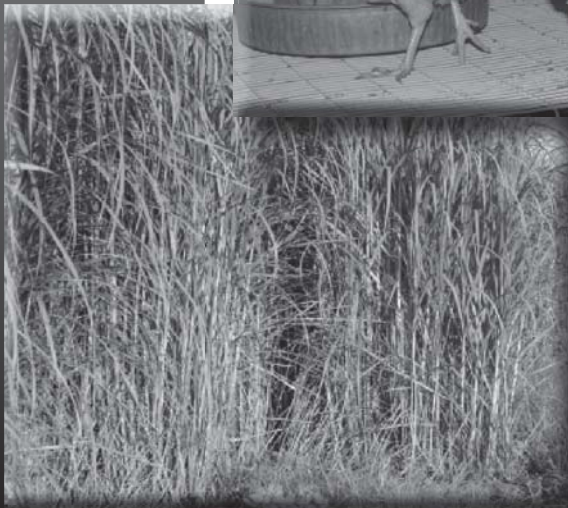# Issues Management

Building Capacity
in the Land-Grant System
National Symposium
Proceedings

June 13, 2011
Denver, Colorado

Issues Management: Building Capacity in the Land-Grant System National Symposium
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Building Capacity in Issues Management in the Land-Grant System

In reading a 1960 report from my home institution, I noted that two of the functions that were associated with the office that would later become my department were "predicting trouble spots and how to avoid them" and "dealing with trouble spots, if they develop." Bottom line: issues management in the agricultural and life sciences is not a new idea.

What is new is that we have a means for addressing it through an initiative that brings together communications professionals and researchers to establish a research agenda, tools and competencies for effective issues management. While all of us manage issues to some extent in our home institutions, this project has provided needed focus and language that is enabling a greater sharing of knowledge and best practices. Moreover, it has provided an "official" vehicle that is identifiable to our college, extension and experiment station administrators.

"Building Capacity in Issues Management in the Land-Grant System" is a project through the North Central Regional Association of State Agricultural Experiment Station (AES) Directors, which focuses on facilitating regional and national research. While the Building Capacity project (NCDC224 – its current number in the AES system) is administered through the north central region office, membership on the team hails from around the country.

The multi-state project nomenclature is a little cumbersome so I'm going to avoid it as much as possible, but I would like to clarify that the project has been listed under different numbers. It had two different NCDC (North Central Development Committee) numbers and an NCERA (North Central Extension Research Activity) number, and probably will have another NCERA number in the next year.

For years, numerous professionals in our fields have talked about the need for this type of project and even facilitated related national initiatives like Media Relations Made Easy or the Crisis Response Project. Yet, we didn't have a mechanism for collective thinking and work. In 2004, I had an opportunity to meet with AES and Cooperative Extension Service (CES) directors at their summer meetings. During these informal and brief presentations, I explained the need for issues management and crisis communications training and competence. I was surprised at the positive response. We were then asked to develop a proposal for a multi-state

initiative and submit it through the AES system. We received authorization in 2005, and our small working group – Mark Tucker, Kirk Heinze, Chris Sigurdson and I – submitted our proposal in 2006. It was approved in July 2007, and our first official national meeting was in May 2008. Those attending the first meeting included Marcus Ashlock, Linda Benedict, Kris Boone, Dwayne Cartmell, Elaine Edwards, Martha Filipic, Frankie Gould, Bill Hallman, Kirk Heinze, Peter Kent, Faith Peppers, Becky Koch, Pat Melgares, Sonny Ramaswamy, Tanner Robertson, Deidre Shore, Joan Thomson and Mark Robinson. Ramaswamy served as our administrative advisor, a post I now fill.

The initial proposal focused on biosecurity. Quickly, as at the first meeting, the group decided that the biosecurity focus was far too narrow. Thus, we morphed, we grew, we changed – sometimes beyond the capacity of the AES system to keep up. Nonetheless, it has continued, and it has built a significant body of work in a relatively short period time because of the commitment of outstanding professionals and researchers who have added it on to their already full plates.

The issues management work that has been and is continuing to be undertaken and completed through these projects is remarkable. The project has focused not only on conducting research and creating tools for universities and other groups working in life sciences, agriculture and natural resources communications, but also on the issues management competency of these institutions – a great ambition. In this, it reminds me of the 1950s National Project in Agricultural Communications that brought together communicators (generally editors) and administrators to enhance communications abilities throughout the system.

This document is the proceedings from the first – I suspect there will be more – national symposium on issues management in the land-grant system. The work of the group has been received positively by administrators and helps all of us grow in our capacity to manage issues in a proactive and responsive manner. It also demonstrates the value of communications as a part of the land-grant mission.

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Advancing the Land-Grant Mission through Responsible Issues Management

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Abstract

Land-grant universities fulfill a critical role in society by generating and providing science-based information to help consumers make educated decisions about matters affecting the quality and safety of their lives. While their basic mission has endured since their inception with the passage of the Morrill Act in 1862, these institutions operate in a complex public sphere in which their voice can be misinterpreted or muted in the media din. Connecting with audiences can be particularly difficult for controversial public issues that arise quickly and for which multiple actors are vying for media and public attention.

While the multidisciplinary enterprise of strategic issues management offers valuable insights that can help organizations refine and focus their communication with key publics (Issue Management Council, 2005), its literature base is focused primarily on private-sector companies and organizations with commercial interests and does not take into account the unique mission and philosophy of higher education institutions.

Communication professionals who wish to bolster their awareness of and expertise in strategic issues management in the university setting will find useful concepts in a range of disciplines that include issues management, public relations, mass communication, risk communication, and higher education. This paper draws from these literatures in proposing the development of a socially responsible issues management program that can help advance the land-grant mission. A major goal is to encourage greater discussion among land-grant university faculty, administrators, and communication professionals regarding sound practices and realistic goals when responding to difficult public issues.

Managing Public Issues

Companies, politicians, and government agencies have always had a stake in anticipating and managing those issues that could affect their financial and political fortunes. The origin and nature of such issues varies widely, and a large communication literature has developed around the broad topic of issues management. Depending on the perspective of the organization, a particular issue could be analyzed through different theoretical and definitional frames found in the literature, including issues management, reputation management, risk communication, and crisis communication, among others.

While universal metrics do not exist to define or measure successful issues management, little effort is needed to identify failures. Improperly managed social issues can generate unfavorable media coverage and negative public sentiments that severely damage or destroy relationships with customers and collaborators. Such developments can be catastrophic and quickly overwhelm an organization's ability to function. In some cases, entire industries can be damaged, as illustrated by the Alar controversy of the 1980s that devastated the apple industry.

The communication professionals involved in helping organizations navigate the difficult terrain of issues management have traditionally drawn on expertise from such disciplines as public relations and journalism. However, the task of managing social issues extends well beyond communications. In their helpful text on the subject, Heath and Palenchar (2009) define issues management as an organizational function dating to the 1970s that includes such dimensions as strategic business planning, issue monitoring, corporate responsibility, and dialogic communication with the goal of developing and sustaining positive relationships with stakeholders. Other recurring themes associated with issues management include leadership (Palese & Crane, 2002); legitimacy (Spencer, 2004); and proactive participation in public policy dialogue (Chase, 1982).

In recent decades, an expansive body of issues management literature has been developed by both practitioners and academicians in response to some of the most complex and newsworthy topics of the day, including food safety threats (Charlebois & Labrecque, 2007; Gregory & Miller, 1998); environmental concerns (Greyser, 2009); and controversies surrounding organizations' corporate and personnel practices (Gregory, 1999; Heath & Palenchar, 2009).

While the literature offers much knowledge and insight on issues management experiences learned across a broad scope of social issues, developing a social issues management plan is neither simple nor straightforward. A major challenge facing issues managers is the sheer uncertainty that is inherent in multiple phases of issues management. It is simply impossible to anticipate with accuracy events that

may (or may not) happen, to gauge public reaction to possible future events, and to predict and prepare for media coverage that could occur over time. A second challenge derives from the nature of the issues management literature, much of which is based on case study methodology. While case studies may treat particular issues and organizations in depth, their findings cannot be readily generalized to other locations and situations. Especially rare are issues management cases studies focusing on the unique circumstances of universities.

Clearly, land-grant universities and other higher education institutions share some of the same goals as private organizations in terms of issues management. While land-grant universities do not generally market or sell products or services in the same manner as commercial companies, they can fulfill their educational mission only by maintaining a broad base of trust and goodwill with consumers, legislators, media, and various other stakeholder groups shown in Figure 1. Stakeholder groups may at times exert a strong influence on land-grant universities. If they do not view these institutions as credible, disinterested providers of research-based information, they are less likely to value or use their information and less likely to support the use of their tax dollars to help fund public education, research, and outreach activities. In this regard, issues management has tangible and significant consequences for land-grant universities' "bottom line," comparable to that of profit-seeking companies.
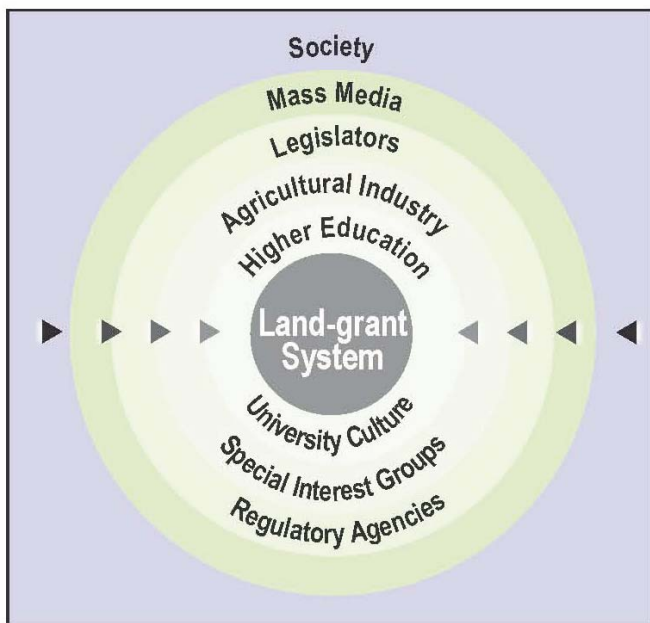

Figure 1. Continuum of mass media and message influence, selected theories

Despite these similarities, land-grant universities are not private organizations. Although they may at times adopt business model principles for particular operations or functions, they fulfill a unique role in society that sets them apart from private-sector organizations (Cole, 2009; Rasmussen, 1989). Their unique history and mission have significant implications for issues management. As an example, a deep philosophical difference exists between private organiza-

tions and land-grant universities in the purpose and goals of their external communication programs. Owing to their longstanding educational mission and organizational culture, land-grant universities generally do not advocate for particular products, positions, or courses of action on the part of the public. The traditional stance is one in which the university is a disinterested provider of unbiased, research-based information so that individuals can make informed decisions on matters of public importance. Contrasted with the decidedly less ambiguous business goals of private organizations, land-grant universities typically assume a more neutral position on social issues not only because they are limited to claims based on science, but also because their primary mission is to provide information and education to help support public decision making. Strong commitment to its public-service mission is one of the defining characteristics of land-grant organizational culture (Figure 1).

A measure of caution and finesse is required to adapt private-sector insights about issues management to the unique needs of the land-grant complex. The position taken here is that issues management strategies can help land-grant universities fulfill their mission if they are used to help slow and guide the formation of public opinion so that relevant facts and science-based information can be brought to light and made more transparent. This type of socially responsible issues management can help illuminate complex issues and allow for more deliberate and informed public decision-making.

In response to this challenge, communication specialists and researchers from several of these universities developed a proposal in 2008 to establish a North Central Extension Research Activity (NCERA) that would focus specifically on developing capacity in issues management in the higher education context. In the past two years, this committee has collaborated on the following objectives (NCERA, 2009):

1) To create a culture of strategic issues management within our institutions;

2) To link current research into the development of best communication practices for land-grant institutions; and

3) To enhance institutional communication capacity at land-grant institutions.

Because issues management strategies adopted by a particular college or university must take into account the nature of the social issue and the organizational goals of the institution, it is difficult to prescribe particular practices that will work in all situations. However, it is possible to draw from the eclectic issues management literature to identify some of the key considerations that universities must address in developing and strengthening issues management programs. This paper provides a brief overview of the process by which contentious public issues emerge, followed by a discussion of communication and management strategies commonly employed by successful issues-minded organizations. A desired outcome of this work is additional discussion and collaboration among communications professionals and,

accordingly, advancement of the aims of the NCERA project, known as NCERA 209.

Anticipating Contentious Social Issues

Because it is impossible to know how a particular issue will develop or what consequences it may hold for land-grant universities, it is wise to develop institutional expertise in anticipating tomorrow's social issues. Developing early intelligence on potential issues is one of the most critical phases of issues management for all organizations (Weiner, 2006). Heath and Palenchar (2009) identify four early steps in effective issues response: issues scanning, identification, trend monitoring, and issues priority setting. Daunting but necessary reading for all issues managers is the listing[1] of possible information channels and sources from which issues can emerge and germinate. Communication channels that cannot escape notice include the range of social media and other emerging interactive technologies that significantly change the role of audiences in participating in the gatekeeping process.

One of the dominant themes appearing throughout the issues management and communications literature is the key role played by mass media in placing issues on the public agenda and keeping them there for potentially long periods. Indeed, theorizing about the potency of news media in influencing public opinion constitutes one of the oldest and most active areas of mass media research. Not surprisingly, views have differed widely among communication scholars over the decades as to the relative power of the media. Figure 2 shows how several prominent communication models and theories differ according to relative power and influence accorded to mass media.
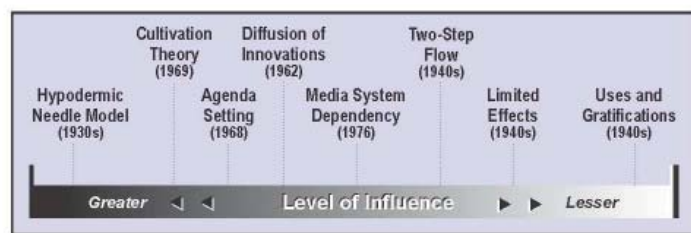

Figure 2. Continuum of mass media and message influence, selected theories

To a great extent, the various communication models and theories are a product of the era in which they were developed. For example, early conceptions of the media (i.e., hypodermic needle model) arose in response to concerns about supposedly powerful wartime propaganda in World War II. Later models and theories (i.e., uses and gratifications) conceived of mass media as having only limited or indirect effects on audiences, and these frameworks tended to credit audiences with greater relative power and autonomy to select the media and programs that fulfilled their personal needs. While much of the literature on social media is not research-based, a growing body of empirical research is beginning to emerge. How the growing influence of social media will alter the trajectory of communication theory remains to be seen.

