Background and Need for Study

Conservation easements (CEs) are voluntary, legally binding agreements that landowners adopt to limit the use of their land as a means of protecting or improving the environment (National Conservation Easement Database, 2022). While they remain are one of the most prominent tools to provide environmental protection for privately own land, CEs have struggled to gain popularity in watersheds in the Midsouth United States due to lack of flexibility in term length, under payment in consideration of land valuation, and administrative complexity, among other reasons (Raeker, 2015). Landowner attitudes towards CE adoption in the Northwest Arkansas and Northeast Oklahoma watersheds are not currently described in academic literature, but in general, across North America, barriers to adopting CEs include disjointed communications efforts, in addition to personal biases held by the landowners (Cross et al., 2011; Farmer et al., 2015; Leonard, 2020; Raeker, 2015; Reeves et al., 2020; Vizek, 2016). Anecdotally, Leif Kindberg, executive director of the Illinois River Watershed Partnership reported an extremely low participation rate in current CE funding programs (personal communication, January 27, 2022), which highlighted a potential issue related to how local environmental organizations communicate with the public about such programs. Easement holding organizations in Northwest Arkansas and Northeast Oklahoma need to learn more about landowner attitudes to better educate them and persuade them to adopt CEs.

Review of Literature

Adoption Likelihood and Perceptions of CEs

In general, studies have determined that CE adoption by landowners is driven by the advantages the CEs offer to the landowner/manager, such as financial incentives, improved conservation value, and a defense from land development (Hemby et. al, 2022; Bastian et al., 2017). Landowners are also more likely to adopt CEs if others around them have CEs on their land (Hemby et al., 2022). This was likely due to landowners' desire for community involvement and a need for landowners to be compatible with community-based social norms (Hemby et al., 2022; Horton et al., 2017). Landowners who held stronger social responsibility and land stewardship beliefs were more likely to adopt CEs (Stroman et al., 2017).

Related to personal beliefs about both landowners' rights and social responsibility, Vizek (2016) suggested two distinct types of attitudes landowners hold toward CEs. Landowners have an internal attitude, which describes how they believe a CE impacts their private property. The other attitude is external, which describes how landowners believe a CE impacts the public interest in the property (Vizek, 2016). Internal attitudes are more likely to be influenced by beliefs about financial incentives of CEs; this is an especially important influence for those who have a strong monetary dependence on their land (Vizek, 2016). In contrast, external attitudes are typically developed based upon the perceived environmental benefits CEs provide. External attitudes are subjective and malleable and can be influenced by public opinion and social norms.

Methods of Communication

Within current academic literature, little is reported regarding landowners' communications preferences for learning about CEs and other environmental programs. The

literature that exists broadly focuses on environmental communication, so more studies are needed to determine if there are any differences in preferences when focused solely on CE messaging. Several recent, more broadly focused articles report on the value of conservation marketing, a concept that encompasses efforts to communicate about conservation easements. Ryan et al. (2019) explained the need to conduct research to improve environmental marketing: "To design successful conservation marketing campaigns that increase community engagement with biodiversity conservation, we need to focus on human psychology—how people feel, think about, or behave towards other species and the environment in general" (para. 2).

Vizek (2016) and Drescher (2014) suggested communications from peers and indirect community interactions are vital for landowners learning about CEs. Vizek's study identified those two methods of communication as strong determinants of the landowners' internal attitudes toward CEs. Drescher (2014) showed that landowners who favor peer-to-peer communications have a deep appreciation for their land and the environment but may be uncomfortable with strong government involvement in their land ownership. This was confirmed Hemby et al. (2022): a strong barrier to CE adoption is linked to perceptions of unwanted external control of private property. However, in the same Virginia study, the level of perceived effort by environmental organizations (EOs) to promote awareness, understanding, and adoption of CEs was the factor that most frequently influenced the likelihood of landowner adoption.

Additionally, locally embedded EO staff has been shown to be impactful, because "people trust the people they know" (Hemby et al., 2022, p. 12). In support of this concept, several studies have suggested that information provided to landowners by a technical advisor or by someone in the same social network is likely to have a positive impact on the likelihood of an individual to adopt a CE (Kemink et al., 2020). The positive acceptance rate was even higher when the information was shared by an expert who was also in the prospective adoptee's social network. Generally, it has been shown that landowners typically have more positive attitudes toward receiving information from their peers, and even more so toward environmental experts who also happen to be in the landowner's existing social circle.

