goals and expectations allowed for trust to occur. Learning partnerships allowed for trust to develop between partnering organization and therefore, increased the ability for continued and future collaboration.

3. *Learning partnerships include collaboration among partnering organizations.*

Varying degrees of collaboration were found to occur among the learning partnerships. Partnerships that exhibited greater supporting evidence of collaboration had a stronger reliance on incorporating interaction among partnering organizations with the public. Learning partnerships that actively worked together exhibited more supporting evidence of collaboration. Learning partnerships designed around face-to-face programming also were found to have more supporting evidence of collaboration.

4. *Learning partnerships can incorporate knowledge and viewpoints from multiple disciplines and backgrounds.*

Only two of the five partnerships exhibited strong supporting evidence of interdisciplinarity within the learning partnerships. The level of interdisciplinarity was found to be more reliant on the overall purpose and context of the learning partnership. For example, learning partnerships created for programming with the purpose of environmental awareness required more inclusion of various sources of knowledge than learning partnerships designed for programming on gardening education.

5. *Learning partnerships provide a venue for social learning to occur among the partnering organizations and the intended audience.*

All of the learning partnerships except the web delivery program partnerships had evidence that supported a venue for social learning to occur between partnering organizations and also with the program audience. The learning partnerships saw more supportive evidence of social learning when programming is designed from face-to-face contact. This provides an opportunity to provide more public participation and hands-on activities when the program audience observed, participated, and actively was engaged throughout the learning experience.

These findings show how learning partnerships provide a variety of characteristics to offset the burden of program delivery, develop trust through working relationships, increase collaboration, incorporate multiple viewpoints on an issue, and provide a venue for social learning. It is important to note that the context of the program and the intended audience can play a significant role in how learning partnerships function. The mode of delivery (face-to-face or web), and the overall purpose of the learning partnerships ultimately influence the level of collaboration, interdisciplinarity, and level of social learning possible. It is necessary for Illinois

Extension and partnering organizations to first assess the overall goals of the program and how they hope to achieve those goals. This will help determine how the partnership should function and to what degree the characteristics of learning partnerships should be incorporated. Findings from this study suggest web delivery program partnerships functioned differently than the other four partnerships. Because of Illinois Extension's economic situation, more emphasis is currently being place on using the internet for program and information delivery. Although only one web-oriented partnership was examined in this study, the findings suggest more research is needed on how web delivery program partnerships can incorporate elements of collaboration, interdisciplinarity, and social learning. In order for Illinois Extension to stand by its mission of creating education programming and outreach to improve individual and community well-being through learning partnerships, stronger support from the administration may be helpful in educating a wider audience on how to incorporate learning partnerships through web program development.

Appendix A

Interview Questions for Illinois Extension Employees

1. What position do you have within Illinois Extension? How long have you been in this position?

2. How would you describe the overall mission of Illinois Extension?

3. What are the goals that Illinois Extension hopes to achieve?

4. How does communication work within Illinois Extension (from administration to county educators and also from county educators to administration)?

5. Do you feel that there is agreement throughout Extension about what the overall mission and goals are?

6. Do you feel that the restructuring of Extension's will impact or change the current mission and goals? Are there changes would you recommend?

7. In reading about Extension in general, it seems like "collaboration", "interdisciplinary learning" and "engagement" come up regularly as part of what Extension is about. Do you feel these concepts play a role in achieving Illinois Extension's mission and goals?

8. According to Illinois Extension's website the mission of Extension is to "enable people to improve their lives and communities through learning partnerships that put knowledge to work"

    a. What do you think is meant by "learning partnerships"?
    b. Do you think "learning partnerships" are a key part of Extension activities?
    c. How does Extension develop these "learning partnerships"?
    d. What are some challenges or constraints to creating "learning partnerships"?

9. I am particularly interested in natural resource management programming within Extension. What types of activities or issues is the natural resource management part of Illinois Extension involved with?

10. Do you think "learning partnerships" are a part of Extension programming in natural resource management?

11. Do you know of any specific examples recently where collaboration, interdisciplinary learning and engagement are being attempted or achieved in regards to natural resource management programming?

