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Public Support for Environmental Aid: Evidence from a Conjoint Experiment in India

Elena V. McLean
SUNY Buffalo

Taehee Whang
Yonsei University

Joonseok Yang
Yonsei University

Abstract

Recent scholarship on foreign aid has come to recognize the importance of recipient countries' citizens and their preferences. This is particularly relevant for environmental aid, which has grown substantially as an instrument to address global environmental challenges while producing both local and global benefits. Recipient country residents experience environmental project outcomes directly and form opinions regarding these aid initiatives. We argue that these opinions reflect the extent to which domestic actors are involved throughout the lifecycle of environmental aid projects. Given that local participation can vary across project stages, we identify the most visible and salient steps of aid projects and link them to public support. To test our expectations, we use a realistic environmental project scenario to design a conjoint experiment exposing respondents to variation in local involvement at each stage. Our results suggest that when environmental project initiation and design stages respond to local needs and concerns – particularly when projects combine local and global environmental benefits rather than targeting only global problems – public support increases. Citizens also prefer co-financing arrangements where their government contributes to project costs. In contrast, we do not find evidence of a similar effect at the implementation stage of environmental projects.

***JEL Codes**: F34, G15, H63, H81, K12*

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Author Information

Elena V. McLean
SUNY Buffalo

Taehee Whang
Yonsei University

Joonseok Yang
Yonsei University

1 Introduction

How do recipient countries' citizens view environmental aid? More specifically, when do they support environmental projects funded by aid donors? Providing answers to these questions has both theoretical and policy significance. Environmental aid has become an increasingly important instrument for tackling pressing environmental challenges, and its volume has grown notably over time (Hicks et al., 2008).[1] Furthermore, environmental aid represents international efforts to provide a global public good – a safe and sustainable natural environment, including clean water, a stable climate, and resilient biodiversity. Collaboration challenges can lead to the underprovision of such public goods, especially when the resulting benefits are widely distributed across many countries. This differentiates environmental aid from other types of international financial assistance, such as aid for economic development or education, where benefits tend to be mostly concentrated within recipient countries.

Recent developments in environmental aid research have highlighted the complexity of achieving desirable environmental outcomes through foreign assistance. Studies examining countries' capacity to improve environmental conditions demonstrate that aid effectiveness significantly depends on the similarity of governance systems between donors and recipients. Such alignment enhances trust between the two sides and reduces implementation frictions (Pinar, 2025). In addition, research on aid targeting shows that foreign energy aid – when not effectively targeted toward clean energy – can exacerbate environmental degradation (Mahalik et al., 2021). These findings not only point to the role of aid in improving environmental quality, but also underscore the importance of project design and implementation arrangements.

Recognizing environmental aid as an economic instrument to facilitate international cooperation, a small but growing body of research analyzes the allocation and outcomes of this type of assistance (e.g., Buntaine and Parks, 2013; Alcañiz and Giraudy, 2022). However, environmental aid studies are yet to incorporate insights from recent foreign aid research that increasingly focuses on recipient countries and their domestic actors. As Wright and Winters (2010) have pointed out, "we need to

[1]For instance, the 2022 report prepared by the UNFCCC Standing Committee shows that total flows of climate finance increased by 12 percent between 2017–18 and 2019–20 (https://unfccc.int/documents/619173).

think through the political processes that shape how aid is used in recipient countries and examine how foreign aid shapes recipient leaders' incentives" to pursue policies to achieve socially desired objectives (Wright and Winters, 2010: p. 62). Our study builds on this insight by combining the focus on environmental aid and the recipient-country perspective as we seek to understand aid politics in the area of environmental protection.

Specifically, we investigate when environmental projects attract greater support from the recipient country's public. Local populations are intended (co-)beneficiaries of such projects, which produce a mix of local and global benefits, and can experience significant harms when aid programs suffer from poor design and implementation. This dynamic creates a fundamental tension between local control and external influence that shapes public attitudes toward aid. Since local residents accrue benefits and harms, they form opinions regarding aid projects and their characteristics.

We argue that public support for aid projects in recipient countries should increase when projects reflect local priorities and encourage local participation. Perceptions of the recipient country's public regarding local-level project involvement have direct implications for our understanding of aid outcomes and for policymaking in this area of international cooperation. Active participation of recipient citizens and other domestic-level actors (including subnational governments, NGOs, and community groups) in the entire lifecycle of the aid project shapes public opinion and support for aid-funded environmental measures. Our approach is novel in that we relax the unitary approach to aid projects implicitly adopted in existing aid studies: i.e., we do not view aid projects as one-shot activities. Considering different project stages allows us to assess variation in local involvement over the entire duration of the project.

Our analysis focuses on three stages of an aid project: identification, design, and implementation. The lifecycle of a typical aid project funded by an international development agency informs this categorization.[2] The three project stages include the most visible and salient elements of aid projects: project initiation; the choice of project targets and scale; the division of project costs; project execution; and monitoring of project activities. We seek to identify a mechanism that fosters a sense of alignment between local preferences and project activities among recipient country

[2]See, for instance, the description of project stages provided by the World Bank: https://projects.worldbank.org/en/projects-operations/products-and-services/brief/projectcycle.

residents by examining conditions under which individuals care enough about an aid project to form opinions on its specific elements.

To test our hypotheses, we use a conjoint experiment, which exposes our respondents to variations along the three project stages. The experimental approach helps us overcome challenges associated with the multidimensional nature of aid projects (Doherty et al., 2020). We expect project attributes across different phases to have a significant influence on public attitudes. Unlike traditional vignette experiments, a conjoint design is suitable for investigation of causal effects of multiple factors on respondents' multidimensional policy preferences (Horiuchi, Smith, and Yamamoto, 2018).

Our analysis yields evidence of the connection between aid project design and respondents' support. When project stages reflected local preferences and gave control to local actors, individuals were more likely to express support. At the project initiation stage, both the initiator and target influenced public support. Respondents were less supportive of projects initiated by donor governments compared to recipient governments and NGOs, but support increased when projects included both global and local environmental benefits rather than targeting only global problems. The project design stage showed that public support increased when projects promised benefits to more villages within the same state, but respondents became more skeptical when benefits extended across multiple states, suggesting preference for localized project scale. Individuals also prefer their government to cover some share of project costs rather than rely entirely on foreign aid, indicating they favor local control through economic stake in activities. Finally, implementation stage results offer no evidence that execution and monitoring arrangements matter for public support. Overall, our findings point to the important role that project design aspects play in shaping public support for environmental aid.