History aside, the different views of mass media influence reflect divergent philosophies about the role of media and the nature of their effects on the public. Although there is not universal agreement as to the ability of media to influence public thought and opinion, it is generally assumed that mass media effects vary depending on the audience, nature of the message, and the method and frequency of message exposure. Accordingly, many of the theories used in contemporary mass media research could be considered middle-range "hybrids" that accord varying degrees of power to both media and audience. Recent research on audience and news trends shows that Americans displayed only modest overall levels of news interest during the past 20 years, even in the face of major world events and changing news technologies (Robinson, 2007a). Audiences during this period were most interested in stories about disasters, money, and conflict.

Decades of mass media research have clearly shown that increased news coverage can heighten public fears and perceptions of risk for certain topics. The dramatic ascension of some topics and issues onto the media stage can be likened to a "perfect storm," where a number of dynamic factors come together, sometimes suddenly, triggering the event. Vasterman (2005) points out that news stories can arise from any number of events – accidents, public disclosures, crimes, government warnings – and that a given story may be accorded even greater media attention on "slow news days" (p. 513). The 24-hour news cycle further encourages sensationalism and competition for audience attention (Bucy, Gantz, & Wang, 2007). Adding to the selection of news topics at any given moment is the proliferation of cell phones, social media and other new communication tools that permit "citizen journalists" and even casual users to quickly post and transmit text, photos, and videos on any subject (Gant, 2007).

Risk perception research can help communicators anticipate how the public attends to and perceives risks learned about through the media or through direct experience. Studies in the psychology and sociology of risk reveal that individuals are most likely to express elevated levels of risk for issues or events that are unfamiliar, unavoidable, uncontrollable, potentially catastrophic, involve technology-intensive activities, and offer no obvious benefits to them (Fischhoff, Slovic, Lichtenstein, Read, & Combs, 1978; Pidgeon & Beattie, 1998; Sandman, 2008). Drawing on the collective insights from audience and risk research, issues managers can begin to formulate questions to help them gauge public interest in particular topics and to forecast which topics have the potential to develop into a controversial social issue. For example:

- Is the public unfamiliar with the problem or issue?
- Has the problem or issue affected "innocent" victims?
- Does the problem or issue hold the potential to

produce dreaded consequences or unknown effects?

- Do any individuals or groups profit, economically or otherwise, from this problem or issue, particularly at the expense of private citizens or the public?
- Are there major gaps in scientific understanding of the problem or issue?
- Do experts disagree as to optimal solutions for the problem or issue?

An answer of "yes" to any of these questions indicates a potential for the development of a contentious public issue. Especially problematic for issues managers is the situation in which the public begins to feel a sense of injustice or outrage. Incorporation of outrage into the discussion of issues management demonstrates the parallels of issues management with its sister disciplines of risk communication and crisis communication. In all of these enterprises, a worst-case scenario involves an enraged public that can mobilize quickly, attract media attention, and demand concessions or make other decisions based largely on anger or emotion. Organizations associated, or perceived to be associated, with the issue at hand can attract unwanted media scrutiny and rapidly lose public support. In recent years, social media and the Internet have broadened opportunities for public reaction and comment (Küng, Picard, & Towse, 2008).

Risk communication expert Peter Sandman (2008) suggests that public stakeholders are wielding increasing influence over time and their influence has a significant impact on an organization's viability:

> Corporate and government reputations are more vulnerable than they used to be; they get damaged more easily, and the damage has more impact on the bottom line. Today even low-power stakeholders who can't stop a project they dislike can still threaten significant damage to the reputation of the organization behind the project. So companies and government agencies that are protective of their reputations have business reasons to manage the outrage of low-power stakeholders.

Land-grant universities do not necessarily have profits at stake when an issue breaks, but they do risk losing a different type of commerce, their credibility and goodwill, both of which are valuable and difficult to recover.

Practices of Issues-Minded Organizations

For most organizations, developing a sound issues management program could well necessitate changes in budget and personnel responsibilities. Land-grant system professionals may have to negotiate both practical and philosophical issues to ensure buy-in and active participation among administrators, faculty, and communication staff in an issues management program. Such issues are complex and may take time to address. The following section introduces several overarching points of discussion intended to encourage reflection and dialogue among land-grant administrators and communications staff regarding the adoption of socially responsible issues management programs. While not comprehensive, the six statements represent a starting point for identifying the common orientations and best practices of issues-minded organizations. They also provide a possible framework for additional research and scholarship needed in this area.

1. Issues-minded organizations view issues management not solely as a communication function, but as a strategic priority.

If responsible issues management is to take root in the land-grant system, it must be viewed as a strategic initiative – not simply an activity to be implemented in emergencies. Issues-minded organizations devote time and resources to the process, especially the anticipatory stages. While the tasks involved in issues management are based on social science principles, the process relies heavily on intuition and creativity, which can be thought of as the "art" of issues management. Accordingly, this process is likely to be most effective when a broad range of talents and expertise are present at the table (Dougall, 2008). Professional communicators, especially those with significant media relations experience, must be actively involved in effective issues management. However, the process cannot be delegated solely to the communications department. Best positioned to use issues management to their advantage are institutions that formalize issues management and response as a part of their strategic decision-making culture and actively involve communications staff, university administrators, faculty, and stakeholders.

At the college level, the first step is the formation of an interdisciplinary issues advisory team that meets regularly with the dean, dean's staff, and communication head. In addition to issues scanning and monitoring of trends, the issues advisory team should discuss and keep tabs on some of the dynamic changes taking place in media and society – changes that could affect the land-grant system's relationships with the public. Examples include demographic and generational shifts taking place in both urban and rural areas, continued growth of the Hispanic/Latino population, the rapid adoption of social media and their role in issues management, and the emergence and implications of citizen journalism activities.

As an issue fades from the media and public spotlight, the natural organizational tendency is to move to the next task. However, important issues management work is yet to be completed. The issues advisory team should lead the organization's self-examination process and, when resources permit, commission evaluation efforts to gauge performance of the college throughout various stages of the issues cycle. Results from this process should be shared and candidly discussed among administrators, faculty, and communication staff as part of a continuous quality improvement program.

2. Issues-minded organizations acknowledge concerns and engage the public in conversations about key issues.

Backed by high-profile achievements and the development of life- and labor-saving technologies, scientists held an enviable and unprecedented reputation in American culture in the mid-20th century. Their authoritative status was seldom questioned, and layperson disagreements were often dismissed as irrational. Higher education, by extension, enjoyed and benefited by its perceived expert status.

Societal changes in the 1960s began to erode the privileged position held by scientists and other authorities. Today, experts' statements and reassurances are no longer accepted without question. Rather, the public has become more vocal about issues they perceive to affect them. Given this situation, issues-minded organizations find ways to develop lines of communication with the public, and to keep the lines open. Organizations have many options at their disposal, such as holding town meetings or hosting other public forums. Interactive communication technologies such as blogs, websites, and social media offer additional opportunities to solicit stakeholder input about programs and policies.

Some public issues may involve topics or situations for which land-grant universities do not have clear scientific evidence. In such cases, simply listening to and acknowledging laypersons' claims is one way to open lines of communication between scientists and the public and to avoid public perceptions of "obstinacy" (Moore & Stilgoe, 2009, p. 661).

Land-grant universities must not only respond to but initiate public conversations about difficult issues, including those related to food, agriculture, and the environment. This recommendation may contradict the view of those who believe the chief value of issues management is to de-emphasize difficult issues, if not actually make them go away. However, a strategy that includes engaging the public on difficult social issues is entirely consistent with the land-grant mission: to provide science-based information to help the public and experts make sound decisions; to provide unbiased information to help focus attention on salient aspects of complex issues; and to serve as a disinterested actor to help bring together and engage stakeholders for discussion and resolution of issues.

Land-grant universities need to develop a scholarship of engagement in the same manner as they build knowledge and expertise in other disciplines. Such an enterprise requires capable social science researchers working alongside Extension Service educators and professional communicators to anticipate contentious public issues and plan reasoned strategic responses. Curricular features of a fully developed scholarship of engagement might include the offering of university courses in such needed areas as strategic issues management and engagement of underserved audiences. Revised promotion and tenure policies and removal of other institutional barriers may be needed to help foster such multidisciplinary relationships and institutionalize engagement into the culture of the academy (Jacobson, Butterill, & Goering, 2004).

3. Issues-minded organizations focus on developing and maintaining relationships.

An expansive body of social science literature has been developed around the concept of "social capital." In the current context, social capital refers to the collective network of personal and professional relationships that members of an organization have developed over time. The accumulation of social capital is a significant asset for issues-minded organizations because it can bolster public trust and reputation.

Land-grant universities must build a diverse base of support by developing strong and positive relationships – before they are needed. Strongest are relationships in which parties trust each other. Recent research focused on Auburn University (Kim, Carvalho, & Cooksey, 2007) revealed that individuals who did not perceive the university to be trustworthy were less willing to undertake supportive behaviors such as making donations to the university or purchasing university products. The authors advise universities to focus not just on building an impeccable reputation, but also on building positive and socially responsible relationships in their local communities. They write, "This can be done by maintaining mutually beneficial relationships, listening carefully to what the community expects, and incorporating community opinions into important decisions…" (p. 235). Chatterton (2000) calls on universities to develop a new brand of engagement built on a shared culture with the local community. Others (Batie, 1988; Warner, Christenson, Dillman, & Salant, 1996) have argued for some time that the future viability of the Extension Service and colleges of agriculture may well depend on building coalitions with new and nontraditional clientele.

Building strong alliances, demonstrating cooperation, and, where possible, institutionalizing relationships with other trusted sources such as nonprofit organizations also helps leverage reputation. Such networks are particularly important when communicating about risk topics. According to Fischhoff (1995), "A complex network of mutually respectful relationships may offer the best hope of reaching agreements, when they are there to be had" (p. 144). Stripling (2009) reminds issues managers to not neglect the relationships that are already going well. Blogs and social media may be especially suited to developing and maintaining personal relationships with stakeholders (Wright & Hinson, 2008).

Peters, Covello, and McCallum (1997) provide evidence that government agencies build trust and credibility not only by demonstrating expertise, knowledge, and concern, but also by addressing negative stereotypes that may exist in the eyes of the public. The authors cite this strategy as a major reason for the 1989 success of the Natural Resources Defense Council in having Alar withdrawn from the mar-

ket. In this example, the NRDC was able to overcome the stereotype of a citizens' group through its use of research to substantiate its claims about the dangers of pesticide residues on fruits and vegetables.

Among the most important relationships to be developed are with organizations in the local community, including media outlets. While national and state media typically gain more attention, positive relationships with community and local media contacts are indispensable in successful issues management.

4. Issues-minded organizations realize their image is based on many factors.

Image studies form a well-established strand of marketing research, and the linkage between corporate image and commercial success is clear: A positive image is associated with increased customer satisfaction and, usually, sales. While relatively little image research has been conducted in the context of higher education (Sung & Yang, 2008), it is possible to gain insights from the existing literature.

A key point is that university image is influenced by a wide range of factors, some of which have little to do with the issues addressed through its research and academic programs. Among the factors shown to influence university image are perceptions of academic quality, perceptions of athletic programs, type and degree of news coverage, evaluations of family and friends, and level of education of the evaluator (Arpan, Raney, & Zivnuska, 2003; Fram & Lau, 1996; Goidel & Hamilton, 2006; Kim et al., 2007; Sung & Yang, 2008). Findings suggest that university image is most positive for institutions viewed as having strong teaching and research programs, capable faculty, and winning sports teams. Favorable news coverage improves a university's image, particularly among individuals who live out-of-state, and who have no direct knowledge or experiences with the institution. Individuals also rely on the perceptions of others when evaluating institutions – positive evaluations from significant others help bolster the university's image. Finally, individuals with higher levels of education are more likely to provide favorable evaluations of universities than are individuals with less education.

In the case of collegiate sports, many land-grant universities may benefit from the enthusiasm and camaraderie generated among individuals who might otherwise have no apparent connection with or interest in the state university. While there is no conclusive evidence that this connection leads to higher levels of support for university funding, it clearly offers benefits of enhanced image, particularly among those with limited knowledge of academics (Goidel & Hamilton, 2006).[2]

Unfortunately, not all university actions or events generate goodwill for their institutions. As discussed earlier, universities are complex bureaucracies with largely autonomous academic departments and decentralized decision-making

(Becher & Trowler, 2001). Media disclosures of poor administrative judgment or performance anywhere in the system can poison public perceptions of the entire institution, as was the case in separate damaging incidents at the University of Illinois, the University of Nevada at Las Vegas, and North Carolina State University (Stripling, 2009). University issues managers must accept such situations as a fact of academic life.

A universal issue facing higher education institutions involves the dilemma surrounding increases in student fees and tuition. Never popular, tuition hikes are particularly divisive in a recovering economy. University proposals to increase tuition jeopardize relationships with students, legislators, and various stakeholder groups. Meanwhile, maintaining current tuition levels may threaten the academic quality of the institution as well as its ability to make programs accessible to more students. This unenviable position in which higher education institutions find themselves has been termed by Immerwahr, Johnson, and Gasbarra (2008) as the "iron triangle" because of the rigidity of the three components, as illustrated in Figure 3. In effect, attempts to improve on any of the three components – enhance academic quality, increase student access, or limit costs – threaten the other two components. The difficulties imposed by the iron triangle come at a time when experts are forecasting a surge in the number of college-age students that is expected to exceed the capacity of public higher education institutions (Duderstadt & Womack, 2003). The decisions made by university administrators and boards of trustees to cope with such issues clearly can influence the public image and reputation of individual institutions.
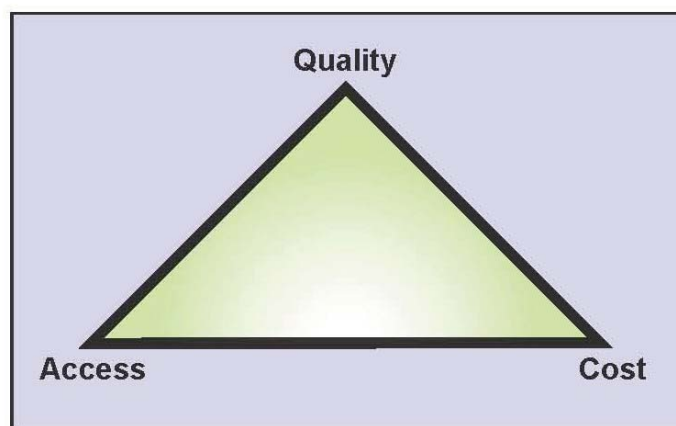
Figure 3. Higher education's "iron triangle"

Threats to image and reputation may also become more complex and unavoidable as universities increasingly collaborate with private industry in research and discovery (Plewa, Quester, & Baaken, 2005). Powell and Owen-Smith (2002) argue that universities have little experience in collaborating with industry in areas such as biotechnology and the life sciences, where knowledge is changing quickly and research has the potential for immediate commercial application. According to Gregorian (2005), "The challenge

is for universities to maintain their integrity, even as the lines between industry and university research are blurring" (p. 83).

