

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

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Abstract:

Previous research on foreign aid that focuses on recipient countries tends to view governments as key actors, while overlooking others, e.g., the public. However, citizens of these countries can experience project outcomes directly or indirectly and consequently form opinions regarding aid projects. We argue that these opinions reflect the extent to which projects generate the sense of ownership and participation in recipient country residents. We identify three project stages and link them to public support for projects. To test our expectations, we design a survey experiment that exposes respondents to variation in local involvement and ownership at each project stage and allows us to evaluate which factors boost public support. Our results suggest that when the project initiation and design stages respond to local needs and concerns, public support for aid projects increases. In contrast, the project implementation stage does not appear to shape public support for aid projects.

Introduction

A long-standing debate in foreign aid literature focuses on aid effectiveness: can aid achieve its stated objectives (e.g., economic growth, increased access to education, environmental protection, or any other socially desired outcomes)? In a 2010 survey of this research, Wright and Winters conclude that ultimately we can only answer this question by focusing on recipient countries: “we need to 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 and develop political institutions consistent with these socially desired objectives (Wright and Winters, 2010: 62). Our research builds on this insight by approaching aid politics from the perspective of recipient countries.

Specifically, we analyze support for foreign aid projects from the recipient country’s public. Local populations are intended (co-)beneficiaries of such projects, which often produce a mix of local and global benefits, and can experience significant harms when aid programs suffer from poor design and implementation. Since local residents accrue benefits and harms directly, they form opinions regarding various projects and their characteristics.

Although public opinion does not always determine governments’ policies, it can exert pressure on politicians, especially in more democratic political systems (Page and Shapiro, 1983; Burstein, 2003; Hobolt and Klemmensen, 2005; Schaffer et al., 2022). For our study, we chose India – a recipient country that is a democracy, even though liberal democracy indicators suggest that India has backtracked in the recent years (V-Dem Institute 2023). Political pressure from public opinion should be more consequential in shaping government leaders’ incentives to use aid consistently with its socially desired objectives. Previous research provides evidence of this pressure: for instance, Marchesi and Masi (2021) find that local experiences and views can enhance project effectiveness when project implementation is delegated to the local level. Therefore, a study of public opinion can yield valuable insights for our understanding of aid project implementation.

We argue that public support for aid projects in recipient countries rises when the public experiences greater ownership and representation in the projects. Active participation in the entire lifecycle of the aid project provides foundation for this support. In particular, our study focuses on three stages of an aid project: identification, design and implementation. We define key characteristics of aid projects for each stage to construct hypotheses that help us explain public support for these projects. We seek to identify a mechanism that gives recipient country residents a sense of investment in aid project outcomes by asking under what circumstances they care about the project sufficiently to develop an opinion regarding project implementation and take note of the government’s commitment to achieve the project’s stated objectives. We focus on 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. To test our theoretical expectations, we develop a survey experiment that exposes our respondents to variation along these project design dimensions.

To provide survey participants with a realistic project scenario, we referred to information from an actual project, which was implemented in India during the period between 2015 and 2020, and received funding from the Global Environment Facility (GEF). The project’s goal was to increase

access to clean energy in remote rural areas. We focus on an environmental aid project for two reasons. First, environmental aid becomes increasingly important as an instrument to address pressing environmental challenges, and consequently its volume has grown notably over time (Hicks et al., 2008).¹ Yet, there is still a limited number of studies analyzing the allocation and outcomes of this type of aid (e.g., Buntaine and Parks, 2013; Bayer et al., 2014; Alcañiz et al., 2022). Second, environmental aid represents international efforts to provide a global public good – a safe and sustainable natural environment, including clean water, stable climate, and protected biodiversity. Collaboration challenges can lead to public good underprovision, especially when resulting benefits are dispersed quite broadly across countries. This differentiates environmental aid from other types of financial assistance, such as aid for economic development or education, where benefits tend to be mostly concentrated within recipient countries. Therefore, the design of environmental aid projects plays a particularly influential role in helping overcome collaboration challenges: if project design can enhance alignment of foreign aid with local priorities, recipient countries can expect to receive greater benefits from project implementation, which should incentivize the recipients to exert more effort in global environmental cooperation.

Our analysis yields evidence of the connection between aid project design and respondents' support for the project. When an environmental aid project reflected local preferences more closely at most stages of project design, individuals were more likely to express their support for the project. Specifically, at the project initiation stage, both the initiator and target of the environmental project influenced public support. On the one hand, our respondents were less supportive of projects initiated by donor governments, compared to other possible initiators, including recipient governments and NGOs. On the other hand, their support increased when the project included global and local environmental benefits, compared to a project targeting only global problems. The project design stage included results regarding project scale and co-financing. Although public support increased when the project promised benefits to more villages, as expected, our respondents became more skeptical when these benefits would be extended to cover multiple states. This suggests an inverse-U shaped relationship between the public's support and project scale. We also find that individuals prefer their government to cover some share of project costs, rather than fund the project entirely through foreign aid. This result indicates that project ownership increases when the country has economic stakes in project activities. Finally, the implementation stage results do not offer any evidence that implementation and monitoring arrangements matter for public support. Overall, our findings point at the important role that various aspects of project design can play in increasing support of the recipient country population for foreign aid projects.