2 Theory of Public Support for Environmental Aid Projects: The Local Involvement Mechanism

When do recipient countries' citizens support environmental aid projects? This question matters for both theoretical and policy reasons. Environmental aid presents unique challenges as it seeks to provide both local and global public goods. When donors provide project aid, compliance requires

governments to make adjustments consistent with aid agreement terms, which can be costly for recipient countries over time. Such policy adjustments – like reducing fuel subsidies to mitigate carbon emissions – may initially be tolerable but can become politically unsustainable if they impose substantial long-term costs on households. Public protests may incentivize governments to abandon environmental policies and return to previous practices. Therefore, compliance with environmental aid agreements may become less likely after implementation periods end, endangering the long-term sustainability of environmental outcomes.

We argue that environmental aid projects garner greater public support when various aspects of the project increase local representation and involvement throughout the entire lifecycle of these projects. Local participation contributes to the perception that "recipients drive the process," encompassing planning, design, implementation, monitoring, and evaluation (Helleiner and Tomlinson, 2000). This suggests that an environmental aid project should not be viewed as a one-shot activity and local participation can vary noticeably across projects' multiple stages. Recent scholarship has highlighted additional complexities in environmental aid delivery and project implementation. Pinar (2025) demonstrates that donor-recipient institutional proximity significantly affects green aid outcomes, while research on aid coordination reveals that fragmentation undermines project effectiveness (Mahalik et al., 2021; Gehring et al., 2017). These findings emphasize the importance of understanding how recipient country perspectives and project design choices interact to shape support for environmental aid. We elaborate on a theoretical mechanism below using three main stages of aid projects, i.e., project identification, project design, and project implementation.

At the initial stage of project identification, the source of an environmental project's inception plays an important role. Environmental projects conceptualized within the recipient country are more likely to be rooted in genuine local environmental needs and preferences. If the project addresses problems the local population perceives as pressing – deforestation, water pollution, or soil degradation – and builds on solutions with local inputs, it receives significant public support. The best solutions for local environmental issues arise from deep understanding of these issues. Hence, when environmental aid projects address both local and global environmental problems, they resonate more with recipient country residents. For example, in a rural African region, an

internationally designed water conservation project lacked local input, potentially leading to inappropriate irrigation systems or ignored traditional practices. In contrast, a rainwater harvesting system for drought adaptation, developed in consultation with local elders and farmers who understood seasonal patterns, was more effective due to its alignment with local environmental knowledge and conditions (Easterly, 2006).

When an environmental project reaches the project design stage, two distinct dimensions can shape public opinion: project scale and shared investment. First, the scale of an environmental aid project matters because broadening the scope of environmental activities to address ecological needs across multiple communities increases its visibility and impact. It produces the impression of widespread environmental efforts, enhancing its perceived utility. An environmental project that can improve more ecosystems and communities should garner more public support as more people see its environmental benefits directly or indirectly. For example, in a reforestation program in India, a project targeting multiple districts with tree species selected based on local ecosystems and community needs gains more support than one limited to a single district (Mansuri and Rao, 2013).

The second aspect of the design stage hinges on the local government's financial participation in the environmental aid project. When a recipient country contributes its own resources to environmental protection and shares the investment in ecological improvements, this contribution demonstrates a shared commitment and a stake in the environmental outcome. The public's knowledge of co-financing can create a sense of local control and pride in environmental stewardship. Government co-financing also fosters trust in the environmental project as country residents may perceive it as a genuine partnership for sustainability rather than an external environmental intervention. For example, previous research provides evidence that a renewable energy project co-financed by the local government in a Southeast Asian country has been able to enhance trust and produce more sustainable environmental outcomes than one solely funded by foreign donors (Moss, Pettersson, and Van de Walle, 2006).

Finally, at the third stage of the project lifecycle, we focus on implementation and monitoring arrangements for environmental projects. More localized implementation ensures better alignment with ecological realities and increases adaptability to changing circumstances. Environmental

projects responding to local conditions gain more public support. Local monitoring provides greater accountability and transparency, giving recipient country populations control over project execution to ensure activities remain true to intended objectives. A conservation initiative in South America illustrates this relationship: a project that trains and employs local environmental monitors outperforms a foreign-led alternative, as the local program can better navigate traditional conservation practices and adapt to ecological challenges, thereby earning higher public trust (Bano, 2012).

In sum, public support for environmental aid projects depends on their representation, adaptability, and inclusion of local environmental needs and preferences alongside global environmental goals. Case studies of projects in different recipient countries indicate that the more an environmental aid project is connected to the community, from its inception to execution, the more support it will gain locally (e.g., Haak and Nakamura, 2021). Ultimately, this insight highlights the importance of project involvement, where citizens not only support but feel responsible for the success and environmental outcomes of aid projects. When the public sense of project alignment with local priorities and preferences grows due to project design choices, we expect the public to express stronger support for such projects.

Hypotheses

Figure 1 displays the three stages of an environmental aid project: i.e., identification, design, and implementation. Projects follow these stages sequentially, and recipient citizens' perceptions of local participation can vary as projects move through different phases. In other words, low levels of local involvement at the initiation stage do not imply that involvement remains low in the subsequent stages. To evaluate our theoretical expectations regarding public support for an environmental aid project, we formulate several testable hypotheses – one for each project dimension, as identified in our theoretical discussion.