Current Regional Programs in Northwest Arkansas and Northeast Oklahoma

While limited literature exists on the acceptability of CEs in the region (Effa, 2009), many easement holding organizations are involved in the community. The following organizations were found on the internet and offer CEs to landowners in their respective area: Northwest Arkansas Land Trust, the Ozark Land Trust, The Nature Conservancy, Arkansas Natural Heritage Commission, the Grand River Dam Authority, Land Legacy, and the Humane Society Wildlife and Trust. All of these organizations are primary easement holders and produce communications and education efforts targeting local landowners.

Theoretical Framework

This study employed Ajzen's (1988) Theory of Planned Behavior (TPB) as its foundation. According to the Ajzen's theory, intentions and behaviors result from three basic determinant categories: personal attitudes, subjective social norms, and perceived behavioral control (Ajzen, 2005). These three determinates work in a balance when an individual is forming an attitude, and then when they are deciding to perform a behavior based on that attitude. According to the theory, an individual's intent to engage in a CE program will not be solely

determined by communications and awareness efforts. Rather, landowners' intent to act on their attitudes will be a function of the combination of the three basic determinates (Ajzen, 1988).

Personal Attitudes Toward the Behavior

Behavior performance is assumed to reflect past experiences as well as anticipated obstacles (Ajzen, 1988). If landowners already hold positive attitudes toward the environment and/or have previously participated in other environmentally conscious programs, they will be more likely to hold a favorable attitude toward CEs. General attitudes and personal behavior, however, do not always align. The personal behavior factor is the individual's positive or negative evaluation of the prospect of performing the particular behavior (Ajzen, 2005). So, while a landowner may hold a favorable attitude toward CEs because they have had positive experiences with other environmental programs, this motivation is affected positively or negatively by the landowner's perceived value or lack of value of agreeing to a CE on their land.

Subjective Social Norms

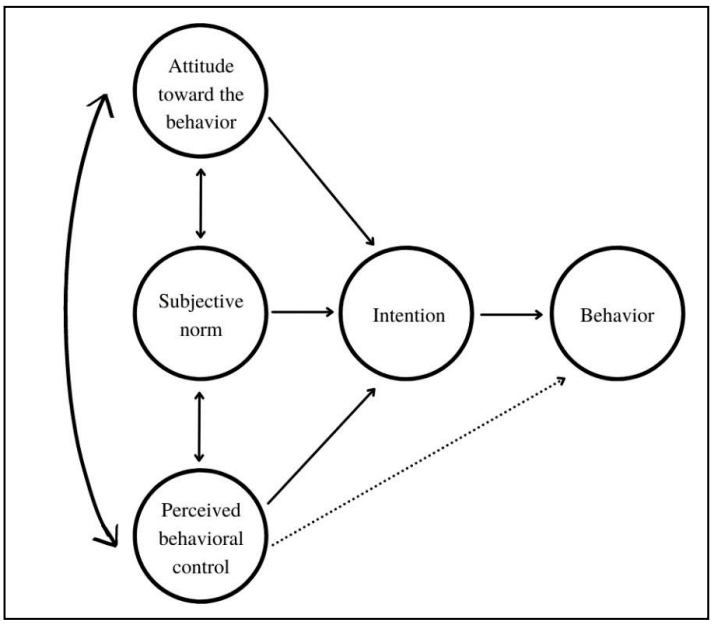
Generally, when a favorable positive attitude is combined with a positive social norm, likelihood is relatively high for an individual to perform a behavior (Ajzen, 1988). Social pressure, positive or negative, effects an individual's intention to perform a behavior (Ajzen, 2005). As seen throughout the literature on CE adoption, societal pressures have a strong influence on a landowners' willingness to adopt CEs. The more importance a community places on environmental improvements, the more willing residents are to participate in programs that benefit the environment (Drescher, 2015; Vizek's, 2016).

Perceived Behavioral Control

Perceived behavioral control considers some of the realistic constraints that might inhibit an individual from acting on a behavior (Ajzen, 1988). The TPB model assumes that perceived behavioral control has a direct tie to implications for intentions, as seen in Figure 1. According to the theory, even if an individual holds a favorable attitude and experiences positive social pressures, but if they have neither the resources nor the opportunity, they will likely form a weak behavioral intention (Ajzen, 1988). An example of this regarding CE adoption is if landowners feel they would not receive an adequate financial incentive or monetary benefit, they may perceive a lack of resources as a reason not to act on their behavior intention.