5. Issues-minded organizations use the media to their strengths.

Using media to their strengths means taking advantage of their benefits and accepting their limitations. As previously discussed, while decades of research have not yielded consistent results on the performance of mass media in influencing public opinion, there is no doubt that media can influence how people come to understand an issue (Lowery & DeFleur, 1995). Whether conceived of as agenda setters, gatekeepers, or members of the fourth estate (Bryant & Miron, 2004), the media's role in framing public thought cannot be overestimated. The nature and volume of media coverage can influence whether and how the public perceives the world. At times, this influence can be potent.

While the inclusion of social media in the communication mix has not been extensively studied to date, there can be no doubt as to their ability to exert a powerful multiplier effect relative to messages propagated by traditional mass media and interpersonal methods of communication. At the same time, it is important to keep in mind that many of the communication goals currently associated with social media are not new at all. Kent (2010) argues that concepts such as social networking have been discussed for decades and there is much we know about them. Most new media are new only in a technological sense, not necessarily in the type of communication they offer.

Because of their status and reputation as public institutions, land-grant universities do not have the range of media tactics open to them that are sometimes exercised by private organizations and special interest groups. An example are the communication programs used effectively by some organizations to attract public attention or to "manufacture doubt" about science-based claims that threaten their economic or political interests (Bodensteiner, 1995; Stocking & Holstein, 2009, p. 23). Others (Smith, 2009) have referred to the deliberate development of a "conflict industry" that involves agricultural and food activists who are "creating conflict to raise money to create more conflict to raise more money."

Issues managers must consider the challenges of time and space limitations when they use the media. Radio and television can devote relatively little time and print media can allot only limited physical space to complex issues. Such limitations raise serious doubts as to the ability of mass media to provide adequate background and balanced coverage for complex social and scientific topics. Mass media typically provide only episodic coverage of difficult issues, which is further limited by the training of the communicator who prepares the story. Social media can extend the life of issues by continuously diffusing information and providing a forum for discussion. Social media also allow for constant updates and alerts, but, like traditional media, they are limited in their ability to communicate about complex issues as well as in the audiences they can reach (Chavez, Repas, & Stefaniak, 2010).

Media are attracted to stories that involve conflict and the potential for dramatic pictures (Robinson, 2007b). Science news in particular has been characterized as superficial, sensationalized, and over-reliant on a "wow" factor. Science communication experts warn that mass media must overcome these challenges if they are to communicate more effectively with the public (Davies, 2008; Gregory & Miller, 1998; Van den Brul, 1995).

Perceived shortcomings in science communication may be partially attributed to the differential views among scientists and journalists concerning the basic role and purpose of mass media reporting. Scientists have been shown to view the media as a vehicle for carrying research information to laypersons, while journalists tend to view themselves primarily as watchdogs for the public (Nucci, Cuite, & Hallman, 2009). For their part, journalists cite the First Amendment as one of the major forces guiding their actions and decision-making. Many journalists view themselves as investigators of the facts, social mobilizers who engage their audiences, or adversarial writers who are, by default, skeptical of public officials and special-interest groups (Stocking & Holstein, 2009). Occasionally, this orientation may lead them to aggressively report an issue, ask confrontational questions and break stories they think need to be told. And, owing to deadline pressures and sometimes their own lack of training on technical issues, they are going to make mistakes.

These circumstances pose challenges to effective issues management. Issues-minded organizations concentrate on the *benefits* media offer, respond promptly to media inquiries, and look for ways to build strong relationships with media professionals. Such organizations are extremely adept at working with media, devoting significant resources to this effort, and having well-trained communicators who can understand and anticipate media needs. Successful organizations also are more likely to be proactive in adopting and using social media and other new technologies to communicate with current constituents and to cultivate new prospects.

A relevant feature of media-savvy organizations is their tight control and coordination of who speaks to the media, the timing of media appearances, and the message that the organization wishes to transmit to the public. This situation contrasts sharply with the decentralized communication programs of large universities, which cannot easily impose chains of command or control faculty communication in dealing with the media.

Unlike private organizations, land-grant universities have a relatively flat administrative structure that allows important decision-making at various levels. In her sociological analysis of higher education, Ballantine (1989) argues that a university's various colleges and departments "retain impressive decision-making powers" in the academy (p. 269). While

higher education institutions may share a broad mission or vision, faculty members operate in an academic culture that values independence and protects freedom of expression (Becher & Trowler, 2001). Accordingly, faculty members, at their own discretion, may publicly challenge or contradict the views of other faculty, or they may openly disagree with a university policy or stance on a particular topic. This open structure stands in marked contrast to tightly controlled messaging of private organizations that allows them to speak to the media, and the public, with a singular, unified voice.

University administrators, faculty, and communication specialists should collaborate closely to develop clear and consistent messages about contentious issues. Messages should include a concise statement of the land-grant mission and emphasize the institution's commitment to public service. Such messages should be professionally produced for different media and continuously repeated to target audiences.

6. Issues-minded organizations know when to draw lines – and hold the line.

Owing to their historical role in helping fund these institutions as well as the close relationships they have developed with Extension Service and other programs, many stakeholders feel "ownership" of land-grant universities. Maintaining and building close relationships with individuals and groups through education and research is one of the revered features of the land-grant system. However, as an issue begins to develop, it is possible that some stakeholders or groups will take positions or engage in behaviors not compatible with the land-grant philosophy or the strategic goals of the university. In other cases, evidence could come to light that supporters or collaborators have committed violations that threaten, or are perceived to threaten, food or environmental safety. Options for compromise may be particularly limited or nonexistent when opposition is based on an emotional response or on deeply held ideological or philosophical grounds. In such cases, administrators must be willing to voice and stand by the university position, even at the expense of straining valued relationships.

Such decisions are difficult to make and should ideally be based on strategic decision-making that involves the entire issues advisory team. Responsible issues management requires land-grant universities to demonstrate they are serving the public interest. The only way to do this is through transparency and consistency in their public statements and actions.

Clearly, the financial and political interests of most organizations are best served when controversial issues pass or "blow over." Conversely, land-grant universities must be prepared not only to weather such issues, but help raise visibility for social injustices and other issues that may warrant public discussion. In truth, some issues should create public outrage. Land-grant universities fulfill their mission by providing science-based information to help people make reasoned decisions. But the challenge does not end there because all science has limitations and cannot address all uncertainties. Furthermore, science has been proven notoriously ill-suited to addressing social values. Land-grant experts must be better prepared and willing to articulate the limits of their research and to respect the rights of laypersons and media to question or even reject their recommendations on controversial issues. In this context, it is inevitable that the land-grant system will not carry the day in some social standoffs. Some media skirmishes will be lost. In such cases, responsible universities must be willing to hold the line.

Conclusions

The prospect of "managing" controversial issues may give pause to some land-grant university professionals. After all, one of the standing goals of these institutions is development of an enlightened populace that openly and ably discusses and debates the most difficult issues of the day. The position taken in this paper is that issues management can advance the land-grant mission, not by enabling universities to sidestep difficult and controversial social issues, but in providing a proven methodology to help deal with these issues proactively and responsibly. An indispensable feature of issues management from a higher education perspective is its potential to help guide the formation of public opinion on difficult or contested issues as relevant facts and science-based information are brought to light and made more transparent. Used responsibly, issues management can help illuminate complex social issues and bring about more deliberate and informed public decision-making while minimizing the negative consequences of rash or emotional public responses. It can also help the university develop relationships with non-traditional stakeholders and underserved audiences.

While much can be learned from the experiences of private-sector firms in managing difficult social issues, there are limits to their application in higher education. The valued tradition of academic freedom and other cultural aspects of higher education place unique constraints on land-grant universities in the context of issues management. A key difference between private organizations and publicly-supported universities involves accepted practices and philosophies surrounding communication with external audiences. Ongoing work by NCERA 209, in concert with the larger land-grant community, is needed to identify and adapt best practices for socially responsible issues management and response from higher education institutions. Implicit in this agenda is the need for theoretically grounded research that addresses the complementary use of traditional and new interactive media in issues management, specifically in the context of higher education.

From the outset, the land-grant system must address some difficult questions about issues management:

- Can land-grant administrators, faculty, and communication staff agree as to the basic premise of responsible issues management?
- Can a vision for responsible issues management be adopted and sound practices employed *consistently* by various stakeholders within the academy whose participation is essential for its success?
- Can responsible issues management be institutionalized not only as a key element of administrative decision-making, but as an area of critical institution-wide discussion and multidisciplinary scholarship?

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Framing the U.S. Sugar Buyout to Restore the Florida Everglades: A Comparison of National Versus State Newspaper Coverage

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Abstract

On June 24, 2008, then-Florida Governor Charlie Crist announced that the state of Florida would buy U.S. Sugar for $1.75 billion in an effort to restore, preserve and protect the Florida Everglades. This buyout, if carried through, would be the largest buyout for environmental purposes in U.S. history. Upon announcement of the buyout, state and national media extensively reported the specifics of the deal. The purpose of this qualitative framing analysis was to determine if there was a difference in how the story was covered in state versus national newspapers. In addition, sources that were referenced and/or quoted in the articles were studied to determine their effect on the frames of the state and national articles. Lastly, frames were analyzed to determine if they changed over the course of time. Results showed that the story was framed differently between state and national newspapers. In addition, sources had a large impact on how the story was framed.

Introduction

Well you've heard about the alligators sleepin' in the shade. You've heard about the sugar barons screwin' up the glades. It's a melting pot existence that is hard to contemplate and a never-ending battle in the Sunshine State (Buffett & Lee, 1996, track 6).

The "never-ending battle" (Buffett & Lee, 1996, track 6) between the Florida Everglades and U.S. Sugar can be viewed as a tug-of-war between man versus the environment. U.S. Sugar, the country's number one producer of sugar in the United States, is based in the heart of the Everglades. Since the 1960s, there has been an ongoing debate that agriculture and development of the surrounding areas is adversely affecting the Florida Everglades (Light & Dineen, 1994; Snyder & Davidson, 1994). This has been a key issue among many Florida citizens for many years. "For much of the 20th century, the Everglades epitomized the American conflict between unbridled economic development and environmental conservation" ("Adaptive Monitoring Assessment", 2003, p. 13). In the 21st century, the conflict continues, and the com-

plexity of the issue has implications for similar issue debates, not only in Florida but across the country.

There has been continuous media coverage of the conflict between the Everglades and agricultural development over several decades. "The history of sugar, vegetable production and Everglades environmental policy is global, national and local in scope" (Kirsch, 2003, p. 5). However, the Everglades and U.S. Sugar made major news headlines in June 2008 when in an effort to find a balance among agricultural and commercial development and conserving the Everglades, Governor Crist proposed buying out U.S. Sugar. On June 24, 2008, Florida Governor Charlie Crist announced that the state of Florida would buy U.S. Sugar for $1.75 billion and work over the next several years to restore the Florida Everglades. The acquisition would include acquiring the 187,000 acres owned by U.S. Sugar and using the land to re-establish water flows between Lake Okeechobee and the Everglades, a key element in restoration ("Adaptive Monitoring and Assessment", 2003).

As the unprecedented sale marked the largest buyout for environmental purposes in U.S. history, this announcement sparked the interest of the media, and enticed several advocacy and environmental groups, communities, government officials and industry leaders to speak on the buyout (Pittman, Liberto & Leary, 2008, p. 1A). Many of these groups were cited as sources by the media and received considerable media coverage.

The two-fold purpose of this study is to examine the anticipated differences in coverage of the buyout between national and state newspapers. More specifically, this study will attempt to determine how this issue was framed in the state and national newspapers. Secondly, it is important for practitioners to understand how complex issues in the agriculture and natural resources sectors are framed within the media. Further, understanding how media covers issues within the state and national media can assist practitioners in preparing key messages.

Theoretical Framework

The theoretical framework of this study consisted of media framing and the spiral of opportunity theory. Reese (2001) defined framing as "organizing principles that are so-

cially shared and persistent over time that work symbolically to meaningful structure the social world" (p. 11). Frames are used by the media to give the audience a "point of reference" in order to understand a news story more clearly. "Framing is concerned with the way interests, communicators, sources and culture combine to yield coherent ways of understanding the world, which are developed using all of the available verbal and visual symbolic references" (p.11). The media uses frames to help readers identify parts of the news story and relate them to their own culture, thereby developing a better understanding of the story. "Framing provides a fruitful way to conceptualizing how media shape news and people's perceptions of it" (Miller & Riechert, 2001, p. 109).

Spiral of Opportunity Theory

Miller and Riechert (2001) define the Spiral of Opportunity Theory as:

An ongoing cycle as stakeholders, relevant to an issue, attempt to articulate their positions and then monitor public responses to those articulations. If a stakeholder's articulation resonates positively with the public, then that group will intensify its efforts. On the other hand, when an articulation resonates negatively, the stakeholder group will change its articulation or withdraw from the debate. (p. 109)

The authors define stakeholders, based upon the works of Lyons, Scheb and Richardson (1995), as individuals and groups in the policymaking process that "stand to win or lose as a result of the policy decision" (p.497). Journalists receive information from sources that voice their positions to gain public support.

The Spiral of Opportunity Theory "conceptualizes frames in terms of key verbal components measurable in news releases and news stories" (Miller & Rierchert, 2001, p. 111). An advantage to studying frames in this way is that it will "allow us to examine how the dominance of competing frames can shift over time in public discourse and in the news media. As we study these shifts, we observe a pattern of phases in the effects of issue framing" (p. 111). Patterns can be identified in two ways including how the frames shift based upon sources used and how the frame changed as more information became available.

Sources, key words, and quotes in articles were used to determine the frame(s) of the state and national articles on the U.S. Sugar buyout story. Once frames were identified, they were analyzed to determine if and how they changed over the course of time. The following research questions were developed to serve as the focus of this study.

RQ1: In the context of state and national newspaper coverage of the U.S. Sugar buyout, what frames were identified and which organizations were cited within the frames?

RQ2: How did the organizations cited in the stories contribute to the different framing patterns in the national media and state media newspaper coverage of the U.S. Sugar buyout story?

RQ3: How did the overall frames of the stories change over time?

Methodology

A framing analysis is the process of identifying the frames used in a news story. For this study the dominant frames in the state papers versus those in the national papers were identified. The study looked at how the sources cited in the story contributed to its overall frame. Once the frames were determined, a comparison between state frames and national frames could take place.