Theory of Public Support for Aid Projects: The Local Ownership and Participation Mechanism

When donors provide project aid, aid agreements specify a range of activities required to achieve project goals, in addition to policy reforms to enable successful project implementation. Given that compliance requires governments and other actors in recipient countries to make adjustments consistent with terms of the aid agreement, such changes could be costly to recipient countries, and they may be reluctant to adhere to these terms if costs have a cumulative effect over time. For

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

instance, an aid agreement may require reductions in fuel subsidies in a recipient country; however, such a policy adjustment can be costly for less affluent households or at a time of rising fuel prices. Although the public could tolerate a jump in fuel expenses that is short-lived, a permanent increase could result in protests, which in turn would incentivize the government to abandon such a policy change and return to the status quo policy of fuel subsidies. Therefore, the likelihood of compliance with the terms of an aid agreement may become even less likely after the implementation period is over and the project is considered closed, endangering a long-term sustainability of project outcomes.

Once a donor has disbursed project aid, there are limited mechanisms for enforcement of aid agreements. Donors can incentivize compliance by threatening punishment: they can suspend some of the committed project funding when recipients fail to meet certain performance standards. They can also link future funding to past performance, limiting access to aid to countries that established a record of non-compliance. Positive incentives can also increase the likelihood of compliance: when recipients expect to receive additional aid or other benefits, they should be more willing to fulfil their project commitments. Recipient governments may also be concerned with detrimental reputational effects of non-compliance: if a country develops a reputation for regular violations of its commitments, reputational consequences may not be compartmentalized to one issue area (Guzman 2008). Other countries may begin avoiding such a country as a cooperation partner more generally due to its low trustworthiness.

Previous research suggests that compliance with international agreements may also improve when domestic audiences, including voters, are in favor of compliance (Dai 2005; Simmons 2009). Democratic countries provide domestic audiences with more channels of influence over government policies than do non-democratic countries. For instance, in democracies, elections provide voters with a mechanism for punishing or rewarding politicians for their decisions while in office. More importantly in the context of compliance with international commitments, voters can use the electoral mechanism to select political leaders who believe such commitments should be upheld (Stokes 1992). In addition, courts serve as a legal mechanism for holding a government accountable for breaking its commitments. Democratic audiences also have better access to information due to greater freedoms of expression and the press, as well as opportunities for expressing their feelings through peaceful protests and organizing in civil society groups to exert pressure on the government. Consequently, studies of democratic compliance with international agreements show that democracies tend to have better compliance records than do autocracies (e.g., Mansfield et al. 2002; Neumayer 2002, 2005; Von Stein 2016), although democratic compliance can vary depending on outcomes of domestic political competition (Dai 2006).

When does the public opinion in recipient countries view international aid agreements favorably and support their country's compliance with these agreements? We argue that aid projects garner greater public support when various aspects of the project increase local ownership, representation, and active participation throughout the entire lifecycle of the aid project. This ownership is not narrowly defined in terms of legal rights but is a broader concept rooted in the psychology of ownership, which refers to a psychological sense wherein individuals feel the target of ownership is truly theirs (Dawkins et al. 2017; Pierce et al. 2001, 2003). Such perceptions of ownership can manifest themselves even when direct control or benefits are not received by individuals, and

although the sense of participation and ownership can vary across people, it should generally intensify public support for aid projects.

Project ownership hinges on the perception that “recipients drive the process,” encompassing planning, design, implementation, monitoring, and evaluation (Helleiner and Tomlinson 2000). When the key stages of aid projects reflect local preferences, needs, and experiences, not only does this foster greater public support but also helps to ensure long-term sustainability of project outcomes. We elaborate on a theoretical mechanism below using three main stages of aid projects, i.e., project identification, project design, and project implementation, which are general enough to be applied to any aid projects.

At the initial stage of project identification, the source of a project’s inception plays an important role. Projects that are conceptualized or initiated within the recipient country are more likely to be rooted in the genuine needs and preferences of the local communities. If the project addresses a problem that the local population perceives as pressing and builds on a solution devised with local input, it is likely to receive significant public support. The perception of participation and ownership is linked to the idea that the best solutions for local issues arise from a deep understanding of these issues. Hence, when aid projects aim to address local needs, they resonate more with the recipient country’s populace. For example, in a rural African region, an internationally designed project to improve water access lacked local input, potentially leading to issues like dry wells or inconvenient locations. In contrast, a rainwater harvesting system, developed in consultation with local elders and women, was more effective due to its alignment with local knowledge and conditions (Easterly 2006).