Figure 1 highlights some important features of the TPB. The theory assumes that perceived behavioral control has motivational implications for intentions (Ajzen, 2005). This leads to an expectation that perceived behavioral control in association to intention, is not mediated by attitude or subjective norm (Ajzen, 2005). In the figure, this is represented by the arrow linking perceived behavioral control to intention. Additionally, the dotted arrow indicates there is a link between perceived behavioral control and behavior that is expected to emerge only when there is some agreement between perceptions of control and the individual's actual control over the behavior (Ajzen, 1988).

Figure 1
Theory of Planned Behavior Model



Note. Adapted from Ajzen, I. (1988). *Attitudes, personality and behavior.* The Dorsey Press.

Operationalization of Previous Research and TPB in this Study

TPB, along with findings from previous literature, provided the framework for the development of survey and interview questions in this study that would produce a description of audience's attitudes, subjective norms, and perceived behavioral control. In particular, TPB guided the researchers to understand the personal contexts of land ownership--landowners' motivations for owning land, their prior knowledge of CEs, their communication preferences, and their awareness of local subjective norms related to land ownership, environmental awareness, and CEs as environmental protection tools.

Purpose and Objectives

The purpose of this research was to characterize landowner perceptions of CEs and identify effective persuasive communications methods. Research objective one questions related to gaining information based on respondents' intention to perform the behavior of adopting a CE. Survey and interview questions pertaining to objective three aimed to identify respondents perceived behavioral control, and how CE organizations can structure their communication efforts around those potential constraints.

Objective 1: Characterize landowners' perceptions of easement programs, including:

- Awareness and knowledge levels related to easement holding organizations
- Willingness to participate in CE programs
- Determine the association between the reason for owning land and length of CE considered

Objective 2: Identify landowners' current and preferred methods of learning about easement options, including:

- What media landowners are using to learn about CEs
- Methods of persuasive messages that would likely resonate with landowners

Objective 3: Identify landowners' preferred easement program structures, including their perceived incentives and disincentives related to participating in easement programs.

Methodology

Research Design

This study employed a quantitative survey approach to gain a comprehensive understanding of landowners' perceptions and attitudes towards CE programs. A researcher-developed Qualtrics survey was conducted with landowners in Northwest Arkansas and Northeast Oklahoma to gain regionally based information on this specific population of landowners (Bautista et al., 2020). Based on the literature, there is little knowledge on the specific factors--attitudes, social norms, and beliefs about their ability to use CEs effectively--that motivate landowners to adopt CE programs on their property. The main goal of this study was to identify those factors and use them, in conjunction with the demographic information and information regarding communication media preferences, to guide recommendations for more effective communication efforts (Bautista et al., 2020).

Participant Selection

Participants for this study were contacted via assistance from a technical advisory committee created by the executive director of the Illinois River Watershed Partnership. The technical advisory committee was comprised of 10 members and represented all the regional EOs listed previously. Participants were selected using a purposive non-probability sampling method and sent the link to the quantitative survey from a member of the technical advisory committee. At the conclusion of the survey, respondents were asked to consent to an additional phone interview. Participants were required to be current landowners in Northwest Arkansas (Benton, Carroll, Crawford, Madison, and Washington counties) and/or Northeast Oklahoma (Adair, Delaware, Cherokee, and Sequoyah counties). These landowners were selected from existing contact databases that the members of the technical advisory committee had. Each member of the technical advisory committee maintained a database of landowners in their respective region, and only landowners who met the qualifications of the study were contacted. There was a goal to obtain 90 survey responses and 15 phone interview participants. Seventy-seven usable survey responses were collected, and 18 phone interviews were conducted with participants who volunteered on their surveys to participate in more in-depth interviews. The findings of both the survey and phone interviews represent only the sample studied and cannot be generalized to a larger population.

Instrument Development

Passmore et al. (2002) identified several ways to increase the reliability of a researcher-developed instrument, including utilizing a study team, using the literature to inform the instrument, and conducting pilot testing to adapt the survey. The instrument for this study was developed through a collective effort by a research team, in addition to consulting the technical advisory committee to ensure the accuracy of the information. All questions developed for both the survey and phone interview were based directly on the literature and tied back to the listed research objectives. The survey aimed to determine landowners' perceptions regarding CEs, mostly through rating their opinions on Likert-type scales. Phone interviews with the selected participating landowners were conducted to gain more insights on their survey answers and perceptions toward CEs. The telephone interview questioning route was logically derived from the survey questionnaire, prompting participants to describe their perceptions in more depth and detail, providing context to complement the survey findings.

