Lessons from

# 4 DECADES OF INFRASTRUCTURE PROJECT-RELATED CONFLICTS

in Latin America and the Caribbean

IDB
Inter-American Development Bank

# Lessons from
# **Four Decades of Infrastructure Project-Related Conflicts**
# in Latin America and the Caribbean

Graham Watkins
Sven-Uwe Mueller
María Cecilia Ramirez
Hendrik Meller
Ioannis Blatsos
Julia Carvalho Fernandes de Oliveira
Cristina Contreras Casado
Andreas Georgoulias
Nikos Georgoulias
Judith Rodriguez

Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library
Lessons from four decades of infrastructure project related conflicts in Latin America and the Caribbean
/ Graham Watkins, Sven-Uwe Mueller, María Cecilia Ramirez, Hendrik Meller, Ioannis Blatsos, Julia Carvalho Fernandes de Oliveira, Cristina Contreras Casado, Andreas Georgoulias, Nikos Georgoulias, Judith Rodriguez.
p. cm. — (IDB Monograph; 549)
Includes bibliographic references.
1. Infrastructure (Economics)-Planning-Latin America. 2. Infrastructure (Economics)-Planning-Caribbean Area. 3. Risk management-Latin America. 4. Risk management-Caribbean Area. 5. Conflict management-Latin America. 6. Conflict management-Caribbean Area. I. Watkins, Graham. II. Mueller, Sven-Uwe. III. Ramirez, María Cecilia. IV. Meller, Hendrik. V. Blatsos, Ioannis. VI. Carvalho Fernandes de Oliveira, Julia. VII. Contreras Casado, Cristina. VIII. Georgoulias, Andreas. IX. Georgoulias, Nikos. X. Rodriguez, Judith. XI. Inter-American Development Bank. Climate Change Division. XII. Series. IDB-MG- 549
Key words: Infrastructure, Latin America, Risks, Sustainability
JEL codes: Q54, O2, Q51

Copyright © [2017] Inter-American Development Bank. This work is licensed under a Creative Commons IGO 3.0 Attribution-NonCommercial-NoDerivatives (CC-IGO BY-NC-ND 3.0 IGO) license (http://creativecommons.org/licenses/by-nc-nd/3.0/igo/legalcode) and may be reproduced with attribution to the IDB and for any non-commercial purpose. No derivative work is allowed.

Any dispute related to the use of the works of the IDB that cannot be settled amicably shall be submitted to arbitration pursuant to the UNCITRAL rules. The use of the IDB's name for any purpose other than for attribution, and the use of IDB's logo shall be subject to a separate written license agreement between the IDB and the user and is not authorized as part of this CC-IGO license.

Note that link provided above includes additional terms and conditions of the license.

The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the Inter-American Development Bank, its Board of Directors, or the countries they represent.

Coordinator

Graham Watkins

Sven-Uwe Mueller

Inter-American Development Bank

For more information please contact

Graham Watkins | GWATKINS@iadb.org

The IDB thanks the Zofnass Program for Sustainable Infrastructure for their contribution.

# Table of Contents


**EXECUTIVE SUMMARY** ..... **4**

**1. INTRODUCTION AND SCOPE** ..... **5**
- 1.1. Scope and Purpose of Report ..... 5
- 1.2. Conflicts in Infrastructure Projects ..... 5

**2. RESEARCH METHODS** ..... **6**

**3. DATA** ..... **8**
- The 200 Project Database ..... 8
- Interviews ..... 10
- Focus Group Validation of Results ..... 10

**4. FINDINGS** ..... **11**
- 4.1. The Nature of Conflict is Multidimensional ..... 11
- Environmental Drivers of Conflict ..... 11
- Social Drivers of Conflict ..... 12
- Governance Drivers of Conflict ..... 13
- Economic Drivers of Conflict ..... 14
- Conflict Escalation ..... 15

**4.2. Conflicts Cause Projects to Fail and Harm National Economies** ..... **15**

**4.3. Conflicts Are Not Addressed Systematically** ..... **18**
- General Company Actions ..... 18
- Provision of Community Benefits ..... 21
- Provision of Environmental Benefits ..... 22
- 4.4. Conflicts Affect Each Infrastructure Sector Differently ..... 22
- 4.5. Projects Are Vulnerable to Conflicts Early On ..... 23
- 4.6. Lack of Upstream Planning Is a Dominant Driver of Conflict ..... 25
- 4.7. The Institutional Capacity of Countries is Important to Contain a Conflict ..... 27
- 4.8. Sustainable Planning Can Mitigate Conflicts ..... 29
- 4.9. A System for Conflict Identification, Management and Resolution Will Provide Value to Companies ..... 33
- 4.10. IFI-funded Projects Address Conflicts More Effectively ..... 33
- 4.11. The Study of Conflicts is an Open-ended Process ..... 34

**5. RECOMMENDATIONS** ..... **34**
- 5.1. Recommendations for States and Governments ..... 34
- Ensure that national laws are comprehensive and universal. ..... 34
- Design fair systems for distribution of project benefits. ..... 36

**5.2. Recommendations for Developers and Contractors** ..... **37**

**5.3. Recommendations for Lenders and Investors** ..... **38**

**6. CONCLUSION** ..... **40**

**ACKNOWLEDGMENTS** ..... **41**

**ABBREVIATIONS** ..... **42**

**LIST OF FIGURES** ..... **43**

**APPENDICES** ..... **44**
- APPENDIX A: STATISTICAL SIGNIFICANCE OF FINDINGS AND DATA SAMPLING ..... 44
- APPENDIX B: KEY QUESTIONS THAT ARISE FROM THIS STUDY ..... 46
- APPENDIX C: DRIVERS OF CONFLICT PER SECTOR ..... 47
- APPENDIX D: CONFLICT DRIVERS THROUGHOUT THE YEARS ..... 54
- APPENDIX E: TIMING OF CONFLICT AND FINAL PROJECT STATUS ..... 58
- APPENDIX F: EVOLUTION OF COMPANY RESPONSE TO CONFLICTS ..... 59
- APPENDIX G: CONFLICT ESCALATION, CONFLICT CONSEQUENCE, AND COMPANY RESPONSE POINT SYSTEMS ..... 62
- Conflict Escalation ..... 62
- Conflict Consequences ..... 62
- Company Response to Conflict ..... 62
- APPENDIX H: INSTITUTIONAL CAPACITY OF COUNTRIES AND CONFLICT ..... 63
- APPENDIX I: PROJECT SCALE AND CONFLICT ..... 64
- APPENDIX J: LIST OF INTERVIEWEES ..... 67
- APPENDIX K: QUESTIONNAIRE ..... 70
- APPENDIX L: 200 PROJECT DATABASE ..... 71
- APPENDIX M: CODING ANALYSIS ..... 78
- APPENDIX N: COMPOSITE DEVELOPMENT INDICATOR ..... 84

## EXECUTIVE SUMMARY

This report investigates the nature and consequences of conflict in infrastructure projects in Latin America and the Caribbean (LAC). To the best of the authors' knowledge, this is the first study on this scale at the infrastructure industry. A hybrid quantitative and qualitative research approach provided the data for the study. 32 interviews were conducted with 42 sustainability experts involved in the development of infrastructure in LAC. Then, a database of 200 conflict-affected infrastructure projects across six sectors was created to assess the nature and drivers of conflicts, the companies' response to conflicts, and the material implications for projects, companies, and societies.

Our analysis demonstrates that the nature of conflicts is multidimensional, and more dynamic than traditionally conceived by both firms and governments. Most conflicts materialize through the interaction of environmental, social, governance, and economic drivers over a long period. Overall, deficient planning, reduced access to resources, lack of community benefits, and lack of adequate consultation were the most prominent conflict drivers. In many cases, conflicts escalated because grievances and community concerns accumulated, going unresolved for many years. In general, conflicts may arise during any phase of an infrastructure project, but our analysis shows that the earliest phases are increasingly vulnerable to conflicts. Most projects in the database that were cancelled or postponed faced conflicts before operations.

The consequences of such conflicts are increasingly detrimental for companies, investors, and national governments as conflicts cause projects to fail and harm national economies. Of the 200 projects in the database, 36 were cancelled because of conflicts, while 162 projects faced delays, and 116 faced cost overruns. Although all six infrastructure sectors evaluated in this research saw conflicts, resource, energy, and waste projects saw a disproportionate share. Furthermore, conflicts escalated more often in countries that lack the institutional capacity to manage them effectively.

However, conflicts can be addressed effectively and on time, as well-planned sustainable projects mitigate risks that lead to conflicts. Each firm addresses conflicts differently, but those committed to develop sustainable projects and take comprehensive action to mitigate conflicts in advance are more likely to face less significant consequences and to implement their projects to the end. Firms that fail to consider conflicts proactively or choose to remain unresponsive to conflicts when they arise usually face substantial consequences and are more likely to see their projects cancelled or abandoned. Yet, even though in certain sectors firms have changed their approach and implemented good practices for anticipating and managing conflicts, the implementation of such practices in most infrastructure projects is still limited. Many firms choose to remain unresponsive to conflicts, or do not respond adequately and on time. In most cases, risk and conflict management systems are ignored while community engagement is regarded as a secondary requirement which needs to be fulfilled in order to comply with regulations. Their crucial function for preventing conflicts is often not seen.

Our research concludes with a set of strategies and policy recommendations for governments, investors and developers that are effective in mitigating risks and containing conflicts. Governments should enhance regional upstream planning to generate better-prepared projects that are not sited in conflictive locations. Developers should implement proactive risk management systems, engage communities with targeted programs and build trust early on. Lenders and investors should help national governments enhance their institutional capacity, and establish requirements for proactive risk and conflict management through funding mechanisms. Such actions will provide the foundation for continuous efforts to collaborate, disseminate good practices, and align incentives that will lead to effective conflict resolution in infrastructure.

# 1. INTRODUCTION AND SCOPE

## 1.1. Scope and Purpose of Report

This report assesses environmental and social conflicts in infrastructure projects. The research focuses on how conflicts have evolved over the last decades, and how firms respond to these conflicts. It identifies examples for conflict resolution and concludes with a set of recommendations and strategies that have been effective in helping firms manage such conflicts. It should be noted that only conflictive projects were addressed in this research. Furthermore, the report does not intend to calculate the monetary cost of conflict for infrastructure firms. We included the costs firms incurred from conflicts only when such figures, such as fines, budget overruns, or lost income, were publicly available. However, the cost of conflict in a project usually goes well beyond fines, and many of the projects that incurred additional costs due to a conflict may not have such a figure published. Therefore, we acknowledge that the cost for many of the projects we have studied, if not all of them, is likely higher than the fines or cost overruns that are stated in this report.

## 1.2. Conflicts in Infrastructure Projects

The Latin American and Caribbean (LAC) region faces an urgent need to increase infrastructure investment. Up to US$250 billion is required annually to close the estimated infrastructure gap of the region. [i] Infrastructure is critical for economic growth and ensuring human well-being, but poorly planned projects can cause significant social and environmental conflicts. On the other hand, high-quality projects can generate long-lasting benefits, and are more attractive to public and private investors. Well-planned and executed projects will be less likely to meet public resistance or held up because of environmental or social concerns. Such projects can reduce the risk of cost overruns and falling behind the original projected benefits (e.g. not achieving the projected demand). Infrastructure properly designed can bring multiple benefits to communities, but implementing high-quality infrastructure projects is challenging.

The last decades have seen many projects affected by serious conflicts in the LAC region. [ii] The Environmental Justice Atlas shows 423 environmental and social conflict cases currently in progress in the LAC region. [iii] The vast requirements of infrastructure, and the potential environmental degradation and community perturbation issues that might ensue from these projects, are a major source of dispute between local communities and project sponsors.[iv] Our examination of conflict incidents also underscores the importance of socioeconomic issues to the local communities. Among the greatest concerns is the fact that although the communities have to bear all the environmental and social costs of the projects and often lose access to resources, project benefits are not adequately distributed to them. In addition, stakeholder engagement processes are not adequate to secure effective consultation and communication.[v]

Conflicts range from grassroots campaigns to widespread protests aiming to stop projects.[vi] Research indicates that the vast majority of conflicts tend to escalate to hostile confrontations, resulting in injuries, fatalities, and the abandonment of projects.[vii] In fact, some conflicts have led to civil wars.[viii] Although conflicts are likely to occur during every stage of a project's life cycle, including planning, exploration, pre-feasibility, feasibility, construction, operations, expansion, closure, and post-closure, feasibility and construction stages are the most likely stages for conflicts to arise.[ix] Both stages allow for effective community mobilization.

Despite the prevalence of conflict in all major asset classes, published research has focused primarily on the resources and mining sector and much less on other infrastructure areas. Furthermore, the costs of conflicts incurred by project companies are multifaceted and, almost invariably, substantial, yet most firms have not been assessing them in a systematic way. [x] For instance, both the resources and time required to manage

conflicts, as well as their effects on the willingness of employees to remain or join the company, are regularly overlooked. [xi] Delays and temporary disruptions in the mining sector could lead to weekly losses of up to US$20 million.[xii] Moreover, a serious conflict could result in the loss of a firm's "social license to operate", which could prevent firms from implementing other projects and lead to significant losses as access to existing projects and exploration of future projects is blocked or hindered.

Though the costs of conflicts are often not adequately reported publicly and are regularly underestimated, many firms from the extractives sector, which have experienced conflicts, have changed their approach for managing theses risks: they anticipate possible sources of conflict and manage upcoming conflicts much more proactively. For example, the International Council on Mining and Metals, a consortium of mining and metals companies and associations, was founded in 2001 to provide guidance on implementing sustainability initiatives, partly in response to the growing concerns over social and environmental conflicts. However, similar responses in other infrastructure classes are limited to the level of individual companies. Some companies have established their own policies to avoid conflicts, focusing on stakeholder engagement from the planning stage and respect for local customs and rules, as well as facilitating initiatives to support communities in growing sustainably.[xiii]

It is important to note that research has also highlighted the importance of using consensus-based approaches and redesigning benefits distributions systems so the host communities could also receive enhanced benefits from projects, in terms of improved services, capacity-building, and employment initiatives.[xiv] However, this view is not shared by all firms, as evidenced by the wide range of social and environmental conflicts that are still in progress. Considerable work has to be done to ensure that infrastructure investments are executed in a way that helps communities.

All the above findings are well documented in mining sector conflicts. However, a big gap remains in research about conflicts in other infrastructure investments. The goal of this study is to provide meaningful research findings on infrastructure project conflicts, as to improve planning and mitigation strategies.

## 2. RESEARCH METHODS

This report followed a hybrid qualitative and quantitative research approach. We merged the lessons learned from 32 interviews with executives involved in conflict-affected infrastructure projects with the information gathered from the 200-project database. The interviews targeted a conclusive range of stakeholders, in order to have the most comprehensive perspective on conflicts. People interviewed included executives of construction companies, representatives of nongovernmental organizations (NGOs) and research institutions, and sustainability specialists. Interviews were conducted during June, July, August, and September of 2016, involving groups of people from the same company or individuals (Appendix J). In most cases, a set of predefined questions was distributed in advance, in Spanish or English, in order to frame the discussion (Appendix K).

Then, a database of 200 conflict-affected infrastructure projects was created. The database included projects from the resource extraction, energy, waste, water, transportation, and urban development infrastructure sectors across 20 countries in the LAC region, as represented in Figure 1 and listed in Appendix L. Projects were selected from a wide range of sources. We performed a comprehensive literature review and evaluated online databases such as the World Bank's Private Participation in Infrastructure [PPI] database, the Observatory of Mining Conflicts in Latin America (Observatorio de Conflictos Mineros de América Latina, OCMAL), the Latin-American Observatory of Environmental Conflicts (Observatorio Latinoamericano de Conflictos Ambientales, OLCA), and the World Bank's International Centre for Settlement of Investment Disputes (ICSID).[xv] Furthermore, each of the interviewees, as well as Inter-American Development Bank (IDB) experts, was asked to

provide a number of suggestions. Projects known for the creation of prominent conflicts in the past as well as in more recent years were included to evaluate how the nature of such conflicts has changed over the years. A case summary was created for each project, highlighting the nature of the main conflicts reported in each specific project, the consequences of the conflict for the infrastructure firms and national governments, as well as the company's response in each case.

Then, we conducted multiple axial coding analysis on interview transcripts and case narratives to identify emerging categories that capture and explain infrastructure conflict nature and impacts, as well as company responses to conflict. Our analysis and coding was informed by previous work on the subject. Please see Appendix M for the coding terms. The final steps of data preparation were the population of multiple spreadsheets of the case and interview values per the coding items, where we based our statistical analyses on the nature and consequence of conflicts. Please see Appendix A for more elaboration on methodology, data sampling, and the statistical significance of findings.

FIGURE 1. MAP DISPLAYING THE 200 PROJECTS PER COUNTRY AND PER SECTOR.

## 3. DATA

### The 200 Project Database

The project database was developed to represent the diverse range of infrastructure in LAC over the last 40 years. The database includes projects from the waste, water, urban development, energy, transportation, and resource extraction infrastructure sectors, across 20 countries (Figure 1 and Appendix L). It should be noted that urban development projects usually include large-scale interventions in the city that combine real estate development with modernizations and/or renovations of public spaces and other infrastructure, e.g. old port areas or neglected parks. The selection of countries includes LAC countries that have had the highest rate of infrastructure and economic development, such as Brazil, Mexico, Chile, Argentina, and Colombia, and those rich in natural resources with high rates of urbanization and potential for economic development, such as Bolivia, Ecuador, and Peru. With the goal of evaluating whether the nature of infrastructure conflicts has changed over the years, the database includes projects developed from the 1980s until today.

Recognizing the fact that LAC has gradually become the world's most urbanized region, the database includes projects developed in both rural and urban settings with the purpose of evaluating whether rural and urban environments lead to different types of conflict. Rural projects include transmission lines, wind farms, resource extraction, and hydropower projects, among others. Projects in urban settings include waste and wastewater treatment plants, urban transportation such as Bus Rapid Transit (BRT) and subways, ports, airports, and water treatment facilities. Certain project types can be found in both rural and urban settings, such as thermoelectric power plants, highways, and waste management facilities.

The scale and cost of projects may differ significantly from country to country, and even among different regions within the same country. As such, projects were selected with the goal of representing as wide a range of these variations as possible. For example, projects range from landfills that accept 50,000 tons of Municipal Solid Waste (MSW) per year to ones that accept 2 million tons of MSW, hydroelectric projects that cost from US$70 million to US$4 billion, and transportation projects that serve between 50,000 and 6.1 million people daily.

Figure 2 has a breakdown of all infrastructure sectors while Figure 3 shows the subsectors within the resource, energy, and transportation sectors. Figure 4 displays the number of projects per country in the database.

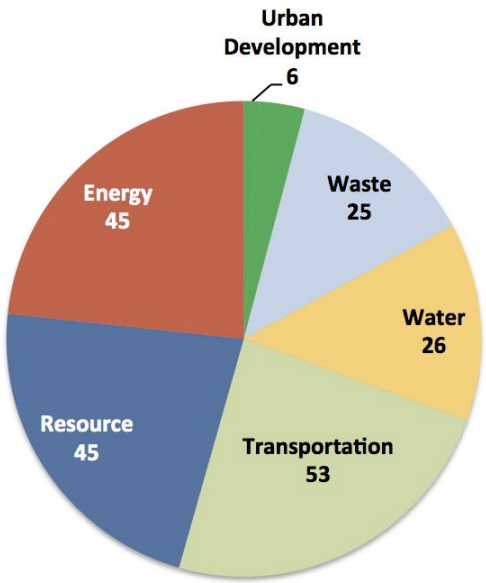



FIGURE 2. BREAKDOWN OF ALL SIX INFRASTRUCTURE SECTORS.

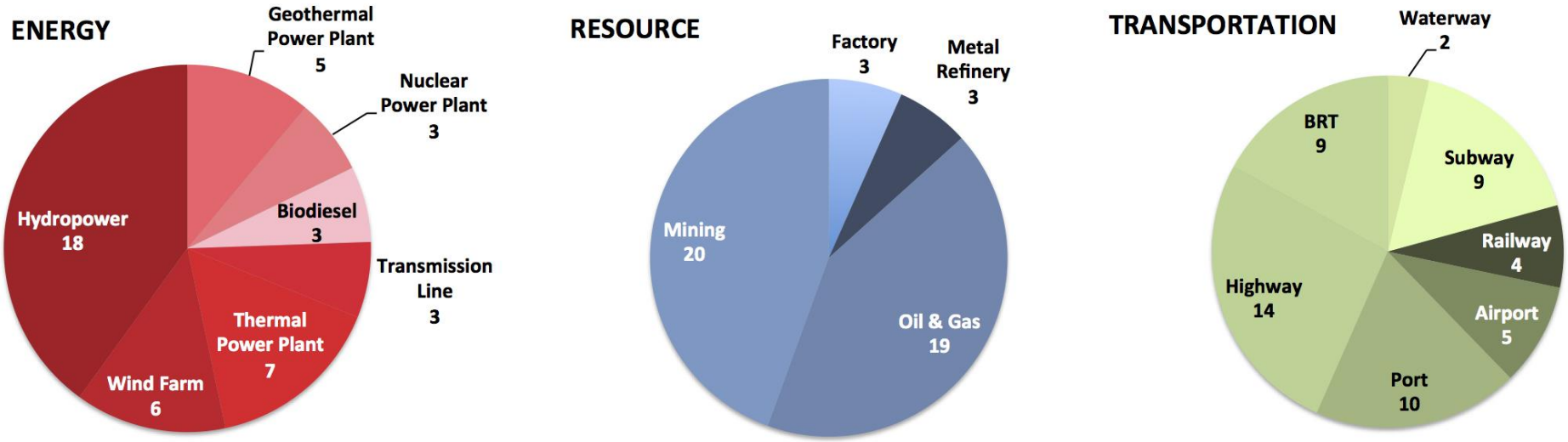



FIGURE 3. BREAKDOWN OF ENERGY, RESOURCE, AND TRANSPORTATION SECTORS.

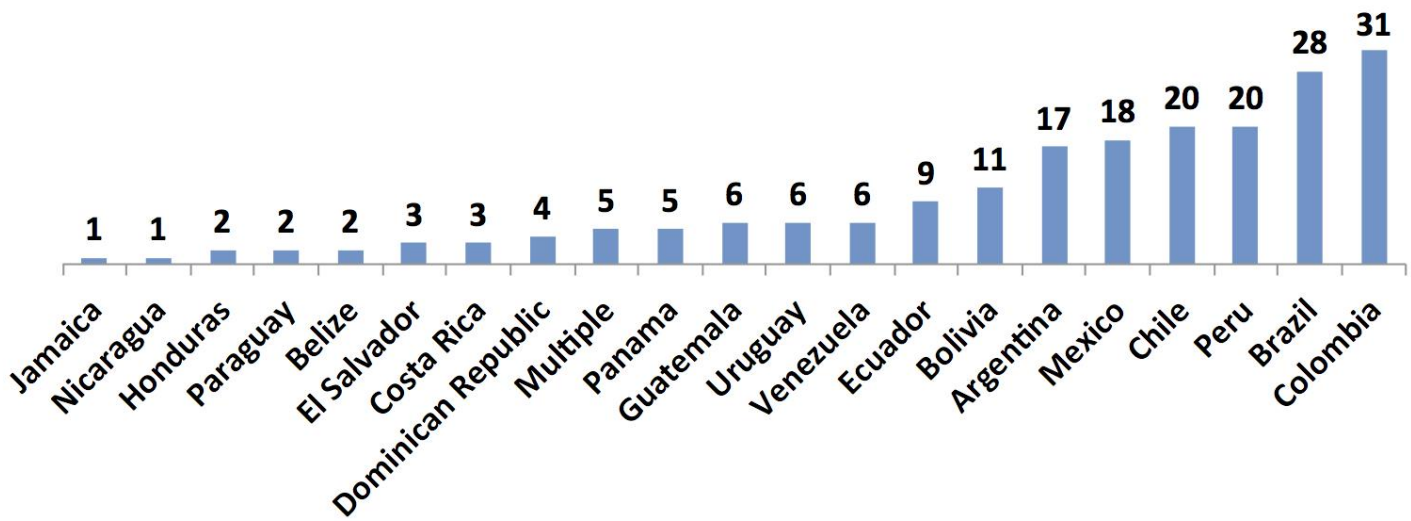



FIGURE 4. PROJECTS IN THE DATABASE PER COUNTRY.

## Interviews

32 interviews were conducted, targeted to the different agents involved in the process of developing an infrastructure project. Interviewees included executives of construction companies, operators, financiers, representatives of NGOs and research institutions, and sustainability specialists. Interviewees represented most countries in LAC but also included select individuals from other countries. See Appendix J for a list of individuals and companies included in the interviews. Figure 5 represents a breakdown of the interviewees per sector and per country. Interviews were conducted during June, July, and August of 2016, individually or in groups of people from the same company. A semistructured questionnaire (Appendix K) was distributed to the interviewees in advance, which they answered according to their experience. All interviews were recorded, with the permission of the interviewees, and then transcribed and codified for the analysis of emergent findings.

## Focus Group Validation of Results

The final step of our work was to share this study in a select group of senior finance professionals, to review findings and results. The reviewers were asked to start from a big-picture assessment, identify if the findings make sense and if there was anything unexpected or missing. Following up on any particular items identified in the review, reviewers were asked what matters most to them as an investor, and how does their company mitigate or deal with conflicts.

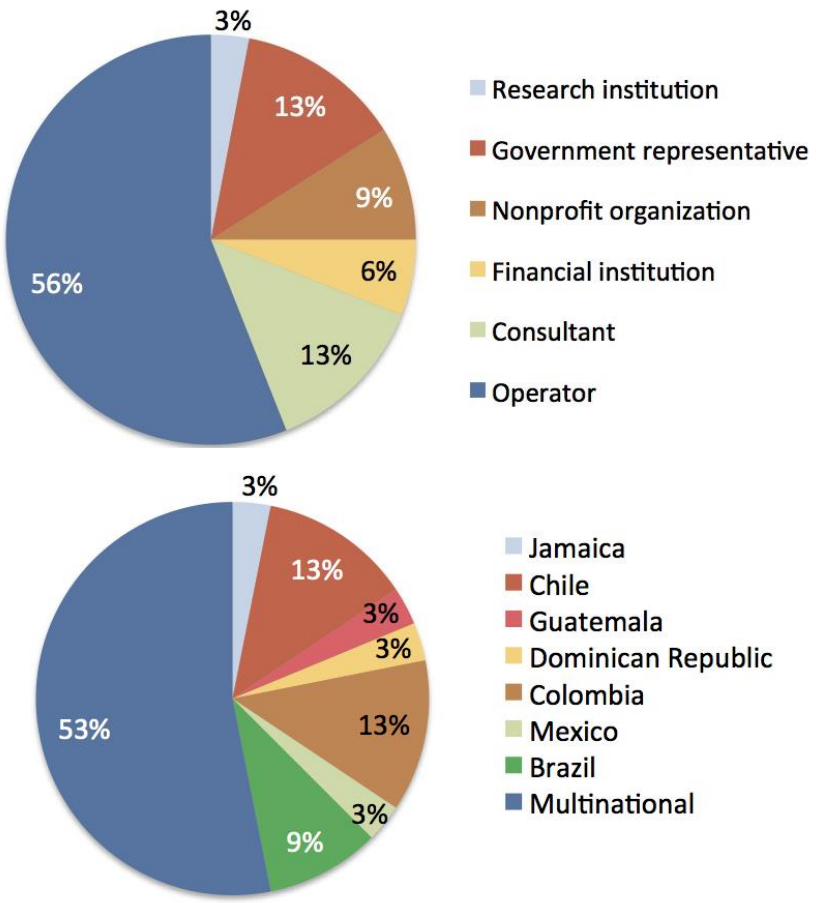



FIGURE 5. INTERVIEWEES PER COUNTRY AND POSITION.

# 4. FINDINGS

## 4.1. The Nature of Conflict is Multidimensional

The nature of conflicts is multidimensional, and more dynamic than is considered in conventional project decision-making. Several drivers of conflict are interrelated, and the emergence of one often causes a cascading effect that influences more drivers and can even exacerbate conflicts to violent confrontations. Overall, the evaluation of the project database shows that most projects faced social and environmental conflicts concurrently. The drivers of conflict were grouped in four categories: environmental, social, governance, and economic.

### Environmental Drivers of Conflict

Degradation of ecosystems (72% of cases) and pollution (67% of cases) are the most prominent environmental conflict drivers in the database. Furthermore, communities strongly oppose projects that they believe might cause damage similar to the damage of comparable projects elsewhere, even in other countries or continents. Our analysis shows that 28% of projects faced historically motivated community opposition.

*"It is extremely difficult for a company to develop a project in an area where there has been a conflictive project (e.g. mining). Even a different type of project." Senior executive at infrastructure operating company*

Deforestation led to conflicts in 24% of cases. In most cases, communities were concerned about the loss of natural capital. Water issues, especially excess consumption or pollution of potable water, were a conflict driver in 17% of cases. Finally, climate change became an issue of debate in 11% of cases. NGOs and independent scientists, in particular, opposed projects that required the conversion of, or development within, world-renowned natural ecosystems that help mitigate anthropogenic factors that lead to climate change, such as wetlands protected by the Ramsar Convention on Wetlands.[xvi]

Similar findings emerged in the interviews. 45% of interviewees reported that a community historically opposed to certain infrastructure usually includes three aspects. The first aspect is opposition against a certain project typology; bad practices during the last decades in projects such as hydropower or mining often affect the community's perception about these projects. Past environmental disasters, or the fear that such projects would affect their livelihoods (e.g. risk of water contamination in a fishing area), are common preconceived ideas that trigger conflicts. The second aspect is opposition against development in a certain area; the approval of local communities becomes complicated when projects are sited in areas where previous projects have created an adverse effect, even if the new project includes all necessary measures to avoid similar impacts. The third aspect is opposition against a certain developer. Communities are likely to oppose a specific company, especially when developing an area's ecological and cultural value is at stake. This opposition may come from the distrust on the developer coming from past failures in other projects or locations, an effect aggravated lately by social media. Opposition can also be reinforced when a foreign developer faces distrust of local communities that are in principle against international ownership of their infrastructure and resources.

In cases facing historically motivated opposition, firms have to put added effort so as to avoid conflicts based on past prejudices. One example is the Cartagena Channel Dredging project in Colombia, where construction was disrupted multiple times for reasons similar to the ones described above. In this case, the team had to prove that the allegations against the project were false in order to resume work. According to some figures provided by the project team, the expected investment in community engagement almost doubled from US$1.5 million to US$2.5 million due to negotiations. Figure 6 summarizes the environmental conflict drivers for all projects.