When a project reaches the project design stage, two distinct mechanisms can shape public opinion: project scale and shared investment. First, the scale of an aid project matters because broadening the scope of project activities to address needs across multiple communities increases its visibility and impact. It produces the impression of a widespread effort, enhancing its perceived utility. A project that can improve more lives and communities should garner more public support as more people see its benefits directly or indirectly. For example, in a literacy program in India, a project targeting multiple districts with curriculums tailored to local languages and cultures gains more support than one limited to a single district (Mansuri and Rao 2013).

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

Finally, at the third stage of a project lifecycle, we focus on implementation and monitoring arrangements. We argue that more localized implementation ensures that the project is better

aligned with realities on the ground and can adapt to changing circumstances. Projects that respond to local conditions and challenges are more successful and hence more likely to gain public support. Moreover, local monitoring helps to provide greater accountability and transparency. When local NGOs or other local-level actors are responsible for oversight, the recipient country population has a degree of control over the project's execution and can use this instrument to ensure that the project remain true to its intended objectives. Taken together, local execution and oversight not only improve alignment with local realities and project adaptability, but also foster a sense of ownership and trust among the publics of recipient countries, thereby enhancing their support for the aid project. A health initiative in South America illustrates this relationship: a project that trains and assists local health workers outperforms a foreign-led alternative, as the local program can better navigate local beliefs and adapt to challenges, thereby earning higher public trust (Bano 2012).

In sum, public support for aid projects hinges on their representation, adaptability, and inclusivity of local needs and preferences. Case studies of individual aid projects indicate that the more an aid project is connected to the community, from its inception to execution, the more support it will gain locally. Ultimately, this insight highlights the importance of project ownership, where citizens not only support but feel responsible for the success and outcomes of aid projects. When the public sense of project ownership grows due to project design choices that correspond to local priorities, we expect the public to express stronger support for such projects, thereby exerting pressure on their governments to comply with aid agreements both immediately and in the long run.

Hypotheses

Figure 1 displays the three stages of an aid project: i.e., identification, design, and implementation. Aid projects follow these stages sequentially, and recipient citizens' perceptions of ownership and participation can vary as projects move through different phases. In other words, low levels of project ownership at the initiation stage do not imply that feelings of ownership remain low in the subsequent stages. The more citizens perceive an aid project as their own at any given stage, the greater the level of public support the project should receive overall. That is, when aid projects are initiated, designed, and implemented in a way that fosters local ownership and participation, they are more likely to gain public support. For example, suppose that the aid project is successfully implemented and monitored by agents that local residents trust. As the implementation stage represents local concerns effectively, the public will develop a greater sense of project ownership, which should lead to an increase in recipient citizens' support for the project. To test our theoretical expectations regarding public support for an aid project, we formulate several testable hypotheses – one for each project dimension, as identified in our theoretical discussion.