Prior to administering the survey and conducting the phone interviews, a pilot test was done with members of the technical advisory committee. The use of pilot testing helped provide an early indication of the reproducibility of the responses, as well as a predictor of the amount of time needed for transcribing and analyzing responses (Huxley, 2020; Passmore et al. 2002). Due to the nature of the professional relationship between the members of the technical advisory committee and the target survey participants, they had direct knowledge of how to ensure the survey questions would be well-received by the participants.

Data Analysis

Data collected from the Qualtrics survey were analyzed first through descriptive statistics, mean and standard deviation (Bautista et al., 2020; Huxley, 2020). In addition to the descriptive statistical analysis, a bivariate correlational analysis was conducted to examine connections between certain demographics and survey responses (Bertani, et al., 2018). The reported level of significance was decided *a priori* to be $p < 0.01$. Additionally, Davis (1971) was used as the guide to determine the levels of correlation between variables.

Following the conclusion of the phone interviews, responses were transcribed and organized using NVivo 11 software. The thematic analysis codebook was determined by a collective effort of the research team. Employing a constant-comparative approach, interview transcripts were consistently analyzed for open codes, which ultimately resulted in an emergent codebook. The analysis began with open coding, followed by selective coding and finally theoretical coding (Guest et al., 2012). To aid in codebook development, field notes from the interview process were entered as data in NVivo 11 lending insight and triangulation into the initial open coding process. The resulting final theoretical codes became the results of the qualitative portion of the study, which provided meaningful context for the findings from the survey effort.

Limitations

Findings from these survey and interview approaches are not generalizable to larger populations, nor even to the entire population of landowners in Northwest Arkansas and Northeast Oklahoma, as the participants were not randomly selected. The participants were

purposively selected from existing environmental organization contact lists, so the fact that these participants have, in fact, been in contact with the CE granting organizations previously indicates they may be more accepting of environmental programs in general. Further, the qualitative portion of this study--the telephone interview effort with landowners--was meant to provide deeper description of this particular case. As with all qualitative analysis, interpretations of qualitative data are subject to the biases of the researchers, as the researchers were required to synthesize the apparent themes through their own existing schemas.

Results/Findings

Findings from the survey (n = 77) and interviews (n = 18) were analyzed to identify how landowners in Northwest Arkansas and Northeast Oklahoma perceive CE program options, communications preferences, and preferred easement structures. Responses to survey questions were organized and analyzed by objective, preceded by demographic data. Interview responses were then used to supplement the findings from the survey and provide more detail to the statistical analysis. All information collected represents only the sample of 77 participants from Northwest Arkansas and Northeast Oklahoma and cannot be generalized to a larger population.

Participant Demographics

While the total survey response rate was 77 landowners, because multiple respondents owned land in more than one county, 88 total parcels of land were represented across the region. Respondents from Arkansas (n = 70) owned 79 total parcels of land and respondents from Oklahoma (n = 7) owned 9 total parcels of land. A majority of respondents owned land in Northwest Arkansas (n = 70), with Washington County (n = 49) having the highest number of participating landowners. The sample of landowners included 37 male responses and 40 female, and most respondents had earned a 4-year degree or higher (M = 5.78, SD = 1.88). Education information was collected on a 1-8 scale (1 = less than high school; 5 = 4-year degree; 8 = professional degree. Information regarding annual household income was collected on a 1-12 scale (1 = less than $10,000; 12 = more than $150,000), with most respondents earning $70,000/year or higher ($M$ = 8.14, SD = 3.49).

Objective 1: Landowners' Perceptions of Easement Programs

Emergent themes from both the survey and phone interviews indicated that landowners lacked an awareness-level knowledge of both CE program structures, as well as regionally local CE organizations.

Awareness and Knowledge Levels Related to Easement Holding Organizations

To identify landowners' knowledge levels of CE organizations, survey participants were asked to identify the number of CE organizations they were aware of in their area. Forty-five percent of respondents reported no knowledge of CE organizations in their area, while 40% reported knowledge of 1-2 CE organizations.

Respondents were also asked to rate their level of understanding of the definition of a CE. A definition was not provided initially because researchers intended to gauge participants'

existing understanding of their definition of a CE. As shown in Table 1, a correlational analysis was done to determine the relationship between the knowledge of regionally local CE organizations, and the general understanding of the definition of a CE, as well opinions regarding the credibility of environmental organizations. There was a marginal positive correlation, with no statistical significance, between age and knowledge of CE organizations.

