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How Do Nonprofits' Organizational Characteristics Shape Environmental Philanthropy in Texas? A Network Science Approach

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Abstract: In efforts to address the far-reaching effects of climate change and associated impacts in communities, research on environmental philanthropy suggests that more resources are being allocated to environmental societal challenges. However, understandings about which environmental nonprofits benefit from these funding flows is limited. This study integrates resource dependency theory with elitism and pluralism perspectives to analyze a network of environmental nonprofits and their funders in Texas. Resource dependency and a network-analytic approaches share underlying relationality principles, and we connect those dots by conceptualizing the funding dynamics in Texas as a network of funder-grantee relations. Drawing on statewide survey data (n = 114), we use a network analysis technique – exponential random graph modeling (ERGM) – to analyze funding allocations in Texas through the organizational attributes of environmental nonprofits, their funder-grantee relations, and their community context. We specifically observe elitism in funding allocations in Texas, which is evident in network effects (preferential attachment) and the focal areas of environmental work. However, we find limited evidence that age or resources of the nonprofit are predictive of funding and the most influential factor determining a funder-grantee relationship is the natural hazard risk of the community served by the nonprofit. Our findings suggest interconnected funding dynamics of pluralism and elitism in the Texas environmental philanthropy landscape, prompting further discussion about the potential synergies of these patterns and the implications for environmental funding practices.

Keywords: environmental NGOs; foundations; environmental funding; climate change; social network analysis; exponential random graph modeling (ERGM)

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1 Introduction

Climate projections for the state of Texas suggest increasing severe weather conditions, including storm surges, extreme winter temperatures, and an increasing frequency of 100-degree days (Nielsen-Gammon et al. 2020). In lieu of a state-wide climate action or adaptation plan and dedicated resources, Texas-based environmental nonprofits provide critical programs and services to communities working to address climate impacts from local neighborhoods to across the state. Despite their important efforts, the funding dynamics of the environmental nonprofit sector, and particularly those working to address climate impacts, remain largely unexplored. Generally, only about 16 % of civil society scholarship delves into climate and environmental financing matters (Gazley and Prakash 2023), with narrow insights into state/local environmental funding dynamics.

The existing scholarship does suggest a trend of growing financial resources to the environmental sector writ large, though empirically, insights into which specific environmental nonprofits or initiatives benefit from these funding flows are inconclusive. For instance, nationally, support for the environment and animals stands at 3 % of US individual and institutional giving, with an overall growth of resources in the sector of over 50 %, from $7.8 billion in 2011 to $16.32 billion in 2022 (Giving 2022). This influx in resources is attributed to heightened attention and substantial financial commitments from philanthropists and government toward addressing climate-related societal challenges (Desanlis et al. 2021; McCaskill 2022). However, conventional insights about environmental funding often depict a narrative of elitism, wherein grant distributions predominantly favor large, older, mainstream nonprofits and conservation or preservation programs over grassroots initiatives focused on environmental justice or advocacy (Brulle 2000; Dowie 1995; Jenkins et al. 2017). Some scholarship that focuses on the financial capacities of the environmental sector (Straughan and Pollak 2008) suggest imperatives for environmental funding strategies focusing on racial and climate justice (Shrestha et al. 2023), particularly in the Gulf States like Texas (Baptista et al. 2020), yet limited empirical studies contribute towards deciphering the existing environmental funding elitism perspective. California's environmental funding landscape is one of the few context-specific empirical case analysis, where grant distributions align with recipient organizations' focus areas and expertise, reflecting a contrasting pluralism or resource dependency perspective in environmental funding allocations (Delfin and Tang 2007, 2008). However, state-level environmental funding contexts, including those in Texas, remain narrowly studied despite their potential to provide valuable insights into environmental funding allocations. Although Texas's

environmental funding shares some national trends, the state's philanthropic capacities are distinctive. Compared to other states in the Southwest (AZ, AR, CO, NV, NM, and OK), Texas is home to the largest number of foundations (4000), holding over $58.9 billion in assets and distributing about 6 % of the $2.8 billion in philanthropic resources to Texas's environmental and animal sectors (Philanthropy Southwest 2021).