The identity of the project initiator is one of the most visible and influential characteristics of an environmental aid project. The initiator can determine which aid donor to turn to and what project conditions to accept in exchange for assistance (Bayer, Marcoux, and Urpelainen, 2014). When an environmental project's origins are local, recipient country residents can anticipate better representation of local preferences and should feel more supportive of such a project. In contrast,

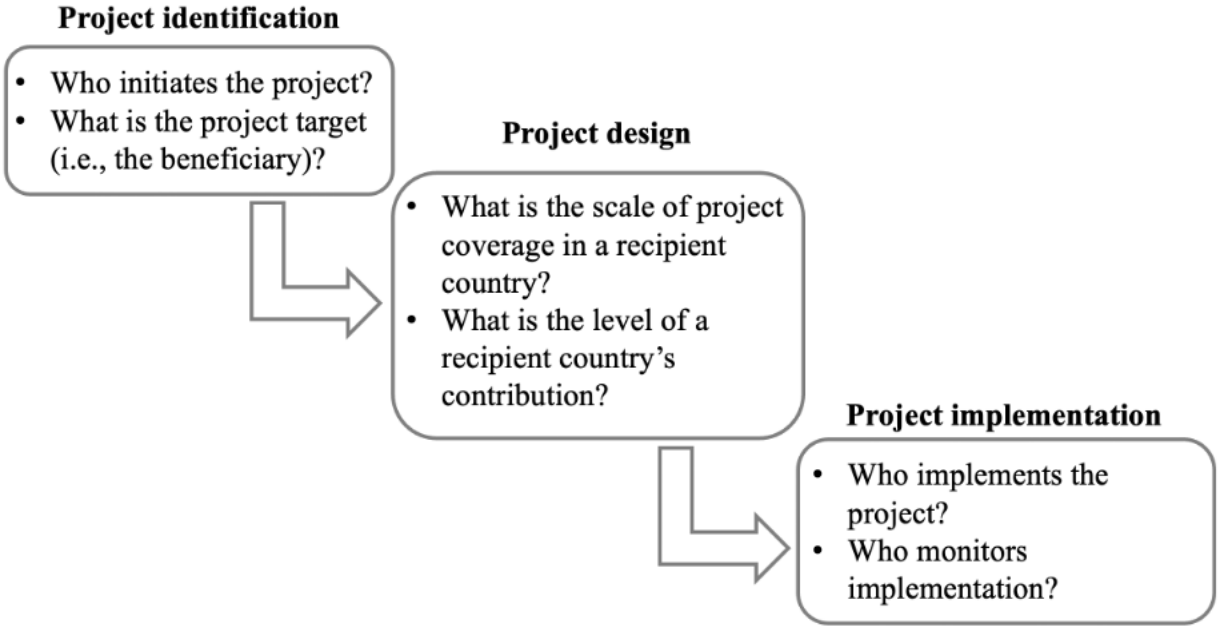

Figure 1: Environmental Aid Project Stages: Identification, Design and Implementation

when a project originates abroad, Findley et al. (2017) show that citizens cannot distinguish between different types of foreign donors, as it is difficult for them to notice which donors are responsible for which projects.

Hypothesis 1 (Initiation Hypothesis)**.** *Environmental project support should increase when the project is initiated within the recipient country.*

The post-materialist framework for explaining public preferences in environmental policy points to the importance of economic welfare (Inglehart, 1997). Subsequent research shows that citizens of developing countries also express significant environmental concerns. Brechin (1999) shows that developing country residents express more concern with localized environmental problems such as water pollution, deforestation, or soil erosion rather than global environmental problems like climate change. Building on this insight, we expect environmental projects targeting both localized and global environmental challenges to enhance perceptions of local involvement and result in greater public support in recipient countries.

Hypothesis 2 (Target Hypothesis)**.** *Environmental project support should increase when the project aims to address localized environmental needs of the recipient country in addition to global environmental goals.*

Research on environmental project effectiveness suggests that project size has a negative relationship with project success (Denizer, Kaufmann, and Kraay, 2011), as larger projects often have more complex structures and execution challenges, especially in countries with lower administrative capacity. However, other studies question this link (Buntaine and Parks, 2013). From recipient country residents' perspective, larger projects distributing benefits more widely could be more attractive, as individuals are more likely to receive benefits when they are geographically dispersed. Conversely, when projects focus on few communities, selection processes may be driven by policymakers' parochial interests, favoring political strongholds or coethnic areas (De Luca et al., 2018). Given these concerns, projects including larger numbers of benefiting locations should increase public support.

Hypothesis 3 (Scale Hypothesis)**.** *Environmental project support should increase when the project aims to address environmental needs of a larger number of communities in the recipient country.*

Control over a greater share of environmental project funding can increase leverage over the project more broadly, especially when it comes to tailoring the project to fit local environmental needs and public preferences. For instance, contribution of a larger share of funding for multilateral environmental projects is associated with the ability to direct distribution of funding at the subnational level (Alcañiz and Giraudy, 2022). Greater control over resources enhances the recipient country's influence over other project dimensions and shapes project outcomes; therefore, we expect public support to be positively correlated with co-financing provided by the recipient government for environmental initiatives.

Hypothesis 4 (Contribution Hypothesis)**.** *Environmental project support should increase when the project receives some co-financing from the recipient country.*

Previous research reports that participation of aid beneficiaries in environmental project implementation increases the likelihood of project success (Isham, Narayan, and Pritchett, 1995; Prokopy,

2005). This can be in part attributed to the beneficiaries' investment in and commitment to environmental projects that are designed to encourage local involvement and incorporate traditional ecological knowledge (Marks and Davis, 2012). We expect environmental project support to increase in response to the choice of more localized implementation.

Hypothesis 5 (Implementation Hypothesis)**.** *Environmental project support should increase when the environmental project is implemented locally in the recipient country.*

Although close environmental project supervision and monitoring improve the likelihood of effective environmental project implementation (Kilby, 2000; Chauvet, Collier, and Duponchel, 2010), staff members of multilateral organizations do not have strong incentives to invest significant time and effort into monitoring environmental outcomes (Weaver, 2008). In contrast, local actors, such as community environmental groups, may care more about project outcomes given their direct exposure to local ecological conditions and hence local groups have more motivation to serve as good-faith project monitors. Recipient country residents, then, should prefer environmental projects with motivated local monitors who understand local ecosystems, all else being equal.