Table 1

Knowledge of Local CE Organizations by Age, CE Understanding, and Perceived Credibility of Environmental Organizations

Variable	*n*	*M*	*SD*	Knowledge of CE orgs *(r)*
Age	77	55.6	14.15	.17
Understanding of CE definition	77	3.78	1.30	.32*
Credibility of	77			
NRCS	77	4.13	.81	-.33*
Local land trusts	77	4.00	.89	-.21
Peers	77	3.15	1.17	-.13
Cooperative Extension	77	3.62	.88	.05
Watershed protection organizations	77	3.80	.63	< .01
Commodity groups	77	3.39	1.26	-.12

*$p < 0.01$

As shown in Table 1, nearly all responses for perceived credibility of the listed environmental organizations had a negative correlation to the respondents' knowledge of CE organizations. As their self-reported understanding of how to define a CE decreased, their perceived credibility of the listed environmental organizations tended to increase. Respondents' understanding of the definition of a CE and their knowledge of regionally local CE organizations had a moderate positive correlation ($r = .32$; $p < 0.01$). As respondents' confidence in defining a CE increased, their knowledge of regionally local environmental organizations also increased.

Survey results found that the majority of respondents (M = 3.78, SD = 1.30) were confident in their self-reported understanding of their ability to define CEs. However, when interview participants were asked to provide a definition of a CE, it became evident that individual definitions of a CE were diverse and that many landowners held inaccurate opinions of what a CE is or lacked confidence in their understanding.

Only four participants showed that they had an accurate understanding of how to define a CE.

> *I think that there's multiple choices for doing conservation easements. I cannot tell you– delineate the different kinds. But my understanding is it protects your land from certain kinds of development and there's different kinds of ownerships. – Washington County*

All but three of the eighteen interviewees admitted that they are confused about the specifics of CEs. The fifteen participants who were confused reported this resulted in them holding a low opinion of CEs in general or having none at all.

I mean, my knowledge gap is huge, so I need to have more knowledge, and probably if I better understood the situation, I probably would be more friendly toward it. – Benton County

I know very little about conservation easements, but what I have heard, kind of through word of mouth, is negative. – Washington County

Perceived Benefit of Participating in CE Programs

After survey respondents were asked to identify their confidence level of defining a CE, they were then provided with a definition. Based on the definition given, respondents were then asked to identify their level of agreement with the statement *I feel that a conservation easement could benefit my land.* As seen in Table 2, respondents had an overall positive perceived benefit of adopting a CE ($M = 3.61$, $SD = 1.22$).

Table 2
Mean Overall Perceived Benefit of CEs by County

State/County	*n*	*M*	*SD*
Arkansas	79	3.61	1.17
Madison	9	4.00	1.22
Washington	49	3.73	1.04
Benton	18	3.22	1.44
Carroll	2	3.00	0.00
Crawford	1	2.00	0.00
Oklahoma	9	3.67	1.66
Cherokee	4	4.75	0.50
Adair	3	3.33	2.08
Sequoyah	1	3.00	0.00
Delaware	1	1.00	0.00

Note. Total county responses equate to greater than 77, due to multiple respondents owning land in more than one county. Responses reported on Likert-scale (1 = strongly disagree; 5 = strongly agree).

Association Between Reason for Owning Land and Length of CE Considered

Survey respondents were then asked to rate their primary reason for owning their land. *Scenic value* ($M = 4.46$, $SD = 0.88$), *wildlife habitat* ($M = 4.40$, $SD = 1.02$), and *primary residence* ($M = 4.39$, $SD = 1.30$) were rated as the top three most important reasons for the landowners sampled for owning their land. Responses from the reason for landownership question were then compared to multiple CE length options, as seen in Table 3.

Owning land for the purpose of *wildlife habitat* ($r = 0.35$; $p < 0.01$) showed a moderate positive correlation with the CE option of *part of the land on a permanent easement*. The other reasons for owning land showed weak or negligible correlations with the easement options given, meaning there is no significant relationship between the reason for owning land and the different length of easement options. All of the CE options had moderate to very strong relationships with

each other, meaning if a landowner would consider adopting a CE on their land, the variance between preferred term length was not significant.