Guided by the research question *which network and organizational traits influence foundation funding for environmental nonprofits in Texas,* our contributions in this study are two-fold. First, we incorporate and integrate three theoretical funding perspectives: resource dependency theory, elitism and pluralism. Part of our goal with this research is to move towards a more integrated theory of philanthropic funding that acknowledges how all three perspectives help explain funding patterns. Resource dependency and a network-analytic approach share underlying relationality principles and we connect those dots by conceptualizing the funding dynamics in Texas as a network of funder-grantee relations. Second, we test a set of pluralism and elitism hypotheses using a statewide survey of nonprofits (n = 114) using exponential random graph modeling, a methodological tool of social network analysis.

Our findings at least partially support insights from the California funding landscape (Delfin and Tang 2007, 2008), suggesting context-specific nuances in environmental funding dynamics at the state/local level that deviate from conventional elitism perspectives. We find limited evidence that age or resources of the nonprofit are predictive of funding, and we also observe that those nonprofits in the "community" category are receiving the second highest grants per nonprofit on average (3.75 per organization). However, we also find evidence that environmental conservation causes, such as land preservation, water conservation, and ecosystem services, are the areas most frequently funded (approximately 60 % of grants given in our dataset). Organizations focused on land conservation and preservation are receiving 4.33 grants per organization. We also find a strong preferential attachment effect meaning new funding ties have a tendency to go to those nonprofits with existing funding ties.

That said, we suggest evidence for a resource dependency/and or pluralistic perspective of environmental funding in which the natural hazard risk of the community served by the nonprofit is the most significant factor influencing funding, indicating that foundations may strategically support nonprofits operating in communities facing prominent environmental challenges. In the subsequent sections of this manuscript, we review theoretical perspectives and outline the hypotheses guiding our study. We then discuss the dataset and the methodology employed via ERGM. In the discussion and conclusion, we discuss how our results contribute to the current empirical understanding of environmental philanthropy.

2 Theory and Hypotheses

Various theories and perspectives have been applied to better understand what factors influence funding allocations in the nonprofit sector. Resource Dependency Theory (RDT) is one particular lens that offers insight into the interdependencies between both, funders and grantees, making it useful for understanding factors influencing funding as a reciprocal relationship.

At its core, RDT suggests that an organization's survival depends on its ability to navigate an uncertain revenue environment and secure funding to advance its missions (Pfeffer and Leong 1977). In this context, if a funder and grantee share a common goal, the latter will seek to advance their purpose by providing services (i.e. disseminating information, building expertise or technologies to address a community need), whereas the former will fund such services or programs. RDT emphasizes that in this reciprocal funding relationships, resources are competitively shaped by these dependencies as well external unpredictable environments; therefore, organizations will build, adapt, or foster relationships to secure funding and advance their goals (Pfeffer and Leong 1977). As a result, power dynamics will inevitably manifest, whether it be in the degree of dependencies or in the control over critical resources.

RDT has been useful for understanding interorganizational linkages and relationships in funding allocations for nonprofits, particularly for navigating complex policy domains (Paarlberg, Moulick, and Puyvelde 2017; Pfeffer and Leong 1977). This line of theory has prompted analyses of how a nonprofit's position within a network of organizations connected through overlapping board members affects its ability to acquire competitively awarded funding (Esparza and Jeon 2013; Faulk et al. 2016; Provan et al. 2009). In United Way allocations to grantees, the first stage is screening, in which organizations' legitimacy, mission, and financial performance are preliminary determinants of partnership in the UW system. In the second stage, UWs incentivize existing grantees with high legitimacy to stay in the system through larger allocation share. However, RDT and its interrelational lens have yet to be extended to environmental funding.

Funding patterns in the environmental sector predominately draw on two contrasting perspectives: elitism and pluralism, offering two angles to understand environmental funding. First, environmental funding patterns have been described as a means to maintain existing power structures, favoring economically and socially established nonprofits (elitism) (Jenkins et al. 2017; McCarthy 2004; Taylor and Blondell 2023). National quantitative studies, supported by mean tests, suggest that mainstream environmental discourses receive more foundation patronage, aligning with elitism theory (Brulle 2000; Jenkins et al. 2017). Qualitative studies and network

analyses corroborate elitist discourses, in emphasizing that foundations prioritize funding for mainstream initiatives and disproportionately favor mainstream environmental nonprofits in various contexts (Ardoin and Bowers 2012; Botetzagias and Koutiva 2014; Carroll, Graham, and Shakespear 2021). On the other hand, it is also the case that studies focusing on the state of California present a different narrative, where foundation funding aligns more with pluralist discourses. That is, funding is described as response to identified needs by grantees, hence, nonprofit organizational traits, such as being younger, having a lower membership base, and engaging in local-level issues, become more relevant for foundation funding (Delfin and Tang 2007, 2008).