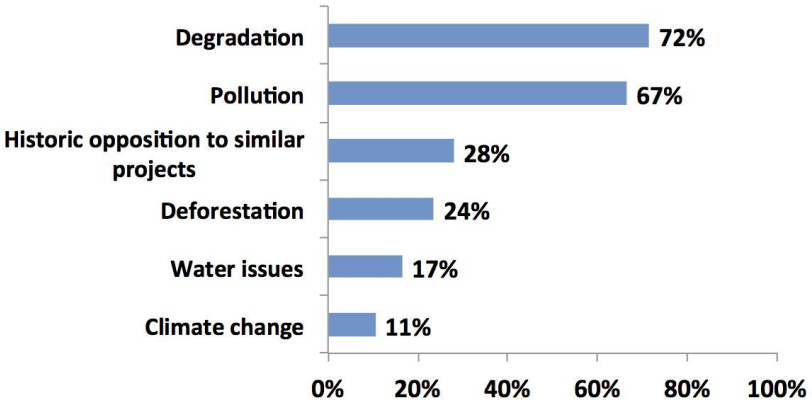



FIGURE 6. SUMMARY OF ENVIRONMENTAL DRIVERS OF CONFLICT, ALL PROJECTS.

## Social Drivers of Conflict

Lack of community benefits led to conflicts in 84% of cases. Communities were concerned that they would have to endure the project's negative impacts without receiving adequate benefits as compensation. In large infrastructure projects this becomes a complex challenge, as such projects might affect ecosystems and communities' tens of kilometers away. Reduced access to resources led to conflicts in 78% of cases. In most cases, local communities were concerned about losing access to agricultural and marine resources they depend on for their livelihoods and daily income.

Impacts on the traditional value system of local people (70% of cases) and lack of local jobs (47% of cases) are prominent, often interrelated conflict drivers. Many communities regard infrastructure as an opportunity for economic development and demand a sizable portion of project-related jobs to be allocated to them. However, some other communities oppose large infrastructures and are afraid that such projects would alter their way of life and degrade their traditions. In certain cases, a community was divided between those who wanted the project for its economic development opportunities and those who opposed the project for its impact on their traditional way of life.

Forced relocation of people led to conflicts in 33% of cases. Especially in countries with significant indigenous populations without legally protected land rights, the land expropriation and relocation process remains a major hurdle for firms. In many cases the relocation process initially did not seem challenging, but later led to significant conflicts. In rural settings, for instance, when planned in advance, relocation processes could be implemented faster than in urban settings. It is easier to select from alternatives or propose a different project route or location in rural projects, as vacant parcels of land are more easily available.

61% of the interviewees reported that external groups with hidden political or economic interests can disrupt the process of coming to an agreement. In general, frustrating communities during the earliest phases can have a significant effect on whether they would accept the project over the long term, regardless of the project typology or the quality of the works. Another major issue is unplanned migration. As a result of large developments, in particular the creation of new job opportunities, groups of people move to the project area to seek jobs or to occupy land in order to request compensation as if they were long-time residents. This rent seeking behavior becomes more and more frequent and makes it very difficult to implement just and fair compensation schemes. The sudden inflation of affected people in the region makes it much more costly to acquire the land rights and manage the resettlements in a fair way.

*"Conflict is a business." Executive at infrastructure company*

Technology issues led to conflicts in 18% of cases. Technology becomes a social issue when user groups or affected communities do not completely accept or understand the application of a new system or solution that resolves a particular issue or impact in infrastructure. In these cases, experts and regulators have vetted the new technology. However,

it is the general public that a priori rejects it or does not use it during operations. Urban transportation systems, landfills and thermoelectric plants faced such issues. Abuse of labor rights led to conflicts in 15% of cases. In these cases, workers complained about poor working conditions and the lack of a risk management framework to enable them to work safely. Last but not least, crime (11%) and prostitution (4%) are among the social conflict drivers. These provided tensions between communities and developers in isolated regions, where a project led to large inflows of workers. Figure 7 displays the social drivers of conflict for all projects.

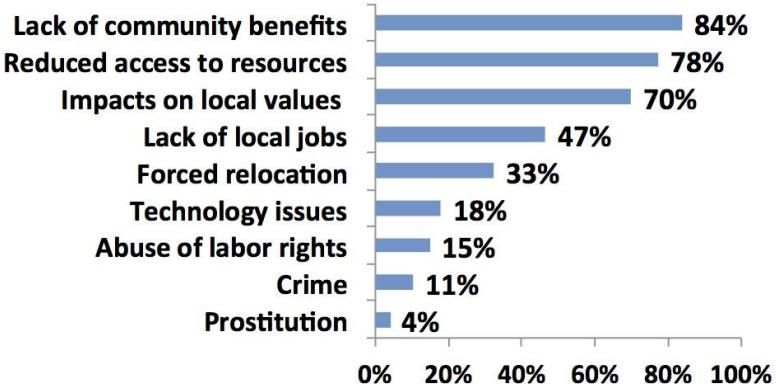



FIGURE 7. SUMMARY OF SOCIAL DRIVERS OF CONFLICT, ALL PROJECTS.

## Governance Drivers of Conflict

Deficient planning is the most dominant conflict driver in the governance category and overall. Deficient planning aggravated conflicts in 86% of cases in the database, and was reported by 74% of the interviewees as a conflict driver. Planning includes project type and site selection, key project technologies, and long-term strategies on how the region would develop after the project. In many cases conflicts escalated because government planning did not anticipate specific project impacts or did not provide guidance for the implementation of infrastructure works.

Lack of adequate consultation (or just absence of consultation) led to conflicts in 74% of cases. This was a particularly significant conflict driver for populations which did not have the right to a formal consultation, or have acquired such right only very recently. In fact, conflicts escalated in almost 90% of cases involving indigenous peoples because potentially affected communities were not consulted about the project. Even countries that have enacted legislation to safeguard the rights of indigenous populations often lack the institutional capacity to enforce these principles. For example, Peru has enacted some of the most innovative laws to safeguard the rights of indigenous populations. However, although it ratified the ILO Convention 169 in 1994, it took more than 20 years before these were applied for the first time in a Peruvian mining project.[xvii]

Lack of transparency in project-related information and the decision-making process led to conflicts in 68% of cases. The rights of local communities to access such information are increasingly supported by national laws throughout LAC. In spite of this, unwillingness of firms and governments to provide such information has increasingly led to conflicts, Corruption led to conflicts in 34% of cases. Corruption was often related to the transparency driver, as corruption allegations were preceded by lack of transparency and willingness to share project information.

55% of the interviewees also reported unrealistic expectations as a common conflict driver. These include (i) high expectations from the community, and/or (ii) high expectations from the government. Local communities are exposed to a wide variety of agents, ranging from government officials, international organizations and NGOs to company representatives. Lack of a single voice and a clear line of communication with the community, combined with lack of basic services in certain areas puts additional pressure on the developer. Local communities expect –in some cases due to political promises– that many different infrastructure services will be provided by the developer. These expectations are likely to generate frustration and discontent in the population, and in the worst case, project delays or cancellations.

Previous bad reputation led to conflicts in 14% of cases, with past actions of firms or the negative impacts of past projects aggravating conflicts. Insufficient local participation in the project company (8% of cases) is also a conflict driver. Communities increasingly demand to be included in the entities responsible for managing operations as well as those managing social engagement initiatives. Figure 8 displays the governance drivers of conflict for all projects.

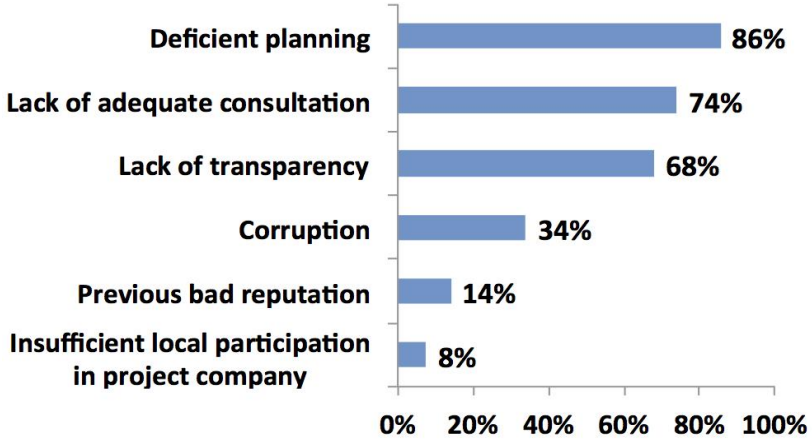



FIGURE 8. SUMMARY OF GOVERNANCE DRIVERS OF CONFLICT, ALL PROJECTS.

## Economic Drivers of Conflict

In 38% of cases conflicts escalated because the government did not implement the works it had agreed to in the project agreement. Such works might include the construction of specific project components, development of new institutions, or providing community engagement initiatives. Unjust profit distribution led to conflicts in 24% of cases. In these cases, local communities and governments complained about project profits being distributed to more urbanized regions.

The price of infrastructure service (27% of cases) and excessive profit level (13% of cases) are also common economic drivers of conflict. Local communities and stakeholders often alleged that projects were overpriced and that the infrastructure service (such as provision of energy or water) cost its users too much. These issues are particularly prominent in urban transportation and water projects in the database. Many BRT and subway projects were delayed because of such conflicts, whereas many water privatizations failed because people considered access to water to be a right and not a service that can be priced as high as the full cost of processing and transporting the water.

Wage disputes led to conflicts in 14% of cases. Well-organized unions were effective in demanding better wages and additional benefits for workers, many times disrupting project activities leading to multiple indirect negative consequences such as delays and cost overruns in highly populated urban centers. Figure 9 displays the economic drivers of conflict for all projects. Figure 10 on the next page summarizes the interviewee responses on the nature of conflicts.

Anecdotal evidence suggests that sometimes a competitor may be behind the emergence of a conflict, with the ultimate goal to stop an infrastructure project. However, our case research did not identify such claims in published sources or statements.

*"A competitor blocking a project nearby through environmental or social claims is the elephant in the room. Everyone in the industry knows it can happen, but no one talks about it."* Executive at finance company

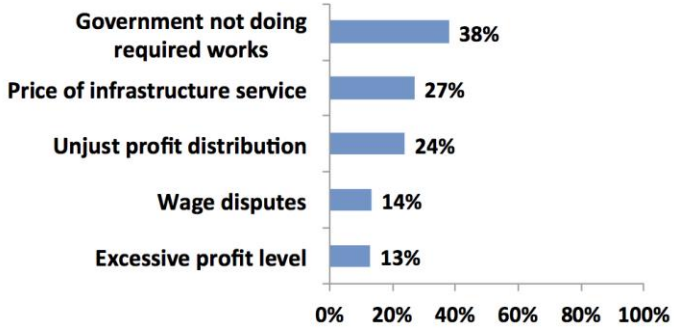



FIGURE 9. SUMMARY OF ECONOMIC DRIVERS OF CONFLICT, ALL PROJECTS.

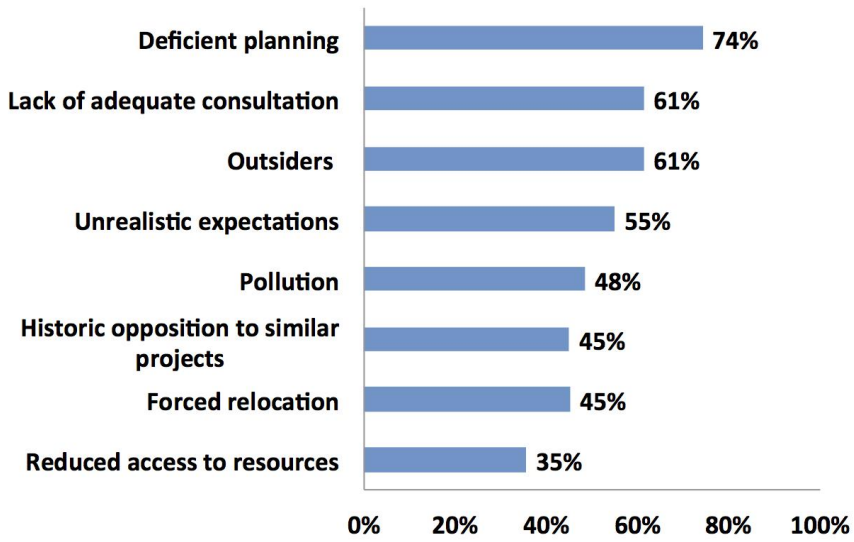



FIGURE 10. INTERVIEWEE RESPONSES ON THE NATURE OF CONFLICT.

## Conflict Escalation

The next step of our analysis was to evaluate how conflicts escalate. We found that conflicts usually escalate in a similar manner. Opponents start with press statements (100% of cases) and administrative complaints (96% of cases). If these are not successful in resolving the issue, protests (90% of cases) and blockades (51% of cases) come along, followed by litigation (63% of cases) and arbitration (10% of cases). Projects when operational can also be boycotted (7% of cases).

In cases of very conflictive projects, protests and blockades have escalated to violent confrontations (29% of cases), leading to injuries (24% of cases), and damage to property (18% of cases). In the most extreme cases, confrontations have resulted in loss of human life (15% of cases).

## 4.2. Conflicts Cause Projects to Fail and Harm National Economies

The consequences of conflicts range from delays and cost overruns to project cancellations. They entail non-technical risks and time and budget overruns that can damage the business case and the operational model of infrastructure firms heavily, yet such impacts are regularly underestimated or not considered at all.

The potential for unexpected impacts increases rapidly when developing projects in urban centers. Disruptions in urban environments may delay project activities in multiple ways and cause a cascading effect, introducing more delays and overruns. The potential for project activities to unexpectedly affect nearby communities is also far greater in the city.

Project delays (81% of cases) and cost overruns (58% of cases) were the most common conflict consequences at the project level. The average delay from all projects listed in the available literature is approximately 5 years. Similarly, the average publicly reported cost overrun from all projects that faced cost overruns is US$1,170 million, or 69.2% of average original budget.
It should be noted that our research identified delays or cost overruns only in cases where these were quantified in a source. It is highly likely that

many more, if not all, projects had delays and cost overruns that were not quantified or mentioned in publicly available sources.

*"THE BUDGET ASSOCIATED WITH LOGISTICS DOUBLED DUE TO BLOCKADES. THE ADDITIONAL MONITORING REQUIRED IN THE PROJECT WAS NOT FORESEEN… THE INDIRECT COSTS, SUCH AS DAMAGE TO VEHICLES OR RESOURCES HAVE NOT BEEN ESTIMATED TO DATE." COUNTRY MANAGER AT INFRASTRUCTURE HOLDING COMPANY.*

An independent expert review to help ameliorate or explain the conflict was observed in 57% of cases. Both developers and project opponents asked for expert reviews. The consequences of such reviews can be negative in terms of bad press coverage and modifications if the experts highlight any mistakes, but also positive if the experts conclude that the developer had done nothing wrong.

Project redesign (42% of cases) is also a prominent conflict consequence in the database. Such modifications create high additional costs for the project, while they also come with delays, as some project activities have to be postponed in order for the firm to implement the modifications. In many cases where a project redesign was required, independent experts evaluated the updated proposal as a much better alternative. This creates a strong link between the deficient planning driver and the request for redesign.

In most cases where a project redesign was required, experts argued that conflicts could have been avoided had the government and the developer agreed to develop the project in another location or in a way that incorporated community concerns into the design. This also applies to the project relocation consequence, which was observed in 7% of cases. A change in joint venture participants was observed in 13% of cases. Finally, 18% of projects were cancelled outright because of conflicts. The interviewees reported project delays (48%) and cost overruns (39%) as the most common impacts on projects from conflicts. Figure 11 summarizes the impacts of conflict at the project level, for all projects.

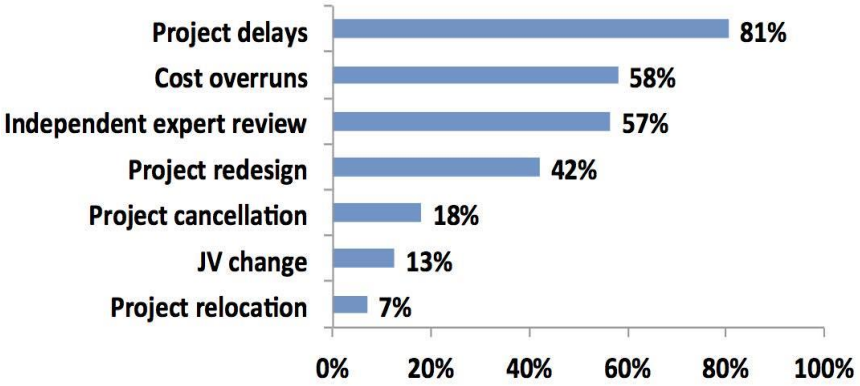



FIGURE 11. SUMMARY OF CONSEQUENCES OF CONFLICT AT THE PROJECT LEVEL, ALL PROJECTS.

Conflicts may also result in legal and administrative impacts. Reputational damage was observed in 95% of cases. Impaired reputation affects credibility and can harm investors and developers while developing similar projects in the future, as evidenced by the importance of the historically motivated opposition and previous bad reputation conflict drivers. In many cases, a newspaper or online article alleging that the infrastructure firm has violated or is ready to violate the law is enough to intensify conflicts. Nowadays, communities have ample access to information. Social media enable them to mobilize and demonstrate their opposition to projects rapidly in ways unheard of in past decades. NGOs are also able to easily organize online campaigns against projects that quickly attract international attention.

Redress payments and fines were observed in 30% and 20% of cases, respectively. Fines and redress payments were often a result of violations of environmental and consultation law and failures to conduct necessary environmental impact studies. Finally, amendment of the concession and imprisonment were penalties observed in 27% and 5% of cases,

respectively. The imprisonment consequence was directly linked with fines in many cases, as it was imposed due to contract irregularities and corruption. 42% of the interviewees reported that reputational damage is usually among the most significant consequences of conflict for companies. Figure 12 summarizes the administrative and legal consequences of conflict.

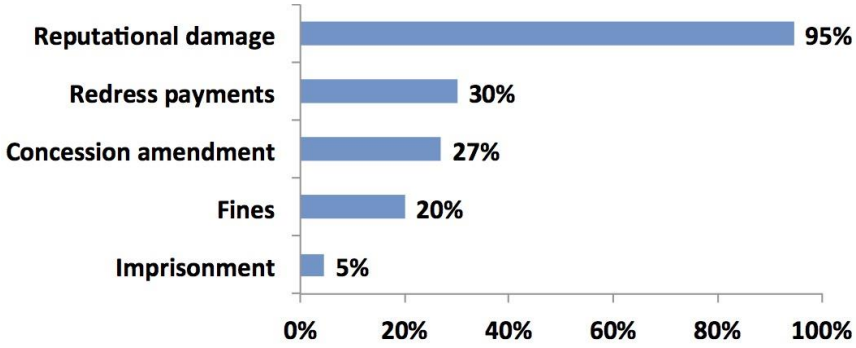



FIGURE 12. SUMMARY OF ADMINISTRATIVE AND LEGAL CONSEQUENCES OF CONFLICT FOR PROJECT SPONSORS, ALL PROJECTS.

In many cases, conflicts were detrimental to the country's economy in terms of forgone royalties and lost development opportunities from cancelled projects, losses that might be felt in its economy for decades. Conflicts might also escalate to the point where presidents resign and government administrations change, or might result in considerable political damage that facilitates such a change in the immediate future.

*"The consequences of conflicts are diverse. The most important are lack of confidence for investment, lack of legal certainty, lack of confidence in the work done by institutions, unaccountable governments, and instability during the development process... For domestic and international investors, this is a bad message that creates uncertainty and discourages investment."* Division head at infrastructure operating company

Loss of productivity (22% of cases) and lack of development (20% of cases) were the most frequent consequences of conflict at the national level. Most projects in the database had general development and growth as a key objective. When projects are delayed or cancelled, these benefits often do not materialize. Loss of foreign investment (17% of cases) was an equally important consequence, as many of the regions traditionally lack investments in infrastructure and public services. Change of government was observed in 2% of cases. Conflicts also resulted in political damages that weakened governments. In some cases, the opposition gained a political advantage for upcoming elections through conflictive projects.

Interviewees reported loss of productivity (19%), lack of development (13%), and loss of foreign investment (13%) as frequent national consequences of conflict. Figure 13 displays the national consequences for all projects in the database. Figure 14 summarizes the responses of the interviewees on the consequences of conflicts, across all categories.

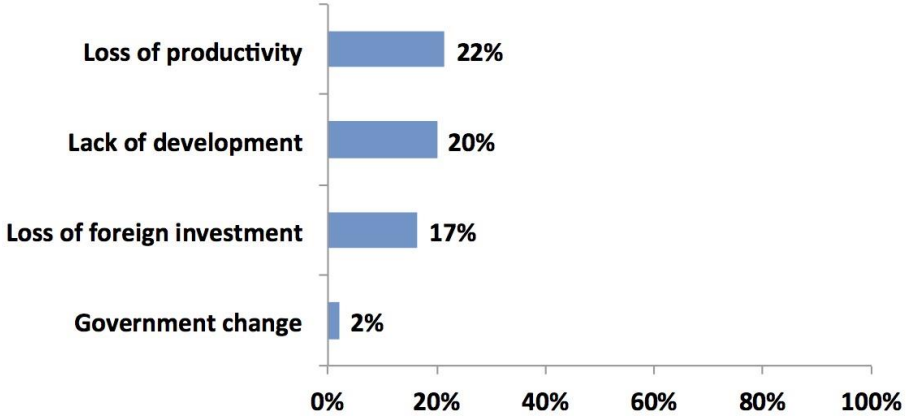



FIGURE 13. SUMMARY OF NATIONAL CONSEQUENCES OF CONFLICT, ALL PROJECTS.

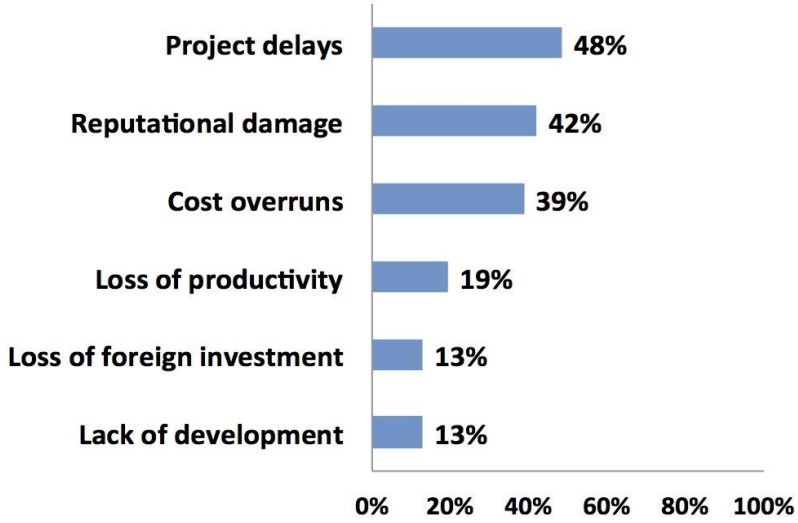



FIGURE 14. INTERVIEWEE RESPONSES ON CONFLICT CONSEQUENCES.

## 4.3. Conflicts Are Not Addressed Systematically

Our analysis shows that many firms spend a lot of time and effort in addressing conflicts. However, several interviewees mentioned that some firms are hesitant to invest upfront and address conflicts in advance. In 86% of cases firms took action to address conflicts, but in 14% of cases firms remained unresponsive to conflicts. The specific circumstances of whether and how companies decide to address a conflict differ, but the overarching strategies can be grouped in three categories: general company actions, provision of community benefits, and provision of environmental benefits.

### General Company Actions

In 91% of cases, firms addressed conflicts merely with press statements. Such statements expressed various opinions on why the conflicts had escalated, and whether the firms developing the projects were responsible for such conflicts. In cases where projects clearly indirectly or directly resulted in environmental and social impacts, firms in general demonstrated a willingness to address and evaluate the case. When the conflict was about the lack of compliance with environmental law, consultation requirements, or community benefits, evaluating the response of the company became increasingly complex.

In most cases the national government is responsible for ensuring compliance with such laws, while in some cases such laws did not exist in the country in question. Firms often argued that they complied with all relevant laws as required by the environmental impact assessment (EIA) process. In cases where the EIA process was deficient, most firms did demonstrate a willingness to implement necessary modifications. Furthermore, executives stated that political groups take advantage of local communities to promote their interests and gain political advantage by fueling conflicts.

Although lack of adequate consultation or no consultation is a major conflict driver, many firms did not demonstrate a willingness to consult with communities once conflicts escalated. In 69% of cases firms did conduct a consultation process as a response, but often a lot of damage had already been done in terms of delays and cost overruns.

The interviewees reported that the requirements for consultation vary according to the country under analysis. In most cases, the government is responsible for conducting consultation. But due to lack of expertise or resources, governments often delegate the responsibility to the developer. According to experts in conflict resolution, unrealistic project timelines often derail the consultation process. Contractual agreements or political agendas accelerate the timeframe for the completion of projects, leaving insufficient time for engaging stakeholders.

*"There is a big gap between the recognition of the particular set of skills to facilitate stakeholder engagement and the BAU process of companies rushing through it to get permits."* Research scholar & conflict expert.

Furthermore, communities regard the issue of transparency as more critical than many firms do. Although firms may begin the community engagement process with best intentions in mind, lack of transparency and capacity to follow consultation good practices leads to conflicts.

*"People who are in charge of negotiations with the communities often choose the approach of 'transfer of resources' (monetary transaction) rather than assessing their real needs. It would be much more efficient to identify their needs, and provide training and investments to create a sense of ownership."* Sustainability practice leader at multinational consulting company

Around 60% of the interviewees acknowledged the importance of a conflict management framework as a strategy to minimize conflicts. However, just one interviewee reported such a system beyond a conventional social responsibility plan.

*"[Conflict management] looks like a purely transactional issue by applying legal solutions instead of trying to gain the trust of people."* Division head at extractive company

The involvement of independent experts to provide an objective evaluation on ongoing conflicts was effective in dealing with conflicts in 39% of cases. Most project opponents in such cases did regard a third-party intervention as objective and meaningful, especially when experts were members of International Financial Institutions (IFIs) or reputable international organizations. Independent experts stated that some firms are aware of the consequences of conflict but are not always aware of community engagement and consultation good practices.

*"Governments are starting to understand (e.g. Peru) that conventional assessment processes relying on a single consultant to do a variety of analyses are not robust enough. You need many people with different areas of expertise, that are experts on local communities, have good manners, and speak the local language, as opposed to having technocrats that speak with facts local people do not understand. Stakeholder engagement is a skill, not something that everyone can do easily."* Research scholar & conflict expert.

Regulatory compliance was observed as a response in 46% of cases. However, the interviewees reported that complying with regulatory requirements is not enough to minimize conflicts.

*"Complying with regulations in an effective manner usually represents about 20% of the total effort and commitment that our projects require to be on track."* Division head at extractive company

In 16% of cases, infrastructure firms implemented initiatives that exceeded local regulatory requirements to manage conflicts. These initiatives range from conducting consultation when national law does not mandate it and directly involving communities during construction or operations, to implementing socio-environmental initiatives at unprecedented scale and working with government to update conflicting regulations. These actions usually required a significant amount of time and resources. For example, community engagement often included negotiation roundtables to decide on additional environmental and social initiatives over many months. In some cases, firms negotiated with communities over five to ten years to move the project forward.

Force was observed as a company response in 12% of cases. Such a response almost invariably resulted in negative consequences. Most firms used security forces not as a means to violently repress protests but to safeguard their properties, as conflicts often escalate to property damages within the project site. In some extreme cases, when conflicts escalated rapidly and community protests could not be contained, the government ordered police and army forces to violently break up protests.

Then, in 19% of cases, firms decided that abandoning the project would be their better option. In particular, in 3% of cases firms had to file for

bankruptcy as a response to ongoing conflicts. In these cases, firms had already suffered a substantial amount of economic damage because of conflicts.

Finally, in 14% of cases firms took no action to avoid or address conflicts. In fact, some infrastructure firm executives have stated that mitigating conflicts in advance is often more time-consuming and expensive than dealing with potential issues as they arise.

*"In our country, there is the notion that it is cheaper to go ahead without defining comprehensive measures and pay the price afterwards in terms of compensation and dealing with conflicts. Just making the business run and then dealing with the consequences is considered to be the most efficient way to do things."* Executive at environmental NGO

Most interviewees reported the use of a risk and conflict management framework (58%) and regulatory innovation (45%) as effective responses in dealing with conflicts. 32% of the interviewees reported that they usually try to have local representatives assess disagreements. Representatives in some cases are trained in conflict resolution, and try to manage conflicts before they escalate to more serious levels. 31% of the interviewees reported that companies often remain unresponsive to conflicts. Figure 15 summarizes the general company actions for all projects in the database. Figure 16 displays the interviewee responses on general company actions. Please see Appendix F for an overview on company responses to conflicts throughout the period of our research.

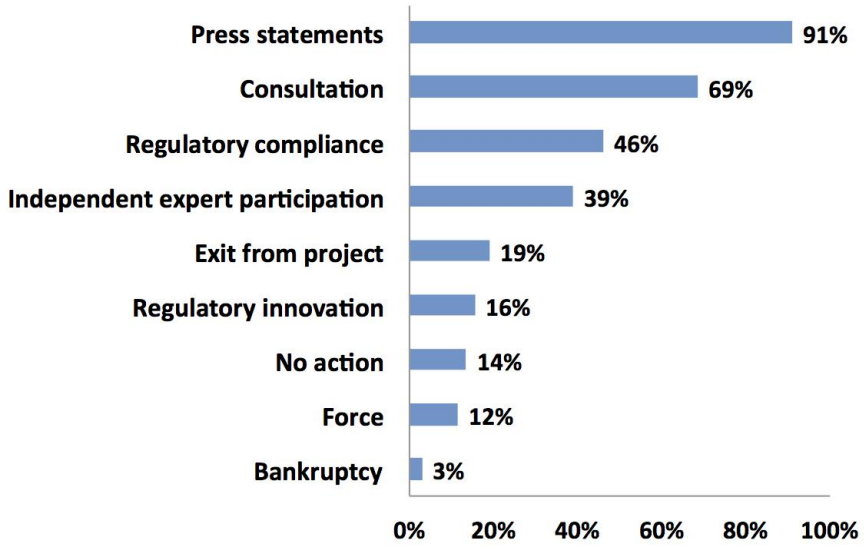



FIGURE 15. SUMMARY OF GENERAL COMPANY ACTIONS, ALL PROJECTS.

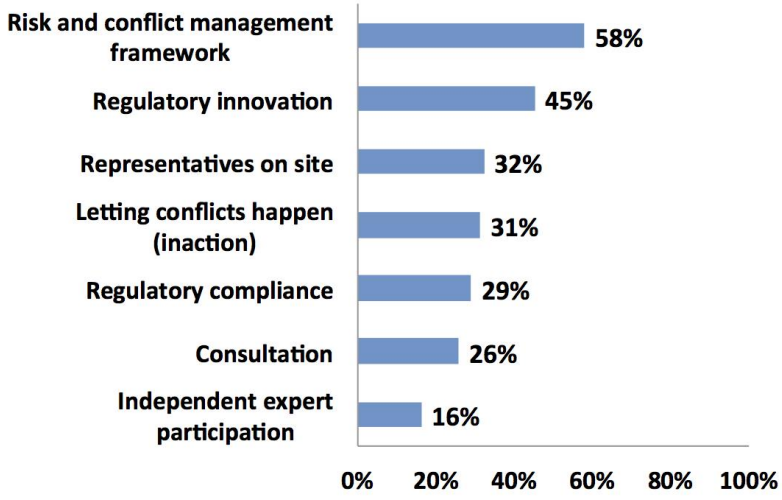



FIGURE 16. INTERVIEWEE RESPONSES ON GENERAL COMPANY ACTIONS.