Table 3

Variable	R1	R2	R3	R4	R5	R6	R7	R8	CE1	CE2	CE3	CE4	CE5	CE6
Reason														
1. Land investment	1.00	-.05	.22	0.14	.52*	.001	-.04	-.05	-.17	-.07	.13	.15	.15	.14
2. Wildlife habitat		1.00	.07	0.14	.08	.07	-.02	.40*	.18	.35*	.12	.24	.07	.18
3. Agricultural production			1.00	0.54*	.18	.16	.32*	.08	-.03	.02	-.05	.08	.04	.12
4. Timber production				1.00	.30*	.01	.39*	.18	-.03	.22	.07	.26	.07	.23
5. Family estate					1.00	-.13	.24	.08	-.14	.01	-.02	.13	-.09	.08
6. Primary residence						1.00	-.07	.12	-.15	-.09	-.20	-.06	-.03	-.03
7. Hunting							1.00	.09	-.22	-.15	-.25	-.02	-.29	-.06
8. Scenic value								1.00	.08	.16	.04	.14	.01	.09
CE option														
1. All of land; permanent easement									1.00	.66*	.73*	.45*	.58*	.34*
2. Part of land; permanent easement										1.00	.64*	.77*	.54*	.62*
3. All of land; 30-year easement											1.00	.71*	.85*	.65*
4. Part of land; 30-year easement												1.00	.68*	.87*
5. All of land; < 30-year easement													1.00	.75*
6. Part of land; < 30-year easement														1.00

Inter-Correlations Between Reason for Landownership (R#) and Length of CE Favored (CE#)
* $p < .01$

Objective 2: Landowners' Current and Preferred CE Communications Methods

Survey respondents were asked to provide their opinions on various communications methods, as well as communication sources. Interview participants were then asked to expand

upon their currently most used communications methods and provide insight to other desirable communications methods.

Media Landowners are Using to Learn About Conservation Efforts

Respondents were provided a list of eight possible communications methods and asked to rate their frequency of use for obtaining information about CEs. Responses varied across all ages of landowners, and no singular communications method had a mean rating of 4 or higher on a 5-point scale (1 = never use; 5 = use every time), as seen in Table 4.

Table 4
Preferred Communications Methods (Presented with Mean Age)

Variable	*n*	*M*	*SD*
Age	77	55.6	14.5
Communications method			
Email	77	3.67	1.05
Conversations with experts	77	3.07	1.24
Website	77	3.00	1.47
Peer-to-peer conversations	77	2.99	1.07
Printed items	77	2.89	1.20
In-person seminars/field days	77	2.67	1.15
Social media	77	2.40	1.06
Webinars	77	2.33	1.17

As seen in Table 4, email received the highest frequency of use ($M = 3.67$, $SD = 1.05$), followed by individual conversations with experts ($M = 3.07$, $SD = 1.24$). The use of social media to receive information/updates regarding CEs was rated with a lower frequency, ($M = 2.40$, $SD = 1.06$) which was to be expected as compared to the average age of survey respondents, which was 55.6.

All interview participants noted a preference for more in-person communications efforts, as well as increased community and media presence overall.

> *I would like to see this information made more accessible for landowners through local events, county fairs, and farmer's market. I think that would be a good idea. – Washington County Town hall meetings kinds of things, where the idea of easements could be talked about and explained. – Washington County*

Messages Likely to Resonate with Landowners

In addition to the respondents' preferred communications methods and perceived credibility of environmental organizations, interview participants were asked to identify any persuasive messages that would be well-received. Participants noted that they believed the environmental organization should make the initial contact to the landowner. Some said this would simplify the process and eliminate the guesswork of the landowner.

Contact the landowners and let them know we have a program here and you know, call him up and say, 'here's our program and here's what we're offering and here's what you gotta do. Would you like to meet?' Take the paperwork out. – Benton County

Objective 3: Perceived Incentives and Disincentives Related to Participating in CE Programs

Following questions about CEs in the general sense and communications preferences, respondents were asked to rate how specific incentives and disincentives would affect their decision to adopt an easement on their land. These incentive and disincentive options were obtained from input from the technical advisory committee as well as the previous research used to guide this study.

Incentives

Survey respondents were asked to rate perceived incentives to participating in an CE program on a scale from 1-5 (1 = not at all important; 5 = extremely important). As seen in Table 5, internal motivators, related to protecting the natural value of the land, were rated higher in overall importance than external motivators, such as reduction in taxes or payments.