Gathering Articles

Newspapers were chosen for their in-depth coverage of the buyout and for their sources. "One indicator of the central conflict is the core of actors presenting information, ideas and positions within text. In news text, the sources chosen will structure the discussion" (Hertog and McLeod, 2001, p. 148). A purposive sample of Florida newspapers was chosen to analyze a statewide reporting of the buyout. Analysis of national newspapers provided a review of how the buyout was reported nationally.

The state newspapers selected were the *South Florida Sun Sentinel,* the *Miami Herald*, the *St. Petersburg Times*, and the *Tampa Tribune*. The national papers studied were the *New York Times, USA Today, Washington Post* and the *Wall Street Journal.* Both state and national papers were included among the top 50 newspapers by circulation and readership according to the Newspaper Association of America, 2006. The state newspapers chosen were listed as the top four Florida newspapers by circulation. In addition, the national newspapers chosen were listed as the top three newspapers by circulation.

An electronic media search was conducted using LexisNexis Academic. Keywords selected were Florida Everglades and U.S. Sugar, with a date range of June 24, 2008, (the date of the buyout announcement) to November 14, 2008, (three days after the revised buyout announcement was made on November 11, 2008). The LexisNexis search revealed 238 articles including news, feature and editorial/op-ed pieces. The search was narrowed to include the specific predetermined newspapers, which narrowed the articles to a count of 129.

The key search words were chosen in an effort to obtain only those stories that dealt strictly with the U.S. Sugar buyout. In addition, the date range was chosen to include articles that announced the buyout and any follow-up articles, including articles on the buyout revision, which was

announced on November 11, 2008. The deal was considered complete after the announcement on November 11, 2008, and, therefore, articles were not collected after November 14, 2008.

The articles were then narrowed down through four different categories. The first was to eliminate articles with 300 words or less because they did not allow for comprehensive coverage of the buyout. Duplicate articles were deleted, and articles that were not specific to the U.S. Sugar buyout were removed. Lastly, letters to the editor were eliminated because they were not written by reporters and did not include sources. The final sample size was 94 articles including 14 from national newspapers and 80 from state papers.

Coding the Articles

A quantitative analysis and a qualitative analysis were conducted with the sample. First, quantitatively, a coding sheet was used to identify key elements of each of the articles. "The researcher should develop a list of symbols, language, usage, narratives, categories and concepts in the content to be evaluated" (Hertog and McLeod, 2001, p. 151). The code sheet was used to identify the (1) paper in which the article appeared, (2) date of the article, (3) type of article (news, editorial, feature, etc.), (4) headline of each article, (5) different sources that were cited by the articles, and (6) number of times each source was cited. Identifying and counting sources was used for the qualitative analysis as well.

Second, the author conducted a qualitative framing analysis to determine the overall frames within the articles. The author served as the sole coder for this particular study. Frames were determined by key phrases and key words that were used in the articles. Miller and Riechert (2001) stated, "Key words are not of themselves the frames. Rather, the words are indicative of perspectives, or points of view, by which issues and events can be discussed and interpreted" (p.114). Key words in this particular study included doubt, challenge, skeptical, victory, champion, leery, uncertainty, disbelief, saving, etc. Key phrases in this particular study included working together, bogged down by red tape, quantum leap in the effort to save the Everglades, etc.

Sources cited were studied to determine their contribution to these frames. "We focus on the choice of words used in news releases and news content to determine how different groups selectively define an issue, and to what degree they succeed in placing their definition in the media" (Miller and Riechert, 2001, p. 114). The frames were then compared and contrasted based upon whether it was a state or national newspaper.

Lastly, each article was coded by the date of the article in relation to the frame that was identified. The articles were then analyzed to determine if the frames changed over time. The researcher used Miller and Riechert's (2001) Spiral of Opportunity and Framing Cycle to analyze patterns.

Results

Within the sample, 80 articles were from Florida (state) papers and 14 articles were from national papers. The breakout of state articles is indicated in Table 1 below.

Table 1 – State Article Count

Newspapers	Number of Articles	
Miami Herald	20 articles	25%
South Florida Sun-Sentinel	31 articles	38.75%
St. Petersburg Times	18 articles	22.5%
Tampa Tribune	11 articles	13.75%
Total	**80 articles**	**100%**

Note: Percentages were rounded up

Within the 80 state articles, 27.5% (n=22) were published in June 2008, when the announcement of the buyout was made. In addition, 26.25% (n=21) articles were published in July 2008, 16.25% (n=13) in August 2008, 16.25% (n=13) in September 2008, 3.75% (n=3) in October 2008 and 10% (n=8) were published in November 2008, at the time of the revision.

The majority of the state articles, 83.75% (n=67) were news articles and appeared in the main news or regional news sections of the newspapers. Only 11.25% (n=9) were editorials and 5% (n=4) were feature stories and/or columns.

Based on headlines 42.5% (n=34) of the state articles were reporting on the actual buyout and the specifics surrounding the buyout including amount of money, time frame, and reactions from those involved including state government, U.S. Sugar, South Florida Water Management District, environmental nonprofit groups, community members, lawmakers, etc. In addition, 27.5% (n=22) of the state articles were regarding the revision of the original buyout agreement, 20% (n=16) of the articles focused on the town of Clewiston and the surrounding communities that will be affected by the buyout, and 10% (n=8) of the articles reported on the future for the U.S. Sugar Company.

The national articles made up a small percentage (15%) (n=14) of the sample size. The breakout of national articles is indicated in Table 2 below.

Table 2 – National Article Count

Newspapers	Number of Articles	
USA Today	2 articles	14.29%
Wall Street Journal	3 articles	21.43%
New York Times	8 articles	57.14%
Washington Post	1 article	7.14%
Total	**14 articles**	**100%**

Note: Percentages were rounded up

Within the 14 national articles, 35.71% (n=5) were published in June 2008, when the announcement of the buyout was made. In addition, 14.29% (n=2) were published in July 2008, 7.14% (n=1) in August 2008, 21.43% (n=3) in September 2008, none in October 2008 and 21.43% (n=3) were published in November 2008, when the announcement of the revision was made.

The majority of the national articles, 92.86% (n=13), were news articles and appeared in the main or state news sections. Only 7.14% (n=1) of the national articles were editorials.

Based on the headlines of the national articles, 64.29% (n=9) were on the buyout and its specifics including the amount of money, time frame, and reactions from those involved (state government, U.S. Sugar, South Florida Water Management District, environmental nonprofit groups, community members, lawmakers, etc.). The remaining articles, 35.71% (n=5), reported on the revision of the original buyout.

RQ1: What frames were identified and which organizations were cited within the frames?

Major Frames in State Articles

The three major frames identified in the state articles were buyout positive, unanswered questions/doubt and sympathy. Within the 80 state articles, the buyout positive frame, defined by articles that praised the U.S. Sugar buyout and reported that this is the first step in restoring the Everglades, appeared in 15 of the state articles. The unanswered questions/doubt frame, defined by articles that reported additional questions regarding logistics of the buyout, appeared in 34 of the state articles. Lastly, the sympathy frame, defined by articles reporting the impact the buyout would have on the town of Clewiston, FL, the location of U.S. Sugar, appeared in 11 of the state articles. Table 3 gives an overview of frames identified and sources for each of the frames.

Major Frames in National Articles

The major frames identified in the 14 national articles were blame, buyout positive, unanswered questions/doubt and compromise. The blame frame, defined by articles that identified organizations that contributed to the cause of the problems in the Everglades, was identified in four of the articles. Appearing in four articles was the buyout positive frame, which was defined by the reported the benefits of the buyout. The unanswered question/doubt frame, defined by articles that identified flaws or hidden agendas in the buyout plan, was found in two articles. Evident in four articles was the compromise frame, which included articles that reported the work by interested parties to reach a mutually beneficial solution. Interestingly, the national articles tended to have frames that changed within the articles based upon new sources. For the purpose of reporting results here, the author only indicated the dominant frame in each of the national articles. Table 4 gives an overall look at frames identified and sources for each of the frames.

Table 3 – State Article Frame

Frame	Appearances	Sources
Buyout Positive	15	Environmental groups, Florida Department of Environmental Protection, U.S. Army Corps of Engineers, Governor Charlie Crist, U.S. Sugar, South Florida Water Management District
Unanswered questions/doubt	34	Miccosukke Tribe, environmental groups, South Florida Water Management District Governor Charlie Crist, Florida Department of Environmental Protection, U.S. Army Corps of Engineers, U.S. Sugar, State Representatives
Sympathy	11	Former U.S. Sugar employees, Clewiston residents and business owners, farmers, South Florida Water Management District, Clewiston Mayor

Table 4 – National Article Frames

Frame	Appearances	Sources
Blame	4	Environmental groups, Miccosukee Tribe, National Research Council, Governor Charlie Crist, U.S. Sugar, South Florida Water Management District
Buyout positive	4	Environmental groups, South Florida Water Management District, Governor Charlie Crist, former U.S. Sugar employees, U.S. Sugar
Unanswered questions/doubt	2	Environmental groups, Miccosukee Tribe, Governor Charlie Crist, Florida Crystals, South Florida Water Management District, Trade Policy Analysts, Friends of the Everglades, U. S. Sugar, Cato Institute, Lehman Brothers
Compromise	4	Environmental groups, Florida Crystals, Outside consultants, U.S. Sugar, Governor Charlie Crist, South Florida Water Management District, Clewiston Mayor

It should be noted that both state and national articles cited quotes from about 10 specific environmental groups. Articles also referenced environmental groups with terms such as environmentalist or advocacy groups. Due to the large number of specific groups cited, the author put them together to distinguish the environmental groups category on the coding sheet. Some of the environmental groups that were quoted include the Everglades Foundation, Nature Conservatory, Audubon of Florida, Audubon National, Sierra Club, Earthjustice, Everglades Coalition, National Wildlife Federation, National Resources Defense Council and Friends of the Everglades.

RQ2: How did the organizations cited in the stories contribute to the different framing patterns in the national media and state media newspaper coverage of the U.S. Sugar buyout story?

State Articles – Buyout Positive Frame

Articles with the buyout positive frame had positive and inspiring quotes. The June 25, 2008, *South Florida Sun-Sentinel* quoted Governor Crist (2008), "I can envision no better gift to the Everglades or the people of Florida, or to our country, than to place in public ownership this missing link that represents the key to true restoration" (Reid, 2008, para.3).

In addition, several of the buyout positive frame articles highlighted the opportunity for opposing groups to work together after years of conflict. Michael Sole (2008), secretary of the state Department of Environmental Protection said, "The incentive for the federal government to work with us is

for the successful restoration of the Everglades" (Reid, 2008, para. 24). Another example was in the June 25, 2008 editorial in the *St. Petersburg Times,* which stated:

> Everglades crusader Mary Barley was left breathless: A restored and sustained Everglades is no longer a dream. U.S. Sugar president Robert Buker, long her archenemy, called the deal a paradigm shift for the Ever glades and the environment in Florida, one that would have been inconceivable in the past. ("Crist's Bold Step," 2008, para. 1)

The state articles with the buyout positive frame effectively showed that the buyout was a win-win for everyone involved. In the Tampa Tribune on June 25, 2008, U.S. Sugar President and CEO Robert Buker (2008) said, "I am excited by what we are doing today and what it means for the future of Florida and its environment" (White, 2008, para.9).

State Articles – Unanswered Questions and Doubt

The unanswered questions and doubt frame was evident by quotes and/or questions in the state articles. One article raised the question that with all of the money going to the U.S. Sugar buyout, what will happen to restoration projects that are already in progress? The June 28, 2008 article in *St. Petersburg Times* stated:

> Crist and U.S. Sugar officials hailed the potential buyout as a way to jump-start the stalled Everglades restoration project. But the Miccosukkees and others are wondering whether it will siphon off all the money for construction of the other elements of the restoration plan - some of which might have provided more immediate results than anything to be built on U.S. Sugar's land. (Pittman, 2008, para. 26)

With respect to planning for the Everglades project, the *St. Petersburg Times* quoted Terry Rice (2008), a retired Army colonel in charge of the corps in Florida. He said, "I think we keep doing the expensive, easy thing and losing sight of what's important. If the purchase occurs, most all attention will be focused on this area at the expense of other vital restoration projects" (Pittman, 2008, para. 27).

An article in the June 26, 2008 *South Florida Sun-Sentinel* reported on the increased costs of the deal due to interest fees and financing:

> One question is whether the land deal will leave enough money to make the long-delayed improvements the Everglades needs, said Joette Lorion (2008), spokeswoman for the Miccosukee Tribe. The governor's proposal relies on paying for the U.S. Sugar land with bonds once intended to finance a host of water treatment and storage areas. The tribe contends that using that money leaves the improvements in doubt. (Reid & Gibson, 2008, para. 23)

A *Miami Herald* article on July 11, 2008, focused on the South Florida Water Management District's statement that the buyout would not raise the tax rate. South Florida Water Management District executive director Carol Ann Wehle (2008) stated, "We're not raising the tax rate. I think that is a very important consideration in the tough times everyone is experiencing." But, she acknowledged, there are "consequences to living within our means" (Morgan, 2008, Hard to Swallow Section, para. 3).

Lastly, three articles with the doubt and unanswered questions frame included state representatives and others questioning the secrecy of the deal and asked why elected officials were not brought into the negotiations earlier. Dexter Lehtinen (2008), an open government and Everglades advocate, said, "I'm not necessarily against the deal, just the way it was brokered. It's a true example of why the Sunshine Law was needed. We don't know where they're going to get the money or how the deal was made. Everything the public wants to know they did in the shade" (Diaz, 2008, para.3).

The September 8, 2008, *Tampa Tribune* article quoted representative Adam Putnam (2008):

> We're asking the questions, but what's so frustrating is state officials negotiating the deal don't have any answers, said U.S. Representative Adam Putnam, R-Bartow. There is no master plan…to assist in the transition of this community, Putnam said last week. No questions are being answered about the impact of the overall restoration plan. (Peterson, 2008, para. 5-6)

State Articles – Sympathy Frame

Articles with the sympathy frame were stories on the impact losing U.S. Sugar would have on this small town of Clewiston. Quotes, especially from those living in Clewiston, were the best indicators of this frame.

From the July 13, 2008, *Tampa Tribune* article, "Residents are trying to be hopeful, but discouragement is everywhere. Early one morning after the announcement, Sonny's Bar-B-Q, which several residents deemed Clewiston's best restaurant, burned down. Authorities have determined the fire was not intentional. Residents took it as a bad sign" (Helgeson, 2008, Future without Sugar section, para.1).

On June 26, 2008, the *St. Petersburg Times* printed an article in which several business owners in Clewiston were interviewed. A former U.S. Sugar employee Matt Beatty (2008) was quoted, "We take everything hard in a small town. Everything is done on a personal basis" (Klinkenberg, 2008, para. 11).