Echoing the RDT perspective, and acknowledging existing elitism and pluralism perspectives of environmental funding, in this study we posit that since environmental nonprofits develop relationships based on resource interdependence, this may contribute to both elitism and pluralism in grantee-funder patterns. That is, when organizations compete for funding, resources may concentrate among a select group of organization otherwise known as (elitism). On the other hand, since RDT also acknowledges the role of an uncertain and competitive environment in shaping funding allocations, we may also expect adaptive funding response to diverse needs and risks of communities (pluralism). Taking these cues from RDT and drawing on existing literature on nonprofit funding allocations, we address three funding factors shaping environmental funding allocations in Texas – nonprofit attributes, funder-grantee relations, and community context.

2.1 Nonprofit Attributes

Since many funders rely on observable proxies of nonprofit organizational attributes signifying quality or reputation to make funding decisions, current understandings of environmental funding associate several nonprofit organizational attributes with funding outcomes. For instance, in the environmental funding landscape, funding tends to favor older nonprofits, mainly located on the northeastern seaboard, emphasizing preservation, conservation, and reform environmentalism (Ardoin and Bowers 2012; Brulle 2000; Jenkins et al. 2017). Other studies in funding allocations have also emphasized nonprofit attributes, particularly those denoting social legitimacy, reputation, and status, as important considerations in decision-making processes for funding (Leardini, Rossi, and Landi 2020; McGinnis Johnson 2016; Weisbrod and Dominguez 1986).

Hypothesis 1. Grounded in this literature, we expect elitism to reflect in our network analysis of environmental nonprofits in Texas, particularly in organizational attributes denoting legitimacy, reputation, and status, such as a nonprofits' budget size and age, to be positively associated (+) with an environmental nonprofit receiving foundation funding.

2.2 Funder-Grantee Relations

We also expect this elitism to reflect in the network configurations of Texas nonprofits and funders. Drawing on resource dependency theory, we recognize the importance of power dynamics between grantmakers and grantees and the impact of social connections and resources in facilitating these funding relationships (Paarlberg, Moulick, and Puyvelde 2017; Pfeffer and Leong 1977). Nonprofit networks enable these interconnections that funders and grantees hinge on. On the one hand, nonprofit networks aid funders in identifying potential grantees, especially in funding landscapes characterized by ambiguous goals and challenges in performance evaluations (Galaskiewicz, Bielefeld, and Dowell 2006; Galaskiewicz and Wasserman 1989; Grønbjerg, Martell, and Paarlberg 2000). For nonprofits, their positionality within a network or the interconnectedness of overlapping board members impacts their ability to acquire funding (Esparza and Jeon 2013; Faulk et al. 2016; Provan et al. 2009). Network analyses of major grants in the Canadian environmental landscape suggest that funding favors conservationist nonprofits, even in a bifurcated network (Carroll, Graham, and Shakespear 2020, 2021). While network analyses of environmental nonprofits in the US are yet to be thoroughly explored, we anticipate parallel elitism network dynamics among Texas-based environmental nonprofits and their funders.

Hypothesis 2: We expect a preferential attachment effect, (+) indicating that "the rich get richer" where new funding-grantee ties are more likely to go to environmental nonprofits with existing ties.

2.3 Community Context

While a nonprofit's organizational and network attributes are important considerations in funding processes, community context is also an important factor.

In California's environmental funding landscape, although higher grant amounts favored some elite or mainstream national nonprofits, funding was generally dispersed to different recipients, geographic domains, activities, and subjects, suggesting a pluralistic or resource-dependency approach to state/local environmental funding (Delfin and Tang 2007, 2008).

Hypothesis 3: Building on this literature, we expect environmental funding patterns in Texas to align with the context of the communities in which nonprofits provide services; as such, the environmental risk where nonprofits serve and the proximity of the foundation to these communities will be positively associated (+) with an environmental nonprofit receiving foundation funding.