Table 5
Perceived Level of Incentives for Adopting CEs

Incentive	*n*	Not at all important (%)	Slightly important (%)	Moderately important (%)	Very important (%)	Extremely important (%)
Protect scenic value	77	1	5	20	24	50
Prevention of land development	77	9	9	14	24	44
Reaching conservation goals	77	5	3	31	33	28
Protection of family legacy property	77	25	9	20	21	25
Working with an accredited NGO	77	4	15	25	34	22
Reduction in state/federal income/estate tax	77	14	25	31	12	18
Technical assistance/advice	77	20	8	32	27	13
Lump sum payment up front	77	27	21	24	16	12

Note. Responses reported on Likert-scale (1 = not at all important; 5 = extremely important.)

As seen in Table 5, half of the respondents (50%) noted *protecting scenic value* as an extremely important incentive for adopting a CE on their property. Receiving a lump sum payment up front was the lowest rated incentivizing factor; only 12% of respondents listed this as an extremely important factor.

Disincentives

Survey respondents were asked to rate how important discouraging factors to participating in an easement program on a scale from 1-5 (1 = not at all important; 5 = extremely important), as shown in Table 6.

Table 6
Perceived Level of Disincentives for Adopting CEs

Disincentive	*n*	Not at all important (%)	Slightly important (%)	Moderately important (%)	Very important (%)	Extremely important (%)
Loss of privacy	77	12	15	13	21	39
Financial obligation	77	8	9	25	28	30
Loss of property rights	77	21	21	11	18	29
Lowered property value	77	28	14	17	14	27
Inadequate compensation	77	14	18	23	20	25
Limiting heirs' decision making	77	17	20	21	20	22
Working with a governmental agency	77	28	15	37	4	16
Complexity of easement processing	77	13	15	33	25	14
Time obligation	77	15	16	37	19	13
Changes in agricultural practices	77	44	13	17	13	13

Note. Responses reported on Likert-scale (1 = not at all important; 5 = extremely important.)

Results in Table 6 show that *loss of privacy* as a disincentive to participating in a CE program was rated as either very important or extremely important by 60% of respondents, and *financial obligation* was rated as either very important or extremely important by 58% of respondents. The disincentive with the least amount of importance to respondents was *changes in agricultural practices*, which was rated as not at all important by nearly half of respondents (44%).

Discussion/Conclusions/Recommendations

Objective 1: Landowners' Perceptions of Easement Programs

During the survey portion of this study, respondents generally reported a high confidence in their understanding of how to define a CE. However, when phone interview participants were asked, *"In your own words, please provide a definition of a CE,"* it became apparent that the participating landowners lacked confidence in their ability to provide an accurate definition.

In addition to participants' lack of understanding of the definition of a CE, nearly every respondent also lacked knowledge of regionally local CE organizations. These conclusions point to the concept that these regionally local CE organizations should increase their awareness-level

communications efforts before emphasizing persuasive messages. According to Azjen's (2005) TPB model, initial accurate perceptions of concepts must first be established in order for the landowners to make clear decisions regarding persuasive messaging.

Additionally, there was a marginal correlation between knowledge of organizations and age, suggesting that CE organizations may benefit from segmenting their target audience so that messaging can be adjusted for younger versus older audiences. Further research needs to be conducted to determine the best methods of audience segmentation, because landowners cannot make informed decisions regarding CE program options if they lack the base-level knowledge to do so (relating to perceived behavioral control, according to Azjen [2005]). In addition, some phone interview participants noted misconceptions about CE programs within their provided definitions. In combination with increasing awareness-level knowledge, regionally local CE organizations should aim to provide clear communications about the CE program options they offer, as well as the typical rules (and flexibilities) associated with them.

When asked about disincentivizing factors, related to objective three, landowners identified *loss of privacy* as a highly disincentivizing factor. This could be attributed to misconceptions held about a CE requiring public access to the land it is associated with, as also seen in previous literature (Drescher, 2014; Hemby et al., 2022). Based on the existing literature (Stroman et al., 2017; Kemink, 2020), landowners' existing attitudes towards conservation are more influential in their decision to adopt CEs than external motivating factors (personal attitudes, according to Azjen [2005]). Landowners surveyed were asked about their general attitude toward conservation efforts, as well as specific questions regarding their perceived incentives and disincentives of adopting CEs. When they were then asked to rate their perceived level of benefit to adopting a CE on their land, the responses were generally positive. There was little to no difference between landowners in the nine targeted counties. This suggested that the landowners surveyed have a positive association toward personal conservation practices. However, this could be biased by the fact that the landowners who responded to the survey, and phone interviews, already possess a higher-than-average opinion on conservation efforts, and therefore are already more internally motivated to adopt CEs than the entire population.