The July 9, 2008, *Miami Herald* article quoted and referenced several Clewiston residents, government officials and business owners regarding their reaction to the announcement of the buyout:

> Miller Couse (2008), chairman and chief executive of First Bank in Clewiston, isn't optimistic. He pointed to the fate of Detroit and other Michigan cities as the steel and automobile industries declined. "It's nice to say we can go out and reinvent ourselves, but the practicality of it is, I think, zero," Couse said. (Bussey, 2008, para. 16-17).

National Articles – Blame Frame

Three of the four national articles with the blame frame focused on the National Research Council's Everglades progress report on the Comprehensive Everglades Restoration Plan. The blame frame emerged in articles that blamed Congress for the failing Everglades.

In the *New York Times* article of September 30, 2008, the lead sentence stated, "The eight-year-old, multibillion-dollar effort to rescue the Everglades has failed to halt the wetlands' decline because of bureaucratic delays, a lack of financing from Congress and overdevelopment, according to a new report" (Cave, 2008, para. 1). Later in the same article, William L. Graf (2008) chairman of the committee was referenced, "The restoration plan, finalized in 2000, made the federal government and Florida equal partners, but Congress has failed to match the state's commitment of more than $2 billion" (Cave, 2008, para. 7).

The *USA Today* article of September 29, 2008, continued the blame frame by referencing the South Florida Water Management District in regards to the progress report from the National Research Council. "The South Florida Water Management District (2008), which oversees restoration for the state, said in a statement that it agrees with the report's findings that restoration progress is hampered by limited federal funding and a complex and lengthy federal planning process" ("Report: Everglades," 2008, para.4).

The June 25, 2008, *Washington Post* article reported that the blame belonged to industry. "But the industry [U.S. Sugar] has been blamed for many of South Florida's envi-

ronmental problems. Agriculture has dramatically changed the ancient landscape, and fertilizers have polluted the water" (Achenbach, 2008, para. 14).

National Articles – Buyout Positive Frame

All four of the articles with the buyout positive frame focused on the recent announcement of the actual buyout, much like those reported in the state publications.

The June 24, 2008, *USA Today* article announcing the buyout quoted Governor Charlie Crist (2008), "Florida is on the leading edge of preservation, and it is committed to restoring the Everglades" (Hiraki, 2008, para. 12).

In the June 25, 2008, *Wall Street Journal* article, "The agreement with U.S. Sugar 'is an enormous step,' said Sara Fain (2008), co-chair of the Everglades Coalition, a group of environmental organization that works to protect the wetlands. One of the key pieces for restoration is land for water storage and this land could be a lynchpin" (Prada, 2008, para. 12).

National Articles – Unanswered Questions/doubt Frame

Two of the fourteen national articles focused on the possible drawbacks or holes in the buyout plan. Interestingly, both of these articles were from *The New York Times*.

The first article appeared in *The New York Times* on July 2, 2008. It questions if buying the land is a true fix for the problem. The article quoted Terry L. Rice (2008) a hydrologist for the Miccosukee Tribe who stated, "There are big, huge challenges that go well beyond just buying the land" (Cave, 2008, para. 5). In addition, Rosa Durando (2008) of the Palm Beach Audubon Society was paraphrased in stating that "after more than 30 years of environmental advocacy in Florida, she doubted that the purchase would serve nature as much as development" (Cave, 2008, para.18).

The second article printed on September 14, 2008, casts doubt in the headline. The headline read, "Helping the Everglades, or Big Sugar?" (Walsh, 2008, Business Section, p. 1). This headline emphasized doubt in the buyout and gives reader a feeling of a potential hidden agenda. The article quoted an industry analyst from the Cato Institute, Ms. James (2008) who stated, "My instincts are to suggest it's a bailout. Sugar prices have been going down. You've been signing trade agreements bringing in more foreign sugar. Basically, the company's going down because of government policy, so they're saying, you should bail us out" (Walsh, 2008, Business Section, p. 9).

National Articles – Compromise Frame

Two of the four articles with the compromise frame focused on the revision of the U.S. Sugar buyout. The revision stated that only the land, no assets, would be included for $1.34 billion. This revision allows U.S. Sugar to stay in business, saving jobs in Clewiston.

Evidence of the compromise frame can be found in quotes and references in each of the articles. *The New York Times* November 11, 2008 article quoted Kirk Fordham (2008), chief executive of the Everglades Foundation. "This simplifies the deal. It makes it easier to swallow from a financial standpoint, and it's less complicated" (Cave, 2008, para. 4).

The following day *The New York Times* published an additional article regarding the buyout revision:

> The agreement would grant the South Florida Water Management District, the state's overseer of the purchase, the right to take 10,000 acres in that time [7 years] for hydrology projects and an additional 30,000 in the seventh year. But most of the company's land could continue to be farmed until the state needed it to reconnect Lake Okeechobee to Everglades National Park and Florida Bay. (Cave, 2008, para. 6)

The final example of the compromise frame was in an article that focused on a future without U.S. Sugar and what would it mean for Florida Crystals, the remaining sugar producer in south Florida. *The New York Times* article on July 31, 2008, quoted and referenced Florida Crystals throughout the article and discussed finding a balance between economics and the environment. J. Pepe Fanjul (2008) with Florida Crystals said, "You have to have a balance between the environment and economic development. Something has to be done for the humans, too" (Cave, 2008, para. 5).

RQ3: How did the overall frames of the stories change over time?

From the announcement date of June 24, 2008, through June 26, 2008, there were 21 articles studied. Of those 21 articles, 13 of them had the buyout positive frame. The prominent sources in each of the articles were environmental groups, Governor Charlie Crist and South Florida Water Management District.

Beginning June 26, 2008, new frames began to emerge. After this date, stories began quoting Clewiston residents and business owners, and the sympathy frame became prominent. In addition, the use of state representatives and the Miccosukee Tribe as sources elicited the doubt and unanswered questions/doubt frame.

In September 2008 while talks of revision were top news, the original sources including environmental groups, Governor Charlie Crist, and South Florida Water Management District once again became the top sources in the articles. Although the frames did not shift back to buyout positive, they did shift to the compromise frame that reported the buyout and the negotiations in a positive light.

Discussion

The majority of both state and national articles concentrated on the actual buyout in June 2008 or on the revision in November 2008. However, state articles outnumbered national articles by at least five times. Due to this increased volume of the state articles, it could be argued that the state articles did a more thorough job of covering the U.S. Sugar buyout. However, the state articles analyzed in this study tended to report on one particular aspect of the buyout per article and, therefore, only had one frame per article. In addition, the state articles reported on the impact the buyout would have on surrounding communities and what the closing of U.S. Sugar meant for Florida.

On the other hand, the national articles tended to be more balanced and objective when reporting about the actual buyout or the revision. Balancing the story often required more sources, which in turn revealed more than one frame per article. In addition, the national articles tended to be longer in length, allowing for more quotes from additional sources.

Overall, the national articles were often more thorough and provided more information regarding the history that led to the buyout. It is assumed that history regarding the buyout was not included in state articles due to previous coverage by the newspapers. Lastly, although the national articles did touch on the impact of the buyout to surrounding communities and U.S. Sugar, it did not go into as much detail as the state articles.

Frames of the articles changed as certain events were reported. When the buyout announcement was made, the frames were positive. However, as time progressed, new sources emerged in spin-off stories. Many of these had negative frames. Once talks of revisions were reported in September 2008, the frames began to shift back to positive frames. This shifting of frames is indicative of the Spiral of Opportunity Theory.

The Spiral of Opportunity Theory indicates that frames can change over time. With positive reporting, stakeholders may increase their time in the media while decreasing their time with negative reports. Within both the state and national articles, the frames did shift as additional sources were quoted, as was the case with articles reporting after the initial buyout.

In addition, as seen in the results for research question number 3, articles from September 2008 began quoting original sources such as Governor Charlie Crist, environmental groups, South Florida Water Management District. However, the frames did not go back to the original buyout positive frame. Instead, a new frame of compromise was introduced. This leads the author to assume that key messages from these sources changed, therefore causing a shift in the frame.

The frequency in which the sources were cited also had an impact on the frame. In the state articles, three of the top organizations cited were all against or had serious concerns about the U.S. Sugar buyout. Therefore, two of the prominent frames identified among the state articles were negative, including the doubt and unanswered questions frame and the sympathy frame. This finding is also in line with Miller and Riechert's (2001) Spiral of Opportunity and Framing Cycle, "The more a particular stakeholder group is quoted in news articles, the more prominently their particular issue definition is represented in news coverage" (p. 112).

Results from this study did provide support for the impact of frames and the differences between state and national coverage of the U.S. Sugar buyout story. Further, results showed that sources quoted had a direct impact on the framing.

Further Research and Practical Application

Overall, this study indicated that state and national media did cover the U.S. Sugar buyout differently. State media tended to focus on specific aspects of the buyout, whereas national media covered the bigger picture. Both state and national media shared many of the same sources, with a few variations on either side. In addition, these sources influenced the frame and overall tone of both the national and state articles.

State and national articles shared two common frames, the buyout positive frame and the unanswered question/doubt frame, but differed in others. Interestingly, the national articles had predominately positive frames (buyout positive) and state articles had predominately negative frames (unanswered questions and doubt, sympathy).

State and national newspapers shared many of the same sources but differed on actual frames. There could be several explanations for this including questions asked by state newspaper reporters could vary from those of national reporters. The state reporters may have a better understanding of the history of the buyout and were able to ask more prominent, detailed questions. National reporters may not have a strong background with the issue and would, therefore, ask detailed questions to gain an understanding. In addition, the target audiences of the state newspapers are different than that of the national newspapers, which would account for covering the story differently.

Results from this study can educate agricultural communication practitioners on how to focus their efforts when communicating with the national and state media on complex issues. It is important for practitioners to monitor closely what both state and national newspapers are reporting and adjust their key messages accordingly, as indicated by the Spiral of Opportunity Theory. In addition, since national and state newspapers use many of the same sources, it is imperative that practitioners identify all perspectives of an issue and craft key messages based on their positions. Further, practitioners should have an understanding of the media and their target audiences. Practitioners should research newspapers' readership and their writing style and develop key messages

to them accordingly. Lastly, it is important for practitioners to have an established relationship with state media. As shown in this study, state articles can be more prevalent, but tend to have more negative frames. Therefore, a stronger understanding of state newspapers is beneficial because the Associated Press often picks up their stories.

Further research is needed to study more closely the difference in reporting such complex issues in the national and state media. For example, this particular study looked at articles that were written solely by reporters. This could include straight news stories, editorials, features and columns. Further research regarding the difference of frames associated with each story type (editorials, features, columns and news) articles would assist practitioners in determining how best to communicate with media when preparing for a story on a complex issue. In addition, looking specifically at how individual reporters framed stories could be beneficial for practitioners in understanding media and developing key messages.

By examining how detailed issues such as the U.S. Sugar buyout are framed in the state and national media, researchers could have a better understanding of how the public interprets an issue. Further research needs to be done to determine if the frames in the state and national newspaper are the same frames that are adopted by the public. In addition, it would be of interest to determine if the public is more apt to adopt frames from the national newspapers or the state newspapers. Understanding this would assist practitioners, stakeholders, government, etc. in communicating effectively and efficiently with their target audiences.

Lastly, further research should be done on sources cited. More specifically, conducting an in-depth analysis to determine if the media spokespersons' position and their prior relationship with the media had an impact on the framing of the article. It would be particularly interesting to note the media spokespersons' position in the different organizations including non-governmental organizations, nonprofit organizations, governmental organizations, etc. and how it is the same and/or different in each of these organizations.

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Identified Issues

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Preface

Issue management should begin with the process of monitoring the environment to determine what is being said through the media, special interest groups, stakeholders, partner organizations and others to determine what, if anything, the organization needs to be prepared to counteract or support.

The initial purpose of the issue reports that follow was to provide an overview of how three specific issues have been reported in the media and in public opinion polls on the topic. The issue of "helping the world feed itself" has not been researched in terms of public opinion or media coverage. However, the topic has been discussed among individuals in agricultural development and agricultural extension agencies. The issue of indirect land use (specifically ethanol) has had several research studies done to examine media coverage. Research on the issue of animal welfare led to more public opinion studies, especially in Europe.

Each issue report begins with a definition of the issue and introduction of the topic. The methodology used in all three reports was similar. The researchers used specific keywords and phrases to search several research databases to locate recent studies or books relevant to the purpose of the issue reports. The findings section for each report briefly discusses the identified resources, which are then summarized and expanded upon in the discussion section. Each issue report ends with several questions to encourage further research and discussion among individuals at public and land-grant universities.

Helping the World Feed Itself

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Introduction

By 2050, the world population is expected to increase by one-third from 6 billion to 9.1 billion. The Food and Agriculture Organization of the United Nations (2009a) projects that almost all of this growth will occur in developing countries in sub-Saharan Africa and Asia. The increased population will lead to more demand for food supplies and access to food resources; food production will need to increase by 70% (FAO, 2009a). To meet the increased demand for food, agriculturalists will need to focus on a wide range of topics including international trade, increasing crop yields, protecting natural resources, utilizing available land and water resources, and providing access to healthy food to ensure nutrition security.

When considering the topic addressed in this report of "helping the world feed itself," one might question whether this is a food production, food distribution, or food accessibility issue. Perhaps the issue deals more with international trade, technology development, technology transfer and diffusion, and education. The issue could also contain research related to world hunger and poverty. Yet another way to interpret this issue is from the production standpoint of improving how crops are grown and animals are raised. The FAO (2009b) recognized that to increase global food production, a number of challenges must be addressed such as increasing yields of major crops, addressing climate change, coping with natural disasters, adjusting to water scarcity, and reducing post-harvest losses. Overcoming these challenges requires developing and transferring technologies to producers across the globe. "In order to ensure a wide uptake of modern technologies, it is indispensable that resource-poor smallholder farmers are not bypassed by technological progress" (FAO, 2009b, p. 1).

The FAO (2009a) stated that for countries dependent on agriculture, "agricultural growth is key for overall growth and development and for poverty reduction" (p. 4). As developing countries increase their food production, additional efforts will be needed to inform and educate producers of policies (such as food quality and safety standards) to help them adjust to new standards and improve their businesses.

A number of institutions strive to provide support for agricultural practices worldwide with the overarching goal of eliminating hunger and poverty. Global food and agricultural institutions include the FAO, the International Fund for Agricultural Development (IFAD), The UN World Food Programme (WFP), the Consultative Group on International Agricultural Research (CGIAR), and the Agriculture and Rural Development department (ARD) of the World Bank (Shaw, 2009).