## Provision of Community Benefits

Many firms provided investments in community infrastructure (47% of cases), capacity-building (42% of cases), jobs (39% of cases), and community cash payments (27% of cases). The interviewees reported that capacity-building initiatives may be targeted to leaders, members or both. In cases where communities request infrastructure and services that are normally provided by the government, firms provide technical support so communities can file formal requests to the government.

Capacity-building initiatives are also increasingly managed through the creation of a sustainable development fund to promote development in the area and provide education opportunities. According to several interviewees, providing cash payments through the renegotiation of agreements is a prominent response to conflicts. In this process, there are different aspects to be considered; first, the source of such payments, and then the effectiveness of that approach. When the project is private, developers can easily decide how to invest their capital. However, when the project is public, the capacity to renegotiate agreements is limited.

Such benefits are usually enough to satisfy the demands of communities in remote rural regions that have historically lacked such initiatives. However, when projects are implemented in more developed and urbanized regions, communities increasingly demand benefits that far exceed the basic provision of jobs and infrastructure.

In such cases, firms responded by involving communities in the project (11% of cases) through enhanced capacity-building initiatives. These enabled community members to acquire skills necessary to be employed by the firm during operations or to participate in various other project activities during construction. This was evident when waste management projects required the closure of landfills and waste-pickers were faced with losing their jobs.

In 1% of cases communities demanded an equity stake in the project to ensure that they would receive adequate benefits throughout operations. Similarly, in 5% of cases firms responded by increasing the government's equity stake. Figure 17 summarizes the community benefits as a response to conflict for all projects.

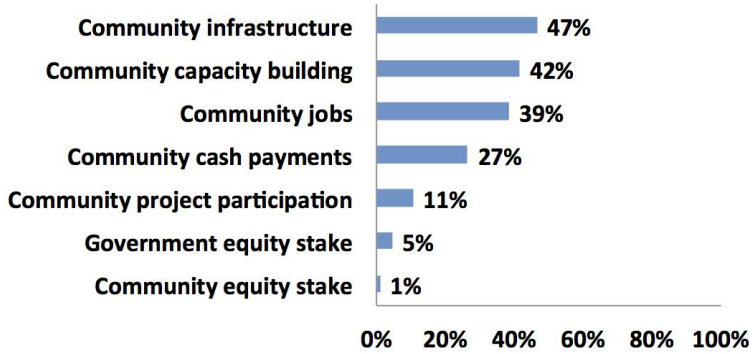



FIGURE 17. SUMMARY OF COMMUNITY BENEFITS, ALL PROJECTS.

The interviewees reported community infrastructure (42%) and community project participation (35%) as the most common community benefits. Figure 18 on the next page summarizes the interviewee responses on community benefits as a response to conflict.

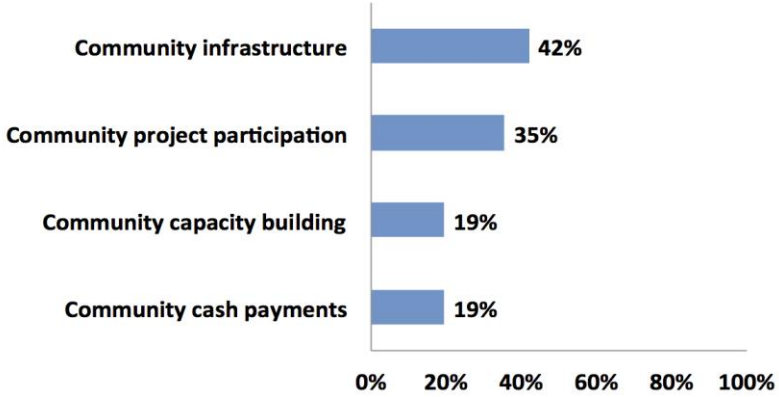



FIGURE 18. INTERVIEWEE RESPONSES ON COMMUNITY BENEFITS

## Provision of Environmental Benefits

Most firms implemented environmental improvement initiatives (32% of cases) to enhance natural environments, often covering hundreds of hectares. In 14% of cases, firms implemented environmental restoration initiatives to restore polluted and degraded natural environments. Finally, reforestation initiatives were identified in 11% of cases. Figure 19 summarizes the environmental benefits as a response to conflict for all projects.

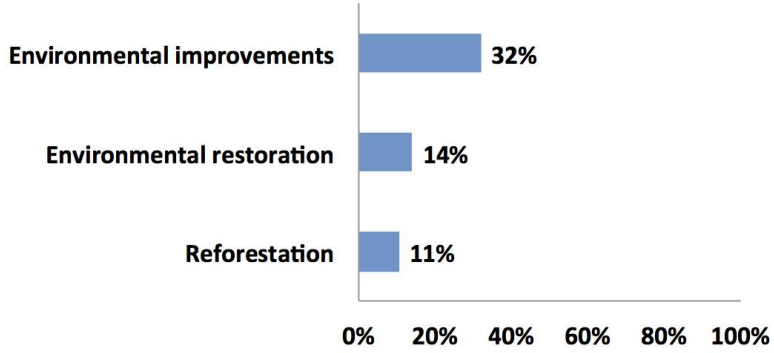



FIGURE 19. SUMMARY OF ENVIRONMENTAL BENEFITS, ALL PROJECTS.

## 4.4. Conflicts Affect Each Infrastructure Sector Differently

In general, although all six infrastructure sectors have seen conflicts, resource, transportation, and energy projects have been more conflictive. As shown in Figure 20, a higher percentage of conflicts escalated to high and extreme levels in projects within these three sectors. Please see Appendix C for an overview on conflict drivers per sector, and Appendix G for more information on conflict escalation levels and the conflict escalation point system.

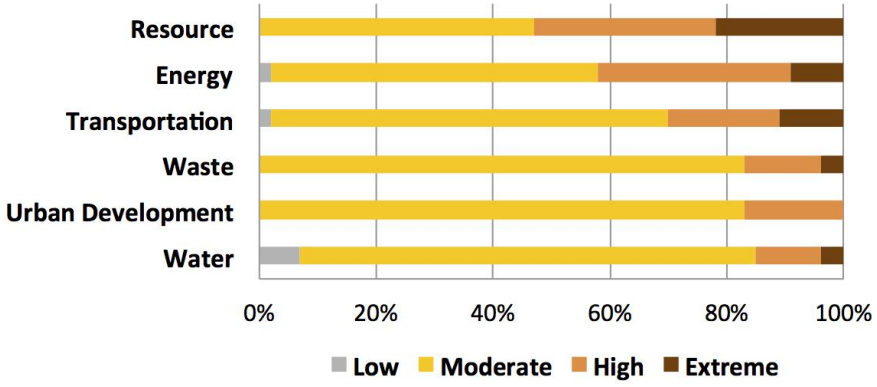



FIGURE 20. CONFLICT ESCALATION PER SECTOR, ALL PROJECTS.

We also evaluated whether conflicts in specific sectors result in more severe consequences. Figure 21 on the next page shows that conflicts in the resource, energy, and waste sectors on average led to more severe consequences. Conflicts in the urban development sector led to the least severe consequences. Please see Appendix G for more information on the conflict consequence point system.

Similarly, the average company response to conflicts differs considerably from sector to sector. Although higher-ranking responses to conflicts were observed from firms within all six infrastructure sectors, more comprehensive responses are observed in more conflictive sectors. Figure 22 shows that the average company response of firms developing resource, energy, and waste projects ranks higher in terms of our indicator. Water and urban development projects, which led to the least significant conflicts, had the lowest-ranking conflict responses. Please see Appendix G for more information on the company response to conflict point system.

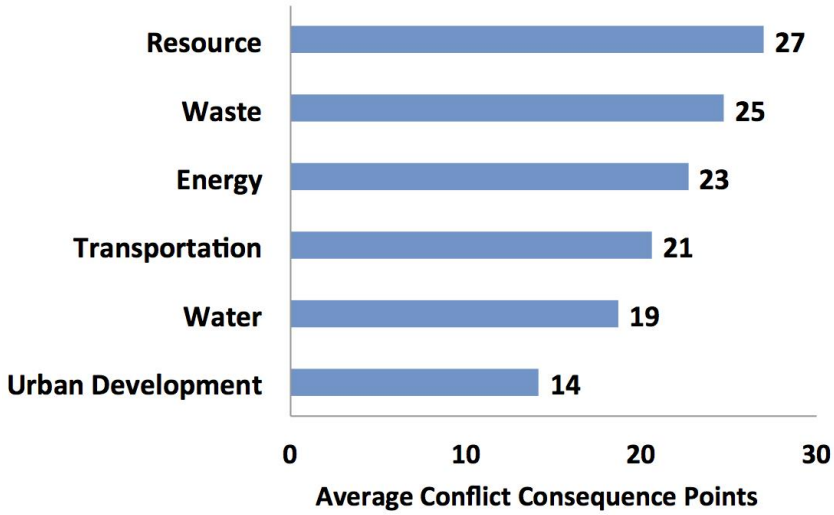



FIGURE 21. CONSEQUENCES OF CONFLICT PER INFRASTRUCTURE SECTOR.

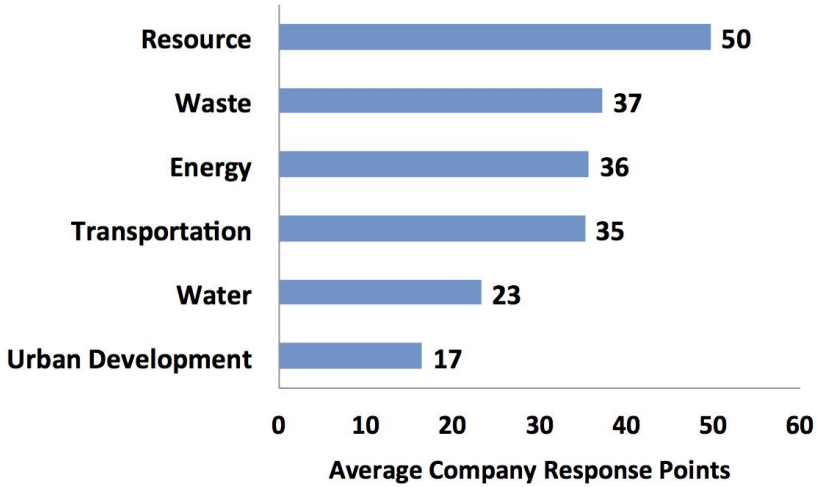



FIGURE 22. COMPANY RESPONSE TO CONFLICT PER INFRASTRUCTURE SECTOR.

## 4.5. Projects Are Vulnerable to Conflicts Early On

Conflicts can arise or escalate during all phases of a project's life cycle. However, our analysis shows that projects face more conflicts during the earliest phases (Figure 23). In fact, multiple projects included in the database faced conflicts as early as when they were announced. Several interviewees mentioned that project opponents endeavor to disrupt project activities during the early phases and before the start of construction, because then the project is easier to modify or even stop.

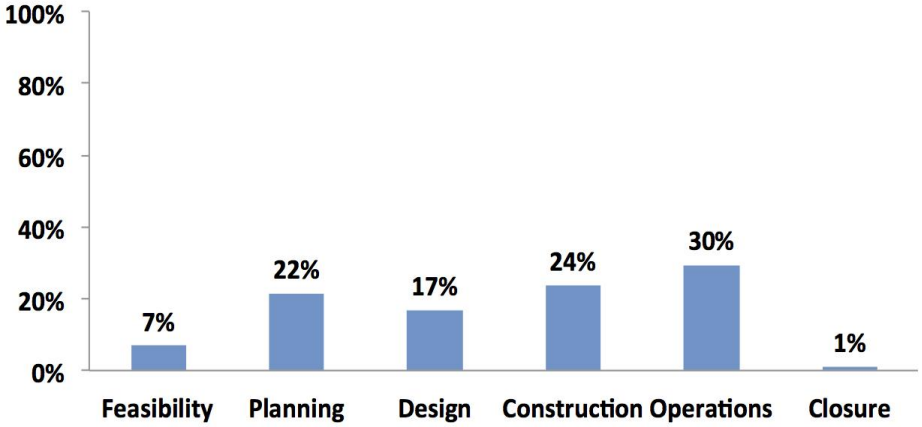



FIGURE 23. TIMING OF CONFLICT IN PROJECT CYCLE, ALL PROJECTS.

About half of the interviewees (49%) identified the construction phase as the most likely to see conflict, while 32% reported that conflicts arise early on during planning, 3% reported conflicts in operations and 7% in project closure. Around 30% stated that conflicts can occur in multiple phases. According to several company representatives, the first eight to ten months of the construction process is the riskiest period, though this period can vary according to project type and scale. Project owners reported that lack of a robust regulatory framework, inconsistencies in the licensing process, unclear land ownership status, or disagreement regarding the compensation process led to conflicts early on. Figure 24 shows the interviewee responses on when conflicts are likely to occur.

*"In hydroelectric projects, conflicts occur during pre-feasibility because of community concerns and expectations. Then during construction. In a few cases conflicts also occurred during operations. [...] In mining projects, conflicts usually occur during operations, as communities begin to perceive negative effects, for example: pollution, excessive water use, hazardous waste."* Division head at infrastructure operating company

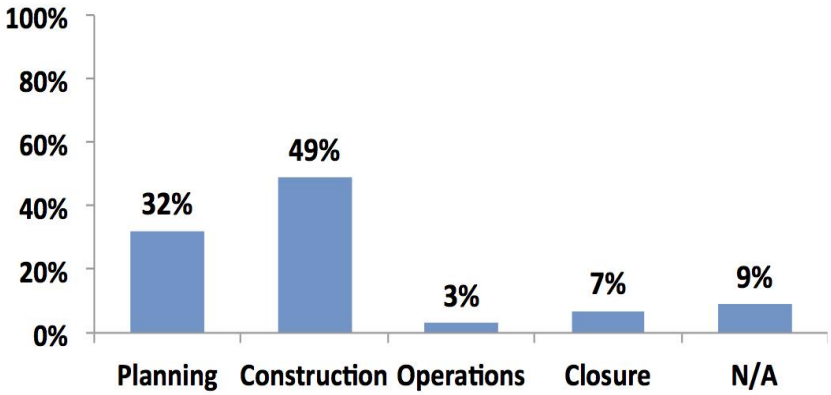



FIGURE 24. INTERVIEWEE RESPONSES ON THE TIMING OF CONFLICT IN PROJECT CYCLE.

The point of time in the project cycle at which conflicts emerge has shifted over the last decades. As is shown in Figure 25 on the next page, projects developed until the 1990s faced most conflicts during the later project phases. More recent projects have faced conflicts earlier in the project cycle. This might be partly explained by the fact that communities did not always have the explicit right to be informed about projects in advance.

In some older cases, communities learned that a project would be developed within their premises when construction started. In fact, these older projects made countries and organizations adopt better standards. For instance, although not a necessity 20 years ago, access to project-related information and the free, prior, and informed consent of communities are legally recognized requirements in multiple LAC countries today. [xviii] Please see Appendix D for an overview on the influence of conflict drivers throughout the period of our research.

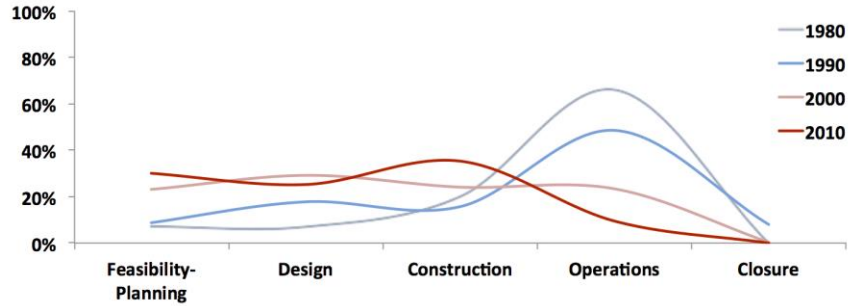



FIGURE 25. TIMING OF CONFLICT IN PROJECT CYCLE PER DECADE, 1980 – TODAY.

Through the 200-project case literature review and the interviews we observed that conflicts during the earliest phases result in more severe consequences. When conflicts arise during the earliest project phases, cost overruns, and project cancellations are more frequent. Delayed but still in progress projects show similar trends. Projects that are operational, however, faced conflicts later in the project cycle. Please see Appendix E for a graph displaying the relationship between the timing of conflict in project cycle and final project status.

We also found suggestive evidence that more recent projects in the database that faced most conflicts early in the project cycle also faced more severe consequences of conflicts. Overall, projects developed during the 1980s did face conflicts with substantial consequences, but at that time safeguards for communities and accountability mechanisms for developers had not yet been implemented. Thus, delays, modifications, redesigns, project cancellations, and loss of foreign investment were not as common in older projects in the database. Our conflict consequence

analysis showed that projects developed in the 1980s on average faced milder consequences than projects developed in the 1990s and 2000s. However, more research is needed to clarify if this is a trend.

## 4.6. Lack of Upstream Planning Is a Dominant Driver of Conflict

Deficient planning is the most dominant conflict driver. The location of projects, in particular, is a factor that can lead to widespread conflicts. Several interviewees pointed out the risk of deficient upstream planning which prevents the selection of better project sites and often hinders a long-term stable and sustainable development of a region. Projects are sited within pristine natural environments even when the law forbids this, or are planned around a region that has seen many conflictive projects. Unclear land rights exacerbate disputes about the significant land use change infrastructure projects entail and can lead to conflicts. If there are upstream plans which guide the siting of projects then they usually do not properly account for the significance of conflicts that can arise during the land expropriation process, as indigenous peoples have unclear land ownership rights to a substantial percentage of land in the LAC region. Furthermore, the lack of such long-term planning of successive governments has left some regions rich in natural resources without adequate investments. Communities in these regions often constitute the country's poorest segments. As such, disrupting projects is regarded as an opportunity to mandate long-overdue investments in infrastructure and public services that were promised but that never materialized.

*"Companies have the incentive to make sure that their projects are not going to create protests that result in cost overruns. But they do not have the incentive to do this early landscape level planning, which appears to be a government responsibility. It is a bit of a conundrum. Companies do not have the incentive for planning at that scale but have the finances to do it. Governments have the incentive for planning at that scale, as it is their responsibility, their national and cultural heritage and social commitment to the population, but they do not have the funding for it." Senior executive at environmental NGO.*

Community concerns, combined with a history of conflict and inequality in the region, were often inadequately handled or plainly ignored, increasing the likelihood of protests and disruptions. Existing unresolved grievances perpetuated an environment of mistrust, hindered communication, and diluted collaboration. In addition, issues such as the need to relocate people that were not part of the decision-making process often led to community protests. The cumulative impacts from developing many projects within a short distance and in regions that have not seen such developments before are rarely taken into consideration. In cases of multiple small projects happening in the same region, the impacts at the project level were insignificant but the cumulative impacts from all the projects weren't adequately considered and led to community opposition. In our quantitative analysis, we found suggestive evidence for a relationship between large-scale projects and increased conflict severity. Please see Appendix I for an overview of our analysis.

*"The underlying dynamic of every conflict we observed was that before the incidents there already was a history of underlying tensions and lack of trust between communities, government, and developers. They altogether exacerbated and escalated individual events to widespread conflicts. It's not that something went wrong unexpectedly and communities erupted without reason." Research scholar & conflict expert*

The impacts of deficient planning can be illustrated by national priority projects. Governments often promote infrastructure projects as being of national interest, often as part of political campaigns during election periods. Because of the expectations arising from such projects in terms of jobs, benefits for local communities, and investments in public services, they become more controversial. Especially in cases where firms and governments are not able to implement the promised initiatives because of economic or political issues, national priority projects lead to intense conflicts.

Through the project case literature review we observed that in some national priority cases in the database, authorities approved site selections and EIAs that may not have been in full compliance with national laws and regulations. In many cases, governments also disregarded community concerns and opposition in order to move the project forward as fast as possible. Although these projects were promoted as a significant opportunity for development, a common perception seems to exist among communities that they will not receive enough benefits from such projects. In most cases, government authorities did not manage to adequately explain how communities and stakeholders would benefit beyond the provision of jobs.

*"All projects in the Amazon region started with the promise of development, so we are interested in understanding how can we provide local development through infrastructure projects. ... This is a strategy for development in Brazil and Latin America, but what we are seeing is that projects are not facilitating regional development."* Executive at environmental NGO

To further evaluate the impacts of deficient planning in national priority projects, we calculated the conflict escalation, conflict consequence, and company response points for all national priority projects. We then compared the national priority project scores with the scores of the non-priority projects in the database. We found that national priority projects led to slightly more severe conflicts, but the major impact can be seen in conflict consequences and company response. Conflicts in national priority projects on average result in more severe consequences (Figure 26).

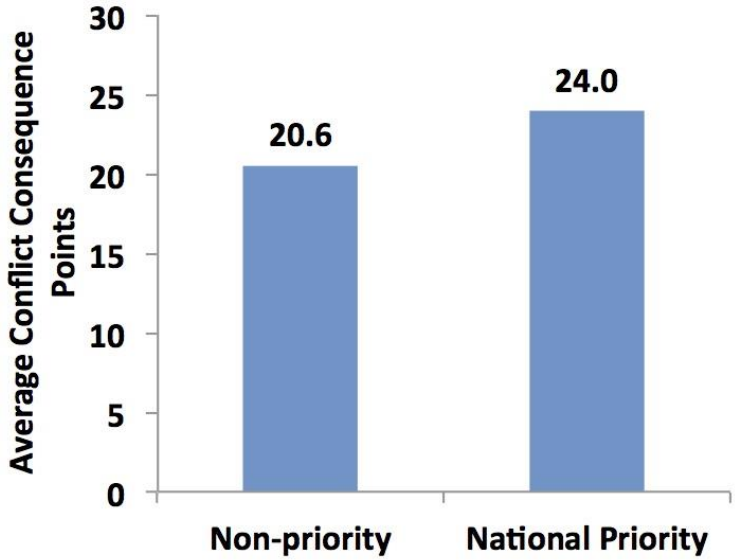



FIGURE 26. CONSEQUENCES OF CONFLICT, NON-PRIORITY AND NATIONAL PRIORITY PROJECTS.
SD(NON-PRIORITY) =11.6, SD (NATIONAL PRIORITY) = 14.6, T-STATISTIC (2) =1.95, P-VALUE=0.05.

Similarly, the average company response score for national priority projects is lower than the average response score for the remaining projects in the database. In other words, national priority projects are less likely to be prepared to address conflicts effectively (Figure 27).

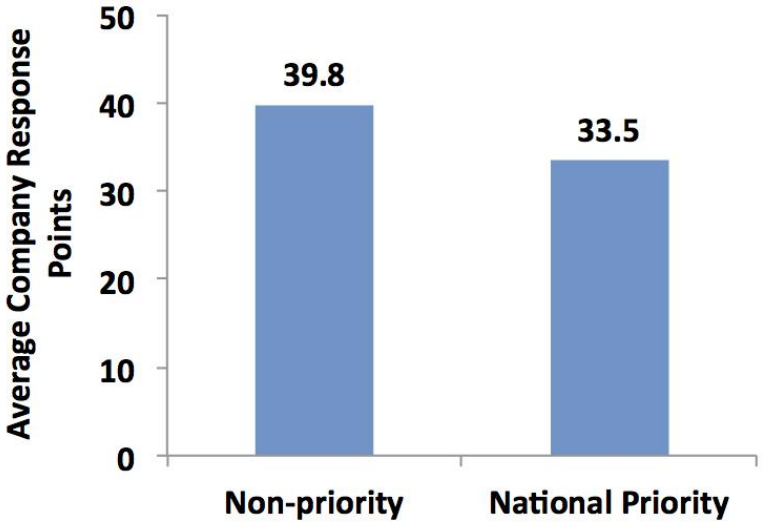



FIGURE 27. COMPANY RESPONSE TO CONFLICT, NON-PRIORITY AND NATIONAL PRIORITY PROJECTS.
SD(NON-PRIORITY) = 30, SD (NATIONAL PRIORITY) = 22.91, T-STATISTIC (2) =1.64, P-VALUE=0.1.

## 4.7. The Institutional Capacity of Countries is Important to Contain a Conflict

One prominent hypothesis is that conflicts tend to escalate to violent confrontations more easily and result in substantial consequences more often in countries that lack the institutional capacity to manage them effectively. To test this relationship, we used various indicators that reflect a country's institutional capacity. These were the World Justice Project's Rule of Law Index, GDP per capita, the Human Development Index (HDI), the Economist Intelligence Unit's Democracy Index, and the World Resource Institute's Environmental Democracy Index. The indicator that provided the most significant results is the Rule of Law Index [xix], which we present here, and in Appendix H you can find the results of all the indicators working as a meta indicator, which we named composite development indicator.

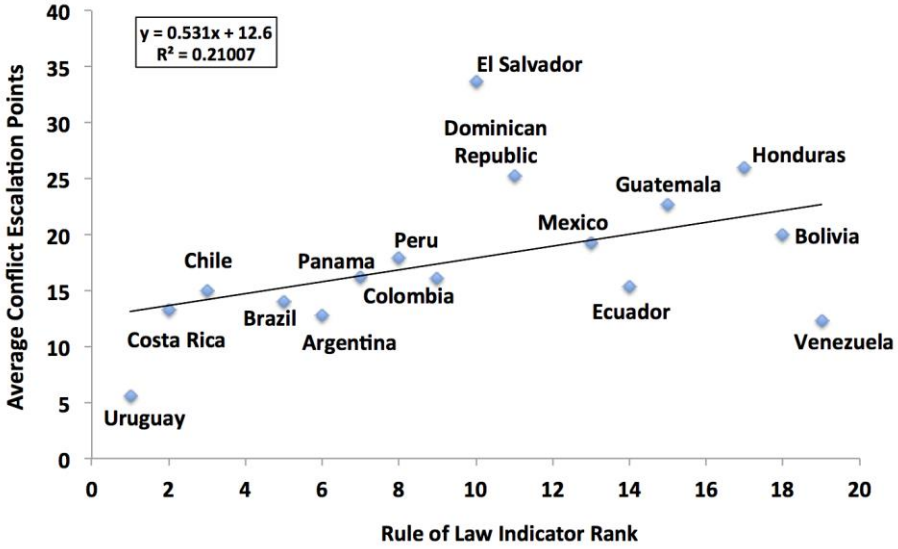



FIGURE 28. INSTITUTIONAL CAPACITY AND CONFLICT ESCALATION.
R= 47%, R2= 21%, P-VALUE = 0.056.

We reviewed the indicator score for each country represented in our database and ranked them accordingly. Then we compared the Rule of Law indicator with the severity of conflict escalation in each country. The most severe conflicts were observed in countries with the lowest Rule of Law indicator ranks (Figure 28). Therefore, there is a correlation between countries with lower institutional capacity and governance, and the magnitude of conflict expressions. In more just and equitable societies where transparency, access to justice, and community participation are ensured and laws are adequate and enforced, local communities are less likely to resort to violence and disrupt projects. In countries with higher levels of institutional development, more stringent environmental and social management laws and requirements for participatory project

designs encourage firms to proactively address community concerns and resolve conflicts through communication and collaboration.

In some of these countries the rights of communities are not legally protected, and environmental and consultation laws do not always apply equally to projects promoted as being of national interest. In these situations, communities feel that their concerns would not be heard through the conventional decision-making process and decide to disrupt project activities. This leads to different consequences depending on the country. Some countries regard the right of communities to protest as a fundamental right that should always be protected, while some others have a historical tendency of violently repressing protests.[xx]

However, even countries that have enacted innovative environmental and consultation laws, such as Peru and Brazil, often lack the institutional capacity to effectively enforce them. This inevitably leads to the same outcomes as in countries without such legal frameworks, making the case for institutional development region-wide.

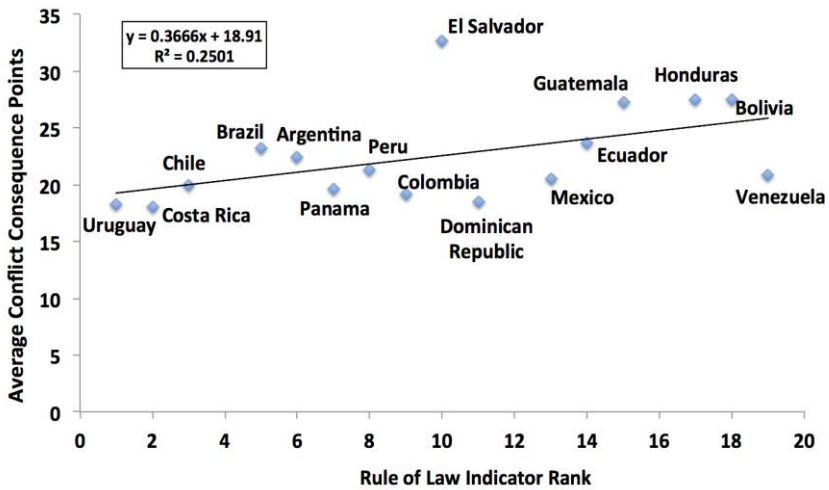



FIGURE 29. INSTITUTIONAL CAPACITY AND CONSEQUENCES OF CONFLICT.
R = 50%, R2= 25%, P-VALUE= 0.048.

*"In our country the institutional framework works, so most people would file a legal claim. People do not usually take justice into their own hands. Therefore, violence is not as common as in other places with weaker institutions." C-level officer at utility company*

We further evaluated this relationship to identify whether the consequences of conflicts are more significant in countries with lesser institutional capacities. We calculated the average magnitude of consequences in each country and compared it with each country's rank in the Rule of Law indicator. As shown in Figure 29, a positive correlation exists between the countries with lower institutional capacity, as measured by the Rule of Law indicator, and more significant consequences of conflicts.

We also evaluated whether companies respond to conflicts differently in these countries. We calculated the average company response point score in each country and compared it with each country's rank in the Rule of Law indicator. As shown in Figure 30, we found suggestive evidence that a correlation exists between countries with higher institutional capacity as measured by the development indicator and more adequate responses to conflicts. In other words, in countries with stronger institutional capacities, infrastructure projects have less severe conflicts and their sponsors respond more effectively when these conflicts emerge. However, more research is needed to delve into the mechanics of this relationship.

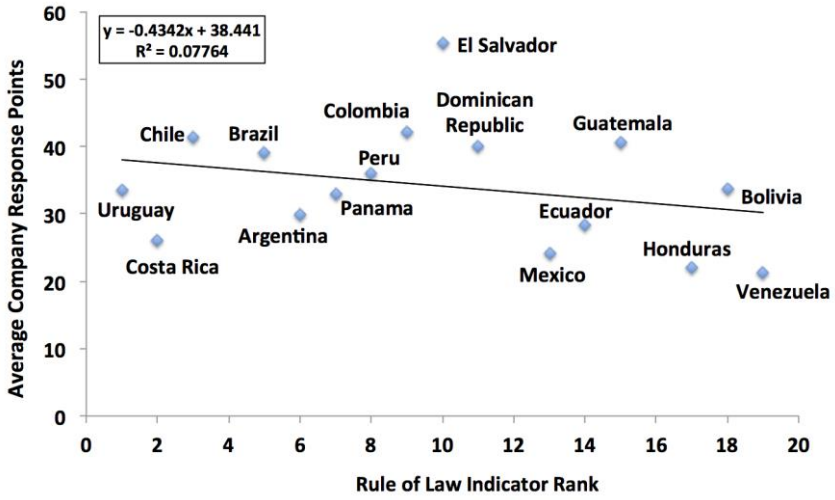



FIGURE 30. INSTITUTIONAL CAPACITY AND COMPANY RESPONSE TO CONFLICT. R =28%, R2 = 7.7%, P-VALUE = 0.2.