Hypothesis 6 (Monitoring Hypothesis)**.** *Environmental project support should increase when environmental project monitoring is conducted locally in the recipient country.*

3 Research Design

To investigate whether and how project ownership affects public support for an environmental aid project, we conducted a conjoint survey experiment in India in January 2022.[3]

Estimating public attitudes toward an aid project presents a challenge from the perspective of research design since the composition of aid packages is by nature multidimensional (Doherty et al., 2020). We expect different project design dimensions to exert influence on perceptions of project ownership and participation. As Figure 1 demonstrates, explanatory factors operate at three project stages – i.e., project initiation, design, and implementation – in ways that can shift public opinion toward an aid project. Given this complex relationship, a conjoint experiment serves as a uniquely

[3]Human subjects research in this article was reviewed and approved by an Institutional Review Board. The pre-analysis plan for this research can be accessed here: `https://osf.io/ba843/?view_only=9cc357021d2e465599f28d2510bbede9`.

suited instrument for testing our hypotheses. A conjoint experiment design presents respondents with different combinations of attributes and requires the respondents to choose their preferred profile by evaluating several attributes simultaneously. This allows us to test a number of causal hypotheses both independently and interactively (Hainmueller, Hopkins, and Yamamoto, 2014).

We selected India for our study because this country presents an appropriate environment to test our expectations regarding the relationship between three dimensions of project design and public support for aid projects. It is an important aid recipient: the country is one of top 10 largest borrowers from the IBRD in 2025, with the annual commitment of 2.35 billion USD. [4] India also receives notable amounts of environmental aid: for instance, the Global Environment Facility lists India as its top five recipient (Global Environment Facility, 2021: p. 49). This record of aid project implementation in India allows us to craft a realistic scenario for our survey experiment. Moreover, while India's political regime has experienced democratic backsliding over the past few years, the country has a long history of democratic governance, which means that public opinion can influence policy-making. Hence, survey respondents are less likely to be hiding their true opinions due to the fear of punishment if they do not express support for their government's policies. Finally, India offers a well-developed infrastructure for researchers interested in conducting survey experiments.

We recruited 2,578 adults in India through Dynata, an international survey vendor. The sample was constructed to be nationally representative in terms of gender, age, regions, and education. Table A1 in the Appendix presents summary statistics of the basic socio-demographic characteristics of our sample along with the Census averages for each basic attribute. To ensure quality response, Dynata dropped the respondents who finished the survey much faster than the expected duration (i.e., speeders) and those who gave flat-lining or straight-lining answers to grid questions.[5]

Our experiment begins with a short description that India plans to implement an environmental project, titled 'Scale Up of Access to Clean Energy for Rural Productive and Domestic Uses,' which is expected to receive foreign aid with the goal of providing reliable access to decentralized renewable

[4]The World Bank's financial commitments data can be accessed here: `https://www.worldbank.org/en/about/annual-report/world-bank?dropid=ibrd`.

[5]In addition, to further identify and eliminate inattentive respondents, we incorporated built-in manipulation checks. Specifically, participants were instructed not to select any numbers between 0 and 9, and individuals who did so were excluded from the sample.

Attributes and Levels
Attribute: Initiation
- The project was initiated by the Central Government of India.
- The project was initiated by the state governments of India.
- The project was initiated by Indian non-governmental organizations (NGOs).
- The project was initiated by an international organization.
- The project was initiated by a donor government.
Attribute: Target
- The project will provide multiple benefits to individual households: reliable and cost-efficient energy access for un-served and underserved areas; reduced dependence on solid fuels, such as firewood; and better air quality.
- The project will provide a global environmental benefit: reduced greenhouse gas emissions, which are a leading cause of global climate change.
- The project will benefit individual households and the global environment. The project will provide reliable and cost-efficient energy access for un-served and underserved areas; reduced dependence on solid fuels, such as firewood; and better air quality. It will also reduce greenhouse gas emissions, which are a leading cause of global climate change.
Attribute: Scale
- The project will be implemented in a small number of villages.
- The project will be implemented in a large number of villages.
- The project will be implemented across multiple states.
Attribute: Cofinancing
- India will not contribute financially; international donors will cover 100% of project costs.
- India will contribute 25% of project costs, and international donors contribute the rest.
- India will contribute 50% of project costs, and international donors contribute the rest.
- India will contribute 75% of project costs, and international donors contribute the rest.
Attribute: Implementation
- The Central Government of India will be in charge of project implementation.
- The state governments of India will be in charge of project implementation.
- Indian non-governmental organizations (NGOs) will be in charge of project implementation.
Attribute: Monitor
- Project implementation and aid spending will be monitored, verified and publicized by independent auditors.
- Project implementation and aid spending will be monitored, verified and publicized by local community leaders and community groups.
- Project implementation and aid spending will be regularly monitored, verified, and publicized by an international organization.

Table 1: Attributes and Levels in the Conjoint Experiment

energy for rural residents. Then, we present a pair of hypothetical profiles of environmental projects for a total of seven times. Each time respondents are asked to choose a project profile that they favor. We utilize such forced-choice as the main dependent variable in the estimations.[6]

The environmental project profiles consist of six attributes that are closely linked to perceived project ownership and participation, as discussed in the previous section: namely, project initiation; the choice of project targets and scale; the division of project costs; project execution; and monitoring of project activities. Table 1 presents a summary of these attributes and their levels. For each profile we randomly assigned values of each attribute. We also randomized the order of the attributes for each respondent to address potential bias from serial position effects.

The choice of attribute values is based on information from project descriptions available in the GEF database, which provides documentation for thousands of environmental projects funded by the GEF since its inception in 1991. India is one of the top recipients of GEF assistance (second only to China). To date, it has been a recipient of 110 single-country projects, in addition to its participation in regional and global GEF-funded programs.

To capture effects of the project initiator identity, we consider a total of five actors that frequently engage in project initiation – three domestic entities (i.e., the central government; the state government; an Indian NGO) and two international actors (i.e., a donor government or international organization). GEF projects are typically developed through joint efforts by the national government and an international organization that serves as one of the GEF's partner agencies. Currently, 18 IOs serve in this capacity, including regional development banks, the World Bank, and various entities within the UN system.