While prevailing perspectives suggest elitism in environmental funding patterns, the limited studies with deviating insights at the local or state level prompt us to explore whether foundation funding for environmental nonprofits is context-specific and to what extent or how elitism reflects in funding allocations. Anchored in existing literature, we posit that funder-grantee relations, nonprofit attributes, and community context collectively impact the likelihood of receiving funding from a philanthropic foundation, observable through network characteristics.

3 Methods

3.1 Dataset

To test our hypotheses, this study draws on survey data from a statewide sample of environmental nonprofits compiled from two sources: (1) National Center of Charitable Statistics and (2) the Internal Revenue Service 990 e-files hosted on Amazon Web Services (https://registry.opendata.aws/irs990/). We employed a two-step process to identify environmentally focused nonprofits in the state. First, using the National Taxonomy of Exempt Entities (NTEE codes), nonprofits working on "environment" were selected for this study. However, NTEE codes can miss nonprofits doing associated or intersecting work; therefore, we used a machine learning algorithm to identify additional nonprofits with programs focused on the environment, climate, and community resilience (Ma 2021). Our additional search also looked for nonprofits with an equity focus, and we included those in the sample population. We then filtered the sample to nonprofit organizations with identifiable and valid email addresses. A first round of survey invitations went to those identified through the NTEE and machine learning process. Appendix Table A summarizes the original NTEE codes for the sampled nonprofits.

We asked respondents of this survey to name other nonprofits with whom they work on environmental issues, thus creating a snowball of additional organizations that we also invited to participate in a second round of the survey. In total, we invited 597 environmental nonprofits across Texas to participate in this survey. A total of (n = 192) unique environmental nonprofit organizations participated in the survey, with a response rate of 33 %. Response rates between 30 % and 35 % are typical of web-based surveys (Wu, Zhao, and Fils-Aime 2022).

In one part of the survey, we asked respondents to identify up to five funders that financially support their organization. In total (211) unique funders were identified. These funders included a combination of philanthropic foundations, government agencies, corporate/private entities, individual donors, grant-making charities (not identified as foundations), and other funding sources like donor-advised or memorial funds. Forty-four of the 192 nonprofits report receiving funding from 58 foundations (31 % of all funders identified). Examples include Cynthia and George Mitchell Foundation, Meadows Foundation, Jacob and Terese Hershey Foundation, and Michael and Susan Dell Foundation. Funding from government agencies includes, for example, the Texas Department of Agriculture, Environmental Protection Agency, City of Fredericksburg, and Texas Parks and Wildlife Department). Government constitutes 20 % of identified funders, followed by corporate entities (16 %), including HEB, Snooze AM Eatery, and CEMEX. The analysis for this study draws on the subset of nonprofits and the foundations they named as financial supporters (N = 102 with 44 nonprofits and 58 foundations). Table 1 describes the nonprofits and the foundations in the sample.

Survey respondents self-reported the traits of their environmental nonprofit organization (year founded, assets, and the counties they served). We confirmed these financial traits via the nonprofit's 990 Tax Form. The difference between the present year and the year founded is used as a variable for the age of the nonprofit. A nonprofit's assets were reported according to six groups: under $200K, $200K-$500K, $500K-$2M, $2M-$5M, $5M-$10M, $10M-$25M, and over $25M. We coded each nonprofit based on the county it is located in and the counties it serves. We aggregated counties into Metropolitan Statistical Areas. To align with the focus of the environmental nonprofit sector, we added a variable to the dataset to represent community context related to environmental hazards or climate change needs, the "natural hazard risk" of the county, or counties served based on the National Risk Index from FEMA. The risk index assesses a county's risk for natural hazards, social vulnerability, and community resilience (National Risk Index 2023).

For all foundations referenced by nonprofits as funders of their work, organizational trait data was also collected using Candid.org. The asset size for foundations is a categorical variable based on the distribution of our sample and grouped as follows: under $10,000,000; 10,000,000-$100,000,000; $100,000,000-$900,000,000;

Table 1: Organizational characteristics of sample.