It is important to note that conflictive projects can also force institutions to adapt. In some cases, conflicts resulted in positive institutional developments, such as the implementation of mandatory consultation laws that had existed only on paper before, and stricter environmental and social safeguards. Some conflictive projects also stressed the importance of independent arbitration, leading to the development of independent arbitration and dispute resolution mechanisms such as the World Bank's Office of the Compliance Advisor/Ombudsman (CAO). Especially in transportation projects, conflicts often led to design changes that produced more sustainable designs. In some other cases, conflictive projects acted as deterrents for the future, providing examples of what firms need to avoid in order to develop more sustainable projects in the future.

## 4.8. Sustainable Planning Can Mitigate Conflicts

Our analysis suggests that the cost of conflict is likely to be greater than is conceived by both governments and firms. Project disruptions, delays, cost overruns, and cancellations are common consequences of conflict in the database. On the other hand, developers and governments can reap benefits by planning sustainable projects in order to mitigate or avoid conflicts in terms of avoided delays and other negative consequences.

Yet several interviewees mentioned that some infrastructure firms chose to remain unresponsive to conflicts. In these cases, executives consider the cost of anticipating and preventing conflicts to be greater than moving ahead fast and dealing with each issue if and when it arises. Similar findings were observed in the 200-project database, in which many firms did not act to prevent conflicts or mitigate them as they started escalating.

In order to evaluate the impact of a well-planned and comprehensive response to conflict, we tested the relationship between company actions and final project status. As illustrated in Figure 31, there is a positive correlation between projects that are better prepared to address conflicts and less significant conflict consequences, as measured by our indicator. The average company response score is much lower in projects that were cancelled or postponed because of conflicts.

High-quality projects can generate long-lasting benefits, and are more attractive to public and private stakeholders. Furthermore, well-planned and executed projects address conflicts proactively, minimize risks and are less likely to face resistance because of environmental or social concerns.

*"We follow the policy of good neighbors through permanent dialogue, building long-term relationships, and programs generating shared value."*
Division head at infrastructure operating company

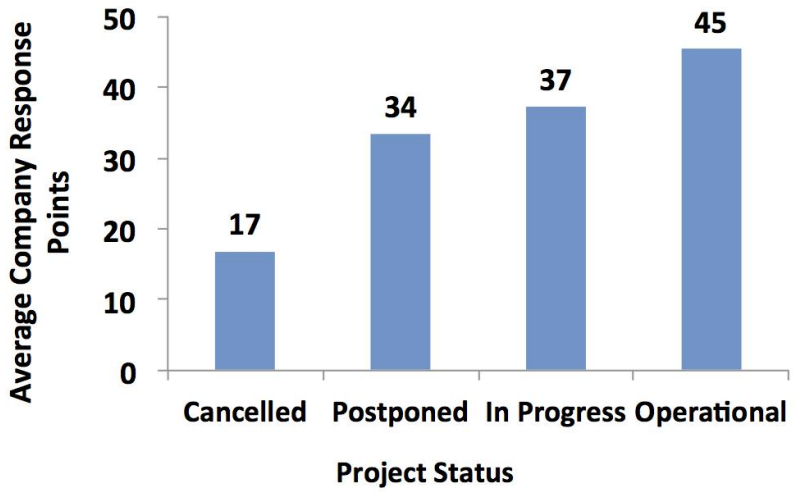



FIGURE 31. COMPANY RESPONSE AND FINAL PROJECT STATUS, ALL PROJECTS. A HIGHER SCORE EQUALS BETTER PREPARATION, HIGHEST POSSIBLE SCORE IS 128 POINTS.

This relationship is particularly evident when comparing the average company response and project delays. Figure 32 on the next page shows that the average company response score for projects that faced delays of up to two years is higher than the score for those that faced delays of two to five years. It is much higher than the score of projects that faced delays of five to ten years or more than ten years.

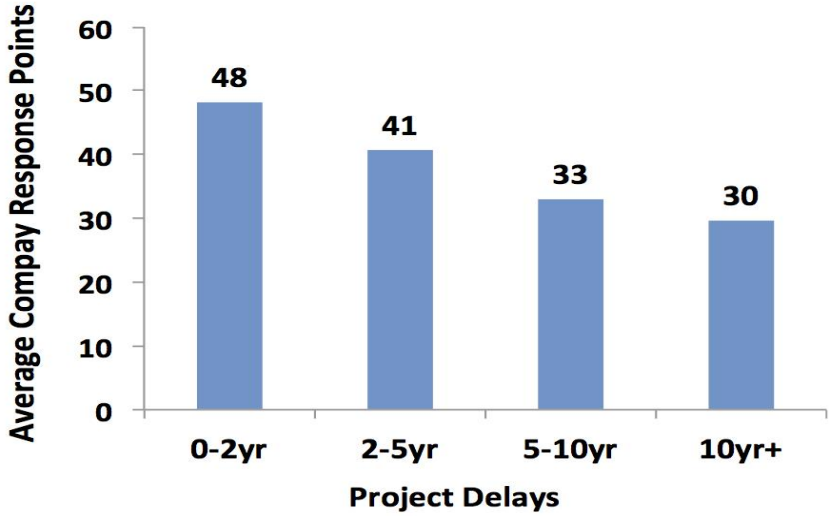


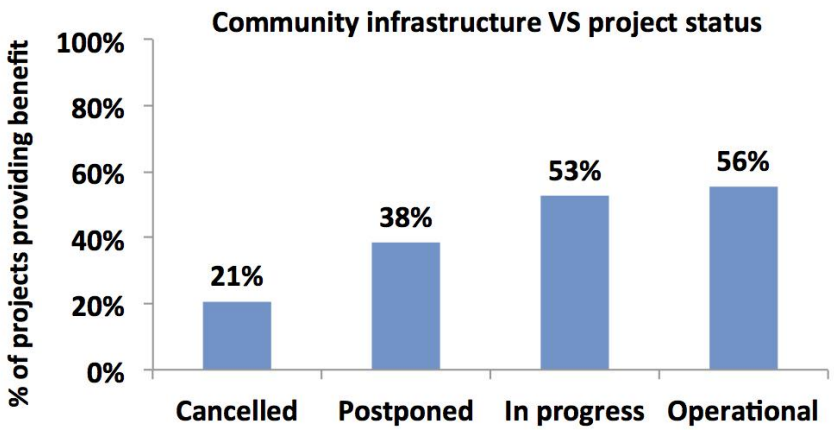

FIGURE 32. COMPANY RESPONSE AND PROJECT DELAYS, ALL PROJECTS.

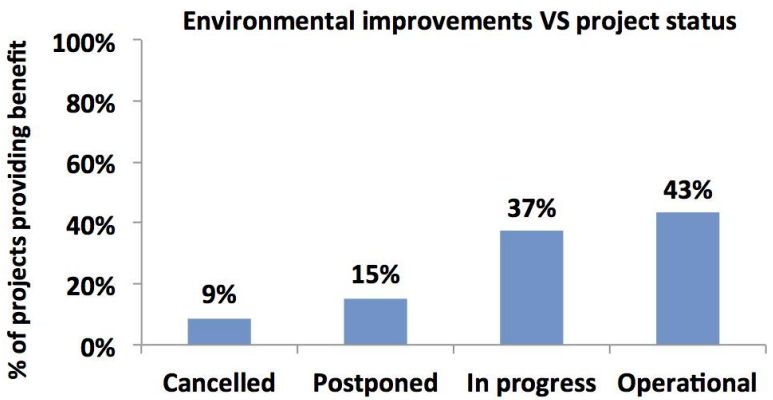
Through the 200-project case literature review and the interviews we observed that certain firms have improved their responses to conflicts through sustainability initiatives and exceed regulatory requirements for community engagement and environmental management. Firms developing projects in the resource, waste, and energy infrastructure sectors often implement the most innovative strategies. Those sectors lead to considerable conflicts; therefore, it was almost a necessity for certain firms to innovate and respond to conflicts in ways different from business as usual. Several interviewees mentioned that when firms are not willing to implement comprehensive sustainability initiatives they face a higher likelihood of project disruptions and cancellations.

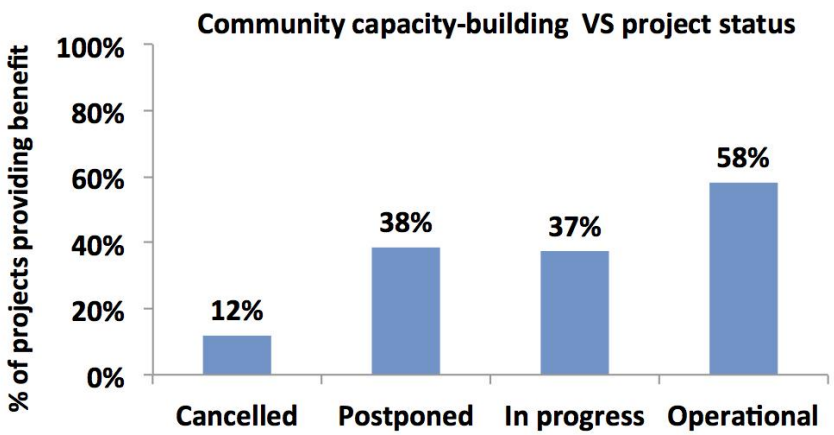
A prominent observation from the interviews and the project case literature review is that infrastructure firms may provide social and environmental benefits by investing in capacity building, infrastructure, and public services in terms of budget and scale that often far exceed those of 20 years ago. The provision of jobs is no longer the most important benefit communities are asking for, while technological advancements have also reduced the number of jobs even a megaproject can provide. Innovative firms often devote a substantive budget to social sustainability programs. In addition, they have implemented regulatory innovations that allow local communities to participate in the project decision-making process, and be actively involved with project activities during construction and operations. For example, communities and firms may collaboratively conduct water sampling.

Another important observation is that certain firms now demonstrate their commitment to sustainability by restoring polluted natural ecosystems within the project's area of influence. Firms are willing to spend millions of dollars on environmental restoration and reforestation initiatives over hundreds of hectares of natural space. In all of these cases, national regulations and law did not require such initiatives. Therefore, these projects became good-case examples to be utilized by other infrastructure firms thereafter.

In order to identify what are the most effective company responses to conflict, we tested the various actions companies took after a conflict has emerged against the end result of a project. Of course, the most successful company actions can be evidenced in projects that did not encounter a conflict. However, our research does not include those projects from its original conception stage. In projects though that did have a conflict, we found a difference between actions in terms of the end result in a project. Figure 33 on the next page shows that there is a relationship between firms that did respond to conflicts with community infrastructure improvements or provision, community capacity building, environmental improvements, and consultation, and final project status. Community infrastructure, capacity building, environmental improvement, and consultation initiatives are much less prominent in projects that were cancelled or postponed because of conflicts. Other actions did not have as evident effects.



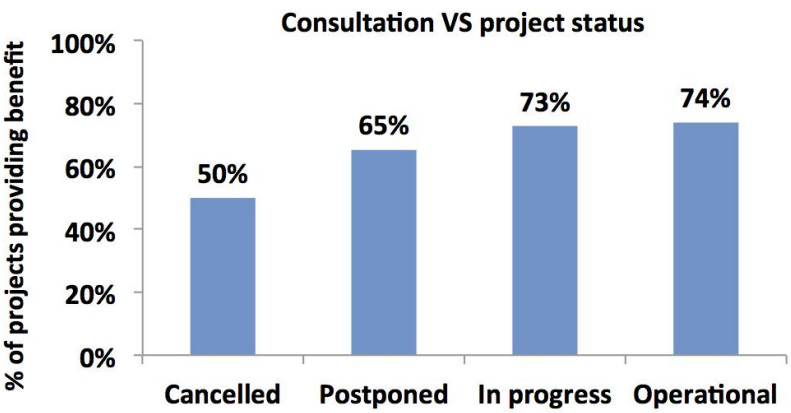




FIGURE 33. THE IMPACT OF VARIOUS COMPANY RESPONSES TO CONFLICT AGAINST THE FINAL PROJECT STATUS. CLOCKWISE, FROM TOP LEFT: COMMUNITY INFRASTRUCTURE IMPROVEMENTS; ENVIRONMENTAL IMPROVEMENTS; CAPACITY-BUILDING INITIATIVES; CONSULTATION. IN EACH GRAPH, THE VERTICAL AXIS SHOWS THE PERCENT OF TOTAL PROJECTS THAT TOOK THE SPECIFIC ACTION AS A RESPONSE TO CONFLICT AND THE HORIZONTAL ACTION THE END RESULT OF THE PROJECT.

## 4.9. A System for Conflict Identification, Management and Resolution Will Provide Value to Companies

Around 60% of the interviewees reported that conflict management frameworks are effective in mitigating project disruptions. Yet, they also stated that most firms lack a comprehensive framework to assess and identify potential conflicts in advance, hinting that companies view the cost of designing and implementing such systems as higher than just paying for the cost of conflict if and when it emerges. Several interviewees stressed that especially in projects without the support of an IFI, firms are much less likely to implement systems to identify and address conflicts proactively.

The implementation of conflict management systems, also known as Grievance Redress Mechanisms, is highlighted in the literature as influential in enhancing resilience and identifying and mitigating project risks.[xxi] Such systems provide predictable conflict resolution processes that are regarded as effective and fair.[xxii] As evidenced by several cases in the database, the implementation of good practices coupled with a conflict management framework help firms identify the key environmental and social management actions, community benefit provisions, and comprehensive decision-making processes that are required to avoid disruptions. Conflict management frameworks become more critical in countries with less-than-average institutional capacity; there, applicable environmental and social regulations are not enough or in par with international good practices to properly account for and mitigate the environmental and social impacts of large infrastructure projects.

Our research demonstrates that these actions are effective in mitigating risks and managing conflicts. An interviewee reported that a conflict management framework allows their firm to evaluate risks when developing a particular project. Some of the parameters that are considered include the profile of local communities, risks associated with the location of the project, resources required, and type of infrastructure service to be provided.

However, the majority of firms either lack the technical capabilities or have not demonstrated the willingness to allocate enough time to implement such initiatives. They also lack a conflict management and resolution system to deal with conflicts as they arise during operations. Such frameworks are still not widely used in most infrastructure sectors. However, some interviewees mentioned that firms and organizations in the resource and energy sectors, which have experienced many conflicts, have developed their own risk and conflict management frameworks to provide guidance for avoiding or addressing conflicts more adequately.[xxiii]

## 4.10. IFI-funded Projects Address Conflicts More Effectively

The database includes projects funded by IFIs, together with projects funded by other public or private resources. The interviewees reported that IFI-funded projects are generally better prepared and, when in countries with lower-than-average institutional capacities, come with more stringent environmental and social management protocols and monitoring initiatives that exceed local regulations.

Our research shows that, even if IFI-funded projects cannot avoid conflicts, on average these conflicts were slightly lighter as measured by our conflict escalation and consequences indicators. However, the major impact of IFI policies and safeguards is shown in the company responses to conflict (Figure 34). The average response score for IFI-funded projects is higher than the average response score for projects that were not funded by an IFI.

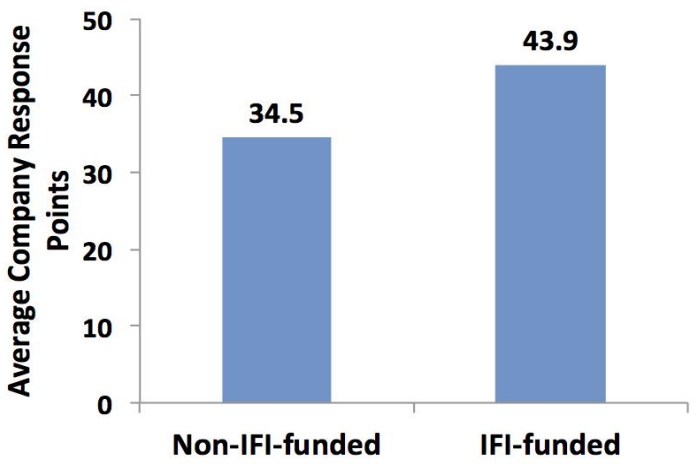



FIGURE 34. AVERAGE COMPANY RESPONSE SCORE, NON-IFI-FUNDED PROJECTS AND IFI-FUNDED PROJECTS.
SD(NON-IFI-FUNDED) =25.7, SD(IFI-FUNDED) = 28, T-STATISTIC (2)=2.10, P-VALUE=0.036.

### 4.11. The Study of Conflicts is an Open-ended Process

The extent and ambition of this study, as well as the importance of its emergent findings, provide as many follow-up questions as answers. These questions define a list of suggestions for future work. Work that can further elucidate the intricate nature of conflict in infrastructure projects in Latin America and beyond, as well as some of the limitations of the current study.

For example, are conflicts in Latin American infrastructure different than in other places? What to do in areas where there is significant prejudice against infrastructure? What happens with infrastructure its users consider a universal right? How to allocate costs of sustainable development in projects? Please see Appendix B for the complete set of questions that follow-up research work could address. The list is non-exhaustive nor in any specific order; more likely, it is a depository of ideas the authors and the guiding team at the IDB had at various stages of this work.

## 5. RECOMMENDATIONS

### 5.1. Recommendations for States and Governments

#### Ensure that national laws are comprehensive and universal.

Many projects, especially those promoted as being of national interest, faced violent conflicts because local communities alleged that national laws and regulations were sidestepped in carrying out these projects. In such cases, local communities were also convinced that reporting law violations would be ineffective to safeguard their rights, and that developers would not be held accountable for inflicting environmental damage. Therefore, when access to the justice system was not clear, communities resorted to violent disruptive expressions to voice their concerns.

Lack of transparency in the stages of project assessment, evaluation of alternatives, and permitting lead to biased and incoherent decisions, which erode trust and encourage opposition of the community. More important, this inevitably raises tensions that often lead to violent conflicts. Governments should explicitly demonstrate that projects would comply with all relevant national laws. Dysfunctional laws and regulations that prevent companies from developing projects efficiently must be modified and adapted so that they fit their original purpose of ensuring adequate environmental and social management and enhancing the quality of life of local communities.

Working collaboratively with development institutions, financiers, and project owners would help governments to identify laws, regulations, and policies that put obligations on firms which lead to suboptimal and unsustainable project designs in order to remove or clarify these laws and

policies. Many laws and regulations were enacted at times where sustainability and comprehensive community engagement were not important considerations for project designs. Therefore, identifying and updating such regulations, and design and construction standards would enable governments to develop more sustainable projects, and engage communities more meaningfully.

### Strategically develop institutional capacities to contain conflicts.

Our analysis shows that certain countries lack the institutional capacity to avoid and manage conflicts before they escalate to violent confrontations. There, conflicts tend to escalate more often and result in substantial consequences. Many interviewees reported that even countries with the highest institutional development often lack the technical and institutional capacity to enforce laws and regulations systematically, which inevitably also leads to significant conflicts.

Enhancing institutional capacity to manage conflicts proactively should be a top priority for governments. In countries with lower-than-average levels of institutional development, governments can work with financiers and development institutions to devise adequate environmental and social management standards and identify effective regulatory reforms. For example, such reforms might include the integration of prior consultation into national law, as well as expanding upon what good practices are required for a proper consultation process. In countries with higher-than-average levels of institutional development, governments can work with financiers and development institutions on enhancing their capabilities to enforce laws and regulations, and develop more participatory project design requirements.

### Start planning at the regional level.

Deficient planning is the most dominant driver of conflicts in our research. Projects were often sited close to or within natural environments on which communities depend for their livelihoods. Alternative locations were rarely assessed in a transparent manner. Moreover, project designs often accounted for the project's impacts within its immediate area of influence, but did not address the indirect impacts to other regional communities and the cumulative impacts from other projects nearby. Impact assessments many times were structured in order to get the project approved, rather than in a way to fully capture all impact dimensions.

Our analysis shows that when governments focus on long-term plans that transparently indicate how projects would help regional communities develop sustainably without affecting their traditional local values, projects are less likely to face conflicts. This is particularly important for projects of national interest, as in most cases local communities reported that they do not receive adequate benefits from such projects. Effective government plans identify potential synergies between infrastructure, such as energy portfolio modernization, and national development goals, such as poverty alleviation. This helps to demonstrate how infrastructure assists regions alleviate poverty and inequality, rather than focusing on the provision of short-term jobs.

The Chilean Ministry of Public Works, for instance, integrates large-scale planning considerations when developing new project pipelines. Project proposals are required to address regional development plans and synergies from multiple infrastructure projects in a region. In the national project development system, planning assessments are conducted as early as possible, at the policy level when projects are conceived. This way, a wider range of environmental, social, and economic issues are evaluated during project design and execution.

It is also important to enhance and enforce planning requirements in order to guide more prudent project site selections. Many projects in the database faced strong opposition because they were sited in areas of cultural significance or close to pristine ecosystems. Our research shows that government project planning methodologies that evaluate additional

feasible project locations, and use more stringent technical criteria to avoid siting projects close to critical ecosystems and watersheds are more effective in avoiding conflicts.

The project case analysis shows that governments avoided siting projects in floodplains, adverse geologic formations, on land of high ecological value, and prime farmland to avoid conflicts. Project evaluations considered alternative site locations with adequate buffer zones from such landscapes, wetlands, watersheds, and other critical ecosystems. In addition, project designs included habitat protection and monitoring plans to preserve such buffers throughout operations and decommissioning.

Furthermore, projects successful in mitigating conflicts included collaborative initiatives between community leaders and developers to identify historic, cultural, and archaeological resources within or close to the project site. Projects were designed to maintain the local character of the community, preserve cultural resources and, where possible and economically feasible, help rehabilitate and restore lost features and landscapes.

### Implement stringent environmental and social regulations.

Environmental degradation, pollution, and impacts on the traditional value systems of local people have been among the most prominent conflict drivers throughout our analysis. Conflicts often escalated because of these drivers, as firms did not utilize stringent social and environmental safeguards to mitigate environmental and social impacts.

Although EIA requirements differ from country to country, often they do not effectively address the wide range of social and environmental impacts to be mitigated or compensated when developing infrastructure projects. In general, more stringent safeguards that cover a wider range of social and environmental requirements are enforced when projects are funded by IFIs. Governments can focus on enhancing the applicable environmental and social regulatory requirements. This can be informed by IFI policies and other good practices that this and other studies have shown to contribute to mitigation of conflicts.

### Design fair systems for distribution of project benefits.

Lack of adequate community benefits led to conflicts in eight out of ten projects we studied. In many cases, local communities were not convinced that the proposed benefits would materialize, while in some other cases they were just not offered any benefits. In addition, most communities alleged that most of the project benefits were distributed to more developed regions, most likely close to the country's capital region, that did not have to endure any negative project impacts.

Ensuring that project benefit distribution systems allocate an adequate share of benefits to local communities is important in order to avoid conflicts. In projects successful in mitigating conflicts, project benefits go beyond the provision of jobs and cash payments, and include capacity-building, training, and educational initiatives. Infrastructure firms are not responsible for how benefits are distributed in the country, but governments can request their assistance as a mediator with capacity-building efforts to reach just agreements with local communities. This in turn would help establish a relationship based on trust and collaboration.

Project benefit systems can also include programs to improve productivity at the community scale. Our research shows that a particular effective way of generating benefits for the community is to work collaboratively with developers and local community leaders to identify community infrastructures that could be repaired and/or integrated into project designs to enhance connectivity to neighboring regions and reduce the cost of procuring and producing critical supplies.

In some other cases, local communities are responsible for managing the distribution of project benefits, but often lack the technical and institutional capacity to do so effectively. It is often difficult to evaluate who deserves

to be compensated, which becomes even more complicated when compensation entails relocation to a new area. Our analysis shows that in such cases, collaborating with developers and community leaders on capacity-building efforts would help communities better manage the allocation of benefits.

### Ensure that local communities can voice their concerns.

Many projects lacked communication channels and community engagement mechanisms for voicing, addressing, and integrating community concerns into project design and execution. Conflicts often escalated to violent confrontations because local communities were convinced that disrupting project activities would be the only way to make their concerns heard. Community engagement initiatives that address community concerns and grievances in a systematic and transparent manner are effective in building trust and mutually beneficial long-term relationships. Communities are much less likely to disrupt project activities when they are regarded as an important agent in the decision-making process.

## 5.2. Recommendations for Developers and Contractors

### Develop sustainable projects to avoid conflicts.

Choosing the most suitable project location is not enough to avoid conflicts when the project is unsustainable, thus more likely to negatively affect local communities. On the other hand, high-quality sustainable projects are less likely to cause conflicts. Sustainable project designs that require fewer raw materials and resources during construction and operations, consume less energy, divert waste from landfills, and minimize greenhouse gas emissions are less likely to affect local communities and ecosystems nearby and face conflicts.

Considering a life-cycle approach when planning new projects would help developers identify sustainability opportunities. Effective sustainability initiatives focus on reducing resource, water, and energy consumption and cover the entire life cycle of projects. This is especially important for technologies that are innovative but with limited project applications, whose benefits or effectiveness might be questioned by local communities. For instance, materials could be sourced locally, from suppliers that follow sustainable procurement practices.

### Establish a conflict management framework.

According to several interviewees, most infrastructure firms lack a comprehensive conflict management framework to be applied in advance to minimize risks when developing projects. This is becoming increasingly important, since conventional risk management frameworks are not enough to anticipate and mitigate conflicts and their dynamic consequences. Moreover, even in cases where comprehensive environmental and social impact assessments were required, design solutions were often not implemented as planned. The lack of a comprehensive risk management framework makes it difficult to implement adaptive management plans to quickly mitigate social and environmental impacts. In most cases, firms have to manage environmental, social, or economic risks without a clearly defined action plan and are not able to prevent community grievances from escalating to violent confrontations.

### Implement initiatives to expand the knowledge, skills, and capacity of community members.

Conflicts often escalated because local communities were convinced that their needs would be disregarded and projects would not help them develop sustainably. Our analysis showed that developers who holistically assess community needs, goals, and plans, and demonstrate how the project would provide better-quality jobs and contribute to long-term community competitiveness, are more successful in managing conflicts.

As such, education and training programs that address community employment needs and improve the local skill base, with an emphasis on minorities, are more likely to mitigate future community opposition. Firms that help local workers develop skills and capacities to enhance long-term community competitiveness are equally more likely to establish a long-term positive relationship with communities. Project developers that design projects to enhance community competitiveness can demonstrate the positive impacts of the project for local communities most effectively. However, infrastructure projects might affect various community groups in different ways. Patterns of social exclusion, poverty and other factors are likely to affect how a conflict evolves. As such, a disaggregated stakeholder mapping and engagement process is recommended in order to effectively address the concerns of every community group.

### Allocate time and resources to the consultation process.

Most interviewees mentioned that firms do not allocate enough time and resources when conducting consultation processes. In fact, firms often regard consultation as an insignificant requirement that needs to be done as fast as possible. Government authorities usually specify minimal requirements for consultation, but our analysis shows that firms that innovate and exceed these requirements are usually able to sustain much better relationships with communities.

Both the interviews and the project case analyses show that the minimum requirements for consultation often prevent community engagement from being most effective. In the wide majority of evaluated cases within the project database, firms that allocated enough time for consultation gained benefits in terms of minimized community opposition over the long term.

### Focus on transparency to build an effective relationship with local communities.

The lack of trust between local communities, developers, infrastructure firms, and government officials is a significant driver of conflicts. At the same time, the evaluation of most project cases showed that communities did not always oppose project developments. In fact, they often considered them as a necessity, but wanted to be involved in the decision-making process. Furthermore, many communities explicitly stated that they did not initially oppose projects, but became critical of them when the communities were not included in the decision-making process and project information was not shared with them. Therefore, building trust with local stakeholders and potentially affected communities through a formal consultation process should be the first priority of infrastructure firms, even when law does not mandate it.

The most innovative strategies of successful firms in dealing with conflicts often focus on involving communities in the project. In these, communities are regularly invited to the project site to be informed about project activities. In some cases, communities participate in environmental management initiatives, such as water sampling or monitoring for pollution. Through these initiatives, communities feel themselves to be an integral part of the project and can act as project ambassadors to other communities.

## 5.3. Recommendations for Lenders and Investors

### Apply regional planning toolkits to fill the planning gap.

Our analysis shows that although regional planning toolkits exist, governments, developers, and stakeholders often lack the institutional and technical capacity to implement them in infrastructure projects. The interviewees stated that in many cases, governments and developers are not aware of such planning toolkits. Organizing and cataloguing good practice planning and conflict management methodologies, tools, and strategies in a systematic manner, per infrastructure sector and project type, is the first step to ensure that these tools are made available to governments, developers, and infrastructure owners when developing new projects. This way, government officials and developers would be better prepared to conduct comprehensive planning assessments, address conflicts proactively, and develop more sustainable projects.

### Provide incentives for conflict management through funding mechanisms.

The interviews and project case analyses showed that governments and developers are not incentivized to use proactive risk management frameworks when planning and developing projects. In order to develop more sustainable and less conflictive project pipelines, lenders and investors can provide that incentive by tying the implementation of good practice planning and risk management strategies to funding mechanisms. Given that a substantial investment is required to cover the current infrastructure gap in LAC, introducing requirements for conflict management good practices in funding mechanisms is the first step to reduce risks for investors and developers, and ensure that infrastructure is developed in a way that minimizes the potential for conflicts to arise and escalate.

### Establish monitoring over the whole project cycle.

Through the project case review we observed that, in many cases, a lot of attention is put on environmental and social management and community engagement during feasibility and planning. However, these initiatives are often not implemented as planned during operations. On one hand, government officials often lack the resources to implement and monitor the required initiatives over the long term. On the other, developers and financiers currently do not allocate as much resources to the implementation phase, rather focusing on up-front construction costs. This introduces vulnerabilities to conflicts during operations, as firms are not best equipped to anticipate and mitigate conflicts in advance.

In our research, we found that projects supported by an IFI have less conflicts and more effective responses to conflicts. This can be explained in part by the IFI requirement for project monitoring during the repayment phase of a credit, which is the operation phase. In these cases, firms develop comprehensive maintenance and monitoring plans in advance of construction. Preparing for complexities during operations early on would help developers ensure that enough resources are available and team members understand their responsibilities and account for potential shortfalls. From their side, financiers can ensure that enough resources are allocated for evaluations during operations, to allow for more effective long-term monitoring.

## 6. CONCLUSION

Through the 200 projects and expert interviews analysis, it is safe to say that despite past lessons, conflicts continue to happen. The consequences of such conflicts are detrimental for firms, investors, and national governments. One out of five projects in the database were cancelled because of conflicts, while only two out of ten did not face a delay. More than half of the projects declared a cost overrun.