For the choice of project targets, our survey participants considered environmental projects agreements that aim to provide benefits to individual households, global environment, or both. Environmental projects funded by the GEF have to provide some global environmental benefit due to the GEF's mandate. They also require a justification of proposed work in the context of national objectives and priorities. Nevertheless, the relative importance of global-level and national-level concerns varies substantially across projects, especially given that our primary research focus is

[6]We also included a likert-scale question, i.e., we asked how much a respondent supported or opposed each of the presented project profiles on a 5 point-scale. We find that the main findings remain substantively unchanged.

on contrasting the value of a project for the global environment and tangible household benefits generated by a project.

We also alternate the scale of the project by indicating that the project will be implemented in "a small number of villages," "a large number of villages," or "multiple states." There are two potentially useful approaches to measuring project size: the total amount of GEF funding and the funding modality. The GEF currently offers four modalities: a full-sized project (over $2 million in GEF funding), a medium-sized project (less than $2 million), an enabling activity (typically less than $1 million), and a program (typically larger in scale and funding than a full-sized project because it consists of multiple projects). However, the amount of allocated environmental aid and the modality type may not be the most informative project descriptors for individuals. Also, our primary interest is the geographical distribution of project benefits, which is better reflected in the number of sites chosen for project implementation. Therefore, we chose three options to represent the degree to which environmental benefits will be dispersed across the country: highly localized distribution ("a small number of villages"), wider distribution ("a large number of villages"), and broad cross-state distribution ("multiple states").

For co-financing, we vary the share of the project costs that the Indian government is expected to contribute from 0% to 25% to 50% to 75% of the total. Actual GEF grants cover varying levels of total project costs. For our study, we mimic this distribution by choosing equally spaced out values, starting with the minimum coverage of zero costs (5 projects completed in India did not receive any government contribution). The average completed project received 56% co-financing, with GEF funding constituting 44%. We also specified whether the central government, a state government, or an Indian NGO will implement the proposed aid project. 71% of GEF projects in India identify a ministry of the central government as an executing agency (as the only agency or a partner agency).

Finally, regarding monitoring, we present our respondents with the statement that the project will be monitored by independent auditors, local groups, or an international organization. We deliberately omit the central government or a state government since it could make a proposed aid profile unrealistic when the actor implementing the project is the same as the entity which monitors

it. GEF projects are typically monitored by international organizations that serve as the GEF's agencies, managing projects on the ground. In addition to IO monitoring, projects can involve monitoring from other actors, such as community groups or independent auditors.

To estimate the independent effects of each attribute presented, we derive the average marginal component effect (AMCE) by employing a linear regression model with standard errors clustered by individual respondents.

4 Results

4.1 Main Findings

Figure 2 presents our results graphically using coefficient plots. The dots represent point estimates of the AMCE for each attribute, and horizontal lines show the 95% confidence intervals for the AMCE. Given that AMCE estimates should be interpreted relative to the reference values, in the plots, we mark the reference values with the dot placed at 0 without confidence intervals.

The results reported in Figure 2 are based on the conjoint experiment when using binary choices as our dependent variable. We find evidence that project design choices that allow for local participation and reflect local priorities positively affect public support for environmental projects in the recipient country. First, we find that, at the project identification stage, the identity of the actor initiating the project influences project support, consistent with Hypotheses 1 and 2. In particular, our results show that public support is significantly lower when the initiator is a donor country, compared to the scenario when the central government initiated the environmental project. The point estimate for the "Donor Country" value is negative and statistically significant at the conventional level when the "Central Government" value serves as the baseline category. We do not observe such a negative effect when an international organization or NGO serves as the environmental project initiator. The AMCEs for the IO and NGO options are negative but statistically indistinguishable from 0. The statistically significant negative coefficient for the donor country initiation suggests that recipient country citizens may be wary of donor control at this early project stage, preferring instead that their national government initiates environmental activities.[7]

[7]Notably, all non-government initiators receive lower support than government initiation while donor country initiation is the only non-government option that reaches conventional statistical significance.