	Nonprofits	Foundations
Total	44	58
Grants (mean (SD))	received	given
	2.57 (1.42)	1.97 (2.48 %)
Budget/assets code (%)		
1	6 (13.6 %)	17 (29.3 %)
2	9 (20.5 %)	20 (34.5 %)
3	14 (31.8 %)	12 (20.7 %)
4	3 (6.8 %)	9 (15.5 %)
5	9 (20.5 %)	0 (0.0 %)
6	1 (2.3 %)	0 (0.0 %)
7	2 (4.5 %)	0 (0.0 %)
Age (mean (SD%))	23.32 (18.00)	35.16 (22.55)
Metro statistical area (%)		
Amarillo MSA	1 (2.3 %)	3 (5.2 %)
Austin MSA	25 (56.8 %)	13 (22.4 %)
Brian MSA	0 (0.0 %)	1 (1.7 %)
Dallas-Fort Worth MSA	3 (6.8 %)	4 (6.9 %)
El Paso MSA	2 (4.5 %)	0 (0.0 %)
Houston MSA	7 (15.9 %)	12 (20.7 %)
Midland MSA	1 (2.3 %)	5 (8.6 %)
Out of Texas	0 (0.0 %)	16 (27.6 %)
San Antonio MSA	5 (11.4 %)	4 (6.9 %)
Reported primary focus (%)		
Community	4 (9.1 %)	–
Conservation/preservation	3 (6.8 %)	–
Ecosystem services	13 (29.5 %)	–
Education	6 (13.6 %)	–
Energy	3 (6.8 %)	–
Food systems	3 (6.8 %)	–
Water	12 (27.3 %)	–

greater than $900,000,000. The operating headquarters of the foundation is also coded as external or Texas-based to differentiate Texas and non-Texas-based funders. Since foundations may have several social priorities in their funding strategies, a focus is only available for nonprofits.

3.2 Approach

Network analyses can be understood through two lenses, *descriptive* or *explicit,* with different levels of analysis (Scott and Ulibarri 2019). Descriptive studies seek to discern characterizations of networks in aggregate structural features (e.g. what organizations are central in a network or the network's density); in contrast, this study focuses on explicit network analysis to draw inferences about what factors influence specific tie arrangements within a network (e.g. what is the likelihood that the tie to a funder is likely due to chance) (Bixler et al. 2020).

Using ERGM as an inferential network analysis technique, we estimate the effects of organizational traits and network characteristics of Texas-based environmental nonprofits (assets, age, geographic domain, and network positions) associated with the likelihood of receiving foundation funding. The network approach utilized here is novel and necessary to study these dynamics, as standard statistical approaches assume that observations are independent of one another. In contrast, a network model assumes that observations on one actor may be associated with another through network connections (Robins, Lewis, and Wang 2012). With this approach, we examine funding patterns between environmental foundations and nonprofits through a network lens rather than assuming observations of funding patterns are independent as assumed in linear regression models.

In ERGMs, parameters in the models relate to either organizational attributes or network configurations, and coefficients represent the change in the (log-odds) likelihood of a tie for a unit change in a predictor (Bixler et al. 2020; Lusher, Koskinen, and Robins 2012). Much like logistic regression, however, without the assumption of independence in observations. In this case, our ERG modeling identifies the organizational attributes that have a predictive attribute to foundation funding (e.g. whether nonprofits with larger assets, older or working in counties with high environmental risks, are more likely to have a tie to foundation funding- and by how much).

4 Results

Figure 1 shows the network of foundation funders and Texas-based nonprofits in this study. The visualization depicts a network of mostly private foundations and a few other community or corporate foundations. The network comprises one giant cluster and 13 other isolated clusters of environmental nonprofits and their foundation funding partners (Figure 1).