Each firm responds differently to conflicts, but those that take comprehensive action to anticipate and mitigate conflicts in advance are more likely to face less significant consequences and to implement their projects to the end. On the other hand, firms that fail to consider the significance of conflicts or choose to remain unresponsive to conflicts when they arise usually face substantial consequences and are more likely to see their projects cancelled or abandoned.

Yet, even if certain sectors have accumulated knowledge and good practices, and multilateral institutions have expanded and finessed their safeguard policies, the implementation of such practices in infrastructure overall is still limited. Unfortunately, still many firms choose to remain unresponsive to conflicts or do not respond adequately and on time.

Deficient upstream planning and lack of institutional capacity were identified as overarching factors that exacerbate conflicts. Further research can test assumptions and clarify why early, upfront planning is missing and projects end up unprepared, and in wrong locations. Similarly, further research can elaborate on whether research on conflict helps or hinders the business case for sustainable infrastructure. All senior finance reviewers viewed this work through a comprehensive business scenario. The language of conflicts and the findings of this study may be further empowered if connected with the notions of risk, value, and cost. More strategic issues can also be included to further elaborate on the issue.

Our research indicates that the value-add of solutions and good practices for preventing or addressing a conflict will be best illustrated once the cost of conflict is properly measured and quantified. Published sources rely on company disclosures of cost overruns that are limited and cover only a small part of the costs incurred in projects and the society through conflicts. The total cost of conflict is likely much higher, both in direct monetary impacts in projects, as well as through externalities in the society at large. After quantifying the cost of conflict, companies can match solutions to conflict drivers and identify the value add of each solution, e.g. cost of inaction minus the resources an organization needs to implement solutions.

In our work, we were able to identify company actions that help mitigate or contain the impact of conflicts. Nevertheless, the existence of solutions does not mean that these are always applied, nor does it mean that this knowledge exists at all decision-making levels. Finally, any solution to conflicts in infrastructure will not come as an unexpected finding that no one could ever think of (at least we weren't able to find one), but as a continuous effort to collaborate, spread good practices, and align incentives in the infrastructure sector.

To conclude this work, we urge all decision makers to scale up initiatives and ramp up investments to prevent or avoid poorly planned projects that lead to conflicts. Our call to action is for well-planned, sustainable infrastructure projects. The stakes are high, the impacts are real, and our decisions will affect the generations to come. Let's make the right ones.

## ACKNOWLEDGMENTS

This report has been supported by the IDB and was led by Dr. Andreas Georgoulias. The research team included Cristina Contreras Casado, Nikos Georgoulias, Ioannis Blatsos, Rahissa Melo, Julia Carvalho Fernandes de Oliveira, and Judith Rodriguez.

We would like to thank all those who led the development of this report, especially Graham G. Watkins, Sven-Uwe Mueller, Tomás Serebrisky, Hendrik Meller, and María Cecilia Ramirez, and Reidar Kvam for his valuable review. This report would not have been possible without their contribution. We would also like to acknowledge the time and support provided by all interviewees who contributed with their time and ideas and provided valuable information about the projects. Finally, we would like to thank Roberta Brzezinski from CDPQ, Robert Shaw from Sea Trade Holdings, Andreas Beroutsos from One Point Capital, David Wagener from Wagener Capital, Luis Corzo from Willis Tower Watson, and Farhad Soltanieh from Skanska Investments, that reviewed the study and helped provide comments and validate our findings.

## ABBREVIATIONS

BRT: Bus Rapid Transit
EIA: Environmental Impact Assessment
ICSID: International Centre for Settlement of Investment Disputes
IDB: Inter-American Development Bank
IFI: International Financial Institution
ILO: International Labor Organization
MSW: Municipal Solid Waste
NGOs: Non-Governmental Organizations

## LIST OF FIGURES

Figure 1. Map displaying the 200 projects per country and per sector. ... 7
Figure 2. Breakdown of all six infrastructure sectors. ... 8
Figure 3. Breakdown of energy, resource, and transportation sectors. ... 9
Figure 4. Projects in the database per country. ... 9
Figure 5. Interviewees per country and position. ... 10
Figure 6. Summary of environmental drivers of conflict, all projects. ... 12
Figure 7. Summary of social drivers of conflict, all projects. ... 13
Figure 8. Summary of governance drivers of conflict, all projects. ... 14
Figure 9. Summary of economic drivers of conflict, all projects. ... 14
Figure 10. Interviewee responses on the nature of conflict. ... 15
Figure 11. Summary of consequences of conflict at the project level, all projects. ... 16
Figure 12. Summary of administrative and legal consequences of conflict for project sponsors, all projects. ... 17
Figure 13. Summary of national consequences of conflict, all projects. 17
Figure 14. Interviewee responses on conflict consequences. ... 18
Figure 15. Summary of general company actions, all projects. ... 20
Figure 16. Interviewee responses on general company actions. ... 20
Figure 17. Summary of community benefits, all projects. ... 21
Figure 18. Interviewee responses on community benefits. ... 21
Figure 19. Summary of environmental benefits, all projects. ... 22
Figure 20. Conflict escalation per sector, all projects. ... 22
Figure 21. Consequences of conflict per infrastructure sector. ... 23
Figure 22. Company response to conflict per infrastructure sector. ... 23
Figure 23. Timing of conflict in project cycle, all projects. ... 23
Figure 24. Interviewee responses on the timing of conflict in project cycle. ... 24
Figure 25. Timing of conflict in project cycle per decade, 1980 - today . 24
Figure 26. Consequences of conflict, non-priority and national priority projects. ... 26
Figure 27. Company response to conflict, non-priority and national priority projects. ... 27
Figure 28. Institutional capacity and conflict escalation. ... 27
Figure 29. Institutional capacity and consequences of conflict. ... 28
Figure 30. Institutional capacity and company response to conflict. ... 29
Figure 31. Company response and final project status, all projects. ... 30
Figure 32. Company response and project delays, all projects. ... 30
Figure 33. The impact of various company responses to conflict against the final project status. ... 32
Figure 34. Average company response score, non-IFI-funded projects and IFI-funded projects. ... 34

# APPENDICES

## APPENDIX A: STATISTICAL SIGNIFICANCE OF FINDINGS AND DATA SAMPLING

In order to evaluate the statistical significance of our findings, we conducted the following analyses. First, we estimated the total amount invested in infrastructure in LAC from 1980 to 2016. Then, we extrapolated the total number of projects that have been built in LAC, again for the period of our analysis. In order for our findings to be statistically significant, our sample should be within 5–10% of this total. Our analysis shows that our sample is statistically significant, in terms of both total invested amount and total number of projects.

First, we estimated the budget invested in the LAC region in infrastructure projects from 1980 to 2013 to be around US$1 trillion.[xxiv] [xxv] We summed the budget of all 200 projects in the database to a total of US$267 billion, or 26.7% of total, providing us with a confidence level of 95% and a 5% margin of error. Secondly, we estimated the total number of projects built during the same period to be around 3,300. Our 200-project sample represents 6% of the total number of projects, which gives us a confidence level of 95% and a margin of error of 6.75%. We acknowledge that all the projects we have selected included a conflict. As such, the project selection was not completely random, but this was part of the research design as our central question was to inquire into the changing nature of conflict. Further research can build upon our findings by examining both conflictive and unconflictive projects.

Furthermore, the statistical quality of the quantitative analyses in this report is inherently related to the availability, reliability and multiplicity of data sources. On this, our work has been conducted within the available resource boundaries of this study. Our data came from published material we were able to identify through a rigorous, multi-month and multi-source search. However, resource constraints did not allow us to conduct field work on any of the 200 projects included in the database, nor develop additional primary research on aspects that may have been underrepresented (or completely absent) in the source material for a project. As such, the data collected for the 200 projects may contain biases and is, by design, as complete as the available published material for each of the projects. Within this, we need to stress certain caveats, which are also identified in similar studies in the field.[xxvi]

First, the claimed, alleged or actual nature of impacts that led to conflicts was not tested nor verified through our research. Whenever possible, we identified the alleged nature of a claim in each of the 200 project narratives. However, our study sourced all impacts found in the literature, including both allegations from a party in dispute about past or future damages to them, with confirmed impacts (court decisions or facts such as a technical failure or spill). Our quantitative analysis did not differentiate between them, for reasons elaborated by Davis (2014) on the inherent challenges of conducting such research: *"The coding does not differentiate between alleged and actual issues in dispute, partly due to the difficulty in reaching an objective assessment in any particular case, but also in order to capture the diversity of perspectives among the parties to conflicts."* We would like to add that the elusive nature of the subject of inquiry here, the environmental and social conflict in infrastructure, is central to this issue. Oftentimes, key national institutions (e.g. the supreme court) require several years to decide upon the validity or not of a claim, with supporting documentation that requires multiples of the resources available in this study to be developed, so as to substantiate a position for or against a conflict claim.

Second, the multi-party, multi-dimension nature of infrastructure conflicts may reflect one or more subjective positions of a given perspective in published sources. Such a perspective may favor a specific party or contain predispositions on the relative importance of an impact. This can be particularly evident when conflicts arise about the future impacts of an unbuilt project, and not an actual or alleged issue at an already operational project. Furthermore, expanding upon Davis (2014), media reports and civil society organizations are likely to highlight dramatic issues and cases;

environmental NGOs may adopt a polemic stance against specific dimensions of a project; and online sources or social networks may be abused (through multiple unverified posts, for example) to support a claim from a stakeholder or special interest group. [xxvii]

Third, the perspectives of one or more parties in conflict may not be adequately represented in published sources, or completely missing. This could be due to the differences in organization and operations of each party, whereas a community can be vocal and issue multiple complaints through the press whereas an infrastructure company limiting its press responses and dealing with the issues directly but off the press with the community. On the other hand, community concerns may not be included in press reports, or even suppressed or banned, especially in places where the freedom of the press is restricted through government or other interventions. To capture the perspectives of each party typically involved in an infrastructure project conflict, we expanded our interview list to include all key stakeholders. However, to include such underreported or missing perspectives or project narratives in the 200-project database would require field work and additional primary research from our side, which was beyond the scope of this project.

Fourth, given the geographic focus in LAC countries, published sources may contain biases depending on the language of use in the source channel. For example, English language data sources may be underrepresented in small or local-scale conflicts, but exacerbated in large-scale projects attracting international attention. In addition, sources in local language (Spanish, Portuguese or French for LAC) may identify a different set of conflicts than similar articles for the same project on international press. We have anecdotal evidence of this happening in cases where, for example, issues of prostitution, crime and drug abuse were reported and emphasized in local language reports but issues of economic development and investment were reported and emphasized in international, English language reports about the same project. Our research team was well-versed in each and every of the languages used in LAC, and our data sources included in all cases both local and international press. However, some of these biases may not have been able to detect or avoid.

All the above being said, the study at hand and its authors made their best to collect, scrutinize and analyze relevant and quality data for the scope of research. Through the extent, number and geographic reach of the projects analyzed, we are confident that the study offers findings and insights that are relevant and can inform infrastructure project stakeholders, policy-makers and scholars alike. We have elaborated substantively on the quantitative analysis of our data, and as mentioned earlier in this section, we are confident this represents the circumstances in conflicted projects in Latin America.

Due to the caveats elaborated, we are conservative in making further claims on the explanatory power of our findings for infrastructure projects in general, and we hope our work provides as much quantitative evidence as qualitative insights from a project pool. The broad and horizontal nature of our sample, which was a decision taken at the start of this study, provides a comparative and holistic look that we are not aware of being done before. We acknowledge that some or all of the issues addressed in our work justify much deeper examinations on their own, and we hope these will be the subject of future research.

## APPENDIX B: KEY QUESTIONS THAT ARISE FROM THIS STUDY

**Are conflicts in Latin American infrastructure different than in other places?** Similar studies in other parts of the world can further help elaborate, confirm or contrast the study and its findings. Furthermore, geographic diversion can help identify any trends or findings that are idiosyncratic to Latin America infrastructure, which could be useful for policy makers and local operators.

**How to evaluate the tradeoffs between operational efficiency and environmental impacts when locating projects?** Through our research we observed that many times project locations were selected because infrastructure would operate with much higher efficiencies (e.g. maximum power generating capacity from hydropower projects). However, such locations often endanger the environment, where in our research frequently led to conflicts. What is the proper cost-benefit approach in order to balance operational efficiencies in infrastructure, with the cost of mitigating impacts? This relationship needs to be further evaluated to provide recommendations for more prudent project site selections.

**What happens with infrastructure its users consider a universal right?** Typical in water projects, but also in other cases, its users may not be willing to pay for its full costs. What should be done in such cases? How to make such infrastructure operationally feasible?

**What can we learn from field studies in conflicted projects?** Research including field work in a select number of conflicted projects, visit the projects and interview its participants in order to detail the actual mechanics of how conflict evolved and documented the perspective of each conflicted party through anthropological and organizational science lenses.

**Are published sources in infrastructure complete and comprehensive?** Additional studies can elucidate more perspectives in conflicted projects through additional research that goes beyond published sources. This could include interviews with knowledgeable outsiders and/or project stakeholders, on a per-project or region basis.

**What is the right job training and provision package?** Further work can elaborate on what is a meaningful job training provision and community development program when developing infrastructure. The question may have added weight when doing projects in rural, agriculture regions with high level of poverty.

**What to do in areas where there is significant prejudice against infrastructure?** Certain regions or communities may have experienced such negative events in the past, that are completely opposed to any new project that comes. However, this may lead to lost investment, lack of development, and perpetuate very high poverty levels. What can be done to alleviate community prejudices?

**What will be the impact of new technologies in infrastructure in the next decade?** Technological advancements may provide solutions to past problems that led to conflicts. However, their benefits may not be immediately accepted by the public, as we have seen in this research. Furthermore, new technologies may pose additional challenges we haven't anticipated – for example, drastically reducing the number of jobs an infrastructure project can provide. More research can elucidate trends and provide insights that can help policy-makers and operators alike.

**How to allocate costs of sustainable development in projects?** For example, the cost of reducing carbon emissions or procuring local materials and providers may be an added extra in projects. Should the government pay for it, dealing with externalities through taxes, or should the operator include such costs in its budget? What is the role of international financial and multilateral development institutions?

## APPENDIX C: DRIVERS OF CONFLICT PER SECTOR

Pollution and degradation are prominent **environmental** drivers in all sectors, in particular in waste and resource extraction projects Historically motivated opposition led to more conflicts in the energy, resource, and waste sectors. Deforestation was most influential in urban development and energy projects. Water scarcity affected mostly water and waste projects, whereas climate change as a conflict driver was more prominent in water, energy, and urban development projects.

Reduced access to resources and lack of community benefits led to **social** conflicts in all six sectors. Impacts on local values affected all projects, but mostly energy, resource, and water ones. Lack of local jobs was a prominent conflict driver in energy, resource, and transportation projects, whereas forced relocation was a conflict driver in urban development, energy, and transportation projects. Crime and prostitution were most common in energy and resource projects, especially rural ones. In general, social drivers prominently affected the water, waste, and urban development sectors.

Deficient planning and lack of adequate consultation were prominent **governance** drivers in all six sectors. In fact, 100% of urban development projects, and most energy and transportation projects, faced conflicts at some point because of planning deficiencies. Lack of transparency and corruption were very much correlated and a driver in energy, water, urban development (especially in large urban centers), and transportation projects. Previous bad reputation was most influential in resource and waste projects.

**Economic** drivers of conflict were most prominent in water and transportation projects, with the price of infrastructure service being the most common driver. Excessive profit level was particularly influential in driving conflicts in resource and transportation projects. Similarly, unjust distribution of profits led to more conflicts in resource, transportation, and energy projects. Finally, wage disputes were prominent in waste and transportation projects.

The following graphs present the significance of conflict drivers per sector, for all sectors.

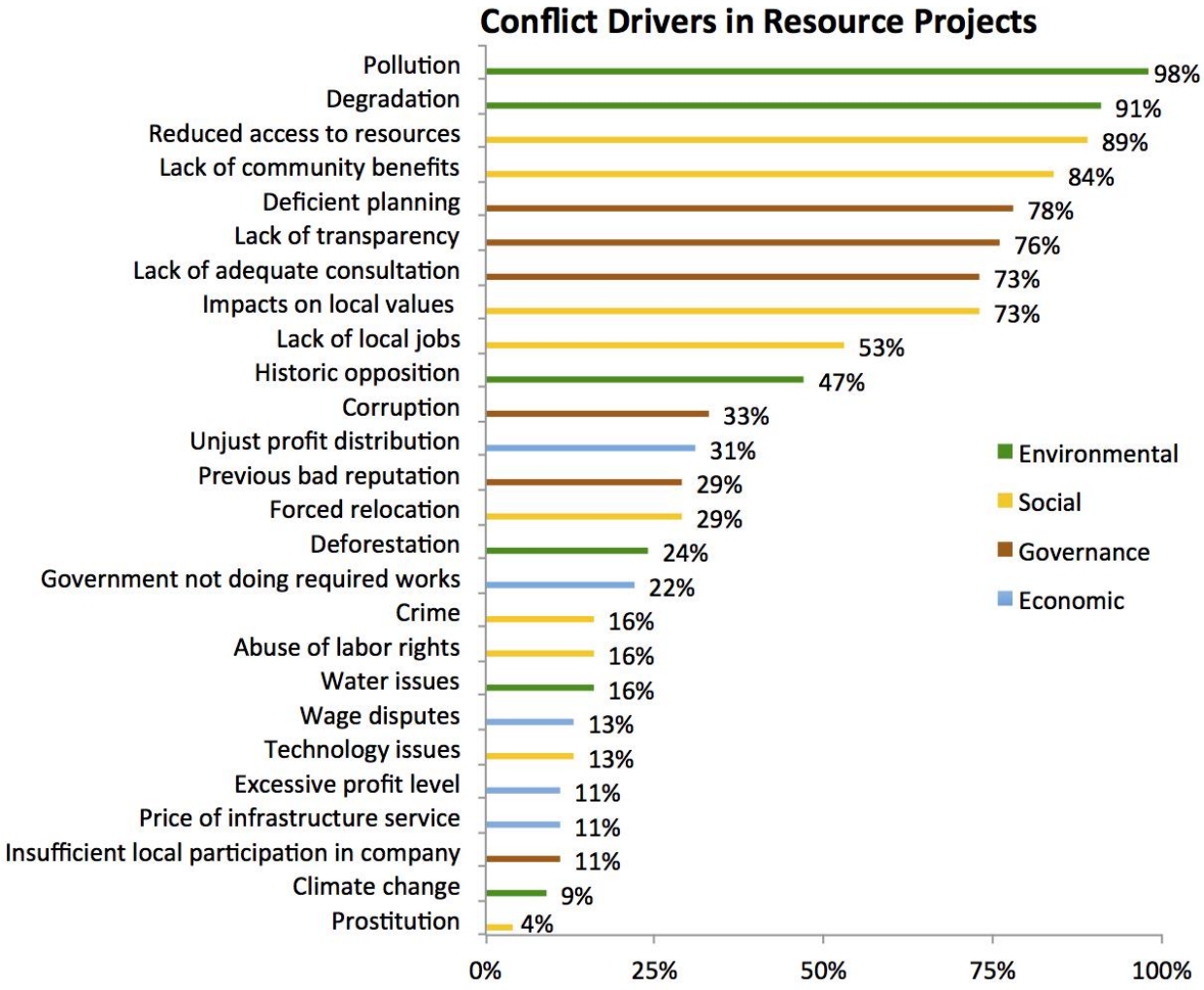



FIGURE C1. CONFLICT DRIVERS, RESOURCE PROJECTS.

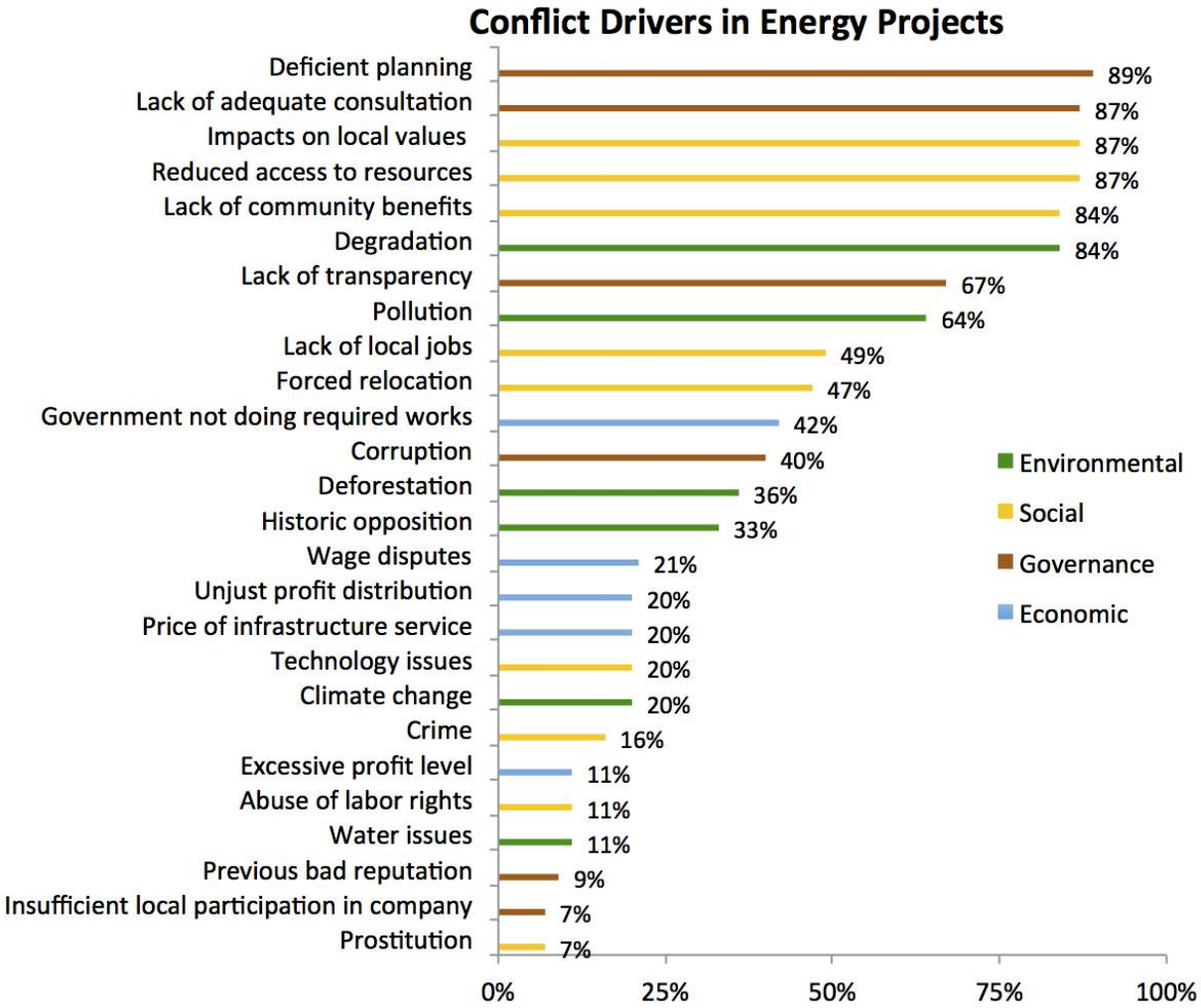



FIGURE C2. CONFLICT DRIVERS, ENERGY PROJECTS.

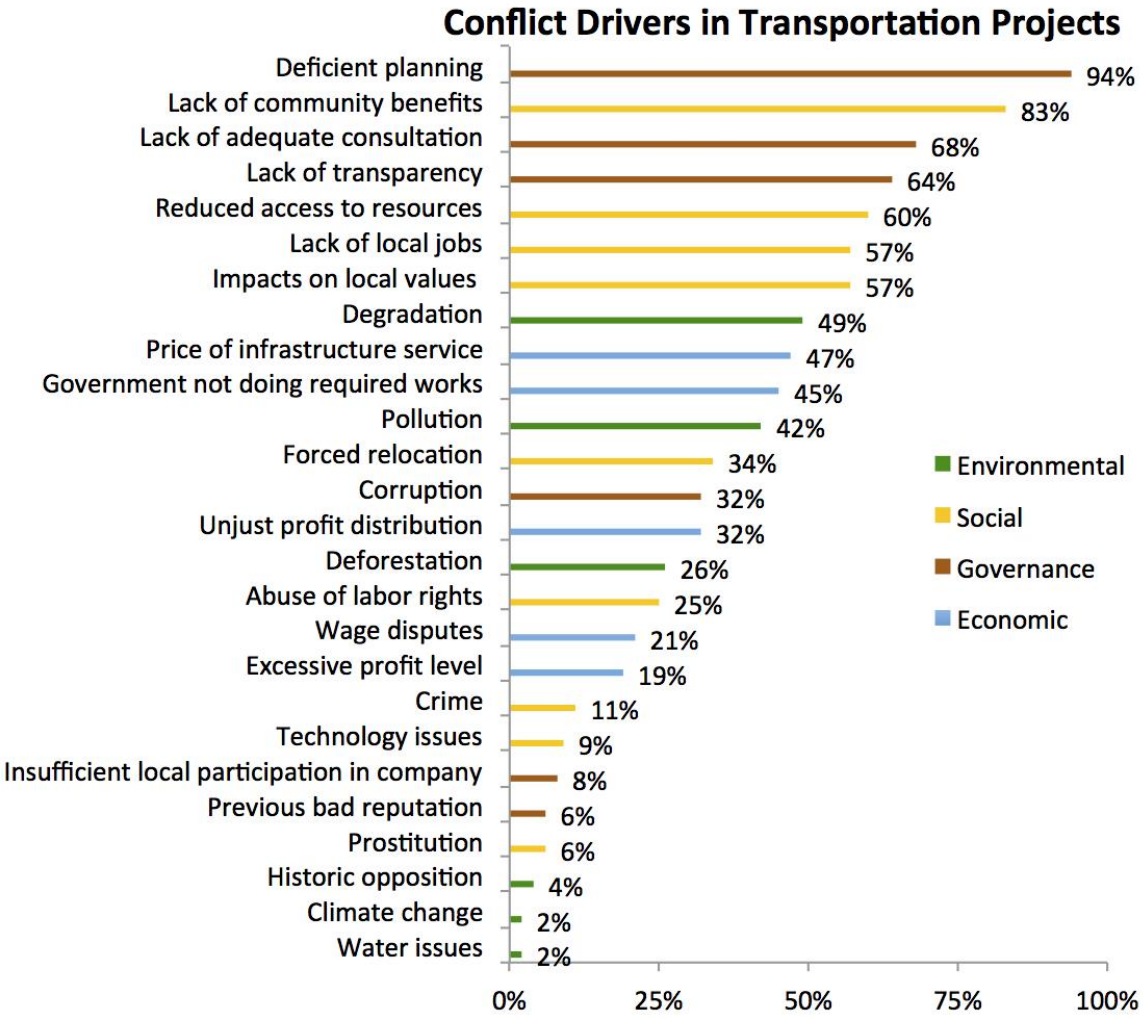



FIGURE C3. CONFLICT DRIVERS, TRANSPORTATION PROJECTS.

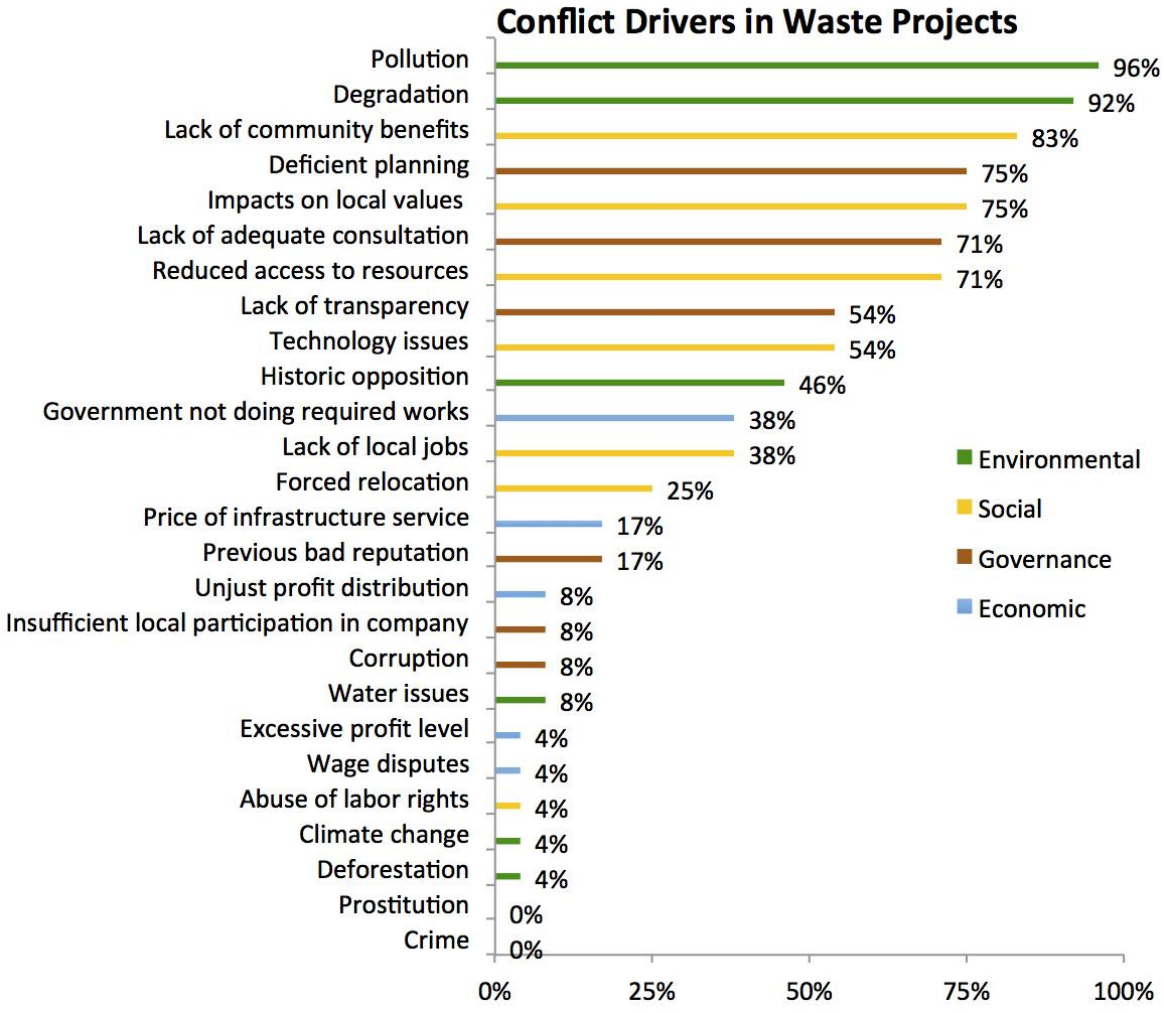



FIGURE C4. CONFLICT DRIVERS, WASTE PROJECTS.