A correlational analysis was also conducted to determine if reasons for landownership had a significant relationship for length of CE preferred. Since no statistically significant correlations were found, it follows that landowners who would be motivated to adopt a CE would not likely be influenced by any specific messaging related to the reasons why they own their land. Within that same correlational analysis, easement conditions (length and proportion of land) were compared with each other. All easement options provided were substantially or very strongly positively correlated with each other. This suggests that if a landowner would consider adopting an easement on their property, they would not be heavily influenced by the program conditions. Of the landowners within this sample, if they already held the internal motivation to adopt a CE, they would do so without the need for additional strong external persuasion.

Objective 2: Landowners' Current and Preferred CE Communications Methods

Survey results related to objective two were heavily supported by responses from the follow-up phone interviews. Previous research suggested that communications from peers and indirect community interactions from locally embedded EO staff are vital for landowners learning about CEs (Drescher, 2014; Hemby et al., 2022; Vizek, 2016). Both survey results and interview responses confirmed that the sampled landowners favored in-person communications

from regionally local CE experts. This sample of landowners reported a lower-than-expected frequency of communications with peers about CEs, which suggests that more effort needs to be placed on building a network between the landowners who already have CEs on their property. This effort to create a visible community of landowners who have adopted CEs could be persuasive for those who are considering CEs. This finding fits well with Azjen's (2005) explanation of subjective social norms and their influences on personal behavioral decisions.

The responses in the phone interviews directly confirmed this finding, as multiple participants said they wished to see an increased community presence of easement organizations. Participants listed in-person tabling at events such as farmer's markets, county fairs, and local events as being particularly desired. Based on the interview responses, interpreted in conjunction with previous literature, it appears that these casual in-person events will boost an organization's credibility and awareness, without the landowner feeling pressured into any decision. Making the initial contact with an in-person interaction also allows the landowner to establish a connection with an individual and begin building a trusting, professional relationship. Based on the findings from Hemby et al. (2022) and Kemink et al. (2020), locally embedded easement organization staff are most effective at providing persuasive communications to landowners. Based on the Kemink et al. (2020) study, information provided to landowners by a technical advisor or by someone in the same social network is more likely to have a positive impact on the likelihood of an individual to adopt a CE. In addition to increased personal communications, landowners also noted a desire for a stronger digital media presence. Among the participants, whose mean age was 55.6, email was a preferred method of communications, and several participants mentioned a preference for radio advertisements, as well as for an improved social media presence.

Objective 3: Landowners' Preferred Easement Program Structures

Survey results found that a majority of respondents rated internal motivators, such as protecting scenic value and preventing the development of land, as more important than external motivators, such as tax reductions or payments, when considering whether or not to participate in a conservation easement program. This suggested that landowners are less motivated by financial incentives than they are protecting the value and beauty of the land. These results may be partially due to the relatively high mean income range of respondents ($70,000 - $79,000); however, Tanguay (2021) and Kemink et al. (2020), also recommend focusing on these internal motivators more intently than financial gain to encourage landowner motivations more toward stewardship ideals.

When asked to rate disincentives to adopting CE programs, respondents rated loss of privacy and financial obligation as the two most disincentivizing factors. The concern about loss of privacy may be a misconception, as many CE programs do not require public access to be granted to the land. It is recommended that this distinction, as well as expectations of monitoring activities, be made clear in messaging to landowners to ease concerns. In addition, messaging specific to privacy and financial benefits should be produced to address landowners' concerns.

Landowners who responded to the survey were overconfident in their ability to define CEs in their survey responses. This was proven by interview responses that showed many landowners lacked the knowledge to understand or, at least, to explain CE programs. This conclusion guided much of the rest of the recommendations, because without an increase in awareness-level knowledge, landowners lack the ability to make informed decisions about the specifics of adopting a CE on their land. In addition, regionally local CE organizations should

increase their personal connections to landowners to build trust and establish a connection. This recommendation is in line with recent literature making similar recommendations based on the power of face-to-face communications with credible sources (Hemby et al., 2022). Based on both previous literature and the results of this study, this is the most effective way to provide persuasive communications regarding CEs.

Additional research should be done to gather results that can be generalized to the entire population of the geographic area surveyed. A similar future study could be done to also assess how landowners' value their children's/heirs' opinions regarding long-term CE commitments. In addition, future studies should focus on changes in communication preferences as a new generation becomes landowners. Finally, this study could serve as a model for future studies in areas outside the Illinois River Watershed, including watersheds throughout Arkansas and Oklahoma.

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