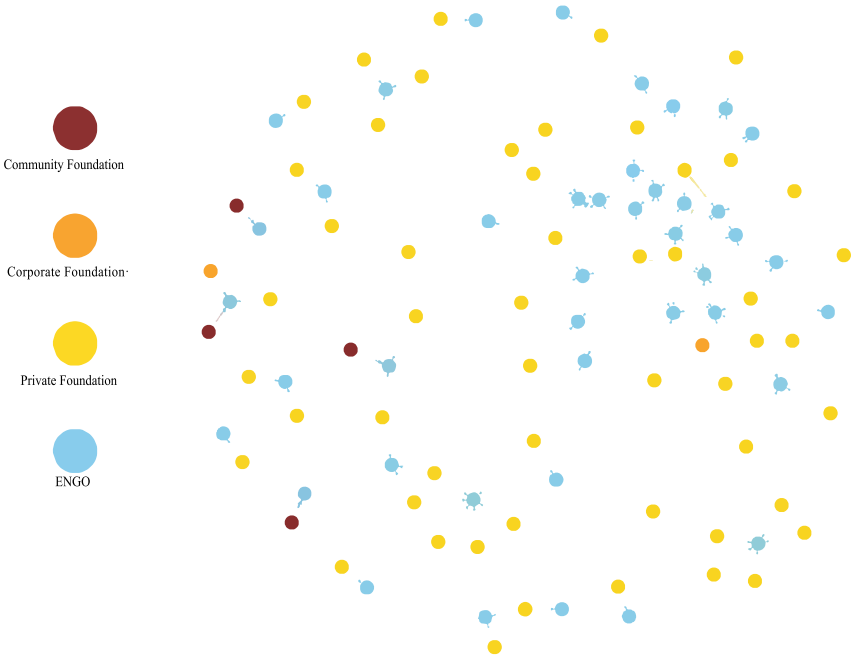

Figure 1: Network of environmental nonprofits and philanthropic funders in Texas.

The *explicit* network analysis adds additional context to this network. Our ERG model demonstrates the importance of the structural configuration in analyses of funding patterns (Table 2 below). For instance, we observe a significant and negative effect for popularity or preferential attachment (–2.76, $p < 0.0001$). The negative coefficient suggests an inverse relationship between environmental nonprofits and their foundation funders. That is, the probability of a tie or connection is less likely to form with nonprofits already receiving foundation grants from similar funders. When converting the log-odds coefficient to probability, we see that the effect is (1.8 %). This explains the connectedness or clustering of certain environmental nonprofits and the isolation of others.

We find no effect of the resource levels, of either the nonprofit or the foundation, being predictive of the funding tie (nonsignificant effects for our two "resources" parameters). However, we find that the natural hazard risk of communities served by nonprofits is important (0.38, $p > 0.05$). For every increase on the risk index scaled 1–5, we see a 55 % increase in the likelihood of a foundation grant to a nonprofit. In our model, the nonprofit's age or geographic proximity are not significant variables in predicting funding ties in this network.

Table 2: Exponential random graph model for network of Texas environmental nonprofits and funders.

	Model 1
Edge	−3.37* (0.76)
Preferential attachment	−2.76*** (0.45)
Geographic proximity	0.17 (0.25)
Risk Index (of nonprofit service area)	0.38* (0.17)
Resources (of nonprofit)	−0.09 (0.06)
Resources (of foundation)	−0.13 (0.07)
Age	0.00 (0.00)
Age (diff)	0.00 (0.01)
AIC	−3081.73
BIC	−2994.85
Log.Lik.	1552.86

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

When examining the patterns of foundation grant giving based on the reported "primary focus" of the nonprofits. We find that organizations focused on ecosystem services and water were the most represented type of nonprofits in the Texas landscape, thus receiving the most total number of grants (21 and 33, respectively). While only three nonprofits represented conservation/preservation as their primary focus, they had the highest number of foundation grants on average (4.33), followed by those nonprofits focused on community-building issues (3.75) (Table 3).

Table 3: Foundation support according to primary work focus of environmental nonprofits.

Primary focus	Number of nonprofits	Total number of grants	Average number within focus area	Standard deviation	Min	Max
Water	12	33	2.75	1.4	1	5
Ecosystem services	12	21	1.75	1.06	1	4
Education	6	16	2.67	0.82	2	4
Community	4	15	3.75	2.22	1	5
Conservation/ preservation	3	13	4.33	1.15	3	5
Energy	3	9	3	1	2	4
Food systems	3	6	2	0	2	2

This network analysis suggests that elitism in environmental funding is evident not in the organizational attributes of supported environmental nonprofits but rather in the preferential attachments of funding allocations. Unlike traditional perspectives associating elitism with older environmental nonprofits with substantial fiscal capacities, our findings suggest that network attributes play a crucial role. Environmental nonprofits tend to refrain from forming ties with the same funders as their peers, indicating a level of competition or strategic diversification in securing foundation support within their networks. Moreover, our analysis underscores the significance of the environmental hazard risk of a community in influencing funding allocations. Foundations appear to strategically allocate resources to address a spectrum of environmental challenges, emphasizing specific sectors while considering communities facing pressing climate hazards.