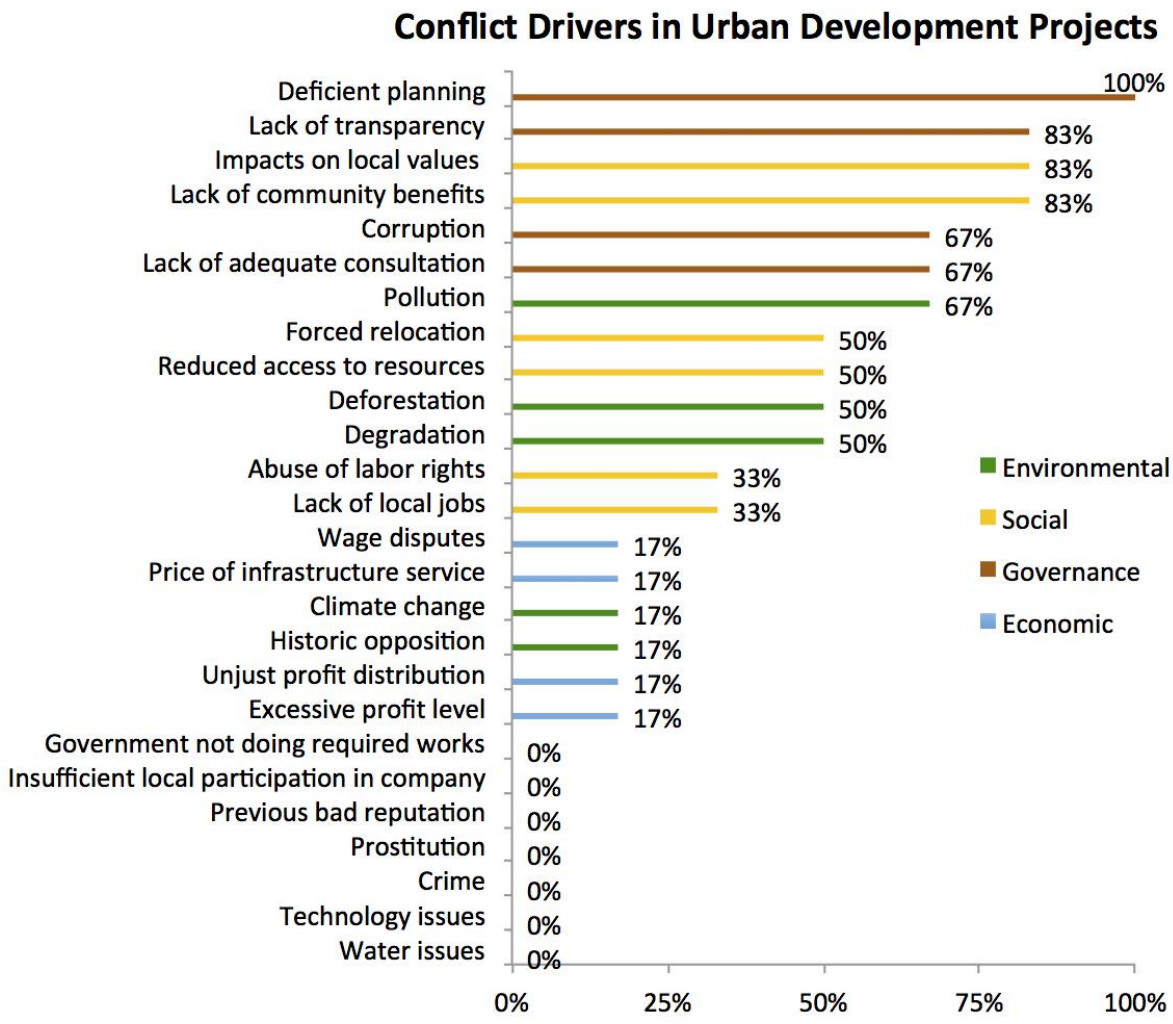



FIGURE C5. CONFLICT DRIVERS, URBAN DEVELOPMENT PROJECTS.

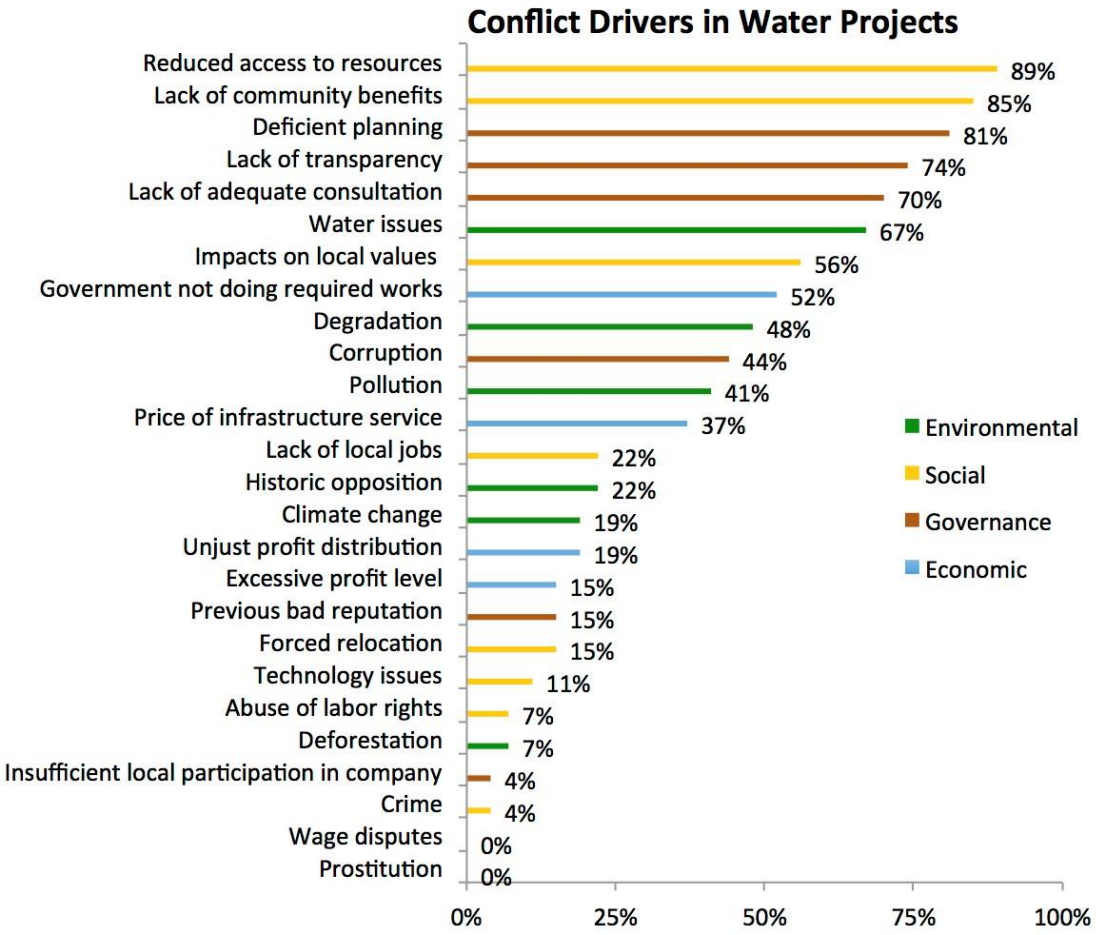



FIGURE C6. CONFLICT DRIVERS, WATER PROJECTS.

## APPENDIX D: CONFLICT DRIVERS THROUGHOUT THE YEARS

Our research shows that deficient planning is the most significant conflict driver throughout the period of our research. The percentage of projects that faced conflicts because of environmental drivers has slightly diminished, with the exception of the climate change driver that has become much more prominent in more recent projects.

The percentage of projects that faced conflicts because of economic drivers has increased, while the percentage of projects affected by government works has dropped considerably. However, more research is needed to clarify if this is a trend. The following graphs present an overview of the significance of conflict drivers from 1980 until today, for all projects

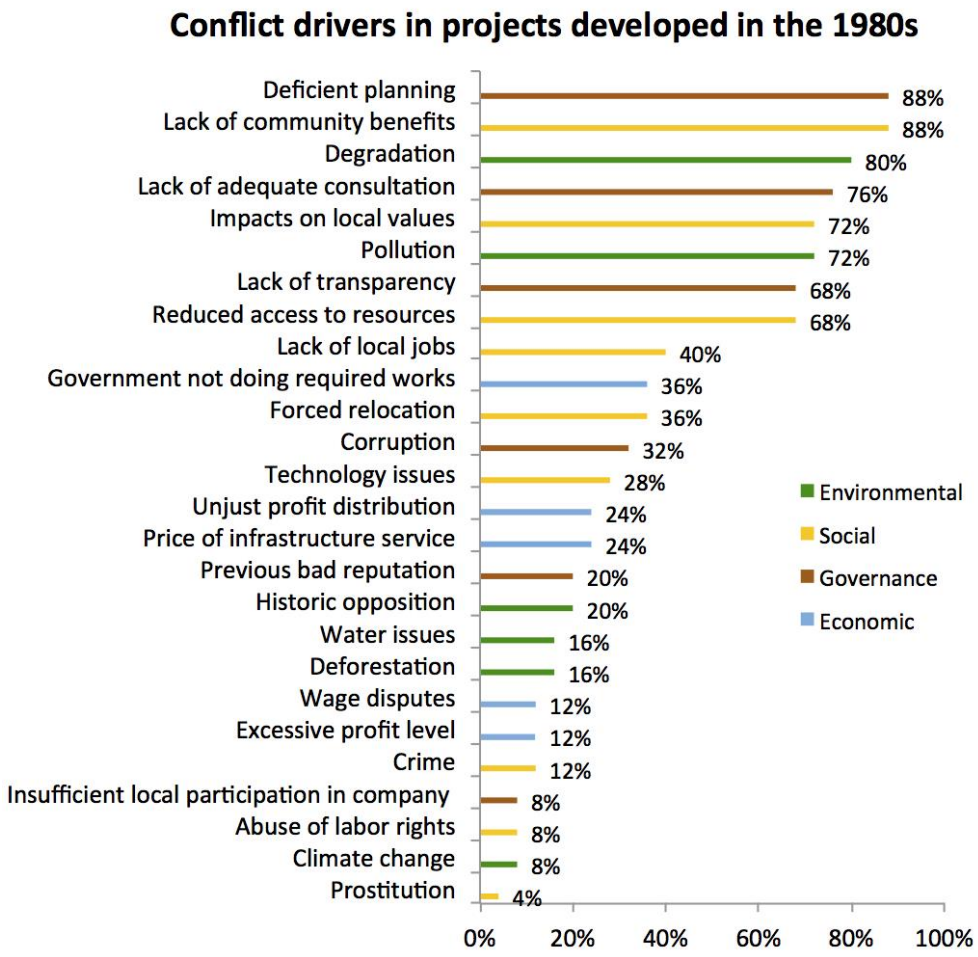



FIGURE D1. CONFLICT DRIVERS, PROJECTS DEVELOPED IN THE 1980S.

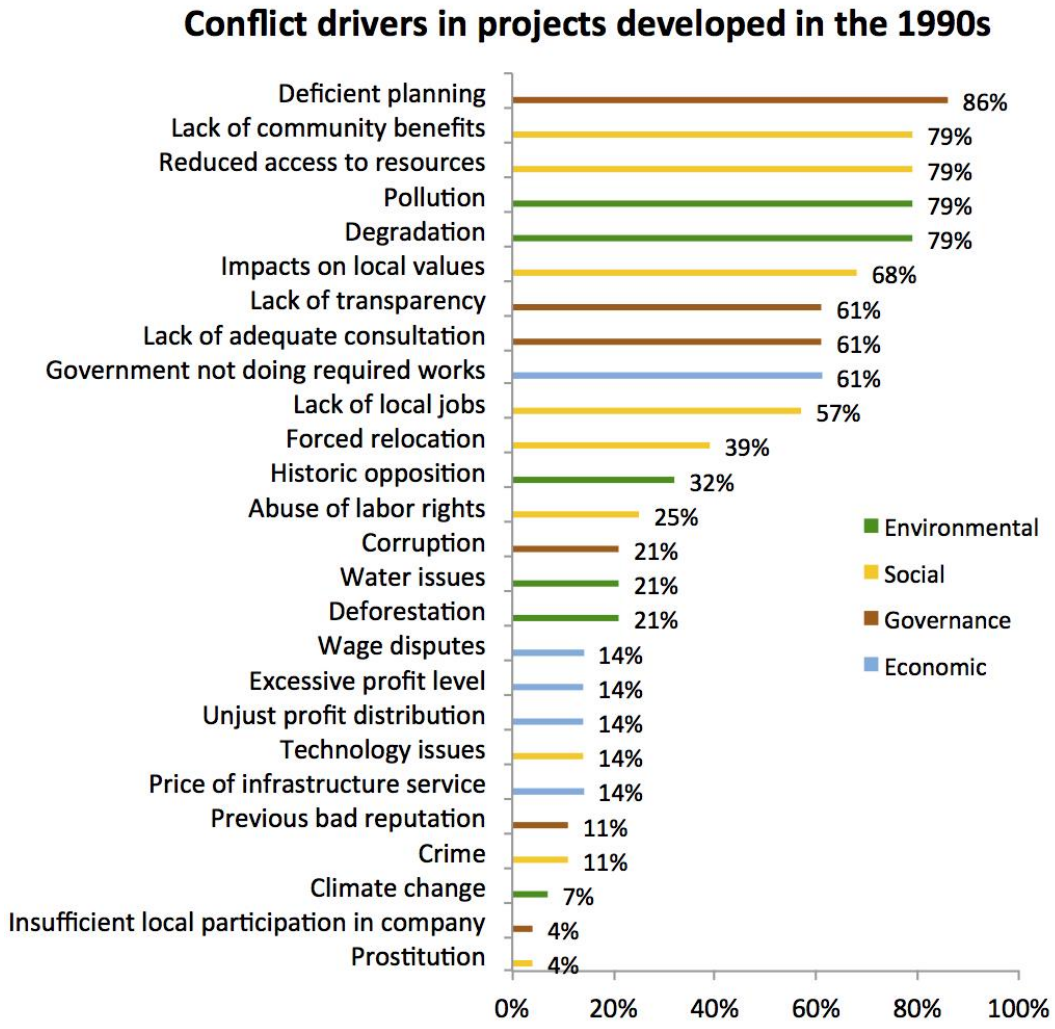



FIGURE D2. CONFLICT DRIVERS, PROJECTS DEVELOPED IN THE 1990S.

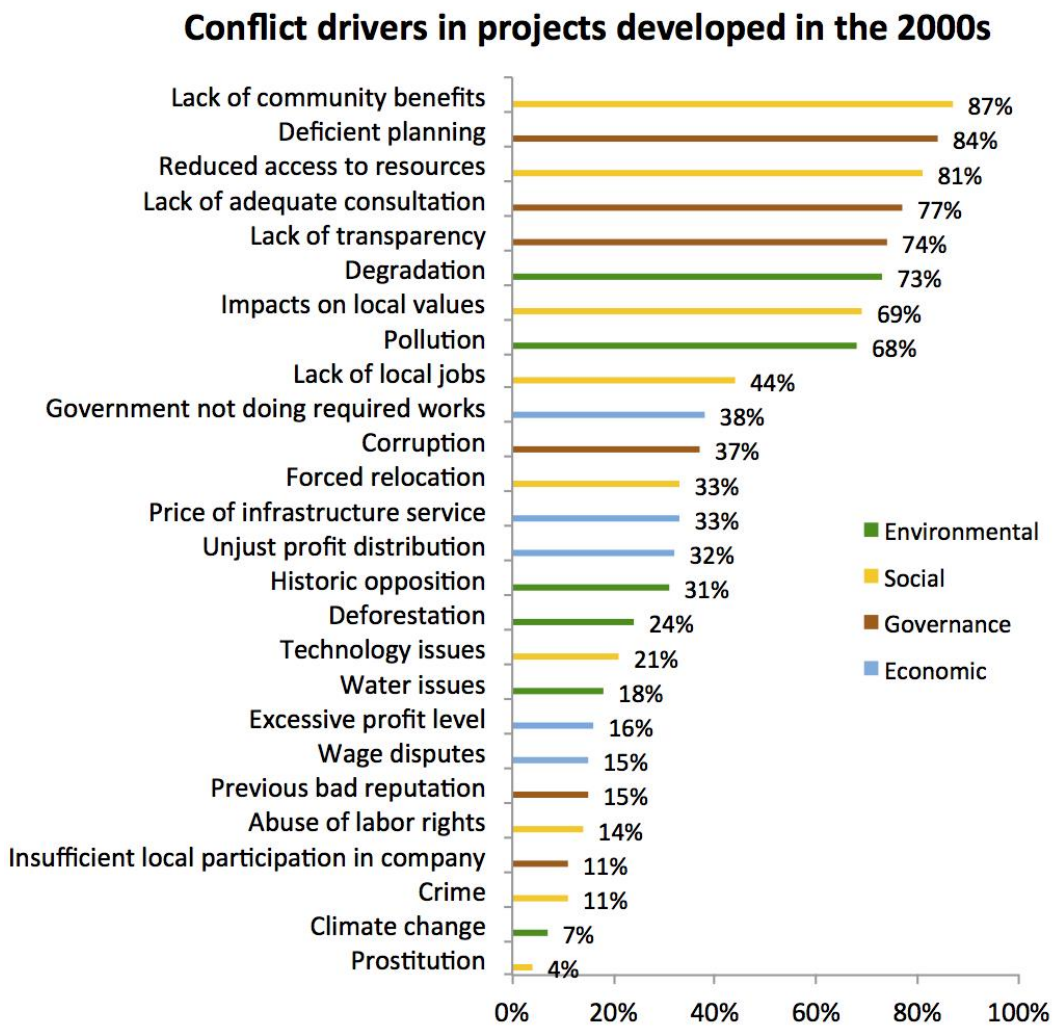



FIGURE D3. CONFLICT DRIVERS, PROJECTS DEVELOPED IN THE 2000S.

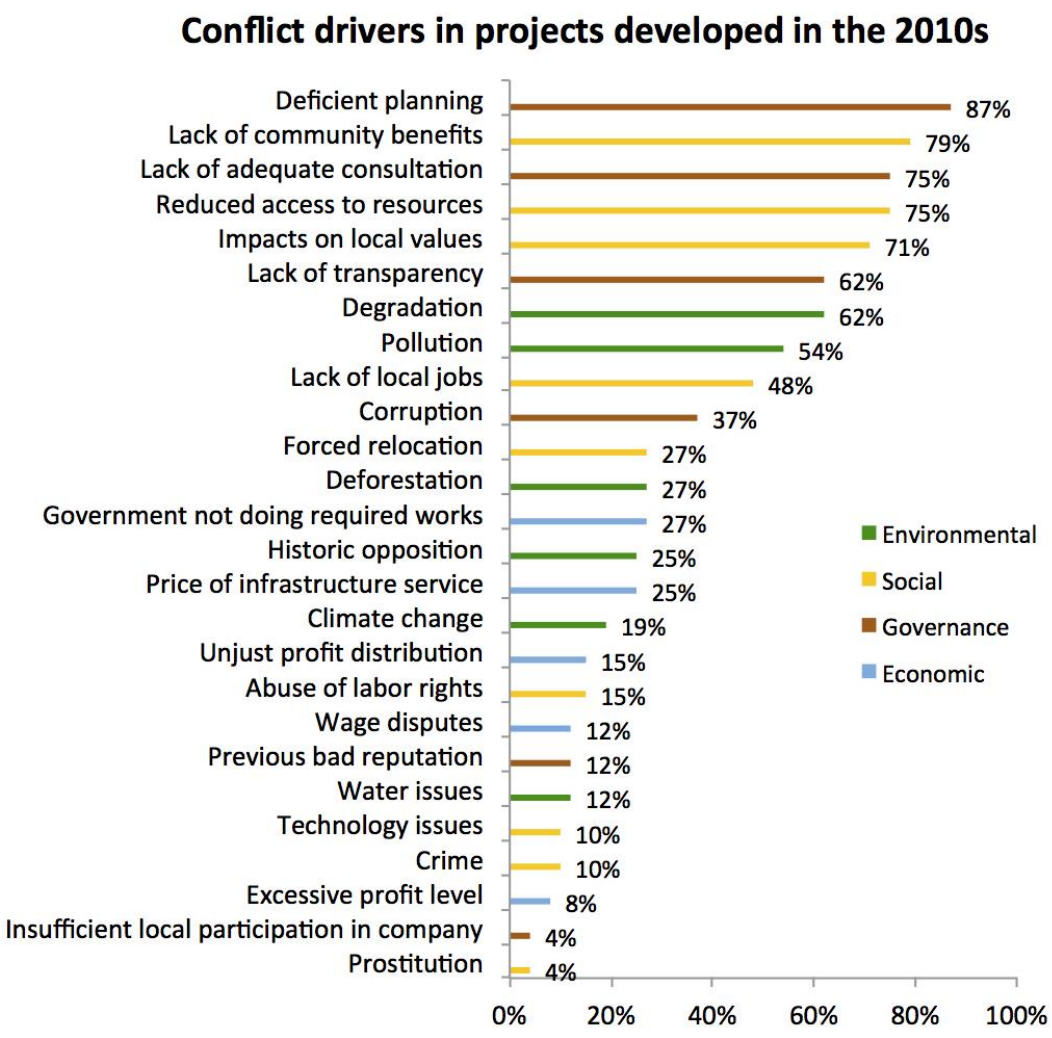



FIGURE D4. CONFLICT DRIVERS, PROJECTS DEVELOPED IN THE 2010S.

## APPENDIX E: TIMING OF CONFLICT AND FINAL PROJECT STATUS

The following graph displays the relationship between the timing of conflict in the project cycle and the final project status. Most projects in the database that were cancelled because of conflicts faced conflicts early in the project cycle. Delayed but still in progress projects show similar trends. Projects that are operational faced conflicts later in the project cycle.

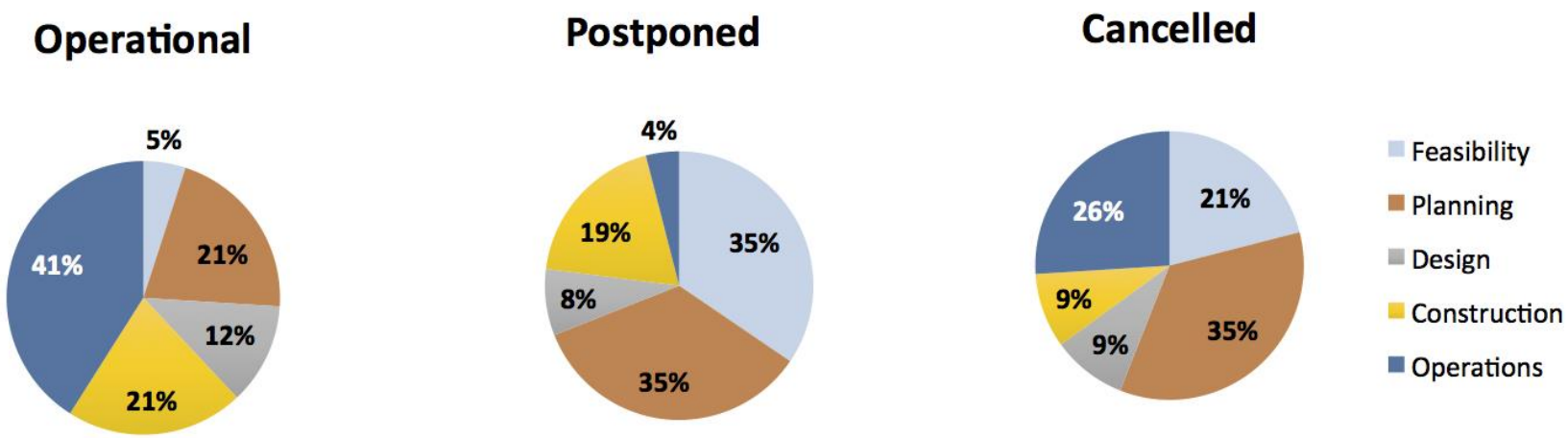



FIGURE E1. TIMING OF CONFLICT AND FINAL PROJECT STATUS, ALL PROJECTS.

## APPENDIX F: EVOLUTION OF COMPANY RESPONSE TO CONFLICTS

Press statements, consultation, and regulatory compliance are the most frequently observed **general company actions** in response to conflicts. Innovation of processes and procedures at the company level that exceeded applicable regulatory requirements, the participation of independent experts, the use of force, and firms abandoning projects are less common in more recent projects in the database. The last two decades have seen the percentage of projects that involve communities in project activities double, while the percentage of projects that focused on community jobs and cash payments has diminished.

Investments in community capacity building and infrastructure are the most common **community benefits,** while environmental improvements is the most frequently observed **environmental benefit.** The percentage of firms that focused on environmental restoration increased slightly, whereas the percentage of firms implementing reforestation initiatives has slightly diminished. However, more research is needed to clarify if this is a trend. The proportion of firms that took no action to address conflicts is constant throughout the period of our research, with the exception of 1990 when it dropped slightly. The following graphs present the significance of all conflict drivers per decade, from 1980 until today.

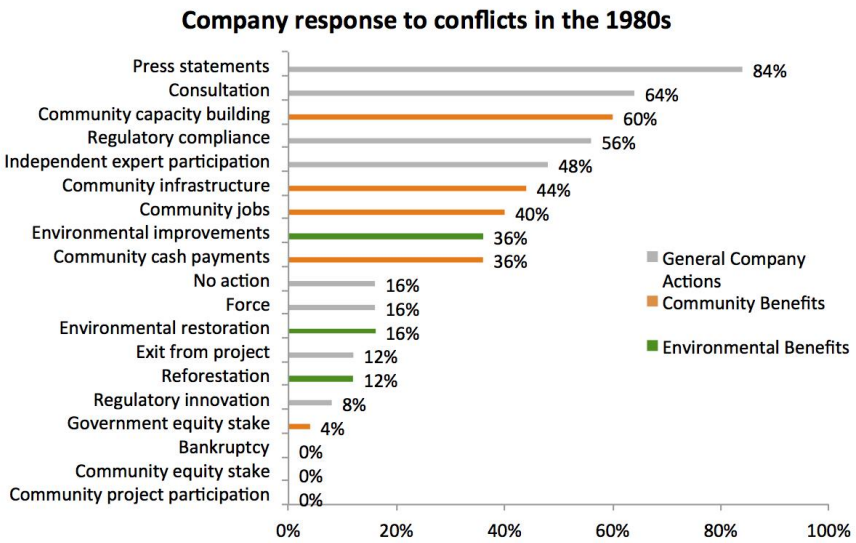



FIGURE F1. COMPANY RESPONSE TO CONFLICTS IN THE 1980S.

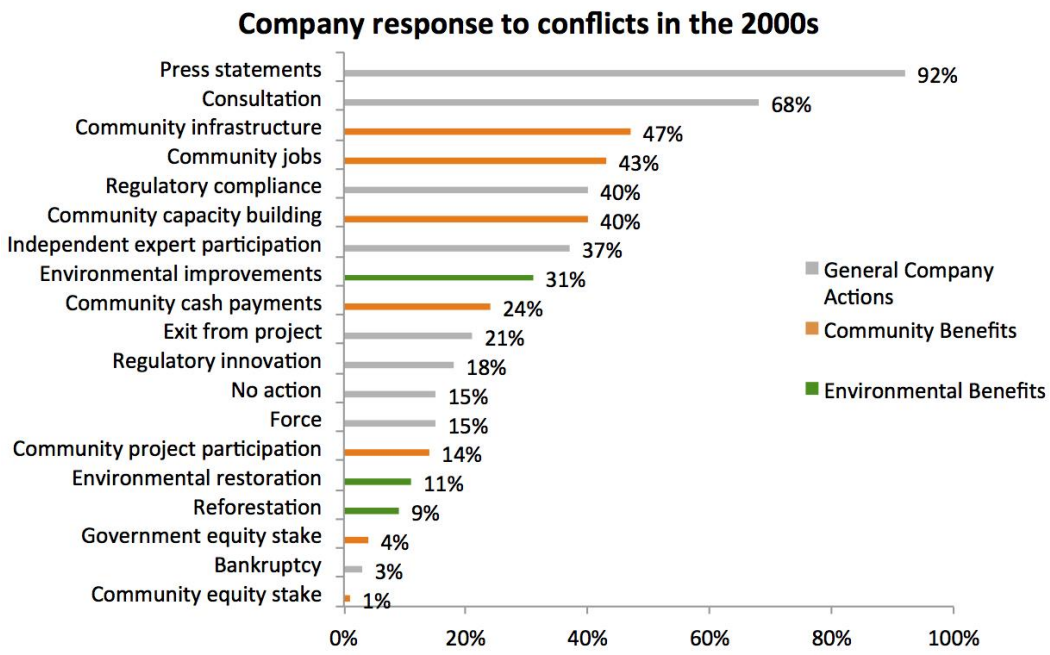



FIGURE F2. COMPANY RESPONSE TO CONFLICTS IN THE 1990S.

FIGURE F3. COMPANY RESPONSE TO CONFLICTS IN THE 2000S.

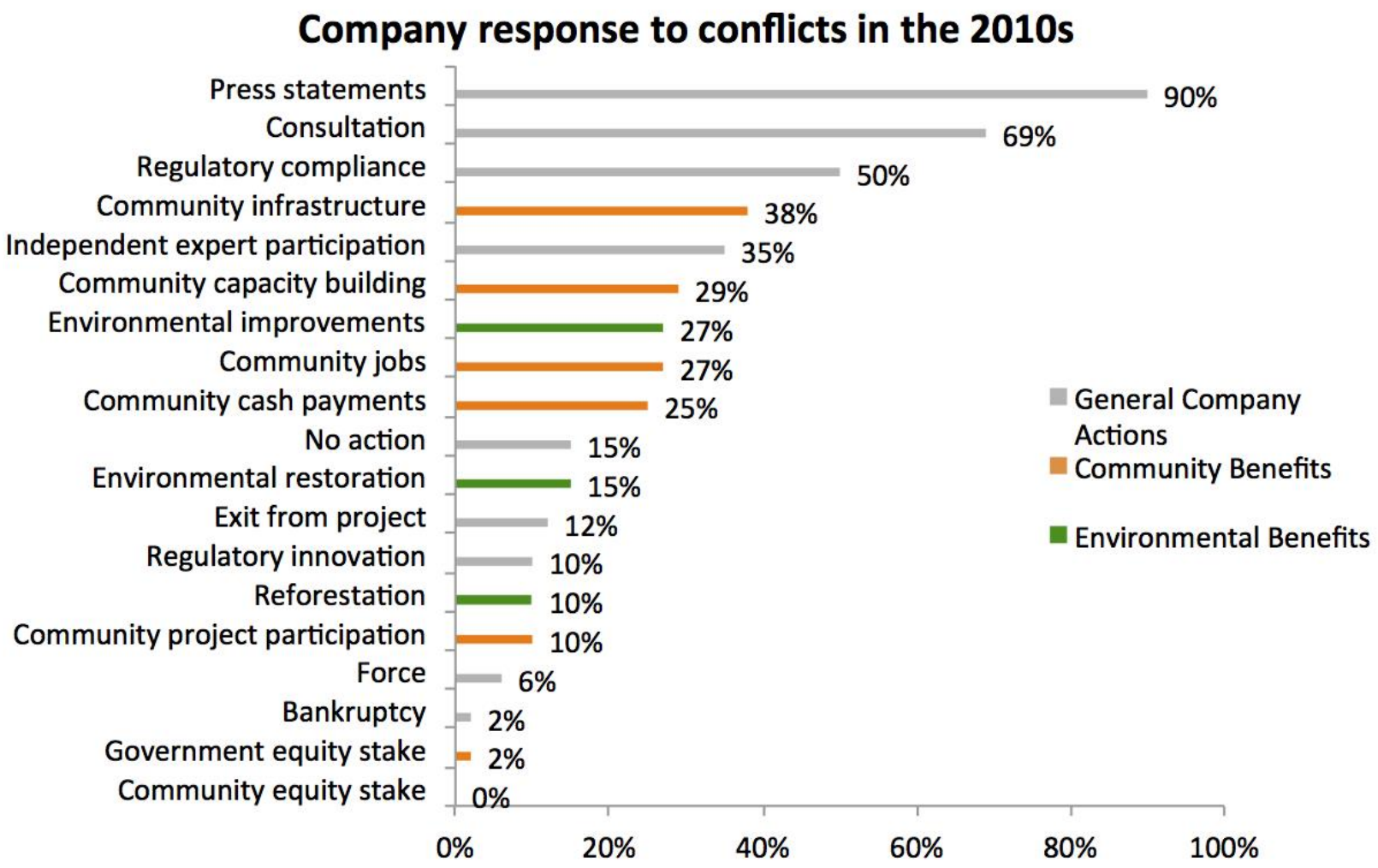



FIGURE F4. COMPANY RESPONSE TO CONFLICTS IN THE 2010S.