In the United States, the development and transfer of agricultural knowledge and technologies is the underlying purpose of the National Institute of Food and Agriculture (NIFA; formerly known as the Cooperative State Research, Education and Extension Service). NIFA supports research, education, and extension efforts through the Land-Grant

University System and has targeted areas of emphasis that include Agricultural Systems, Environment & Natural Resources, Technology & Engineering, and International (NIFA, 2009a).

The FAO has said additional investments are needed for institutions that provide support for farmers such as research and extension services (FAO, 2009a). Due to the variety of related topics that can be encompassed with an issue as broad as "helping the world feed itself," this report will focus on what role land-grant and public research universities have had regarding this issue. This report will focus on the involvement these universities have in the production of agricultural innovations and the effective dissemination and implementation of those innovations.

Methodology

An online search was conducted for articles and previous research relating to the issue of "helping the world feed itself" published from 1999 to 2009. The researcher used the following databases: Google Scholar, ScienceDirect, OmniFile Full Text Mega, Article First, Web of Knowledge, and EBSCO. The search terms used to access the articles included, "helping world feed itself," "international extension," "international rural development," and "agricultural self-sufficiency." Returned articles were then filtered according to relevance and timeliness. Articles that did not address extension or rural development efforts were not included in this review of literature. In addition to the keyword searches of the identified databases, the researcher conducted an in-depth search of the keywords in each of the following academic journals: *Journal of International Agricultural and Extension Education, Journal of Agricultural Education & Extension,* and *Choices: The Magazine of Food, Farm & Resource Issues.*

Findings

The results of the keyword search of six prominent databases and three relevant scholarly journals returned limited results within the timeframe searched – about 20 sources. These sources of information are described in more detail in this section.

As might be expected, the issue of "helping the world feed itself" can, and does, encompass a variety of research efforts already underway or accomplished. When one thinks about this topic in relation to what land-grant and public research universities should focus efforts on or what role these universities have in "helping the world feed itself," the issue may be appropriately described as "agricultural self-sufficiency." Herdt (2001) editorialized in Choices that the way to decrease the number of hungry people worldwide is to place more emphasis on agricultural development and less on food aid. He argued that "poor people need income not handouts" (p. 3). When people are reliant on the land to

provide their livelihood, the most effective way to increase their incomes is to allow for improved agricultural production (Herdt).

An emphasis on agricultural and rural development has encouraged changes to how Extension Service efforts are organized and implemented worldwide. Rivera and Alex (2004) said the global definition of extension is "a multi-institutional network of knowledge and information support for rural people" (p. 23). The knowledge and information components of extension are crucial elements for sustainable rural development (Rivera & Alex).

Successful rural development programs are those that use a participatory approach to identify needs, respond to suggestions, and complete needed projects. "Supply of rural extension and information services is key to unleashing the potential of rural peoples, enabling them to change their living situations, and bringing about sustainable rural development" (Rivera & Alex, 2004, p. 23). However, improving the lives of poor in rural areas will require more than providing solely agricultural information or knowledge. These individuals need access to infrastructures, both physical and institutional, that would improve their health and economic well-being (Rivera & Alex).

One of the most recognized examples of rural and agricultural development was the Green Revolution of the 1950s and 1960s. The Green Revolution was a period of widespread adoption of genetically modified high-yield varieties of cereal crops (Khush, 2001). Along with the introduction of these crops, the Green Revolution also describes the introduction of "the necessary infrastructure (tractors, cultivation equipment, irrigation systems) in underdeveloped countries" (Jordan, 2002, p. 525). Khush noted that "the Green Revolution has had a tremendous impact on food production, socio-economic conditions, and environmental sustainability" (p. 815).

More recently, researchers have stated there is need for a second Green Revolution to meet the food needs of an increasing food population (Wollenweber, Porter, & Lübberstedt, 2005). This second Green Revolution will rely even more heavily on biotechnology, which is often supported as the best way to feed a growing population (McGloughlin, 1999). Norman Borlaug, recognized as the father of the Green Revolution, said this technology, coupled with conventional breeding methods, will be needed to address the challenge of feeding a growing population (Borlaug, 2002). Wollenweber et al. (2005) said more multidisplinary research is needed that includes plant genomics, modeling, and physiology.

Navarro (2006) said agricultural and extension educators can play an important role in making a second Green Revolution successful in terms of global prosperity, environmental stewardship, economic viability, and cultural sensitivity. She outlined seven approaches these educators can use to assist and contribute to a second Green Revolution:

1. Learn from lessons in past development projects in

order to predict possible consequences (both desirable and undesirable), plan for the long-term, and develop participant buy-in to ensure sustainability of implemented technologies.

2. Use participant knowledge, expertise and resources to develop projects that are adaptable to change while meeting the identified needs of the individuals in volved.

3. Develop more than one strategy to address the identified needs.

4. Identify stakeholders and educate them on issues surrounding a new Green Revolution. This includes farmers and rural people as well as consumers, the press, researchers, fellow educators, policy makers, and key decision makers.

5. Conduct research regarding effective knowledge transfer methods. Support knowledge management efforts that link research being conducted in a num ber of relevant fields.

6. Maintain an open process of project development that allows for communication with stakeholders in the development, adjustment, implementation, and evaluation of education or technology transfer efforts.

7. Extension professionals should also participate in the public dialogue of what a new Green Revolution is and why it is needed in order to build public support of agricultural development.

In 1998, the Globalizing Agricultural Science and Education for America (GASEPA) Task Force developed an agenda to encourage globalizing agricultural science and education. The agenda was intended to help U.S. agriculture continue to play a major role in global food security by addressing human resource development, environmental issues, and market creation and participation, all on a global scale. The Board on Agriculture of the National Association of State Universities and Land-Grant Colleges (now called the Association of Public and Land-grant Universities) adopted the agenda (GASEPA Task Force, 1997).

Ludwig (2001) defined globalizing U.S. Extension systems as "the incorporation of global content into Extension efforts so that clientele develop a fundamental understanding of global interdependence and international economic forces as they relate to the issue areas with the Extension mission" (p. 15). Ludwig stated that integrating global perspectives into extension efforts is closely related to the mission of extension because "they tie to the goals of economic well-being and quality of life for citizens and acknowledge that we are part of a larger global community" (p. 15). In 2000, Ludwig surveyed U.S. Extension directors about their efforts to globalize and found 35 Extension systems were shifting their programs toward globalization. Identified barriers to globalizing extension included lack of time and clientele support, limited financial support, and the topic not being viewed as a priority. However, Ludwig recommended that the "incorpo-

ration of global concepts into local programming should be a part of Extension's future in the United States" (p. 21).

In 2003, the National Institute for Food and Agriculture (formerly the Cooperative State Research, Education, and Extension Service), in cooperation with U.S. land-grant institutions, began an effort to improve the international dimension of state extension services. The "National Initiative to Internationalize Extension" was formed to highlight the impact of globalization at the local level while recognizing international issues such as environmental and health topics and market opportunities. NIFA stated (2009b) that it plans to maintain this initiative through partnerships with extension organizations, professional associations, nongovernmental organizations, and other federal agencies that address similar issues.

Lundy, Place, Irani, & Telg (2006) surveyed a random sample of U.S. extension agents about their perceptions of the concept of internationalizing extension. Overall, they found that respondents agreed that the Extension Service should participate in educating clients about global markets. Respondents also agreed that extension can benefit from learning about international cultures and issues. However, respondents stated that extension should focus on issues or concerns that are more localized (Lundy et al.).

An example of a program designed to explore the objective of internationalizing extension was the Internationalizing Extension Training Project (IETP) at the University of Florida (Vergot, Place, & Dragon, 2006). The purpose of the project was to explore possibilities for international extension using a collaborative approach. In 2002-2003, University of Florida Institute of Food and Agricultural Sciences (IFAS) Extension staff, county commissioners, and College of Agricultural and Life Sciences' graduate students and teaching faculty participated in the project. The project's instructional program consisted of several face-to-face training sessions and an international experience to Costa Rica. An evaluation of the program indicated that participants enjoyed the training sessions and the international experience. After the program, participants had a better understanding of an internationalized extension system and were aware of opportunities available for international programs. Beyond awareness and understanding, "it is evident that the project opened eyes and minds to the potential of an internationalized extension system" (Vergot et al., p. 25)

Globalization in agriculture is recognizable by the growth in multi-national supermarket chains, commodity firms, and meat processing companies. Swanson (2006) noted that people who work in agricultural extension institutions face a number of policy issues created as a result of the impact of globalization on food and agricultural systems worldwide. The commercialization of production agriculture means declining prices for food commodities and more proprietary technologies supplied by the private sector to large-scale growers, which indicates small-scale farms and rural poor will earn less for their products and will not have access to

the same technological advances. Government spending for agricultural extension is also decreasing with most of the funds spent on salaries and not extension programs (Swanson).

Swanson (2006) said national agricultural extension systems in developing countries need changes in order to meet the demands of the 21st century. If these institutions are to survive, they must place more emphasis on getting farmers organized and increasing farm income and rural employment, which will help alleviate rural poverty. Using the examples of China and India, Swanson noted that both nations are developing effective extension systems that are decentralized and market-driven. These systems emphasize organizing farmer groups and providing linkages to markets for their products. A decentralized, market-driven system also indicates a need to improve business, management, leadership, and teamwork skills. As the extension system improves, Swanson noted that extension workers gain both professionally and personally by seeing they are having a positive impact in the lives of the people they reach. "These feelings of a job 'well done' become the collective stimulus for improving the performance of the extension system" (Swanson, p. 16).

Discussion and Recommendations

As the FAO (2009a) has stated, the world population is projected to reach 9 billion in the next 40 years. Increasing food production to meet growing demands will require overcoming a number of significant challenges including transferring new technologies to agricultural producers worldwide (FAO, 2009b). It is the mission of several agricultural organizations to assist in the global effort to help producers meet increasing food demands (Shaw, 2009). One of these organizations, the National Institute for Food and Agriculture, can assist by internationalizing extension programs and services through its support of research, education, and outreach efforts at public and land-grant institutions.

The purpose of this report was to examine the involvement public and land-grant universities have in the transfer of agricultural technology, specifically through the efforts of internationalizing extension. The results do indicate that the efforts of agricultural educators and extension professionals are still vital to "helping the world feed itself." Administrators in public and land-grant universities need to reevaluate the initiatives and programs established to support and encourage international extension and outreach. This evaluation should determine if these initiatives and programs are still in effect, and if so, how successful they are. Those who work in rural and agricultural development agencies need to continue to emphasize participatory methods to identify problems and suggest possible solutions. The research conducted at land-grant and other public universities pertaining to agricultural economics, agricultural extension, agronomy, animal sciences, policy, trade and other topics are pertinent

to this issue.

Jordan (2002) stated that the problem of hunger cannot be solved with increased food production alone; a number of other factors influence the amount of hunger prevalent in a country including political, economic, and logistical problems. This illustrates that addressing an issue as complex and intricate as "helping the world feed itself" requires collaboration across disciplines, universities, agencies, organizations, and continents. To make any collaborative effort more successful, some type of knowledge management system is needed so researchers can specifically identify where their research is fitting into a national set of research priorities that relate directly to identified issues. One study alone cannot "help the world feed itself;" it requires the cumulative effect of multiple research approaches, numerous researchers in a diverse group of disciplines, and years of dedication.

Perhaps the greatest potential for land-grant institutions to address the issue of "helping the world feed itself" is to emphasize the effort to international extension. The NIFA-supported National Initiative to Internationalize Extension demonstrates that the U.S. government recognizes the importance of addressing issues on a global scale. However, this effort needs to be promoted and supported at all levels of the extension system to create buy-in among personnel and encourage programs that have a global focus.

Initially for this report, the researcher focused on identifying research that had been done to gauge the public's perceptions and media coverage of what impact public and land-grant institutions have made to "help the world feed itself." However, this search did not return any results. After searching multiple databases, it appears that no study has specifically looked at the public opinion or media coverage of this topic in regard to how land-grant and public universities contribute to "helping the world feed itself."

In regard to the media coverage, it can be assumed that the primary reason for this is that media coverage studies often examine more specific topics such as world hunger, genetically modified foods, and animal cloning, to name a few. The media do report on advances in agricultural science that may fall within the issue of "helping the world feed itself," but this topic is not one commonly associated with public and land-grant universities. However, this type of work is being completed under different names: international extension, rural development, food security, etc. Therefore, it is recommended that land-grant institutions become more proactive in communicating what they are doing to address this issue using terminology that is in the media's lexicon.

Additional reviews of literature are necessary to discover the scope of work done in issues that are related to "helping the world feed itself." Suggested topics for further review include: food security, food distribution, local food production, and food cost/regulation.

Finally, to address how public and land-grant universities can "help the world feed itself," three overarching questions are posed for discussion:

1) What needs to be done to reach agricultural self-sufficiency in order to eliminate world hunger and poverty?
2) How can public and land-grant institutions help encourage agricultural self-sufficiency?
3) How can public and land-grant institutions work in collaboration with developmental agencies to achieve these goals?

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Introduction

Since 2001, the American government has spent nearly $10 billion in researching the domestic production of cleaner and less expensive alternative fuels, particularly ethanol (Alternative Fuels Data Center, 2006a; The White House, 2006). Ethanol created from the fermentation and distillation of corn or sugarcane is the most commonly used alternative fuel (Alternative Fuels Data Center, 2006b). Government policies pose comprehensive plans to increase corn usage for ethanol production in the United States (Lifset & Anex, 2009; Malcolm & Aillery, 2009). One such policy encouraging ethanol production is the Energy Policy Act of 2005 (Hoffman, Baker, Foreman, & Young, 2007). The Renewable Fuel Section 1501 of the act requires the domestic use of 7.5 billion gallons of renewable fuel by 2012 (Energy Policy Act of 2005, 2005). A more recent government policy is the Energy Independence and Security Act of 2007. This act includes a Renewable Fuel Standard that requires the production of 36 billion gallons of renewable fuel by 2022 (Sissine, 2007). Of the 36 billion gallons, 21 billion gallons must be obtained from corn-based ethanol or other advanced biofuels (Malcolm & Aillery; Sissine).

Farmers growing corn in the states of Iowa, Illinois, Indiana, Ohio, Nebraska, Minnesota, Wisconsin, Michigan, and Missouri have responded to the government's policies mandating ethanol production by increasing their production of corn used as feedstock for ethanol (Malcolm & Aillery,

2009; Thompson, 2004). Farmers in these states have grown an estimated 5 billion bushels in 2010-2011 for ethanol production (Capehart & Allen, 2011).

A concern about the ethanol production mandates is that farmers produce more corn by reducing their production of corn, soybeans, sorghum, and other small-grain crops used for human consumption or livestock feed (Malcolm & Aillery; Rathmann et al., 2010). The reduced production of feed crops might contribute to increased grain feed costs for livestock and poultry producers (Malcolm & Aillery).