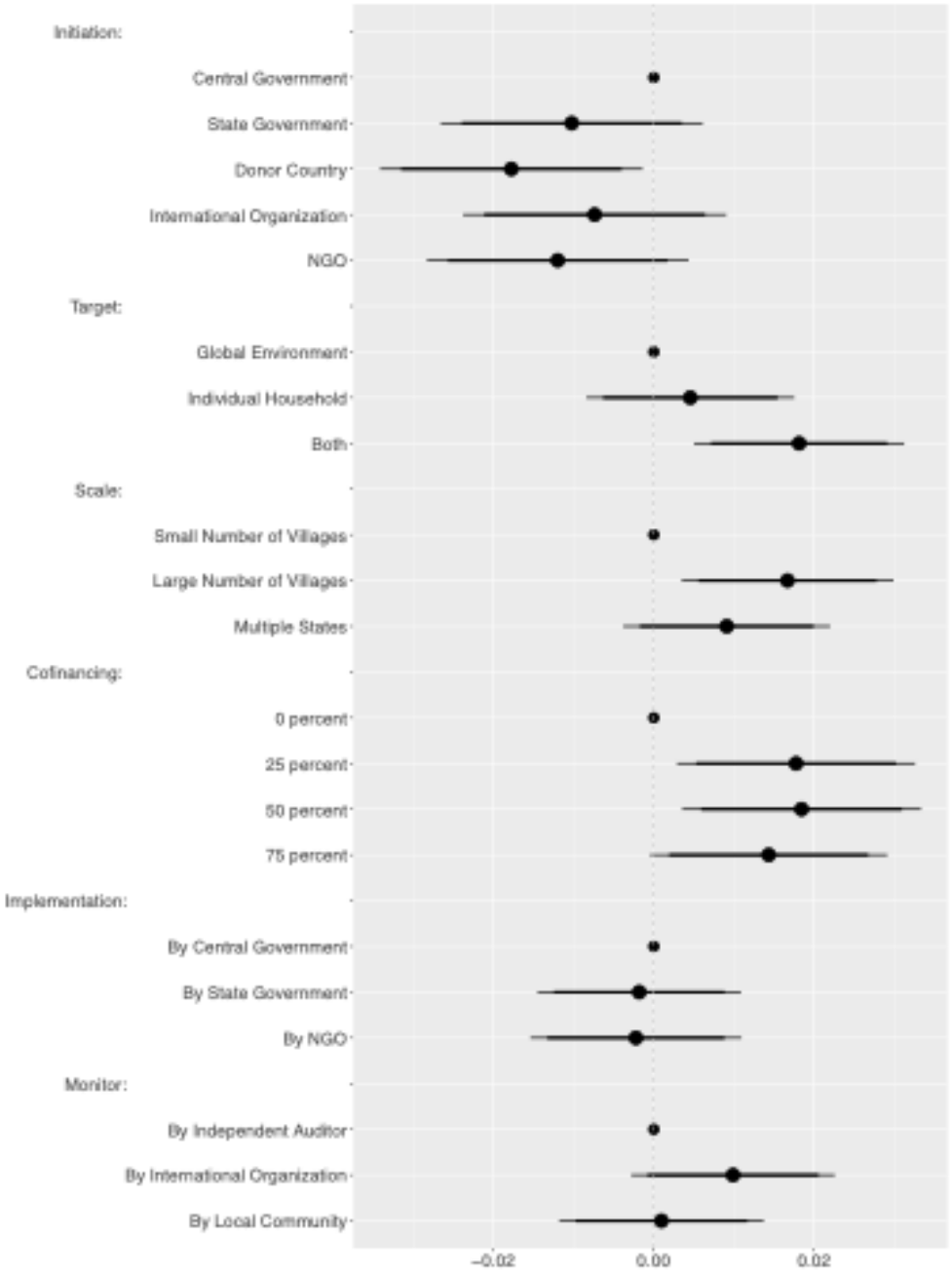

Figure 2: The Estimates of AMCE of Each Project Design Attribute

We also find that individuals respond to the project target choice, which is consistent with our expectations. Public support for the project increases when it aims to provide not only global but also local environmental benefits. This finding is in line with Brechin's 1999 conclusion that people in developing countries tend to place more weight on localized environmental concerns over global environmental problems. At the same time, our respondents do not appear to dismiss global environmental challenges, i.e., there is no statistically significant difference between public support for a project delivering only local environmental benefits and for a project delivering only global environmental benefits. The public favors environmental projects that combine the two.

Second, both project design attributes, *scale* and *co-financing*, shape public support. We find that individuals take the scale of an environmental project into account, but in a more nuanced way than Hypothesis 3 states. Recipient country citizens are more inclined to support an environmental project that provides environmental benefits to a large number of villages than one reaching only a small number of villages. Intriguingly, however, we find that the relationship between scale and public support is not monotonic: public support for a project covering multiple states is not statistically different from support for a project targeting a small number of villages. This suggests an inverse-U shaped relationship between project scale and public support.

Another noteworthy finding is that the public favors scenarios when the central government provides some co-financing for the environmental project, compared to a project without any government contribution. All three levels of government co-financing (25%, 50%, and 75%) show positive and statistically significant coefficients relative to the baseline without co-financing (all $p < 0.01$). However, tests of equality reveal no significant differences among the three co-financing levels ($p > 0.40$ for all pairwise comparisons), suggesting that what matters for environmental projects is the presence of co-financing rather than its specific amount. This result is consistent with Hypothesis 4 and suggests that a recipient country's control over project resources can provide a greater sense of alignment of project activities with domestic interests, and hence strengthen support for the environmental project.

In contrast to the first two project stages, we find relatively muted effects for the attributes in the execution stage, i.e., for *implementation* and *monitoring*. The effects of these two attributes are not

statistically significant at conventional levels despite our large sample size. The null findings lead us to the conclusion that, once key project parameters are set at the early stages, actors responsible for project execution do not affect public perception about local participation. One caveat regarding the null effects of the monitoring attribute is that the baseline category is an independent auditor, and we do not include the central and state governments as possible values to avoid unrealistic project profiles. Our results hint that the public may not view international organizations with skepticism in the environmental context, though this effect remains statistically insignificant.

4.2 Heterogeneous Effects of Project Design: Does Respondents' Trust in Their Government Play a Role?

How does the sense of local involvement derived from project design features shape public attitudes toward environmental aid projects? Our theoretical framework suggests that project design choices that provide a greater degree of local involvement create the perception of a better alignment of the project with local priorities. This, in turn, should increase public support for the project. In particular, our theory points at the direct participation of local actors, such as the recipient government, as a mechanism that enhances local control over environmental aid. If this line of reasoning holds true, it would follow that the effects of project design choices on public perceptions of projects' likely benefits should vary depending on the level of trust in the recipient country's government. Citizens with less trust in their government should be unlikely to expect their government's engagement with the environmental project to result in better responsiveness to their priorities, while those who do trust their government should anticipate a stronger alignment with local environmental needs and preferences.

Figure 3, which presents AMCEs for respondents who trust the government and those who do not,[8] shows supportive evidence for this expectation. We find that the estimated AMCEs are largely different between the two groups of respondents when we take into account their trust in government. In particular, the estimated AMCE for the donor country as the project initiator is negative and statistically significant only for the respondents who trust their government. The

[8]To capture the individual-level trust in government, we asked respondents how much they trusted their government, on the scale from 1-4. For the simple comparison, we categorized the answers into two groups: those who had trust in their government and those who did not.