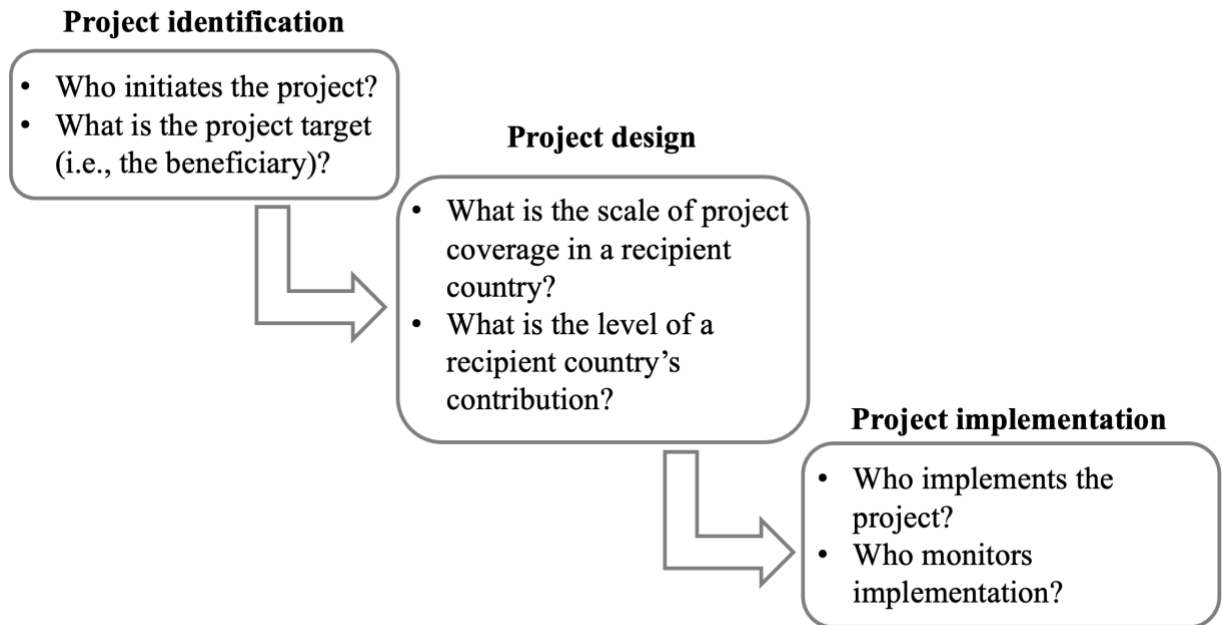


Figure 1. Aid Project Stages: Identification, Design and Implementation

The identity of the project initiator is one of the most visible and influential characteristics of an aid project. The initiator can determine which aid donor to turn to, and what conditions to accept in exchange for assistance (Bayer et al. 2014). The initiator is also likely to exercise significant influence over the other elements of project design, such as project target, implementation and monitoring arrangements, etc. Therefore, when a project's origins are local, recipient country residents can anticipate better representation of local preferences and, hence, should feel more supportive of such a project. In contrast, when a project originates abroad, Findley et al. (2017) show that there is no significant distinction in perception of individuals in recipient countries between multilateral and bilateral aid because it is difficult for citizens to notice which donors are responsible for which projects, or how different donors operate.

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

The post-materialist framework for explaining public preferences in the area of environmental policy points to the importance of economic welfare: when individuals can more easily meet their material needs due to their country's growing level of economic development, these individuals are more likely to develop a post-materialist concern regarding the quality of the natural environment (Inglehart 1990, 1997). Subsequent research refines this framework to address an obvious shortcoming of the post-materialist theory: citizens of developing countries do express significant environmental concerns. Brechin (1999) shows that a key difference between individuals from developing and developed nations is that developing country residents express more concern with localized environmental problems that are more salient to them, rather than global environmental problems. Building on this insight, we expect projects that target localized problems to enhance the feeling of ownership and result in greater public support in recipient countries.

Hypothesis 2 (Target Hypothesis): *Project support should increase when the project aims to address localized needs of the recipient country.*

Research on project effectiveness suggests that project size has a negative relationship with project success (Denizer et al. 2011). The relationship emerges because larger projects often have more complex structures and can be more challenging in execution, especially in countries with lower administrative capacity. However, other studies question the link between project size and effectiveness (Buntaine and Parks 2013). Yet, from the perspective of recipient country residents, a larger project that distributes benefits more widely across the country could be more attractive. On the one hand, a given individual may be more likely to receive such benefits if they are more dispersed across the country. On the other hand, when a project focuses on a small number of communities, the selection process could be driven by parochial interests of the policy-maker who may favor certain areas, such as their political strongholds, areas populated by coethnic voters, the region of their birth, etc. (Hodler and Raschky 2014; Jablonski 2014; De Luca et al. 2018). Given these concerns, a project which includes a larger number of benefitting locations should increase the sense of ownership and hence public support for project implementation.

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

Control over a greater share of project funding can increase leverage over project more broadly, especially when it comes to tailoring the project to fit local 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). A preference for greater control over resources and their use is consistent with psychological ownership of project aid; therefore, we expect public support to be positively correlated with a larger share of co-financing provided by the recipient government.

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

Previous research reports that participation of aid beneficiaries in project implementation increases the likelihood of project success (Isham et al. 1995; Prokopy 2005). This can be in part attributed to the beneficiaries' greater sense of participation in projects that are designed to encourage local involvement (Marks and Davis 2012). We expect project support to increase in response to the choice of more localized implementation.

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

Although close project supervision and monitoring improve the likelihood of effective project implementation (Kilby 2000; Chauvet et al. 2010), staff members of multilateral organizations do not have strong incentives to invest significant time and effort into monitoring (Weaver 2008). In contrast, local actors, such as NGOs, may care more about project outcomes and hence have more

motivation to serve as project monitors. Recipient country residents, then, should prefer projects with motivated monitors (i.e., NGOs), all else being equal.

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

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 2022.² 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 (Milner and Tingley 2013; Doherty et al. 2020). Therefore, 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 suited instrument for testing our hypotheses. A conjoint experiment design presents respondents with different combinations of attributes and requires them to choose their preferred profile (or rate the profiles) by evaluating several attributes simultaneously. This allows researchers to test a number of causal hypotheses both independently and interactively (Hainmueller, Hopkins, and Yamamoto, 2014; Bansak et al. 2020). Due to this advantage of a conjoint design, a growing number of studies on public opinion toward foreign aid have utilized conjoint experiments (Blackman 2018; Heinrich and Kobayashi 2020; Doherty et al. 2020).