The economic concern about corn-based ethanol is important to agriculture because rising corn prices and expanding acreage for corn production can create problems for agricultural industries (Hoffman et al., 2007). The shift from using corn to feed livestock to producing ethanol has made U.S. livestock producers pay higher feed costs, thus forcing some producers to leave the livestock industry (Elobeid, Tokgoz, Hayes, Babcock, & Hart, 2006). Pork and poultry producers are affected the most because these producers have problems switching from corn-based diets to other diets (Baker & Zahniser, 2006).

Beyond its effect on the livestock industry, dramatic increases in corn production may affect feedstock and ethanol transportation methods. Shipping the increased amounts of corn to ethanol plants for production requires purchasing more covered hopper cars, trucks, barges, rail tank cars, and locomotives, which increase the shippers' expenditures (Baker & Zahniser, 2006).

As ethanol production escalates, supporters and opponents are addressing the previously mentioned concerns by presenting their positions on ethanol production through coverage in the U.S. print media. Media channels, such as newspapers or magazines, can help Americans understand agriculture and its impact on society, the environment, and the economy (Terry & Lawver, 1995). The public uses message content provided by the mass media to gain awareness of, create initial impressions of, and to form favorable or unfavorable attitudes toward significant issues (Sweeney & Hollifield, 2000). Mass media can influence thoughts, behavior, attitudes, and emotions on different levels depending on the media's power (Bryant & Thompson, 2002). How information about a certain issue, such as advantages or disadvantages of a technology, is printed in news articles can influence attitudes about that issue (Bryant & Zillmann, 2002). Mass media channels like newspapers, radio, or television disseminate information to large audience that can increase knowledge, which can change weakly held attitudes and behaviors (Rogers, 2003).

Zaller (1991) reported that the way information is presented influences the creation and changing of public opinion. Zaller insisted that one could predict attitudinal change based on the amount of information presented. According to Bryant and Zillmann (2002), some researchers argue that the media can indirectly change public opinion. Thus, the media affects opinion leaders who are accountable for changing the general public's opinions. Studies have shown that the public receives a lot of its knowledge about science from the mass media (Wilson, 1995), with television and daily newspapers favored as sources of information (Pew Project for Excellence in Journalism, 2009). Therefore, the purpose of this paper is to review prior studies on the U.S. media's coverage of ethanol in regards to frames and sources so that agricultural communications practitioners better understand the issue in formulating an issue management strategy. Media relations between agricultural communications practitioners and journalists can be enhanced by suggesting possible sources for interviews that align with who is cited and how information is framed by editors and journalists from newspapers published in different areas of the United States.

Method

This literature review used articles about ethanol coverage from several online databases. Articles were collected by employing a search on Google Scholar, Academic Search Complete, ArticleOne, ArticleFirst, JSTOR, and Science Direct using the keywords of "indirect land use," "corn-based ethanol" "ethanol" and "biofuel." The search included both non-reviewed journal articles and peer-reviewed journal articles. A Google Scholar search located journal articles and master's theses using the key phrases of "mass media's coverage of biofuel"; "E85," "ethanol fuel," "corn-based ethanol," "framing ethanol"; and "biofuel indirect land use." Articles selected from the searches focused on the media's coverage of ethanol-related articles. The time frame for this literature review was January 1999 to September 2009.

Findings

Few studies have explored the print media's coverage of ethanol-related issues in regards to frames and sources used. Delshad (2009) conducted a content analysis of the *New York Times* and *Washington Post* from January 1, 1999-December 31, 2008, using the key terms of "ethanol," "E85," and "biofuels." Smith (2008) compared national and regional media coverage of ethanol in terms of themes and sources in *The Wall Street Journal, New York Times, Los Angeles Times, Washington Post, Des Moines Register, Omaha World-Herald, Chicago Tribune,* and *St. Paul Pioneer Press* from October 1, 2007, to November 30, 2007. Hall (2007) categorized coverage of corn ethanol articles into frames and described sources cited in 34 articles in *The New York Times, Los Angeles Times, Houston Chronicle,* and *Chicago Sun-Times* from 2001-2007. In contrast to national newspaper's coverage of ethanol, Grabowski (2009) analyzed the frames and sources for 172 articles about corn ethanol in *Time, Newsweek,* and *The Economist* magazines from 1979 to 2007.

Reporters use a variety of frames to explain ethanol. Nine frames emerged during Delshad's (2009) analysis:

energy independence, food versus fuel, conflict, advanced ethanol, environmental harms, environmental benefits, corporate beneficiaries, rural beneficiaries, and increased cost. These frames are described in Table 1.

Table 1

Frames used in media coverage of ethanol and corn-based ethanol

Identified Frame	Description
Energy independence	Focused on ethanol as a substitute for foreign oil
Food versus fuel	Connection between crop production for fuel and food shortages/increased food prices
Conflict	Concentrated on political conflicts over ethanol between political parties, presidential candidates during primaries, or politicians from farm states and non-farm states
Advanced ethanol	Implied that corn-based ethanol was less advantageous than more advanced forms of ethanol
Environmental harms	Mentioned potential environmental issues such as decreased conservation land, deforestation, or land-use changes.
Environmental benefits	Referred to ethanol as a cleaner burning fuel or a solution for alleviating urban air pollution and global warming
Corporate beneficiaries	Suggested that large agricultural corporations would benefit from ethanol production and use
Rural beneficiaries	Farmers who grew corn and participated in co-op refineries and rural areas like the Midwest corn-belt were considered primary beneficiaries
Increased costs	Related ethanol with higher fuel costs

Source: (Delshad, 2009)

Before 2006, articles were most frequently framed as conflict, environmental benefits, and energy independence (Delshad, 2009). By 2005, the energy independence frame became more prominent, and the environmental benefits frame was also common. After 2006, the negative frames of food versus fuel and environmental harms increased in prominence.

Hall (2007) determined that the production of E85 was the largest primary frame (n = 7) presented in the national newspapers. The second largest primary frame was tied between fuel efficiency and economic impact of corn-based ethanol (n = 5). Four news articles contained agribusiness opportunities as a primary frame. The frames of reduced dependence on foreign oil, legislation, and alternative fuel were found in three articles each. Two news articles contained the environmental impact of corn-based ethanol frame. The frames of social impact of corn-based ethanol and create renewable resources were each found in one news article.

Within Time, Newsweek, and The Economist, the primary frame biofuel was the most frequently used in articles from 2002 to 2007 (n = 35), followed by politics (n = 25), other (n = 20), fossil fuels (n = 11), environment (n = 9), food (n = 8), economics (n = 7), and agriculture (n = 7) (Garbowski, 2009).

The types of sources cited in ethanol-related articles were also explored. Garbowski (2009) reported that science sources and environment sources were cited in 19 and 22 articles, respectively. The most frequently cited sources in magazine articles from 1979 to 2007 were business/financial (n = 59), special interest (n = 41), other exec (n = 39), education (n = 27), legislative (n = 24), environment (n = 22), and media (n = 21).

Researchers identified differences in source categories cited in the newspapers. Among specific sources, Smith (2008) and Hall (2007) identified government officials as the most frequently cited source. Other sources in Smith's study were representatives from the ethanol industry (n = 108), financial (n = 87), academic (n = 60), average person (n = 47), farmer (n = 41), economic (n = 28), auto (n = 19), lobbyist (n = 17), petroleum/oil (n = 17), scientist (n = 16), and environmental (n = 14). Similarly, Hall's study reported that both scientists and alternative fuel industry representatives appeared in seven articles. Both representatives from environmental organizations and ethanol company representatives appeared in six articles. Automobile industry representatives were cited in five articles. Gas station owners, agricultural business representatives, alternative energy company representatives, oil company representatives, economists, farmers, and agricultural organization representatives were each cited in four articles. University professors and financial company representatives appeared in three articles, respectively.

Discussion

The findings from this literature review inform agricultural communications practitioners about what editors select for news content and whom they use as sources of information. Agricultural communicators should disseminate information to newspapers and magazines because they are sources of environmental information, and newspapers are one of the most frequently used and most important information sources in media relations (Howard & Mathews, 2000). Understanding the frames developed by mass media can help agricultural communicators who search for ways of publishing their organization's or agency's news about ethanol. Agricultural communicators need to understand the needs of editors and their patterns in news content in order to get their news printed. Results on how editors and journalists frame corn-based ethanol are important because negatively framed news about agriculture in the print media can diminish support for farmers and farming.

Agricultural communicators can also use the information about ethanol's news coverage in national and regional print media to develop more effective media campaigns. Many newspapers receive their content from press releases, press conferences, blogs, and online news feeds. Agricultural communicators working for colleges of agriculture, commodity groups, government agencies, or other interest groups can create ethanol coverage through messages in news releases, public service announcements, fact sheets, direct mailings, e-mail messages, and publications. These written documents should complement messages delivered at press conferences, on websites, at field days, and at other public events. By implementing an integrated marketing campaign about ethanol, the messages are more than one press release printed one time but a continuous process for gaining the attention of writers and editors.

Despite the coverage of the economic impact of ethanol, agricultural sources such as farmers and university professors were limited in the articles. When communicating with editors or news writers about ethanol-related articles, agricultural communicators may recommend farmers and university experts who can provide an in-depth perspective on the economic and social impacts of ethanol on rural communities.

These studies indicated that writers frequently interview government officials as sources. Agricultural communicators may want to work more closely with government aids and officials since lawmakers seem to have a strong relationship with the media and are asked to gain support for their political agendas and to influence public opinion on ethanol in both national and regional newspapers. Agricultural communicators may want to invite government officials to press conferences, field days, or other media events that journalists and editors are more likely to cover.

While the media's coverage focused on national and regional newspapers, it is recommended to expand into agricultural farm publications, especially magazines. Researchers could use the frames and sources identified by Garbowski's (2009) magazine study to compare framing and sources in agricultural magazines against Time, Newsweek, and The Economist. Knowing the frames and sources in agricultural and mainstream news magazines might explain farmers' and consumers' attitudes toward ethanol production. It would also be beneficial to analyze the content of newspapers located in corn-producing or sugarcane-growing regions of the United States to see if the coverage is different than national newspapers.

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Animal Welfare
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Introduction

Increased animal testing in the 1970s and 1980s brought on a societal animal rights movement around the world. Most countries either formulated or revised their current animal welfare laws during this time (Spedding, 2000). Moynagh (2000) said the greatest driving force for improved animal welfare is public opinion. Various organizations have used the media to sway public opinion and demand new legislation in animal welfare.

While many theorists, communicators, and researchers have attempted to define animal welfare, Blandford, Bureau, Fulponi, and Henson (2002) identified three science-based approaches. These included the subjective experiences (feelings and emotions) of animals, the normal biological functioning of animals in their environments, and the nature of animals, which compares the behaviors of those animals in the wild versus those domesticated in confinement.

Understanding the differences in beliefs concerning animal welfare, for wild animals and domesticated pets and food animals, from all stakeholders has posed challenges in effective communication about the issues. Arguments regarding the relationship between media communication and public opinion have gone on for decades, if not centuries (Ten Eyck, 2005). Since the rise of animal welfare issues on a global scale, scientists studying animal welfare and the philosophers writing about animal ethics have tried to work together to understand and articulate the proper relationship between humans and other animals. Fraser (1999) argued that the scientists and philosophers failed to create a mutual understanding of animal welfare because of conflicting views between the scientific approach that relied more heavily on empirical research into animal welfare and the ethical writings that focused on more individual, rather than societal, decisions. The single solutions of the philosophers paid little attention to the empirical knowledge. Scientists studying animal welfare have generally realized that their research field began not because of scientific interest in the quality of life of animals, but because of public concern about how the animals are raised and treated, which is provided by communication messages from ethicists (Fraser).

Societal demand for transparency in the issues of animal husbandry and animal welfare have been growing (Frewer, Kole, Van de Kroon, & Lauwere, 2005). Frewer and Salter (2002) said because of social change, the public is demanding more information about food systems. As consumers have more access to information regarding their food, they have been more vocal in demanding ethical practices for animals raised for food production. Prior research has shown

that consumers and farmers view issues of animal welfare differently (Te Velde, Aarts, & Van Woerkum, 2002). This poses a challenge for educators and communicators in the agricultural industry who provide messages for both audiences.

Knowing the importance society puts on all animal welfare issues and the challenges facing agriculture, researchers have the opportunity to explore where people receive their information and how they develop perceptions – beliefs, attitudes, and behaviors – relating to these issues. Although prior studies have been done to examine people's perceptions and beliefs about animal welfare, many of the studies have been done outside of the United States. As consumers take more interest in learning where their food comes from and how that food was raised or produced, they will also seek information regarding animal welfare. Therefore, the purpose of this research paper is to examine prior studies focused on these perceptions to provide agricultural educators, communicators, and researchers with more knowledge of societal concerns about animal welfare, media portrayal of animal welfare issues, and, ultimately, the ability to develop more effective messages for the U.S. agriculture industry.

Methodology

An online search was conducted for articles and previous research related to animal welfare. The researchers used several databases: Google Scholar, ScienceDirect, ProQuest, OmniFile Full Text Mega, Article First, and Academic Search Complete. The search terms used to access the articles included, "animal welfare and the media," "animal welfare and consumers," "animal welfare and farmers," "communicating animal welfare," "animal welfare public perceptions and attitudes," and "animal welfare awareness." The search timeframe was limited to articles published in the ten-year period, 1999-2009.

Findings

The intensification of agricultural production systems has led to increasing concern about the treatment of farm animals, especially in Europe (Blandford et al., 2002). These studies focus on animal welfare issues relating to risk communication and disease outbreaks. Outbreaks of foot and mouth disease (FMD) and bovine spongiform encephalopathy (BSE) in European livestock herds caused outrage about the treatment of animals. Anthony (2004) suggested a two-way risk communication approach and broader stakeholder participation in the media's efforts during Britain's FMD crisis. This came after examining the public outcry for animal welfare during the forced eradication of many livestock herds. Frewer and Salter (2002) used the BSE crisis as a vehicle to examine the United Kingdom government's use of scientific advice in relation to public trust. The researchers stated an understanding of the social and cultural factors

influencing people's responses to different food hazards, such as those that could be brought on by BSE, is necessary for the government to respond to the needs of the public. Scientific authority and the concerns of an active citizen are equally important in delivering effective messages and developing stronger policies.