12. How does Illinois Extension evaluate programming to determine how well the mission and goals are being met?

    a. Does this differ from the administration level to the county level or is there an overall general framework (or model) that Extension uses for evaluation?

13. Is there anything else you think I should know about Illinois Extension, its role from the university or public standpoint, or anything else pertinent to this project?

Appendix B

Table A: Common Themes from Interviews

Question	Category	Common Themes
Q2. Defining the mission	Administrators Regional Directors Department Heads County Directors State Specialists Educators Non-affiliated Faculty	- To bring research information to the public - Transfer information into a format that can be used and easily understood - Be a liaison between campus and the public
Q6. Reorganization	Administrators Regional Directors	- Programming will be derived from 5 NIFA initiatives but topics will still be broad for public input
	County Directors State Specialists Educators	- More skeptical on the opportunity for public driven programming - Changing to using web-based program delivery due to reduction in staff
Q4. Communication	Administrators Regional Directors	- The job of the specialists is to deliver research-based information to the educators for program development
	State Specialists	- Job responsibilities and time constraints are pulling them away from Extension activities and more towards research and teaching
	County Directors Educators	- Reduction in specialists requires local counties to conduct their own research or look to other sources for information
	Department Heads Non-affiliated Faculty	- Some departments have a limited view of what Extension entails and no education for faculty on the possible sources for collaboration
Q8a. Defining learning partnerships	Administrators Regional Directors Department Heads County Directors State Specialists Educators Non-affiliated Faculty	- Learning partnerships are working relationships - All parties benefit from sharing information and building relationships and trust

Table A (cont.)

Question	Category	Common Themes
Q8b. Are Learning Partnerships key to Extension activities?	Administrators Regional Directors Department Heads County Directors State Specialists Educators Non-affiliated Faculty	- Learning partnerships are seen to be very important in Extension activities - Due to budget constraints, partnerships can help research larger audiences and share programming costs
Q8c. Developing learning partnerships	Administrators Regional Directors County Directors State Specialists Educators	- From past working relationships and networking - Extension's has a long history working within the state on natural resource management issues
Q8d. Challenges and constraints to learning partnerships	Administrators Regional Directors Department Heads State Specialists	- Staff time, money, staff turnover, competition among organizations for programming and visibility
	County Directors Educators Non-affiliated Faculty	- Should not create partnerships solely to save costs - both organizations need to share common goals

Number of people interviewed: Administrators (3), Regional Directors (2), Department Heads (2), County Directors (2), State Specialists (3), Educators (6), Non-affiliated Faculty (1)

Appendix C

Interview Questions for Partnering Organizations Representatives

1. What position do you have within XYZ organization? How long have you been in this position?

2. Who and/or what initiated the partnership between your organization and Illinois Extension?

3. When was the partnership initiated?

4. How would you describe your position/role in the partnership?

5. What natural resource issues are the focuses of the partnership?

6. How visible were these issues prior to the partnership forming? How were they dealt with before the creation of the partnership?

7. How large is the geographic area the partnership decisions would affect?

8. Can you describe the characteristics (i.e. demographics) of the participants involved with the partnership or represented by the program participants? In other words, do you feel that a diverse array of interests are represented in the partnership?

9. Were there initial goals of the partnership? Have they changed over time?

10. How are decisions made within the partnership? Is there any formal decision-making authority within the partnership?

11. How much time/personnel do you invest in this partnership?

12. How are resources allocated within the partnership?

13. How would you rate your level of trust in working with Illinois Extension?

14. Do you feel that collaboration existing between your organization and Illinois Extension? Yes/no and why?

Appendix D

List of Documents Reviewed

Crisis Nursery Partnership:
- Community Enrichment Garden Criteria and Guidelines
- Champaign County Master Gardener Community Enrichment Garden Application

Juvenile Detention Center Partnership:
- Community Enrichment Garden Criteria and Guidelines
- Champaign County Master Gardener Community Enrichment Garden Application

David Davis Mansion Partnership:
- Memorandum of Understanding

Internet Delivered Program Partnership:
- Illinois Extension Web Usage Statistics (August 2010)
- Website: Living with White Tail Deer (http://web.extension.illinois.edu/deer/)
- Website: Pesticide Safety Education Program (http://web.extension.illinois.edu/psep/)