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 project implementation. Specifically, India is an important recipient of foreign assistance. According to the most recent World Bank report, the country is the largest borrower from the IBRD, with an annual commitment of almost 4 billion USD (World Bank 2022: 100). India has also received a significant amount of environmental aid: for instance, the Global Environment Facility lists India as its top five recipient (GEF 2021: 49). This record of aid project implementation in India allows us to craft a realistic scenario for our survey experiment.

Another consideration for our case selection was the degree of democracy. India's political regime has experienced democratic backsliding over the past few years, but 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.

² Human subjects research in this article was reviewed and approved by an Institutional Review Board. The pre-analysis plan for this research is uploaded in a public repository, but we do not provide the link for it to keep this research anonymized during the review process.

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.

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 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.³

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. A summary of these attributes and their levels is presented in Table 1. For each profile we randomly assigned values for 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 1991.⁴ India is one of the top recipients of GEF assistance (second only to China). To date, it has been a recipient of 103 single-country projects, in addition to its participation to regional and global GEF-funded programs.

To capture effects of the identity of project initiator, we consider a total of five actors that frequently engage in the project initiation stage – 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.

³ 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. Recent studies have pointed out that the forced-choice paired design may not reveal respondents’ true preferences (Abramson, Kocak, and Magazinnik, 2022; Ganter, 2023). Given this, we check the results using the 5-scale preference as our main dependent variable. We find that the main findings remain substantively unchanged.

⁴ The GEF project database is available here: <https://www.thegef.org/projects-operations/database>.

Attributes and Levels
<i>Attribute: Initiation</i>
<ul style="list-style-type: none"> - 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.
<i>Attribute: Target</i>
<ul style="list-style-type: none"> - 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.
<i>Attribute: Scale</i>
<ul style="list-style-type: none"> - 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.
<i>Attribute: Cofinancing</i>
<ul style="list-style-type: none"> - 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.
<i>Attribute: Implementation</i>
<ul style="list-style-type: none"> - 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.
<i>Attribute: Monitor</i>
<ul style="list-style-type: none"> - 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

For the choice of project targets, our survey participants considered environmental projects agreements that would 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 on contrasting the value of a project for the global environment and tangible household benefits generated by a project. For instance, the GEF climate change project, “Enabling activities for preparation of India’s Second National Communication to UNFCCC,” approved in 2007, improved the government’s capacity to comply with UNFCCC requirements, which represents a global environmental benefit. At the same time, individual households did not experience any direct benefits from this project. In contrast, another climate change project approved in 2014 aimed to support climate change adaptation in rural, economically disadvantaged farming communities (Sustainable Livelihoods and Adaptation to Climate Change). The target of this project were individual farmers, rural households, and their communities, while global environmental benefits were not discussed in project documents. Finally, many projects aim to deliver bundled benefits: for Indian households (“provide electricity access to more households”) and the global climate (“1.0 million tons of avoided CO₂ emissions”), as in the case of the Rural Electricity Access project. Hence, the three options provide our respondents with the ability to express their support for projects delivering different types of benefits.

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”). GEF projects offer examples of all three options. The Biomass Energy for Rural India project approved in 2001 was limited to a handful of villages: “24 villages of Tumkur district in Karnataka” (GEF 2001: 5). A 2014 grant, Sustainable Livelihoods and Adaptation to Climate Change, covered a larger number of villages: the project “will cover about 12,300 farmer households and 650 villages in two states: Bihar and Madhya Pradesh.” (GEF 2014) A more recently approved project (in 2016), Grid-Connected Rooftop Solar Program, provided benefits to 17 states across the country: project implementation engaged “distribution utilities in 17 states for implementing the [Government of India] Phase-II of the grid-connected rooftop solar scheme” (GEF 2020: 1).

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 costs. GEF grants cover varying levels of total project costs. We chose 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): e.g., the Ministry of

Environment and Forests, or the Ministry of New and Renewable Energy. Less common are implementation arrangements with state governments or non-governmental organizations (15% each).

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 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 require monitoring from other actors, such as community groups or independent auditors. The 1997 IUCN guide for NGOs emphasizes this type of NGO involvement in GEF projects: "NGOs can provide independent assessments of project performance" (Burgiel and Cohen 1997: 32). Similarly, project implementation often requires expert knowledge, so GEF projects often allocate resources to hire independent monitors and evaluators, as in the case of the project titled "Achieving Reduction in GHG Emissions Through Advanced Energy Efficiency Technology in Electric Motors," approved in 2008: "GEF will contribute USD 25,000 which mainly will be used to contract independent evaluators for the mid-term and final evaluations" (GEF 2008: 32). Moreover, the GEF can require the recipient government to hire an independent auditor to conduct periodic review of financial statements. Therefore, the main contributors to the GEF's monitoring and evaluation reviews are international actors (IOs), domestic actors (non-governmental community groups), and independent third parties (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 the standard errors clustered by the individual respondents, as suggested by Hainmueller, Hopkins, and Yamamoto, 2014.