European consumers are prepared to pay higher prices – at times as much as three times the normal cost – for food guaranteed to have been produced using animal welfare-friendly production practices (Moynagh, 2000). Schroder and McEachern (2004) found that individuals in Scotland held two views on animal welfare: they may think as citizens influencing societal standards or as consumers at the point of purchase. This study showed a general lack of involvement and knowledge in meat production, but nonetheless, welfare-friendly production systems were viewed as adding value to food. Although animal needs were seen as secondary to human needs, the animals' needs are important from an ethical standpoint, and individuals use ethics to evaluate animal production systems (Schroder & McEachern).

The relationship between organic food production and animal welfare has also been examined, mainly in Europe. Harper and Makatouni (2002) found that most consumers often confuse "organic" as equivalent to "free-range" food. The results of the study indicated that consumers are concerned about the safety of their food, and they often relate animal welfare to food safety. Although health and food safety concerns are the main motives to buying organic foods, ethical concerns in raising the animals also played a role in the reason consumers purchased organic. Hovi, Sandrum, and Thamsborg (2003) said key challenges for the future of organic food production in Europe are related to improved animal husbandry and the development of support systems for animal health and feeding management.

Researchers have also found differences in attitudes toward animal welfare issues in various groups or classifications of people. Serpell (2004) suggested that in addition to studying people's attitudes toward animals and the ways animals are used, exploited, and disposed of, researchers also need to look at people's perceptions of harms and risks to animals, humans, and the environment. In a study in the Netherlands, Te Velde, Aarts, and Woerkum (2002) found perceptions among livestock farmers regarding animal welfare in livestock breeding were varied, but they were more similar to one another than to consumers. Although all interviewees agreed that humans have certain obligations toward animals, they disagreed about the nature of the obligations.

One of the major animal welfare concerns facing the U.S. swine industry is the use of gestation crates for pregnant sows. Tonsor, Wolf, and Olynk (2009) examined U.S. consumer voting behavior for a ban on the use of gestation crates and found the majority (69%) of respondents supported such a ban. However, when the respondents were told state income taxes would increase if the ban was passed, only 31% supported the ban. The researchers stated that a

number of factors need to be considered before this ballot issue is widely passed in U.S. states including the costs to pork producers, impact on retail pork prices, and the potential relocation of pork operations. Recent ballot initiatives in California and Ohio demonstrate the U.S. public's increasing attention on animal welfare issues. When California's Proposition 2, which was passed in November 2008, takes effect in 2015, farmers will not be able to use veal crates, battery cages for laying hens, or gestation crates for pregnant hogs (Schmit, 2008). Ohio took a more proactive approach to a similar ballot initiative. Issue 2, which was passed in November 2009, created a state livestock care standards board that will inform decisions regarding farm animal care (Sutherly, 2009).

Discussion and Recommendations

The search for articles yielded more research about animal welfare in Europe than in the United States. With the increasing attention special interest groups are placing on farm animal welfare, more studies are needed in the U.S. agricultural industry regarding these animal welfare concerns. Animal welfare is a complicated issue that encompasses a variety of topics. The animal welfare-related topics investigated in this paper included the treatment of animals during animal disease outbreaks, how consumer perceptions of the treatment of food animals relates to their food buying habits, the disconnect between producers and consumers of food relating to their beliefs about animal welfare, and policy issues relating to animal welfare regulations. A stronger understanding of animal welfare and societal beliefs and perceptions about the subject can help agricultural industry leaders in developing more effective education efforts.

The results of this literature review provide several questions to encourage additional discussion among individuals who work in agricultural education and communications:

1. What beliefs or perceptions do U.S. consumers have about animal welfare in agriculture?

2. How is the media portraying animal welfare issues in U.S. agriculture?

3. What informational or educational efforts are necessary for both U.S. consumers and the agricultural industry to address animal welfare issues?

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Best Practices for Issues Management in Land-Grant Institutions

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Issues management can help advance the land-grant mission. Using proven strategies effectively, land-grant institutions can address issues in higher education, as well as issues facing communities and industries they serve. As literature bears out, effective issues management is not just about avoiding crisis by effectively managing issues that could threaten the stability of institutions. Effective issues management in land-grant universities often means being the voice of science that raises awareness of issues because land-grant universities are uniquely equipped to help society understand and resolve certain issues.

Working together in an effective issues management framework, land-grant institutions can lead public discourse that can help communities avoid ill-informed policy by using science and public education to address potential issues.

In a 1993 commentary in the *Journal of Extension*, Patrick Boyle, chancellor emeritus, University of Wisconsin-Extension, asserts that effective issues management and public issues education are paramount to the survival of land-grant universities. And, he says, Extension should be prepared to lead.

"We in Extension and all parts of higher education," Boyle wrote, "especially in publicly funded universities, have an awesome responsibility to help preserve our democratic way of life. Our universities' most vital role is to help people develop broadened perspectives and reasoned judgments on the critical public issues we face today. Specifically, the challenge for Extension is to take the leadership role in our universities to help rebuild … 'citizen politics.' Our challenge is to involve all relevant disciplines of the total university to educate people to participate in our democracy. Our special niche is that we, better than anyone else, are able to bring the people's concerns and the university's resources together to create new ideas."

His commentary concluded that organizations determine their own fate. "Every organization contains the seeds of its own destruction," Boyle wrote. "If we fail to focus the university's public service mission, programs, and structures to meet the drastic changes affecting society, we will nurture fertile ground for those seeds to grow.

"If we don't take the risk and tackle controversial issues, we're doomed to mediocrity, or worse, termination. Play-ing it safe is the biggest risk of all. These are the benefits – a broader base of resources, a more credible image, new coalitions, and stronger public and political support. But the ultimate payoff is a more enlightened populace and a democratic society that works better." (Boyle et al. 1993)

Since Boyle penned his commentary, land-grant universities have indeed worked to be leaders in addressing the pressing issues of our time including food safety, worldwide nutrition, obesity prevention, water quality and quantity, and invasive species. Following the terrorist attacks of September 11, 2001, land-grant universities became active in defending the U.S. food supply, forming vital partnerships with the U.S. Department of Homeland Security to educate the public and develop systems to detect an array of potential attack points in the food system.

Among the most powerful conclusions for issues management in land-grant universities is: "Used responsibly, issues management can help illuminate complex social issues and bring about more deliberate and informed public decision-making while minimizing the negative consequences of rash or emotional public responses. It can also help the university develop relationships with nontraditional stakeholders and underserved audiences." (Ponce de Leon, Tucker 2009)

In the late 1990s, land-grant universities began developing programs to address the specific needs of underserved farmers and an emerging organic niche market in U.S. agriculture. As the organic agriculture segment continued to grow in size and prominence, land-grant universities expanded educational programs to meet the needs of the market while continuing to educate the public on the science of agriculture and the organic choice. Publicly held myths about improved nutrition of organic foods and bio-engineered foods often clashed. Land-grant universities were positioned to lead education and discussions to prevent personal choice from being confused with science to enact stringent policy. That educational effort continues and organic production will likely continue to be a hot-button issue for many land-grant universities and the agriculture industry.

To achieve high standards in what Tucker and Ponce de Leon call "responsible issues management," land-grant institutions should adopt Best Practices in Issues Management

that fit the culture of their institution. The Best Practices suggested here are built on a foundation of commonly held beliefs in the public higher education and the land-grant university system's role in public issues education. These Best Practices are intended to be a framework upon which institutions can build a comprehensive system of issues management that is most effective in the environment in which they are implemented. However, some basic foundations must be in place for any system of issues management to be effective. These foundations are consistent in issues management literature, though the category names may vary.

First, to be effective, issues management must be a seamless part of the fabric of institutional priority setting and decision making. The process of resolving pressing issues should be integrated throughout the organization's strategic plan, from determining key program areas to allocating resources.

Second, all levels of the organization should encourage, support and reward effective issues management initiatives. Monitoring for issues is the first key step in identifying and planning to address issues. The more eyes watching for rising trends, potential problems and opportunities, the more likely issues will be identified at the most infant stage to allow for effective response.

Depending on the potential of an issue to damage the organization or the opportunity for an issue to raise the value of the organization, responding to pressing issues should be given high priority over other routine assignments.

Given these foundational imperatives, we offer these best practices for responsible Issues management for land-grant institutions:

Institutionalize a culture of issues management by establishing an issues management advisory group that functions at the highest level of the organization and includes a broad range of talents and knowledge.

Senior leaders must implement issues management to signal to the organization's members the level of importance to the organization. Integrating the system at all levels of the organization and assigning responsibility to every employee is vital to success. An advisory group should be formed, and the leader of this group should be an experienced issues manager. The group should include administrators with authority to approve plans and budgets. The group should also include a variety of subject matter experts and local educators where the issue is likely to have an impact on or connect to the public. This local voice will help gain support for issue education efforts and ensure effective tactics for target audiences. The group should lead organizational self-examination and evaluate the system's performance throughout the issues cycle.

The issues management system, informed by results of evaluation, should feed the organization's strategic initiatives and planning. By including the process as a strategic priority, the cycle will be set into motion that will strengthen the organization, protect the brand and reputation, and move the organization toward a more crisis-prepared, less crisis-prone, effective institution.

Institutionalize a culture of issues management by establishing issue-focused teams of experts to monitor, measure, respond and educate the public about relevant issues in higher education, agriculture, food and the environment.

Institutions should recognize that issues management is not the sole responsibility of public relations, public affairs or communications departments. Effective issues management is not simply using public relations techniques to make the issue go away, but should effectively educate and inform all concerned publics to strive to reach a mutually satisfying resolution. To be effective these teams should contain a mix of subject matter experts related to all sides of the issue, administrators with decision-making authority and communication experts in message development and delivery related to the issue. Issue teams should also include local educators or experts who have established respect and trust with vital audiences.

Build a formal structure of faculty liaisons with community groups of interest to the goals of the university.

Effective relationships with influential stakeholders are critical to effective public issue education and issues management. Strong relationships, trust and open communication should be developed long before an issue arises. Thus, these liaison groups should include traditional support agencies such as commodity commissions, agricultural and environmental organization and local media. However, groups with which universities often have differences should also be included. Strengthening relationships with nongovernmental and activist organizations that may disagree with university research, programs or education is paramount to preventing, managing or raising issues of public concern. Bringing together groups with differing views increases everyone's understanding of reasons for opposition and helps them find common goals, which can lead to finding mutually beneficial solutions.

These liaisons should establish consistent methods of open discussion with assigned groups. Information gained, opportunities offered and education shared among these groups should be reported with the larger organization and administration.

Evaluate and report progress managing the issue and success of the strategies and tactic employed.

Begin by benchmarking the point at which you begin to use management strategies to address an identified issue. Periodic evaluation feeds progress in the issue cycle and identifies successful strategies and tactics for addressing particular issues. This evaluation information can prove valuable in addressing future similar issues or helping other land-grant universities face the same issue.

Develop, maintain and support a strong media relations program led by communication experts.

While mass media is but one avenue of responding to issues, it is often the most cost-effective way to reach large groups with a consistent message quickly. It is also the avenue that, over time, has become the accepted legitimizer of organizational messages. Yet it is an area that requires constant nurturing to be reliable when needed to address controversial issues or crises.

Media relations experts should be included on and work closely with issue monitoring groups to develop messages and strategies that will effectively inform and educate the public and media on the issues. To be successful, a cadre of well-trained spokespeople with subject matter expertise must support a strong media relations program.

Promotion of and investment in consistent, high-quality media relations training is required. Basic media skills training should be encouraged for faculty. Not only will this training help ensure effective communication on issues important to the institution, but will also offer a level of protection to faculty prone to media missteps that can harm, rather than bolster, their careers.

Develop, support and nurture social media channels that will attract target audiences and build platforms for immediate communication with desired participants who can be quickly mobilized on issues they care about.

Realizing that these platforms are also open to people with different viewpoints, institutions should equip communication experts to monitor and design responses to misinformation that gains traction on social media channels. Social media channels, in many ways, are the new town halls where public issue discussion are often started and resolved. Too many organizations stifle development of communication programs on these platforms because they offer uncensored access and expression. However, social media channels attract active and activist audiences to them and give them power. Ignoring their positions in the public discussion can be detrimental to successful issues management.

Make each employee aware that he/she is an ambassador of the organization.

Establish a part of employee and student orientation that provides information about how each is a representative of the institution's brand, image and reputation. Encourage a culture of faculty and students as ambassadors of the same. Support that notion with a program of reputation monitoring and report successes and failures to students and employees.

Articulate a clear, concise set of institutional values and principles that provide the framework for acceptable practices and allow for public discourse.

Develop a model for issue-monitoring groups, liaisons and subject experts to inform stakeholders on issues and conflicts that might arise between the institution and the stakeholder. The model should include protocol for who speaks on the issue.

Develop, publish and promote an institutionwide system of public issues education that incorporates all levels of the institution to inform communities on issues important to them and to similarly inform communities to support sound policy decisions surrounding those issues. This important element of fulfilling the land-grant mission is the linchpin of maintaining local relevance and support from those we are charged to serve.

Summary

Exactly how these practices are arranged within the organizational structure will be customized to each institution. With exception of the foundational imperatives, these practices are but a menu from which organizations may choose selections that will fit within their particular culture and organizational design. Regardless of the individual institutional structure, a system of issues management can help focus efforts on high-priority issues to the organization. This focus can lead the organization to more successful strategic planning, sound business practices maximizing available resources, and effective response to threats and opportunities for the land-grant institutions and the communities they serve.

Consideration also should be given to expanding beyond institutional issues response to regional and national issues. Avenues exist to share information and strategies across state lines. It is the responsibility of a land-grant university to inform other universities in the land-grant system who stand to be impacted by the issue. Just as individual institutions are charged to respond to inform and support the public good of the communities they serve, land-grant institutions with expertise and resources best suited and positioned to address

pending issues should deploy those resources for the good of the land-grant system.

This give-and-take among land-grant institutions allows an ebb and flow of issues response and recovery for institutions across the country. Sharing resources and information among the institutions is not a new notion. Land-grant universities have shared science, education programs and research for decades. However, adapting this integrated system of agreed priorities in addressing issues that can threaten local, regional and national support for the land-grant system is an added level of cooperation that can shore up the system for decades to come.

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The Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Sciences (ACE) is an international association of more than 400 profes-sional communicators, educators, and information technologists. Members are involved in developing communication programs to connect audiences such as natural resource managers, agricultural producers, foresters, families, and community leaders with the latest and best knowledge available at the nation's 75 land-grant universities. ACE/NETC ver 2.011 will be the organization's 95th annual conference.

The National Extension Technology Conference (NETC) is an annual conference rather than an organization. The 2011 conference is the 26th such gathering of information technology professionals. This will be the 10th time the conference has been held jointly with the annual ACE conference. NETC attendees include information technology spe-cialists, extension educators, and communication professionals seeking to learn and share innovations in communication.

The synergy created when ACE and NETC meet together helps communicators and information technology professionals apply new skills and collaborate in new ways to support our universities and organizations.