# APPENDIX G: CONFLICT ESCALATION, CONFLICT CONSEQUENCE, AND COMPANY RESPONSE POINT SYSTEMS

## Conflict Escalation

Expressions of conflict in this study were grouped in four categories based on their intensity: low, moderate, high, and extreme. Low includes press statements, administrative complaints, and boycotts. Moderate includes protests, blockades, arbitration, and litigation. High includes violence, injuries, and damage to property. Finally, extreme includes deaths.

To further evaluate the manifestations of conflict, we developed a point system that ranks conflicts based on their escalation level. Low expressions of conflict receive 3 points, moderate expressions 12 points, high 18 points, and extreme 20 points. We selected uneven intervals for creating the point system to reflect the escalation differences, especially the significance of the most extreme expressions.

## Conflict Consequences

Similarly to the conflict escalation index, we developed a point system that ranks the magnitude of consequences of conflict. Reputational damage, independent expert review, and concession amendment were categorized as low consequences (1 point each, 3 points in total). Joint venture change, loss of productivity, project redesign, and redress payments were categorized as moderate consequences (3 points each, 12 points in total). Cost overruns, delays, fines, and project redesign were categorized as high consequences (6 points each, 24 points in total). Project cancellation, lack of development, loss of foreign investment, and imprisonment were categorized as very high (12 points each, 48 points in total). Government change was categorized as extreme (20 points). Again, we used uneven intervals for the point system to reflect the consequence escalation differences, especially the severity of the most extreme consequences.

## Company Response to Conflict

We also developed a point system that ranks company responses and actions to address conflicts. We structured the company response indicator using accumulated knowledge and good practices. [xxviii] No action, bankruptcy, and exit from project give 0 points, while use of force gives −4 points. Press statements, regulatory compliance, and participation of independent experts give 4 points each. Consultation, community jobs, reforestation, and community cash payments give 6 points each. Community and government equity stake give 8 points each. Community capacity building, community infrastructure, and environmental improvements give 12 points each. Finally, environmental restoration, community project participation, and Innovation of processes and procedures in the company that exceeded applicable regulatory requirements give 16 points each. We chose uneven intervals for creating the point system to reflect the company action differences, both in terms of budget and time requirements to implement some of these but also in terms of their significance in containing conflicts.

## APPENDIX H: INSTITUTIONAL CAPACITY OF COUNTRIES AND CONFLICT

In the main body of the report we demonstrated that conflicts tend to escalate to violent confrontations more easily and result in substantial consequences more often in countries that lack the institutional capacity to manage them effectively. To further test this relationship, we used four additional indicators that reflect each country's level of development, institutional capacity, and governance. The indicators we selected are GDP per capita, the Human Development Index (HDI), the Economist Intelligence Unit's Democracy Index, and the World Resource Institute's Environmental Democracy Index.

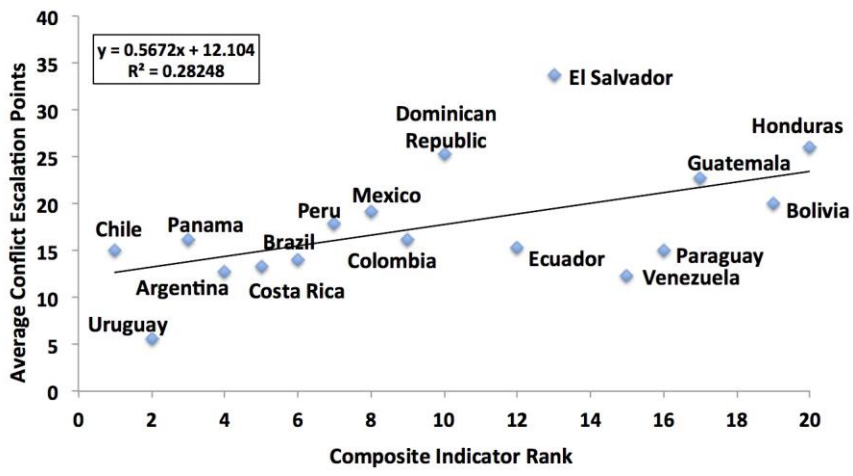



FIGURE H1. INSTITUTIONAL CAPACITY AND CONFLICT ESCALATION.
R= 54%, R2= 28.3%, P-VALUE= 0.025.

We calculated the average of these indicators along with the Rule of Law index for each country represented in our database and ranked them accordingly, assigning them a composite development indicator (Appendix N). Then we compared the composite development indicator with the severity of conflict escalation in each country. Again, the most severe conflicts were observed in countries with the lowest composite development indicators (Figure H1). The composite development indicator model predicted a higher percentage of the variation.

We further evaluated the relationship between the significance of consequences of conflicts and countries with lesser institutional capacities. We calculated the average magnitude of consequences in each country and compared it with each country's rank in the composite development indicator. Again, a positive correlation exists between the countries with lower institutional capacity, as measured by our composite development indicator, and more significant consequences of conflicts (Figure H2). The composite development indicator model predicted a higher percentage of the variation.

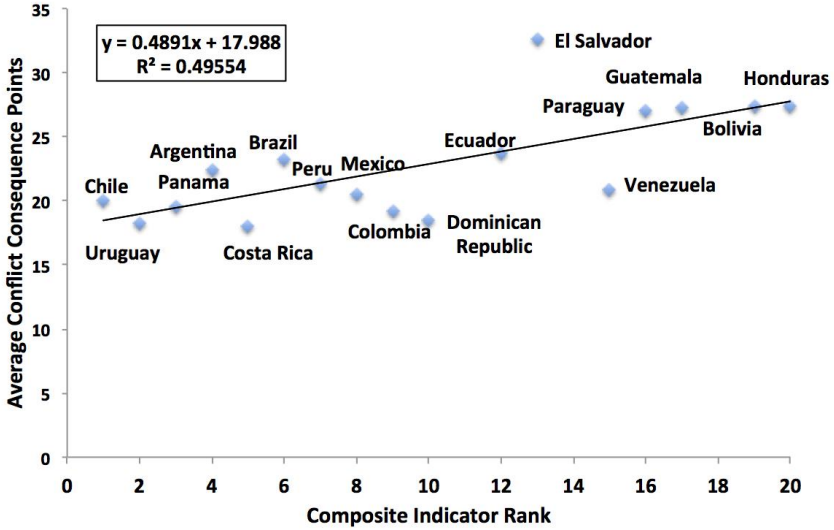



FIGURE H2. INSTITUTIONAL CAPACITY AND CONSEQUENCES OF CONFLICT.
R= 70%, R2= 49.5%, P-VALUE= 0.00151.

## APPENDIX I: PROJECT SCALE AND CONFLICT

The next step of our analysis was to measure the effect of project scale, as measured by its budget, on conflict escalation. We inflation-adjusted each project budget (so that we could compare projects in the 1990s with those in 2010),[xxix] and we found that larger projects generally had more significant conflicts. Figure I1 shows that on average larger projects had higher conflict escalation scores as measured through our conflict escalation indicator. A potential explanation of this relationship would be that larger projects in general create larger impacts and as such produce more intense conflicts.

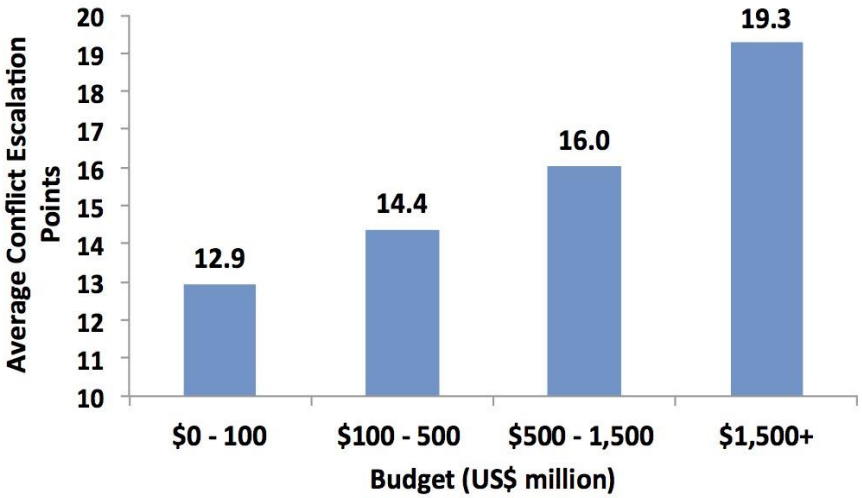



FIGURE I1. CONFLICT ESCALATION AND PROJECT BUDGET, ALL PROJECTS.

In fact, some experts have questioned the feasibility of such megaprojects. In many cases the direct and indirect impacts they entail in terms of land use change, relocation, and compensation of affected communities inevitably spark community opposition. However, this is not always the case, as specific projects orders of magnitude smaller in both scale and budget led to violent confrontations and resulted in negative consequences not usually observed in larger projects.

We also found suggestive evidence that a correlation exists between project scale and the severity of consequences, as larger projects tend to result in more significant impacts that need to be avoided or compensated. As shown in Figure I2, the most significant difference in conflict consequence scores as measured through our conflict consequence indicator is observed between very large projects in terms of budget (budget US$ 1,500 million or more) and smaller projects. More research is needed to delve into the mechanics of the relationship between projects in lower budget categories.

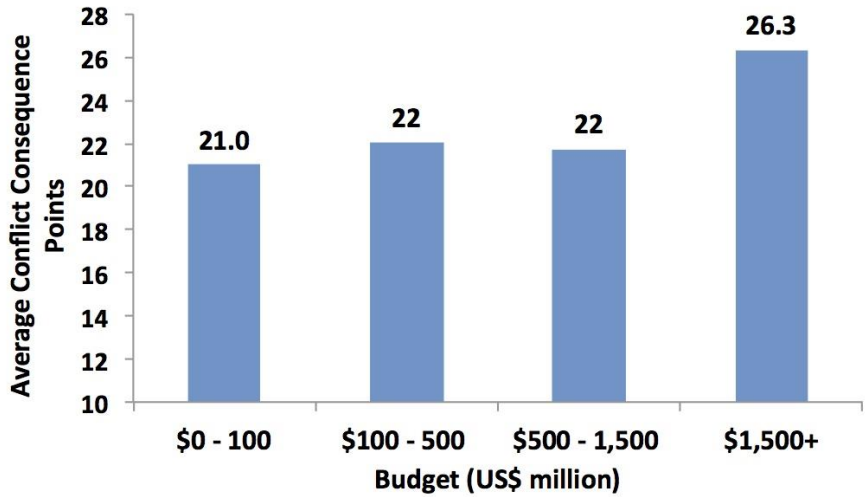



FIGURE I2. CONSEQUENCES OF CONFLICT AND PROJECT BUDGET.

We wanted to test the same relationship for more expensive projects. To define what a more expensive project means, we grouped all projects by category (for example hydropower) and then we calculated the cost per unit of output per project. The selected infrastructure unit changes according to the sector. For example, for energy projects we chose the project's capacity in MW, again we used inflation-adjusted costs. In each

category, we identified the average and median cost per unit of output. Then, we compared each project with the average costs in its category. So, a project that cost twice as much as the average per unit of output would have a 100% value, while a project that cost 20% less than the average would have a −20% value.

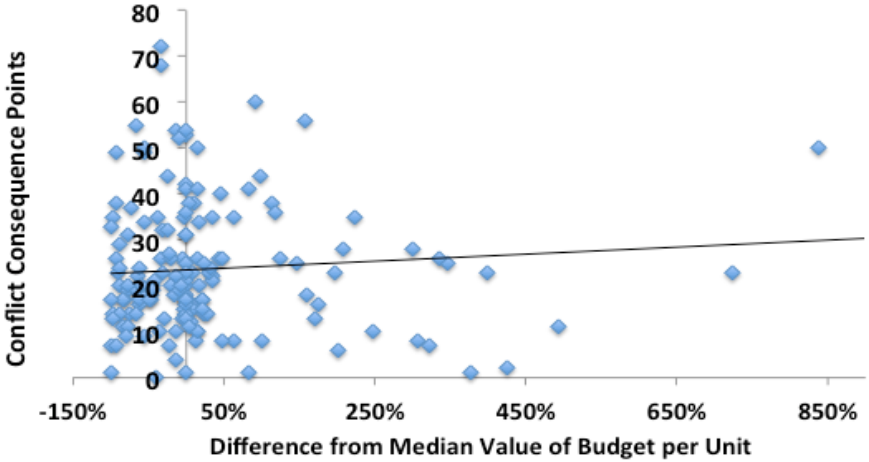



FIGURE I3. CONFLICT CONSEQUENCES AND COST PER UNIT DIFFERENCE FROM THE INFRASTRUCTURE CATEGORY MEDIAN, ALL PROJECT.
R=10%, R2=3% P-VALUE=0.15.

In this second test, we found suggestive evidence that a positive correlation exists between more severe conflict consequences and projects with higher cost per unit of output (more expensive projects) as compared to the median cost per unit of output for all projects. Projects with higher costs per unit, or more expensive projects, generally led to more significant conflicts as measured through our conflict escalation indicator (Figure I3). One potential explanation for this relationship is that more expensive projects, especially those that might be overpriced due to corruption and ineffective bidding procedures, lead to more intense conflicts, as it's easier to identify these through contemporary media channels. However, more research is needed to clarify the mechanics of this relationship.

The average company response to conflicts also differs according to the scale of the project. Figure I4 shows that the average company response score, as measured with our indicator, is higher in larger than smaller projects. The average response in very large projects (US$1,500 million or more) is significantly higher than the average response in smaller projects in terms of budget. More research is needed to delve into the details of the relationship between projects in the lowest project budget categories.

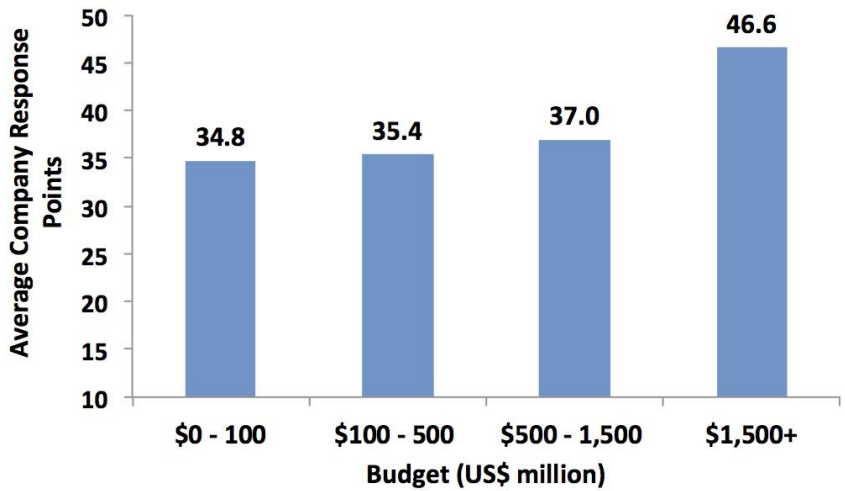



FIGURE I4. COMPANY RESPONSE AND PROJECT BUDGET.

We also evaluated the relationship between the average company response to conflict and the cost per unit of infrastructure output. Figure I5 shows that there is a correlation between projects with higher cost per unit and less comprehensive responses to conflict. In other words, more expensive projects led to more conflicts with more severe impacts, but their sponsors did less to mitigate them. However, more research is needed to clarify the mechanics of this relationship.

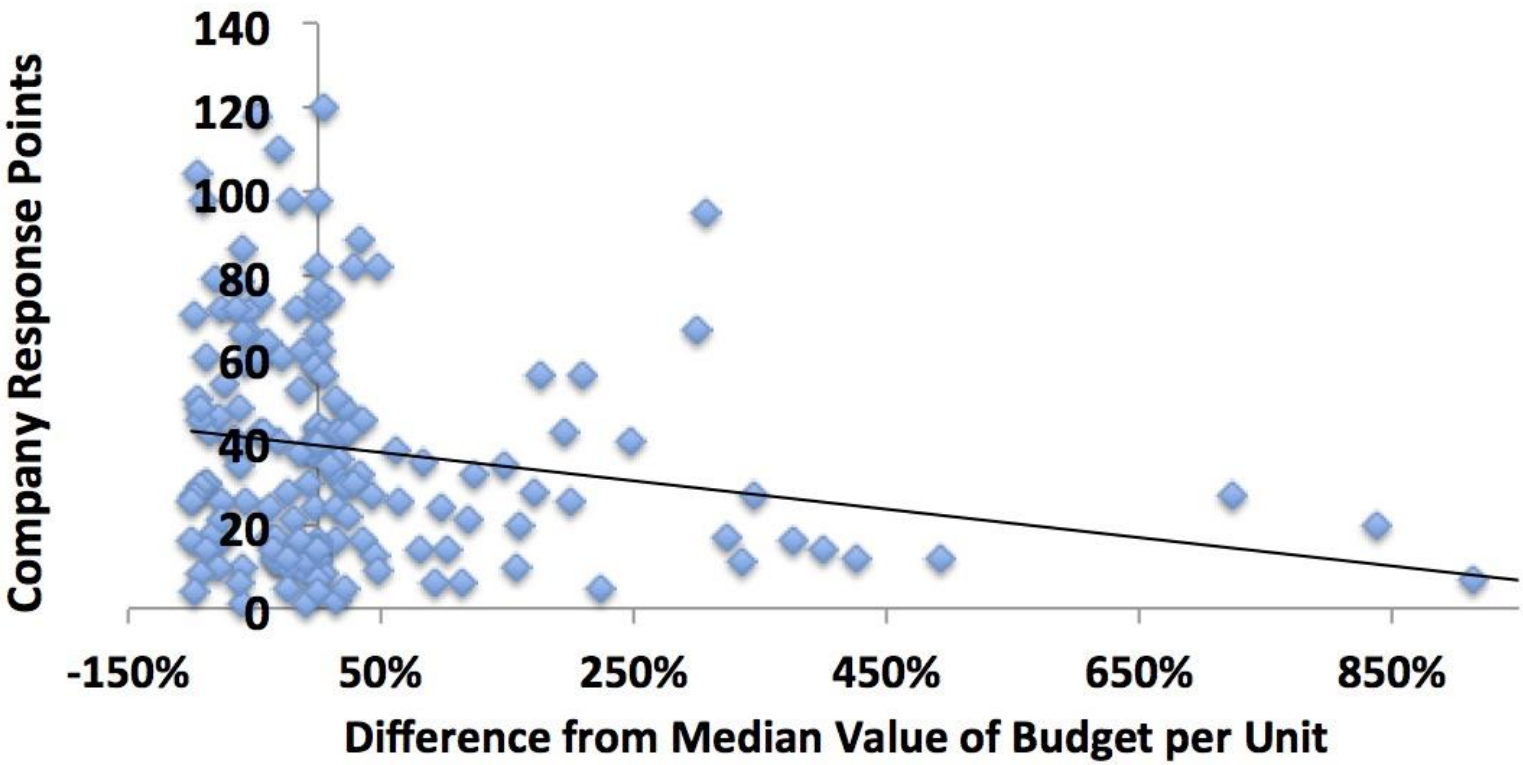



FIGURE I5. RELATIONSHIP BETWEEN COMPANY CONFLICT RESPONSE SCORE AND COST PER UNIT OF INFRASTRUCTURE OUTPUT.
R= 22%, R2= 5%, P-VALUE= 0.015.

## APPENDIX J: LIST OF INTERVIEWEES

| # | POSITION | COMPANY | COMPANY SECTOR / PROJECT TYPE | LOCATION |
|---|---|---|---|---|
| 1 | Director of International Relations | Financiera de Desarrollo Nacional (FDN) | Financial institution | Colombia |
| 2 | CEO | Financiera de Desarrollo Nacional (FDN) | Financial institution | Colombia |
| 3 | Director of Social Responsibility | Refinería de Cartagena S.A. (Reficar) | Oil & Gas (refinery) | Colombia |
| 4 | Manager of Health, Safety, and the Environment | Empresa Generadora de Electricidad Haina S.A. | Renewables / wind farms | Dominican Republic |
| 5 | Manager at the Barahona power plant | Empresa Generadora de Electricidad Haina S.A. | Renewables / wind farms | Dominican Republic |
| 6 | Windfarm Development Manager | Empresa Generadora de Electricidad Haina S.A. | Renewables / wind farms | Dominican Republic |
| 7 | General Manager, Ecuador | Corporación América | Airports | Multinational |
| 8 | Responsible for the Social Management and Sustainability Program | Odebrecht | Large infrastructure projects / hydropower | Multinational |
| 9 | Director of Business Development | Asergen S.C. | Hydropower | Mexico |
| 10 | Manager, Latin America Smart Infrastructure Regional Unit | The Nature Conservancy | NGO | Multinational |
| 11 | Regional Director | C40 Latin American Cities Climate Change Leadership Group | Urban context and climate adaptation | Multinational |
| 12 | Senior Consultant | Golder Associates | Engineering consultant | Multinational |
| 13 | Senior Environmental Specialist_Associate | Golder Associates Peru S.A. | Engineering consultant | Peru |
| 14 | Environmental Group Leader_Associate | Golder Associates Peru S.A. | Engineering consultant | Peru |
| 15 | Managing Director | Shift | Conflict expert | Multinational |
| 16 | Vice Coordinator | Center for Sustainability Studies (GVCs) | Research institution | Brazil |

| | | | | |
|---|---|---|---|---|
| 17 | Local Development Program Coordinator | Center for Sustainability Studies (GVCs) | Research institution | Brazil |
| 18 | Local Development Program Researcher | Center for Sustainability Studies (GVCs) | Research institution | Brazil |
| 19 | CFO | Confidential | Hydropower | Guatemala |
| 20 | Chief of Socio-Environmental Projects at EPSA | Empresa de Energia del Pacifico S.A. E.S.P. (EPSA) | Oil & Energy | Colombia |
| 21 | Director of International Relations | Agencia Reguladora de Saneamento e Energia do Estado de Sao Paulo (ARSESP) | Energy and sewage | Brazil |
| 22 | Finance Specialist | Instituto Financiero para el Desarrollo del Valle del Cauca – INFIVALLE | Finance | Colombia |
| 23 | Hydropower Commercial Director at MWH | MWH Global | Mining, energy, and engineering | Multinational |
| 24 | Environmental & Social Responsibility Leader (Global), Key Initiatives Leader (Latin America), Vice President at MWH Global | MWH Global | Mining, energy, and engineering | Multinational |
| 25 | Environmental Manager at MWH Chile | MWH Global | Mining, energy, and engineering | Chile |
| 26 | Social Area Coordinator, Department of Environment at MWH Global | MWH Global | Mining, energy, and engineering | Chile |
| 27 | Environmental & Social Coordinator | Globeleq Mesoamerica Energy | Energy | Multinational |
| 28 | Project manager, Cerro de Hula wind farm | Globeleq Mesoamerica Energy | Wind farm | Honduras |
| 29 | Specialist Corporate Social Responsibility | Globeleq Mesoamerica Energy | Energy | Multinational |
| 30 | Coordinator of Environment and Social Development, Cerro de Hula Wind Farm | Globeleq Mesoamerica Energy | Energy | Multinational |
| 31 | COO, Panama and El Salvador | AES Corporation | Energy | Multinational |

| | | | | |
|---|---|---|---|---|
| 32 | Treasurer at AES Central America & Caribbean | AES Corporation | Energy | Multinational |
| 33 | Global Lead for Socio-Economic Development | Anglo American | Mining | Multinational |
| 34 | Director General of Public Works | Ministry of Public Works, Chile | Public infrastructure works | Chile |
| 35 | Environmental Manager - Project Manager | MWH Global | Mining, energy, and engineering | Peru |
| 36 | Sustainability Management | Latin America Power (LAP) | Renewable energy (hydropower and wind farms) | Multinational |
| 37 | Chief Sustainable Development Officer | Colbun S.A. | Energy | Chile |
| 38 | Project Manager, Nueva Alameda Provodencia | Metropolitan Regional Government, Chile | Government | Chile |
| 39 | Head of Sustainability and Community Relations | Enel Green Power | Renewable energy | Multinational |
| 40 | Resources Assistant Manager | Confidential | Renewable energy | Chile |
| 41 | Environmental Director and General Service | AES Chivor | Energy | Multinational |
| 42 | Head, Project Management and Engineering | Jamaica Public Service Company | Energy | Jamaica |
| 43 | Director General | Eosol Energy de México | Energy | Mexico |
| 44 | Project Manager | Agencia Nacional de Infraestructura, Colombia | Transportation (Highways) | Colombia |
| 45 | Head of Environment at EDP | Energias do Brasil | Energy | Brazil |

## APPENDIX K: QUESTIONNAIRE

**Conflict related questions:**

1.What are the types of conflict that may arise during the development of an infrastructure project in Latin America?

2. What are the main consequences for projects and sponsors from such conflicts?

3. When are conflicts most likely to occur during the project development phase?

4. Are the direct and indirect costs of conflicts properly accounted for when developing an infrastructure project?

**Social conflict:**

5. What are the main social conflicts that may arise in infrastructure projects in Latin America?

6. What are the main impacts from such conflicts?

7. Can you point out any project that may have experienced social conflicts in the region?

8. Is there a framework for social conflict identification?

9. Has the involvement of International Financial Institutions (IFIs) decreased the number of social conflicts or the severity of them?

**Environmental conflict:**

10. What are the main environmental conflicts that could arise in infrastructure projects in Latin America?

11. What are the main impacts from such conflicts?

12. Can you point out any project that may have experienced environmental conflicts in the region?

**Company response**

13.How do companies respond to conflicts?

14.In case of conflict, who will be the person responsible for managing the situation?