Results

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. Note that that the AMCE estimates should be interpreted relative to the reference values. In the plots, the reference values are marked with the dot placed at 0 without confidence intervals.

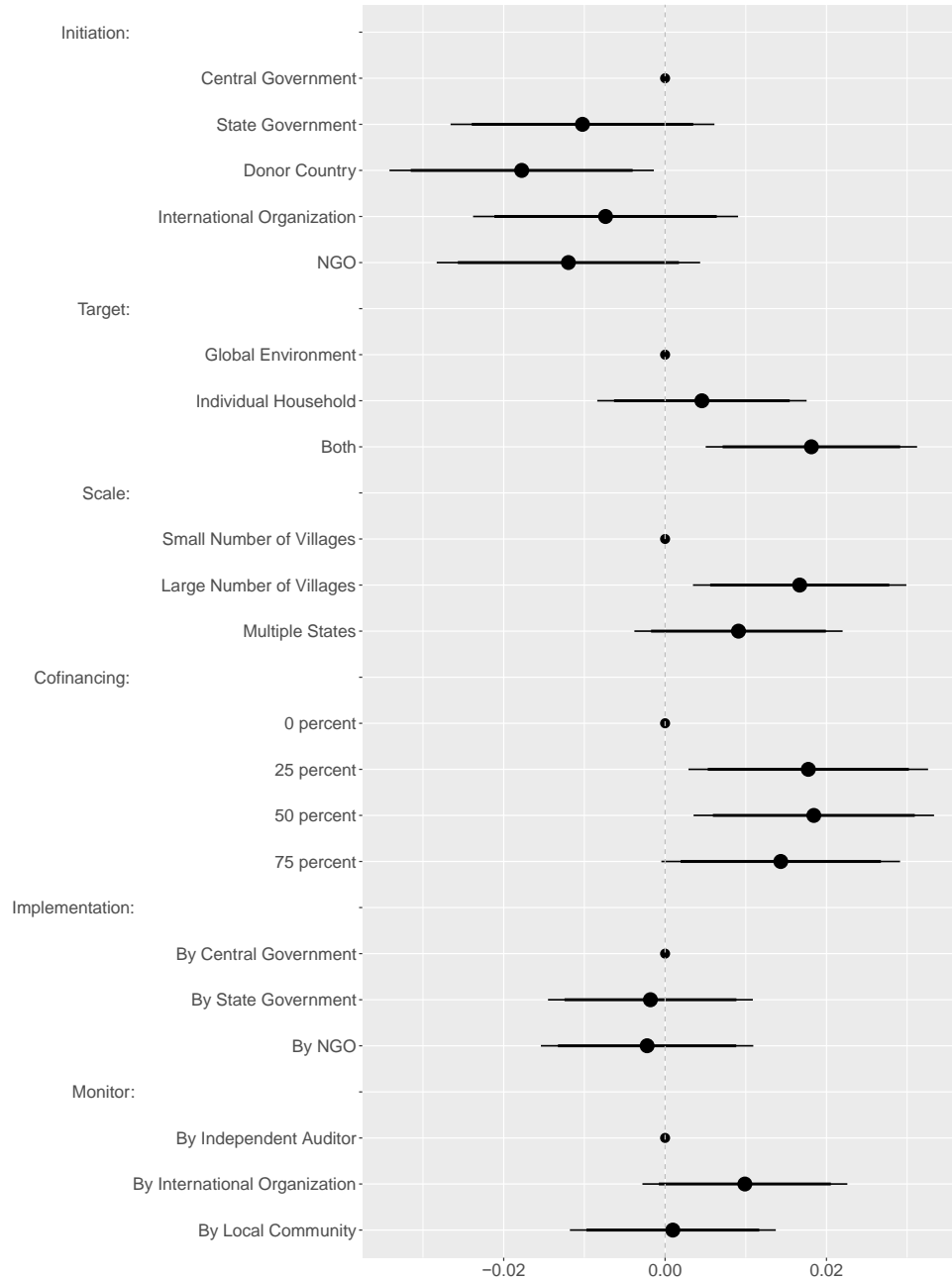


Figure 2. The Estimates of AMCE of Each Project Design Attribute

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 preference positively affect public support for environmental projects in the recipient country. First, we find that at the project identification stage the identity of the project initiator matters, consistently 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 when the central government initiated the 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 negative effect when

an international organization or NGO serves as the project initiator. The AMCEs for the IO and NGO options are negative but statistically indistinguishable from 0. Taken together, the results suggest that recipient country citizens tend to be wary of a donor country taking control of the project at this early stage, whereas such concerns do not emerge when an international organization or NGO proposes the project.