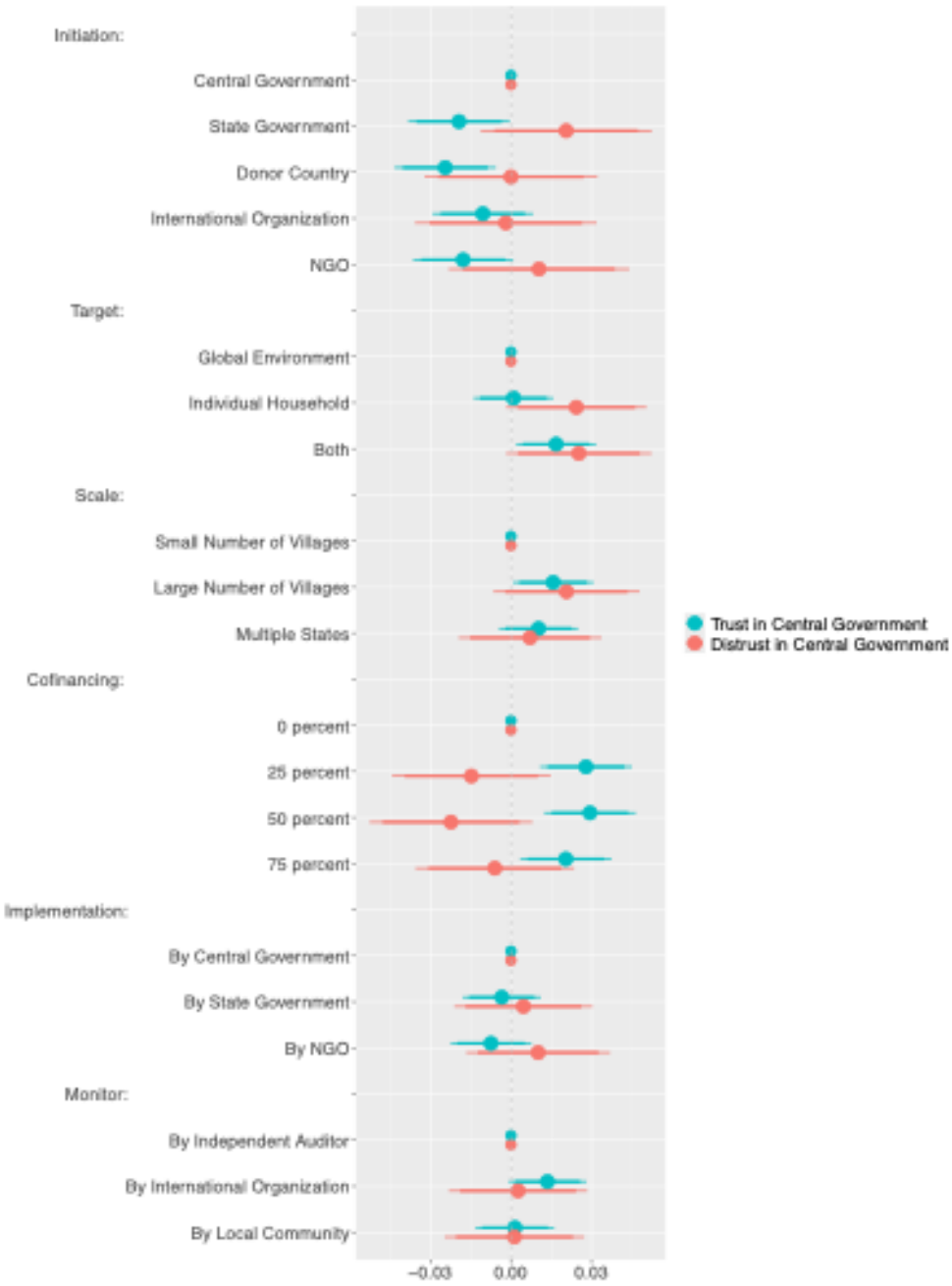

Figure 3: Heterogeneous Effects of Each Project Design Attribute by Trust in Government

effects of environmental project co-financing are also found to be statistically significant only when the respondents trust their government. In contrast, such effects are muted for those have no trust in their government. Interestingly, we find weak evidence suggesting that the effects of project implementation and monitoring arrangements may depend on individuals' trust in government, but the results are not significant at conventional levels.

As an alternative specification to capture the respondents' opinions toward their government on environmental issues, we can also utilize information about the respondent's party affiliation,[9] instead of their trust in government. Specifically, we re-estimate the models by splitting our samples into two groups based on the respondent's party affiliation – those who supported the incumbent party or its coalition government and those who did not. The results, presented in Figure A2 in the Appendix, show that our findings remain substantively the same as in Figure 3.

5 Conclusion

What explains public support for aid-funded environmental projects in recipient countries? We argue that residents of recipient countries form opinions regarding environmental aid projects, evaluating them from the perspective of local needs, preferences and priorities. Projects that better reflect domestic environmental concerns through local participation gain greater public support from the recipient country's public. The novelty of our approach to the study of environmental foreign aid stems from our conceptualization of environmental aid projects as multi-stage activities. We identify three key project stages (i.e., project initiation, design and implementation) and argue that public support for environmental aid can vary with local involvement at different project stages. Hence, we formulate our main theoretical expectation: the more recipient country residents perceive an environmental aid project as locally driven at any of the three stages, the stronger support they should express for the project.

Using a conjoint experiment, we find that project design choices influence public support for environmental aid. Citizens favor projects initiated locally rather than by donor governments, prefer combined local-global environmental benefits over global-only objectives, and support government co-financing. However, implementation arrangements do not affect public support. These findings

[9] We asked respondents to choose the name of the national political party that they felt close to.

offer novel insights into recipient country public opinion on environmental aid, shifting focus from government preferences to citizen attitudes. Our study also contributes to the research on global environmental politics. Given that environmental aid serves as an increasingly important tool to address pressing environmental challenges, our results demonstrate when aid-funded projects can garner more domestic support in recipient countries. For instance, we find that our respondents may embrace projects pursuing global environmental objectives, as long as the projects also generate localized environmental benefits.

While our experiment seeks to provide generalizable evidence regarding citizen preferences over characteristics of environmental aid projects, the interpretation of our findings should not be completely divorced from India's unique context. India is a lower-middle-income country that receives foreign aid but also acts as an increasingly ambitious aid donor; therefore, its dual identity and long-standing sovereignty norms may influence public attitudes toward environmental projects implemented in the country. Our finding of respondents' preference for government co-financing at high levels (50–75%) likely reflects this context and may be weaker in countries with severely constrained government resources or where environmental aid represents a larger share of overall environmental spending.

Future research is essential to probe our conclusions in a range of diverse contexts to establish boundary conditions for our findings on public support for environmental aid. Following Findley, Kikuta, and Denly (2021)'s external validity framework, studies could test whether preferences for local involvement in environmental projects persist in least-developed countries with limited state capacity for environmental protection, post-conflict settings requiring neutral project oversight, or entrenched authoritarian regimes where government control over environmental projects has different implications. Such extensions are essential for refining our understanding public perceptions of environmental aid and for designing environmental aid projects to enhance local support.