15. What is the most common approach used in companies (if so) for future conflict preparedness?

## APPENDIX L: 200 PROJECT DATABASE

| # | PROJECT | SECTOR | LOCATION |
|---|---|---|---|
| 1 | Bahia Port | Transportation | Colombia |
| 2 | Paipote Smelter | Resource | Chile |
| 3 | El Salitre Wastewater Treatment Plant | Waste | Colombia |
| 4 | El Tatio Geothermal Development | Energy | Chile |
| 5 | Metrobus Buenos Aires | Transportation | Argentina |
| 6 | Rodoanel Mario Covas Highway, East Section | Transportation | Brazil |
| 7 | Copahue Geothermal Power Plant | Energy | Argentina |
| 8 | Line 3 Santiago Subway | Transportation | Chile |
| 9 | Pedra do Sal Urban Development | Urban development | Brazil |
| 10 | São Lourenço Water Production System | Water | Brazil |
| 11 | Waste Treatment Center (CTR Rio) | Waste | Brazil |
| 12 | Dosquebradas pipeline network | Water | Colombia |
| 13 | Metrobus Asunción Bus Rapid Transit (BRT) | Transportation | Paraguay |
| 14 | International Water Services Project Guayaquil "Interagua" | Water | Ecuador |
| 15 | Codelco Ventanas Refinery | Resource | Chile |
| 16 | Paraguay - Parana Waterway | Transportation | Paraguay/Argentina/Bolivia/ Uruguay/Brazil |
| 17 | Cartagena Refinery | Resource | Colombia |
| 18 | Bordo Poniente Landfill Gas to Energy project | Waste | Mexico |
| 19 | Concessionária da Linha 4 do Metro de São Paulo | Transportation | Brazil |
| 20 | Montevideo Bus Rapid Transit (BRT) | Transportation | Uruguay |
| 21 | Cordoba Recycling Plant | Waste | Argentina |
| 22 | TransMilenio Bus Rapid Transit (BRT) | Transportation | Colombia |
| 23 | Aguas do Mirante | Water | Brazil |
| 24 | San Ramon - San Jose Highway | Transportation | Costa Rica |
| 25 | PET-1-2009 Transmission Line | Energy | Guatemala |
| 26 | ANTEL Arena | Urban development | Uruguay |

| | | | |
|---|---|---|---|
| 27 | Laguna Colorada Geothermal Power Plant | Energy | Bolivia |
| 28 | Metro de Medellin | Transportation | Colombia |
| 29 | Cero Prieto Geothermal Project | Energy | Mexico |
| 30 | Manta Port | Transportation | Ecuador |
| 31 | Punta Alcade Thermal Power Plant | Energy | Chile |
| 32 | Chilibre Potable Water Treatment Plant | Water | Panama |
| 33 | Lima Subway Line 2 | Transportation | Peru |
| 34 | Vía Parque Rímac | Transportation | Peru |
| 35 | Urban Development in Horto, Rio de Janeiro | Urban development | Brazil |
| 36 | Transnordestina | Transportation | Brazil |
| 37 | Berlin Geothermal Power Plant | Energy | El Salvador |
| 38 | San Francisco River Water Transfer | Water | Brazil |
| 39 | Integral del Circuito Interior de la Ciudad de México | Transportation | Mexico |
| 40 | TransSantiago Integrated Public Transportation System | Transportation | Chile |
| 41 | Carajás S11D Iron Project | Resource | Brazil |
| 42 | Metropolitano Bus Rapid Transit System | Transportation | Peru |
| 43 | Picachos - Mazatlan Water Pipeline | Water | Mexico |
| 44 | Los Laurelles Landfill | Waste | Mexico |
| 45 | Metro Bogota | Transportation | Colombia |
| 46 | Esmeraldas Refinery | Resource | Ecuador |
| 47 | Rosarito Beach Desalination Plant | Water | Mexico |
| 48 | Cuiabá light Rail System | Transportation | Brazil |
| 49 | Modernization and Expansion of Eldorado Airport | Transportation | Colombia |
| 50 | Boyeco landfil | Waste | Chile |
| 51 | Cement Plant Haitises | Resource | Dominican Republic |
| 52 | Cutzamala Potable Water Supply System | Water | Mexico |
| 53 | Pueblo Viejo Mine | Resource | Dominican Republic |
| 54 | Julianca Airport | Transportation | Peru |
| 55 | Jumandy Airport | Transportation | Ecuador |

| | | | |
|---|---|---|---|
| 56 | Chinchero Cusco Airport | Transportation | Peru |
| 57 | Los Robles Thermoelectric Power Plant | Energy | Chile |
| 58 | Tia Maria Mine | Resource | Peru |
| 59 | Tintaya Mine | Resource | Peru |
| 60 | Bioenergy Biofuels Plant | Energy | Colombia |
| 61 | Metrovia BRT | Transportation | Ecuador |
| 62 | Cargill Agricola Santarem Port | Transportation | Brazil |
| 63 | Manta Manaus Multimodal Corridor | Transportation | Ecuador/Peru/Brazil |
| 64 | Mulalo Loboguerrero Highway | Transportation | Colombia |
| 65 | Taboada Wastewater Treatment Plant | Waste | Peru |
| 66 | Armenia Substation and Transmission Line | Energy | Colombia |
| 67 | Tribuga Port | Transportation | Colombia |
| 68 | Development in Cerro El Elquacil | Urban development | Colombia |
| 69 | Punta Lara Potable Water Plant | Water | Argentina |
| 70 | Petaca Port | Transportation | Colombia |
| 71 | Cienaga Barranquilla Highway | Transportation | Colombia |
| 72 | Urban Developments in Panama Bay | Urban development | Panama |
| 73 | Portland Bight Port | Transportation | Jamaica |
| 74 | Panama City Metro Line 1 | Transportation | Panama |
| 75 | Xalala Dam | Energy | Guatemala |
| 76 | Special Economic Development Zones (ZEDE) | Urban development | Honduras |
| 77 | Atenco International Airport | Transportation | Mexico |
| 78 | Belo Monte Hydropower Project | Energy | Brazil |
| 79 | Tucurui Hydropower Complex | Energy | Brazil |
| 80 | Haujara Landfill in Oruro | Waste | Bolivia |
| 81 | Lliquimuni Block Exploration Project | Resource | Bolivia |
| 82 | Acueducto Independencia | Water | Mexico |
| 83 | Atucha II Nuclear Power Plant | Energy | Argentina |
| 84 | Bocamina Thermal Power Plant | Energy | Peru |

| | | | |
|---|---|---|---|
| 85 | Kiyu Wind Power Project | Energy | Uruguay |
| 86 | El Libertador Wind Power Project | Energy | Uruguay |
| 87 | MetroCali Bus Rapid Transit | Transportation | Colombia |
| 88 | Boulevard Turistico del Atlantico Highway | Transportation | Dominican Republic |
| 89 | BusCaracas, Bus Rapid Transit (BRT) Project | Transportation | Venezuela |
| 90 | Cochabamba Beni Highway | Transportation | Bolivia |
| 91 | Eolica del Sur Wind Project | Energy | Mexico |
| 92 | Yacyreta Hydropower Project | Energy | Argentina |
| 93 | Sao Luiz do Tapajos Hydropower Project | Energy | Brazil |
| 94 | HidroAysen Hydropower Project | Energy | Chile |
| 95 | Ralco Hydropower Project | Energy | Chile |
| 96 | Pangue Hydropower Project | Energy | Chile |
| 97 | Huachipa | Water | Peru |
| 98 | La Farfana Wastewater Treatment Plant | Waste | Chile |
| 99 | Jorge Carstens Aqueduct | Water | Argentina |
| 100 | La Parotta Hydropower Project | Energy | Mexico |
| 101 | Barro Blanco Hydropower Project | Energy | Panama |
| 102 | Pacifico Thermoelectric Power Plant | Energy | Chile |
| 103 | Chaco Central Aqueduct | Water | Paraguay |
| 104 | Cayambe Landfill | Waste | Ecuador |
| 105 | Los Pelambres Mine | Resource | Chile |
| 106 | Marlin Mine | Resource | Guatemala |
| 107 | Las Crucitas Mine | Resource | Costa Rica |
| 108 | Laderas Norte Water Treatment Plant | Waste | Bolivia |
| 109 | Wastewater and Sewer System in La Pintada | Waste | Panama |
| 110 | Buenaventura Water Supply and Distribution Network | Water | Colombia |
| 111 | Naucalpan - Toluca Highway | Transportation | Mexico |
| 112 | San Martin Port | Transportation | Peru |
| 113 | Oleoducto de Crudos Pasados (OCP) Pipeline | Resource | Ecuador |

| | | | |
|---|---|---|---|
| 114 | Interoceanic Highway | Transportation | Peru/Brazil |
| 115 | Santo Domingo Subway (Line 2-Metro Santo Domingo) | Transportation | Dominican Republic |
| 116 | La Hydrovia Amazonica | Transportation | Peru/Brazil |
| 117 | Gibraltar Gas Extraction Project | Resource | Colombia |
| 118 | Gasoducto sur Peruano | Resource | Peru |
| 119 | Water Management Project for La Paz and El Alto | Water | Bolivia |
| 120 | Camisea Gas Project | Resource | Peru |
| 121 | Ituango Hydropower Project | Energy | Colombia |
| 122 | Cano Limon Covenas Pipeline | Resource | Colombia |
| 123 | La Colosa Mine | Resource | Colombia |
| 124 | Cambalam Hydropower Project | Energy | Guatemala |
| 125 | El Dorado Mine | Resource | El Salvador |
| 126 | Chixoy Hydroelectric Project | Energy | Guatemala |
| 127 | Lago de Valencia Water Transfer Project | Water | Venezuela |
| 128 | San Jorge Mine | Resource | Argentina |
| 129 | Quellaveco Mine | Resource | Peru |
| 130 | Pascua Lama Mine | Resource | Chile |
| 131 | El Morro Mine | Resource | Peru |
| 132 | Arauco Celulosa Plant, Valdivia | Resource | Chile |
| 133 | El Desquite Mine | Resource | Argentina |
| 134 | Yanacocha Mine | Resource | Peru |
| 135 | Tambo Grande Mine | Resource | Peru |
| 136 | Jirau and Santo Antonio Dams | Energy | Brazil |
| 137 | Baleia Wind Project | Energy | Brazil |
| 138 | XI Oil Exploration Project | Resource | Ecuador |
| 139 | Olavarria Landfill | Waste | Argentina |
| 140 | Pinchanaki Gas Exploration | Resource | Argentina |
| 141 | Cochabamba Water Concession | Water | Bolivia |
| 142 | Laguna Verde | Energy | Mexico |

| | | | |
|---|---|---|---|
| 143 | Offshore Oil Exploration Project Belize | Resource | Belize |
| 144 | La Cadellada Wastewater Treatment Plant | Waste | Chile |
| 145 | Cutomay Camones Landfill | Waste | El Salvador |
| 146 | Oil & Gas in Coari | Resource | Bolivia |
| 147 | Maldonado Water Distribution Network | Water | Uruguay |
| 148 | Rio Hondo Block, Bolivia | Resource | Bolivia |
| 149 | Pungarayacu Oil Exploration Project | Resource | Ecuador |
| 150 | Comperj Petrochemichal Complex in Rio de Janeiro | Resource | Brazil |
| 151 | Marmato Mine | Resource | Colombia |
| 152 | Los Encinos Dam | Energy | Honduras |
| 153 | Pacific Railroad | Transportation | Colombia |
| 154 | Castilla Thermal Power Plant | Energy | Chile |
| 155 | Mining San Cristobal | Resource | Bolivia |
| 156 | Las Cruces Dam Mexico | Energy | Mexico |
| 157 | Pacific LNG Pipeline | Resource | Bolivia |
| 158 | El Quimbo Hydroelectric Project | Energy | Colombia |
| 159 | La Chureca Recycling Project | Waste | Nicaragua |
| 160 | Chalillo Dam | Energy | Belize |
| 161 | Valentines Mine | Resource | Uruguay |
| 162 | Parnaiba Thermoelectric Complex | Energy | Brazil |
| 163 | Buenaventura Port Expansion | Transportation | Colombia |
| 164 | El Zapotillo Water Project | Water | Mexico |
| 165 | Monterrey Aqueduct VI | Water | Mexico |
| 166 | Octopus LNG Project | Resource | Chile |
| 167 | Tunel de la Linea | Transportation | Colombia |
| 168 | La Matanza Landfill | Waste | Argentina |
| 169 | Doe Run Refinery | Resource | Peru |
| 170 | Mexico City Subway Line 12 | Transportation | Mexico |
| 171 | Grupo Melka Palm Oil and Cocoa Plantations | Energy | Peru |

| | | | |
|---|---|---|---|
| 172 | Wind Farms Caetite | Energy | Brazil |
| 173 | Coal Transport in Santa Marta Port | Transportation | Colombia |
| 174 | Cruz del Eje Potable Water Plant | Water | Argentina |
| 175 | Hydraulic Fracturing in Loma de Lata Field | Resource | Argentina |
| 176 | Moyobamba Iquitos Transmission Line | Energy | Peru |
| 177 | Jardim Gramacho Landfill Gas to Energy | Waste | Brazil |
| 178 | Samarco Mining Complex | Resource | Brazil |
| 179 | Rosario Port | Transportation | Argentina |
| 180 | Nuclear Waste Storage in Gastre | Waste | Argentina |
| 181 | Usina Verde Waste to Energy Plant | Waste | Brazil |
| 182 | Valle Coche Highway | Transportation | Venezuela |
| 183 | DeepWater Port Araya | Transportation | Venezuela |
| 184 | Rio de Janeiro Subway Line 4 | Transportation | Brazil |
| 185 | Chiloe Wind Power Project | Energy | Chile |
| 186 | Suesca Cement Factory | Resource | Colombia |
| 187 | Acueducto RíoPance Water Project | Water | Colombia |
| 188 | Sapeacu Thermal Power Plant Energy Reserve Complex | Energy | Brazil |
| 189 | General Lake Aqueduct | Water | Chile – Argentina |
| 190 | Gran Tulum Aqueduct | Water | Argentina |
| 191 | Franja Transversal del Norte (FTN) Highway | Transportation | Guatemala |
| 192 | Angra 3 | Energy | Brazil |
| 193 | Paraguana Refinery Complex | Resource | Venezuela |
| 194 | Dona Juana Landfill | Waste | Colombia |
| 195 | ElCarrasco Landfill Colombia | Waste | Colombia |
| 196 | Landfill in Gameleiro | Waste | Brazil |
| 197 | Hazardous Waste and Recycling Plant in Zimapan | Waste | Mexico |
| 198 | Rio Azul Landfill | Waste | Costa Rica |
| 199 | Usina Trapiche | Energy | Brazil |
| 200 | Systema Tui IV Water Project | Water | Venezuela |

## APPENDIX M: CODING ANALYSIS

| THE NATURE OF CONFLICT | |
|---|---|
| **ENVIRONMENTAL DRIVERS OF CONFLICT** | |
| Pollution | • Introduction of polluting substances in ecological areas of high importance. |
| Degradation | • Destruction of ecosystems and habitats, and extinction of wildlife. |
| Deforestation | • Loss of forested areas. |
| Water issues | • Water scarcity due to high project water needs, or loss of access to water sources. |
| Historic opposition to similar projects | • Projects similar to those that have inflicted environmental damage and led to conflicts in the past. |
| Climate change | • Generation of greenhouse gas emissions, conversion of wetlands or other ecosystems that jeopardizes carbon sequestration capacity. |
| **SOCIAL DRIVERS OF CONFLICT** | |
| Reduced access to resources | • Lack of or disruption of access to food, land, mineral, forest, and marine resources. |
| Forced relocation | • Disputes in relocating local people.<br>• Lack of documentation and difficulties in proving land ownership.<br>• Disagreements in the land compensation process.<br>• Migration of people looking for work opportunities, which may illegally occupy land before construction and seek compensation as if they were long-time residents.<br>• Inadequate resettlement housing, infrastructure, and public services. |
| Lack of local jobs | • The project does not provide enough jobs for local community members; non-local groups are preferred for construction works and/or during operations. |
| Crime | • Increases in crime and domestic violence as a result of large inflows of workers and people seeking employment to areas not accustomed to such flows in the past. |
| Abuse of labor rights | • Abuses or exploitations of labor rights that threaten the quality of life of workers and prevent them from working safely. |
| Impacts on local values | • Impacts on the traditional value system and culture of local people. |
| Prostitution | • Sexual violence and trafficking in areas not accustomed to such activities in the past. |

| | |
|---|---|
| Lack of community benefits | • Local communities do not benefit from the project, in terms of capacity building, educational, development, and training initiatives, and investments in infrastructure and public services. |
| Outsiders | • Organized groups or individuals with hidden personal interests.<br>• Groups that use the project as leverage to achieve political goals.<br>• Competitors fueling conflicts to delay projects. |
| Technology issues | • Conflictive project technology selections e.g. technologies promoted as more environmentally friendly that have not been tested before. |
| **GOVERNANCE DRIVERS OF CONFLICT** | |
| Lack of adequate consultation | • Lack of consultation.<br>• Lack of understanding of the local language and culture.<br>• Consultation conduced in a non-participatory manner with an unrealistic timeframe for completion and without transparent feedback mechanisms.<br>• Lack of principles of transparency and non-discrimination in the consultation process.<br>• Lack of clarity on how stakeholders' views are reflected in the decision-making process. |
| Deficient planning | • Failure to account for the cumulative impacts from many projects and the history of conflict in the region.<br>• Lack of a long-term strategy on how the region should develop.<br>• Lack of understanding of complex issues and needs of the region / communities.<br>• Conflictive project site selections e.g. close to or within protected natural parks.<br>• Failure to provide basic infrastructure services in isolated areas (lack of public investment). |
| Unrealistic expectations | • Unrealistic budget and schedule that put extra pressure on companies. |
| Insufficient local participation in project company | • The project company does not include enough or any local community representatives or affiliates. |
| Lack of transparency | • Lack of transparency in project documentation and the decision-making process.<br>• Lack of adequate access to information and decision-makers. |
| Corruption | • Project actions or initiatives that violated applicable regulations and laws. |
| **ECONOMIC DRIVERS OF CONFLICT** | |

| | |
|---|---|
| Price of infrastructure service | • Very high infrastructure service costs, such as the cost of energy provision or water supply. |
| Excessive profit level | • Very high profit level of the project company that well exceeds that of companies in other comparable projects in the country or region. |
| Unjust profit distribution | • Project profits are not distributed equitably to local and/or regional communities. |
| Wage disputes | • Low wages, or wages that are not commensurate with project risks and challenging working environments. |
| Government not doing required works | • The government does not implement the works it had agreed to in the project agreement. |
| **EXPRESSIONS OF CONFLICT** | |
| Press | • Press statements, use of online and print media, project campaigns. |
| Administrative | • Formal complaints and submissions to local, regional, state, and/or national government body. |
| Protests | • Local, state, regional, and/or national demonstrations and strikes. |
| Blockades | • Blockades of roads, highways, ports, and/or project site entry points. |
| Litigation | • Claims in jurisdiction where company operates. |
| Arbitration | • Formal requests for arbitrations with national and international courts, international organizations, and/or IFI and other international body mechanisms. |
| Damage to property | • Damage to equipment, buildings, and other private infrastructure. |
| Injuries | • To local communities, employees, or public and private security forces. |
| Violence | • Violence to community members, project company representatives and employees, and public and private security personnel. |
| Deaths | • Loss of human life (community members, project company representatives and employees, public and private security personnel, among others). |
| Boycott of project | • Lack of willingness to use a new project. |
| **CONSEQUENCES OF CONFLICT** | |
| Reputational damage | • Negative press coverage.<br>• Companies are perceived as irresponsible or unaccountable, loss of the “social license to operate”.<br>• Loss of investor confidence. |
| Cost overruns | • Time and resources devoted to dealing with conflicts.<br>• Additional costs due to delays, shutdowns, and design modifications. |
| Project delays | • Delays in project activities or project shutdowns. |
| Project redesign | • Additional works and design modifications. |

| | |
|---|---|
| Project relocation | • Relocation to a less conflictive site because of conflicts, most commonly to avoid damaging nearby natural environments and disturbing local communities. |
| Fines | • Fines due to violations of laws and regulations. |
| Joint venture change | • Exit of one or all partners from the project team due to conflicts. |
| Redress payments | • Compensation and increased obligations out of court decisions, such as cleanup and remediation costs.<br>• Legal costs, costs of settlement. |
| Concession amendment | • Amendment of concession terms because of conflicts. |
| Imprisonment | • Imprisonment charges as a result of conflicts (primarily because of corruption, or violations of laws and regulations that led to conflicts). |
| Loss of productivity | • Productivity losses due to foregone infrastructure improvements, and project shutdowns and delays.<br>• Disruption of production and/or supply of goods. |
| Lack of development | • Lack of development due to project delays, suspensions, or cancellations.<br>• Loss of income, and investments in infrastructure, public services, and capacity building for local communities. |
| Lack of foreign investment | • Loss of project investment from foreign sources.<br>• Investors are discouraged to invest in certain regions in LAC due to the high costs of social conflicts. |
| Government change | • Government change because of ongoing conflicts. |
| **COMPANY RESPONSE TO CONFLICTS** | |
| No action | • Letting conflicts happen. |
| Press statements | • Statements through print and/or online media addressing conflicts. |
| Representatives on site | • Company representatives are in charge of assessing and preventing conflicts from escalating to more serious levels.<br>• Representatives often partner with local leaders. |
| Bankruptcy | • Project team members filing for bankruptcy due to high ongoing conflict resolution and/or operating costs. |
| Regulatory compliance | • Reviews and studies demonstrating compliance with all applicable laws and regulations.<br>• Compliance with court decisions. |

| | |
|---|---|
| Risk and conflict management framework | • Development of a rigorous framework to identify, evaluate, and mitigate conflicts quickly and effectively. |
| Force | • Direct use of force or increased use of private and/or public security personnel. |
| Regulatory innovation | • New processes and procedures that exceed applicable regulatory requirements.<br>• Implementation of international standards and regulations that are not mandatory in a specific country.<br>• Working with government to update conflicting regulations.<br>• Implementation of innovative technologies.<br>• Environmental and social initiatives at unprecedented scale and/or budget. |
| Consultation | • Participation in consultation and/or negotiation roundtables to address conflicts. |
| Exit from project | • Exit of one or all project team members from the project. |
| Independent expert participation | • Independent experts act as intermediaries in case of disagreement.<br>• Conflicted parties implement the recommendations of expert studies to resolve conflicts. |
| Community cash payments | • Economic transaction between the project company and community members as compensation for potential impacts, and/or loss of land and resources. |
| Community capacity building | • Training, education, and capacity building initiatives to strengthen the skills and capabilities of local communities to develop sustainably.<br>• Specific initiatives targeted at enabling community members to be employed for project activities.<br>• Identification of measures with high social impact, development of sustainability funds. |
| Community jobs | • Allocation of jobs to local community members. |
| Community project participation | • Development of collaborative initiatives that involve community leaders and/or members in project activities, such as water sampling, monitoring, and/or other general environmental management activities. |
| Community infrastructure | • Development of new or improvements of existing infrastructure. |
| Community equity stake | • Increase of the community's project equity stake. |

| | |
|---|---|
| Government equity stake | • Increase of the government's project equity stake. |
| Environmental improvements | • Investments in environmental improvements, such as water treatment facilities, or general environmental management initiatives. |
| Environmental restoration | • Investments in restorative efforts that aim to revitalize polluted or degraded ecosystems. |
| Reforestation | • Initiatives to plant seeds for trees that must be logged for project activities, and/or revitalize deforested ecosystems. |

# APPENDIX N: COMPOSITE DEVELOPMENT INDICATOR

| | GDP per capita (2015) | HDI | Democracy Index | Rule of Law Index | Environmental Democracy Index (EDI) |
|---|---|---|---|---|---|
| Argentina | 13,431.9 | 40 | 7 | 0.55 | 1.63 |
| Belize | 4,878.7 | 101 | - | 0.47 | 0.82 |
| Bolivia | 3,076.8 | 119 | 5.8 | 0.4 | 1.19 |
| Brazil | 8,538.6 | 75 | 7 | 0.55 | 1.80 |
| Chile | 13,416.2 | 42 | 7.8 | 0.68 | 1.67 |
| Colombia | 6,056.1 | 97 | 6.6 | 0.51 | 1.99 |
| Costa Rica | 11,206.1 | 69 | 8 | 0.68 | 1.52 |
| Dominican Republic | 6,468.5 | 101 | 6.7 | 0.47 | 1.74 |
| Ecuador | 6,205.1 | 88 | 5.9 | 0.45 | 1.90 |
| El Salvador | 4,219.4 | 116 | 6.6 | 0.49 | 1.80 |
| Guatemala | 3,903.5 | 128 | 5.9 | 0.44 | 1.28 |
| Honduras | 2,528.9 | 131 | 5.8 | 0.42 | 1.29 |
| Jamaica | 5,232 | 99 | 7.4 | 0.57 | 1.11 |
| Mexico | 9,005 | 74 | 6.6 | 0.46 | 1.75 |
| Nicaragua | 2,086.9 | 125 | 5.3 | 0.42 | 1.60 |
| Panama | 13,268.1 | 60 | 7.2 | 0.52 | 2.02 |
| Paraguay | 4,081 | 112 | 6.3 | - | 1.06 |
| Peru | 6,027.1 | 84 | 6.6 | 0.51 | 1.87 |
| Uruguay | 15,573.9 | 52 | 8.2 | 0.72 | 1.30 |
| Venezuela | 12,265 | 71 | 5 | 0.28 | 1.56 |

**Index Scales:**

Rule of Law Index: Best value (complete rule of law) = 1; Worst value (complete absence of rule of law) = 0

Democracy Index: Full democracy (best) = 8-10; Flawed democracy = 6-8; Hybrid regime = 4-6; Authoritarian regime (worst) = 0-4.

Environmental Democracy Index: Best value = 3; Worst value = 0.

| | RANK GDP | RANK HDI | RANK DEMOCRACY INDEX | RANK RULE OF LAW | RANK EDI |
|---|---|---|---|---|---|
| Argentina | 2 | 1 | 7 | 6 | 10 |
| Belize | 14 | 13 | - | 12 | 20 |
| Bolivia | 18 | 17 | 17 | 18 | 17 |
| Brazil | 8 | 8 | 6 | 5 | 6 |
| Chile | 3 | 2 | 3 | 3 | 9 |
| Colombia | 11 | 11 | 12 | 9 | 2 |
| Costa Rica | 6 | 5 | 2 | 2 | 13 |
| Dominican Republic | 9 | 14 | 8 | 11 | 8 |
| Ecuador | 10 | 10 | 15 | 14 | 3 |
| El Salvador | 15 | 16 | 11 | 10 | 5 |
| Guatemala | 17 | 19 | 14 | 15 | 16 |
| Honduras | 19 | 20 | 16 | 17 | 15 |
| Jamaica | 13 | 12 | 4 | 4 | 18 |
| Mexico | 7 | 7 | 10 | 13 | 7 |
| Nicaragua | 20 | 18 | 18 | 16 | 11 |
| Panama | 4 | 4 | 5 | 7 | 1 |
| Paraguay | 16 | 15 | 13 | - | 19 |
| Peru | 12 | 9 | 9 | 8 | 4 |
| Uruguay | 1 | 3 | 1 | 1 | 14 |
| Venezuela | 5 | 6 | 19 | 19 | 12 |

| | AVERAGE RANK | COMPOSITE INDICATOR RANK |
|---|---|---|
| Argentina | 5.2 | 4 |
| Belize | 11.8 | 14 |
| Bolivia | 17.4 | 19 |
| Brazil | 6.6 | 6 |
| Chile | 4 | 1 |
| Colombia | 9 | 9 |
| Costa Rica | 5.6 | 5 |
| Dominican Republic | 10 | 10 |
| Ecuador | 10.4 | 12 |
| El Salvador | 11.4 | 13 |
| Guatemala | 16.2 | 17 |
| Honduras | 17.4 | 20 |
| Jamaica | 10.2 | 11 |
| Mexico | 8.8 | 8 |
| Nicaragua | 16.6 | 18 |
| Panama | 4.2 | 3 |
| Paraguay | 12.6 | 16 |
| Peru | 8.4 | 7 |
| Uruguay | 4 | 2 |
| Venezuela | 12.2 | 15 |

[i] Serebrisky, T., Suárez-Alemán, A., Margot, D., Ramirez, M. C. (2015). Financing Infrastructure in Latin America and the Caribbean: How, How Much and by Whom. Inter-American Development Bank (IDB). Retrieved from https://publications.iadb.org/handle/11319/7315.

[ii] Viscidi, L., and Fargo, J. (2015). Local Conflicts and Natural Resources: A Balancing Act for Latin American Governments. Retrieved from http://www.thedialogue.org/wp-content/uploads/2015/05/Local-Conflicts-and-Natural-Resources-FINAL.pdf; Vieyra, J. C., and Masson, M. (2014). Transparent Governance in an Age of Abundance: Experiences from the Extractive Industries in Latin America and the Caribbean. Inter-American Development Bank (IDB). Retrieved from https://publications.iadb.org/bitstream/handle/11319/6681/ICS-BOOK-Transparent-Governance-in-an-Age-of-Abundance.pdf?sequence=1.

[iii] Environmental Justice Organizations, Liabilities, and Trade. Available at http://ejatlas.org.
[iv] Davis, R., and Franks, D. (2014). Costs of Company-Community Conflict in the Extractive Sector. Corporate Social Responsibility Initiative, Harvard Kennedy School of Government, Report No. 66. Retrieved from https://www.hks.harvard.edu/m-rcbg/CSRI/research/Costs%20of%20Conflict_Davis%20%20Franks.pdf; Vieyra and Masson, 2014.
[v] Esteves, A. M., and Vanclay, F. (2009). Social Development Needs Analysis as a Tool for SIA to Guide Corporate-Community Investment: Applications in the Minerals Industry. Environmental Impact Assessment Review. Retrieved from http://www.sciencedirect.com/science/article/pii/S0195925508001194; Davis and Franks, 2014; Viscidi and Fargo, 2015.
[vi] Davis and Franks, 2014; Viscidi and Fargo, 2015.
[vii] Davis and Franks, 2014.
[viii] Vieyra and Masson, 2014.
[ix] Davis and Franks, 2014.
[x] Davis and Franks, 2014.
[xi] Davis and Franks, 2014.
[xii] Davis and Franks, 2014; Viscidi and Fargo, 2015; Vieyra and Masson, 2014.
[xiii] Davis and Franks, 2014; Ray, R., Gallagher, K. P., Lopez, A., and Sanborn, C. (2015). China in Latin America: Lessons for South-South Cooperation and Sustainable Development. Global Economic Governance Initiative, Boston University. Retrieved from http://www.bu.edu/pardeeschool/files/2014/12/Working-Group-Final-Report.pdf.
[xiv] Inter-American Development Bank (IDB). (2013). Guidelines on Consultation and Stakeholder Engagement in IDB Projects. Environmental Safeguards Unit (VPS/ESG), Discussion Paper No. IDB-DP-301. Retrieved from https://publications.iadb.org/bitstream/handle/11319/5801/Guidelines%20on%20Consultation%20and%20Stakeholder%20Engagement%20in%20IDB%20Projects%20.pdf?sequence=3; Laplante, L. J., and Spears, S. A. (2014). Out of the Conflict Zone: The Case for Community Consent Processes in the Extractive Sector. Yale Human Rights and Development Journal, 11(1). Retrieved from http://digitalcommons.law.yale.edu/cgi/viewcontent.cgi?article=1070&context=yhrdlj.
[xv] https://ppi.worldbank.org; https://www.ocmal.org; http://www.olca.cl/oca/index.htm; https://icsid.worldbank.org.
[xvi] An international treaty for the protection of wetlands. For more information, see http://www.ramsar.org.
[xvii] Indigenous and Tribal Peoples Convention 169, Ratifications by country. Retrieved from http://www.ilo.org/dyn/normlex/en/f?p=1000:11001:3907189338219:::P11001_COUNTRY_SORT:2#Americas; Quinteros, E. (2017). The Unfulfilled Promise of Informed Consent in Mining Projects. Council on Hemispheric Affairs. Retrieved from http://www.coha.org/the-unfulfilled-promise-of-informed-consent-in-mining-projects/.
[xviii] United Nations Educational, Scientific, and Cultural Organization, Freedom of Information in Latin America and the Caribbean. Retrieved from http://www.unesco.org/new/en/communication-and-information/freedom-of-expression/freedom-of-information/foi-in-latin-america-and-the-caribbean; Indigenous and Tribal Peoples Convention 169, Ratifications by country. Retrieved from http://www.ilo.org/dyn/normlex/en/f?p=1000:11001:3907189338219:::P11001_COUNTRY_SORT:2#Americas; The World Resources Institute's Environmental Democracy Index, EDI full result data. Retrieved from http://www.environmentaldemocracyindex.org/about/resources.
[xix] For more information, see https://worldjusticeproject.org/our-work/wjp-rule-law-index/wjp-rule-law-index-2016.
[xx] United Nations Development Programme - UNDP. (2013). Understanding Social Conflict in Latin America, http://www.undp.org/content/dam/undp/library/crisis%20prevention/Understanding%20Social%20Conflict%20in%20Latin%20America%202013%20ENG.pdf; The Criminalization of Human Rights Defenders in Latin America, http://www.oidhaco.org/?art=1280&lang=en.
[xxi] Beckers, F., Chiara, N., Flesch, A., Maly, J., Silva, E., Stegemann, U. (2013). A Risk-Management Approach to a Successful Infrastructure project. McKinsey Working Papers on Risk. McKinsey & Company. Retrieved from http://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/a-risk-management-approach-to-a-successful-infrastructure-project.

[xxii] The Office of the Compliance Advisor/Ombudsman for the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA). (2008). Advisory Note: A Guide to Designing and Implementing Grievance Mechanisms for Development Projects. Retrieved from http://www.cao-ombudsman.org/howwework/advisor/documents/implemgrieveng.pdf.

[xxiii] For instance, see the International Council on Mining & Metals (ICMM) 10 principles framework for sustainable development in the mining and metals industry, available at https://www.icmm.com/en-gb/about-us/member-commitments/icmm-10-principles. Also, IPIECA has developed good practices to help the oil and gas industry enhance its environmental and social performance. For more info, please see http://www.ipieca.org/resources/good-practice/improving-social-and-environmental-performance/.

[xxiv] Serebrisky et al., 2015.

[xxv] It should be noted that information is limited about the number of projects and investments during the 1980s.

[xxvi] Davis and Franks, 2014.

[xxvii] Davis and Franks, 2014.

[xxviii] Institute for Sustainable Infrastructure. (2015). The Envision Rating System. Retrieved from http://research.gsd.harvard.edu/zofnass/files/2015/06/Envision-Manual_2015_red.pdf.

[xxix] We used inflation values per country, retrieved from World Bank's DataBank tool http://databank.worldbank.org, the US Federal Reserve https://www.federalreserve.gov/releases/h10/hist/, and www.x-rates.com.