We also find that individuals respond to the target of an environmental project consistently with our expectations. Public support for the project increases when the project aims to provide not only global but also local environmental benefits. Recipient country citizens are more likely to support an environmental aid project which targets localized and global problems, rather than global problems alone. This finding is in line with Brechin's (1999) conclusion that people in developing countries tends to place more weight on localized environmental concerns over global problems. However, our respondents do not appear to dismiss global challenges: there is no statistically significant difference between public support for a project delivering only local benefits and for a project delivering only global benefits. The public favors projects that combine the two.

Second, the project design attributes, *scale*, and *co-financing*, also exert influence over public support. Specifically, we find that individuals take project scale 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 benefits to a large number of villages than one reaching only a small number of villages. Intriguingly, however, we find that the relationship between the scale and public support is not monotonic: public support for a project covering multiple states is not greater than support for a project targeting a small number of villages. Citizens may think an aid project for a large number of communities more beneficial and less likely to be captured by local politicians, therefore giving them a greater sense of ownership. Still, as Drezner (2011) points out, there may be a negative association between the size of an aid project and its effectiveness. Consequently, the relationship between the scale and public support may be inverse-U shaped with an optimal point in terms of the scale, where the marginal benefit of the size is 0.

Another noteworthy finding is that public support is strictly greater when the central government provides some co-financing, compared to a project without any government contribution. At the same time, we see no evidence that public support increases linearly as the share of co-financing rises. Compared to projects funded entirely by foreign aid, projects with any non-zero values of the government's financial contribution (i.e., 25%, 50%, and 75%) are associated with greater public support. This result is consistent with Hypothesis 4 and suggests that a recipient country's control over project resources can provide a greater sense of ownership 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 project implementation 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 suggest that the actors in the project implementation stage do not sway public perception about project ownership and 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 for the attribute to avoid unrealistic project profiles. Also, while existing studies question the role that international organizations can

play as project monitors (e.g., Weaver 2008), our result hints that the public may not view IOs with skepticism. Specifically, we find a positive AMCE for the international organization with a p-value of 0.11 that is only slightly above the conventional level when an independent auditor serves as the baseline category. This indicates that public support for an environmental project is certainly not weaker – and may even be stronger – when an IO replaces an independent auditor as the project monitor.

Heterogeneous effects of project design: Does respondents' trust in their government play a role?

How does the sense of project ownership and participation derived from project design features shape public attitudes toward environmental aid projects? Our theoretical framework suggests that project designs which align more closely with the needs of the local community foster a stronger sense of ownership among the public. Consequently, this heightened sense of ownership is expected increase public support for the projects. In particular, our theory points at the involvement of local actors, such as the recipient government, as a mechanism that enhances local project ownership and control. If this line of reasoning holds true, it would follow that the effects of project design choices on project ownership should vary depending on the level of trust in the recipient country's government. Citizens with less trust in their government do not expect that their government's engagement with the project will result in better responsiveness to local priorities while those who do trust their government anticipate a stronger alignment with local needs and preferences.

Figure 3, which presents AMCEs for respondents who trust the government and those who do not,⁵ 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 effects of 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 that the effects of project implementation and monitoring 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, we can also utilize information about the respondent's party affiliation,⁶ 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 and those who did not. The results, presented in Figure A1 in the Appendix, show that our findings remain substantively same as in Figure 3.

⁵ In order to capture the respondent-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.

⁶ We asked respondents to choose the name of the national political party that they felt close to.