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Supplementary Appendix

A1 Sample Statistics

- Dynata, a private polling company recruited a set of respondents to resemble a nationally representative sample with regard to gender, education, and age through soft quota sampling. Dynata also applied its own screening process (i.e., detecting and removing respondents who flat-line or straight-line through grid questions or speeders).
- Table A1 presents summary statistics of the respondents' socio-demographic attributes (i.e., gender, education, and age).

Attributes	Sample (%)	Census (%)
Gender: Female	47	48
Education: Below primary	1.91	1.98
Education: Primary	7.02	5.13
Education: Middle/Matriculation/Non-tech/Tech	13.4	21.6
Education: High secondary / Intermediate / Pre-U	45.6	41.6
Education: Graduate and above	26.7	21.8
Age: 18-24	20.7	21.0
Age: 25-29	15.4	13.3
Age: 30-34	9.06	11.6
Age: 35-59	41.3	40.4
Age: 60+	13.2	13.6

Table A1: Summary Statistics of Socio-Demographic Attributes of the Respondents

A2 Example of the Pair of Environmental Project Profiles in Conjoint Experiments

- In this section, we show an example of the screen for environmental project profiles in conjoint experiments.

	Project A	Project B
Implementation	The Central Government of India will be in charge of project implementation.	The state governments will be in charge of project implementation
Initiation	The project will be initiated by an international organization	The project will be initiated by a donor government
Target	The project will provide multiple benefits to individual households: reliable and cost-efficient energy access for un-served and underserved areas; reduced dependence on solid fuels, such as firewood; and better air quality.	The project will provide a global environmental benefit: reduced greenhouse gas emissions, which are a leading cause of global climate change
Monitor	Project implementation and aid spending will be regularly monitored, verfied, and publicized by an international organization.	Project implementation and aid spending will be regularly monitored, verfied, and publicized by independent auditors.
Cofinancing	India will contribute 75% of project costs, and international donors contribute the rest.	India will contribute 25% of project costs, and international donors contribute the rest.
Scale	The project will be implemented in a small number of villages.	The project will be implemented across multiple states.

Figure A1: Example of the screen for environmental project profiles in conjoint experiments

A3 Additional Analysis

- Figure A2 shows heterogeneous effects of each project design attribute for incumbent party supporters and non-supporters, respectively.

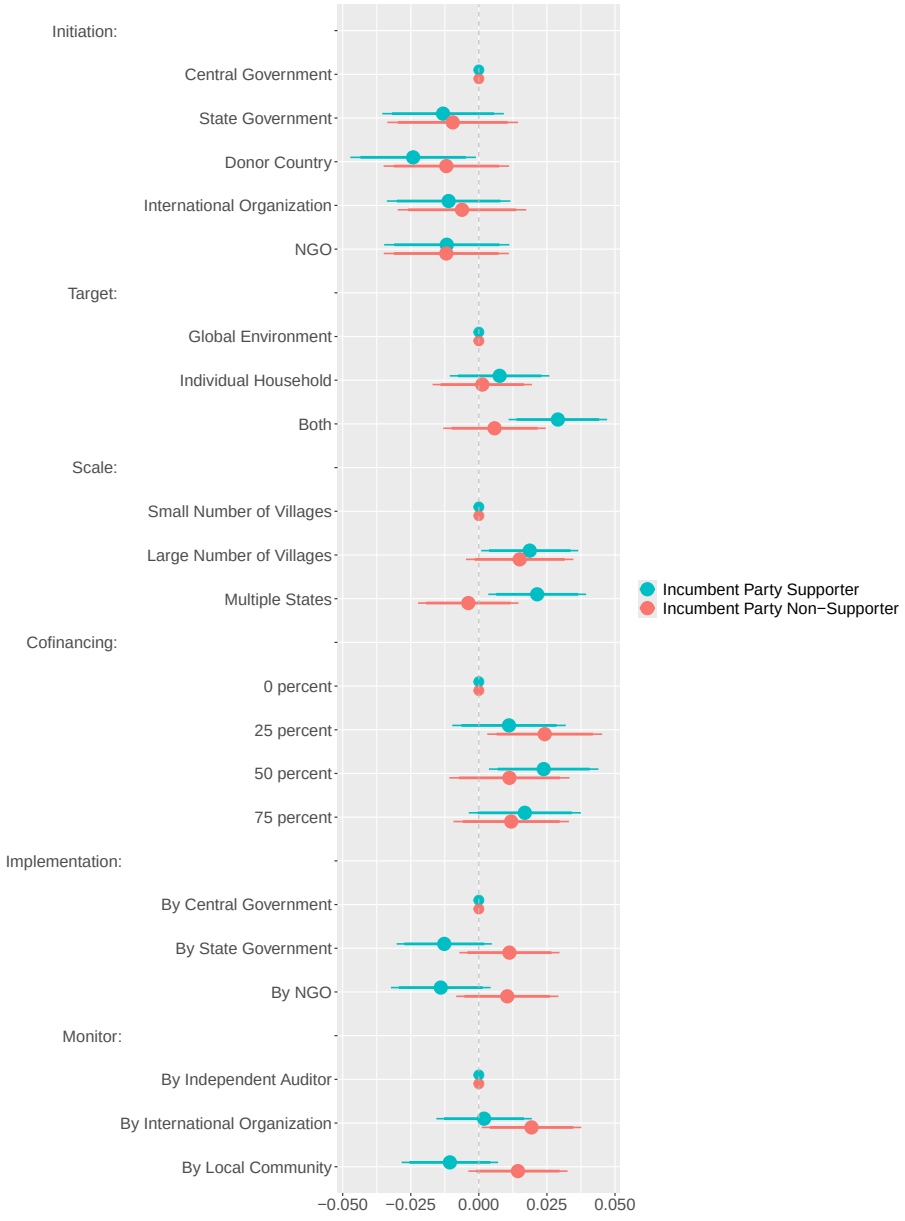

Figure A2: Heterogeneous Effects of Each Project Design Attribute: Incumbent Party Supporters Vs. Non-Supporters

A4 Ethics

Human subjects research in this article was reviewed and approved by an Institutional Review Board. The pre-analysis plan for this research can be accessed here: https://osf.io/ba843/?view$_only$ = 9cc357021d2e465599f28d2510bbede9.