5 Discussion

Environmental funding patterns in Texas are more complex and nuanced than insights provided from perspectives of elitism (Brulle 2000; Dowie 1995; Jenkins et al. 2017). In line with the California environmental funding landscape (Delfin and Tang 2007, 2008), Texas-based environmental funding patterns reflect a blend of competitive dynamics among environmental nonprofits seeking foundation support and strategic resource allocations by foundations based on community-level environmental risks.

While we observe ENPOs to avoid overlapping funders with their peers, and foundation grants concentrate on organizations focusing on ecosystem services and conservation, organizational attributes like financial capacity or organizational age play a minimal role in shaping funding distributions relative to the environmental risks faced by the communities environmental nonprofits serve. These insights, rather than definitive, prompt further inquiry about the implications of this funding landscape for funders and environmental nonprofit professionals. For example, the clustering of funding and preferential attachment among certain ENPOs (Figure 1) raises questions about whether these network patterns are a reflection of coalition-building, hence reducing competition, or inadvertently marginalize under-resourced organizations that lacking such connections to funders.

Furthermore, the funding of ecosystem services and conservation over other climate challenges, merits further analysis to decipher strategies that promote equitable collaboration among ENPOs, and ensure comprehensive coverage of environmental challenges across diverse communities and focus areas.

6 Conclusions

Rather than reaching conclusive insights, this study analyses environmental funding dynamics at the state and local levels pointing to complexities that merit further investigation to foster collaboration and equity within the environmental nonprofit sector. For funders, this research raises critical questions about the intended and unintended outcomes of funding patterns and strategies. How can funding practices be optimized to encourage synergy among ENPOSs with diverse funding patterns and that these nonprofits collectively address a broad spectrum of challenges without leaving some communities or climate matters underserved?

Furthermore, in recognizing the relational nature of funding networks through ERGM analysis, this study is a starting point for further research to continue analyzing the interconnected dynamics shaping environmental funding. The observed preferential attachment effect among nonprofits sharing funders is one example emphasizing more understanding about whether some of these network funding relationships are reflections of coalition-building or exacerbate competition within the sector. The ERGM framework offers valuable insights into these dynamics, contributing to a more nuanced understanding of environmental funding patterns and their implications for practice and policy.

7 Limitations

Broad generalizations from this study are limited due to the context of environmental nonprofit funding in Texas and the limitations due to our sample size. Survey-based methods are utilized to understand funding patterns but only 44 nonprofits that receive foundation funding (roughly one-third of our total sample), which is likely not representative of the total population of environmental nonprofits receiving foundation funding in Texas. However, our network-based approach offers a novel empirical framework for understanding funding trends, which may be transferable to broader nonprofit and funder relations studies.

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Appendix

IRS Assigned NTEE Code	Number of organizations	Proportion
C: Environmental Quality Protection and Beautification	305.0	43.57 %
S: Community Improvement Capacity Building	67.0	9.57 %
D: Animal-Related	67.0	9.57 %
T: Philanthropy, Voluntarism & Grantmaking Foundations	56.0	8.0 %
N: Recreation & Sports	53.0	7.57 %
A: Arts, Culture & Humanities	22.0	3.14 %
P: Human Services	21.0	3.0 %
B: Education	20.0	2.86 %
W: Public & Societal Benefit	13.0	1.86 %
L: Housing & Shelter	11.0	1.57 %
K: Food, Agriculture & Nutrition	10.0	1.43 %
U: Science & Technology	9.0	1.29 %
X: Religion-Related	8.0	1.14 %
Q: International, Foreign Affairs & National Security	8.0	1.14 %
E: Health Care	6.0	0.86 %
M: Public Safety, Disaster Preparedness & Relief	6.0	0.86 %
O: Youth Development	5.0	0.71 %
J: Employment	3.0	0.43 %
G: Voluntary Health Associations & Medical Disciplines	3.0	0.43 %
R: Civil Rights, Social Action & Advocacy	2.0	0.29 %
Other (Y,Z,F,V,I)	5.0	0.70 %
Total_TX	700.0	1.0

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