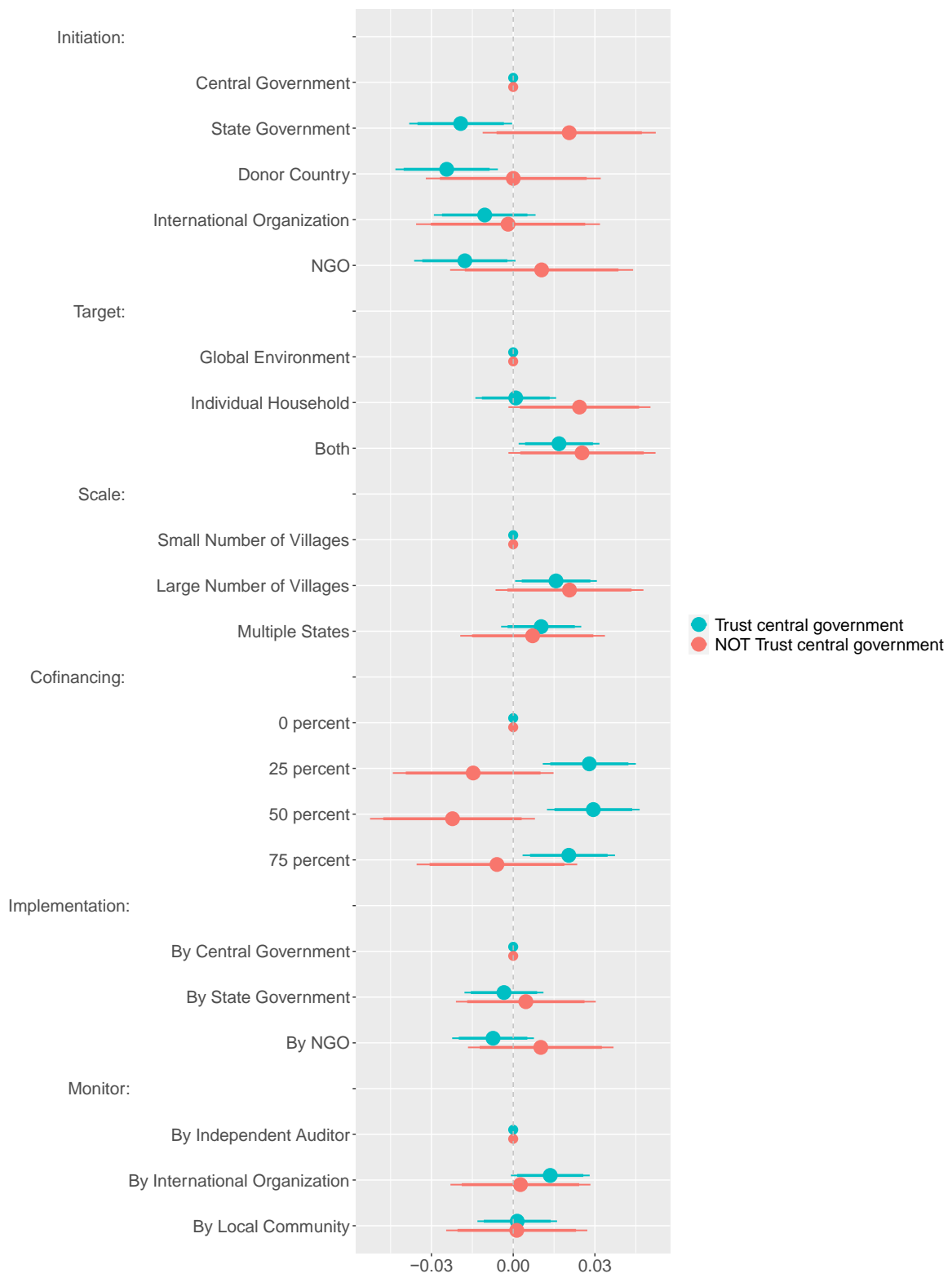


Figure 3. Heterogenous Effects of Each Project Design Attribute by Trust in Government

Conclusion

What explains public support for foreign aid projects in recipient countries? We argue that residents of recipient countries form opinions regarding aid projects, evaluating them from the perspective of local needs, preferences and priorities. Those projects that better reflect local concerns enhance the sense of project ownership and as a result gain greater public support from the recipient country's public. We identify three stages of aid projects that can provide opportunities to incorporate local priorities: project initiation, design and implementation. The more recipient country residents perceive an aid project as their own at any of the three stages, the stronger support they should express for the project.

To test our expectations, we design a survey experiment focusing on public support for an environmental project. We find that project design choices influence respondents' project support. At the project initiation stage, the respondents were less supportive of projects initiated by donor governments, compared to projects with local-level initiators, but support increased when a project included global and local environmental benefits, compared to a project targeting only global problems. At the project design stage, public support grew when the project promised benefits to more communities, but not to multiple states, and when the recipient government provided some project co-financing. At the implementation stage, we find no evidence that implementation and monitoring arrangements affect public support. Taken together, the experiment offers support for our expectation that aid projects that reflect local preferences more closely should receive more support from recipient country residents.

The findings reported in our study offer novel insights into domestic public opinion in recipient countries on the issue of foreign aid projects. Instead of studying recipient governments' preferences, we focus on recipient countries' residents and explain their support for projects funded by foreign aid. The scope of our study is limited to environmental aid projects, although the main results should extend to other project types, as long as they allow for variation in local project ownership and participation. Hence, one interesting extension of our research would focus on foreign aid in a different sector, such as development or healthcare aid. Future research should also investigate whether recipient governments and other local actors (such as NGOs) have different preferences when it comes to project design choices and whether these preferences are similar to those of the public.

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