Infrastructure: for people or for profit?

The crucial role of responsible and democratic governance

HEINRICH BÖLL FOUNDATION
NORTH AMERICA

LATINDADD
Latin American Network on Debt, Development and Rights

Infrastructure: for people or for profit?

The crucial role of responsible and democratic governance

Published under the foolowing Creative Commons License:
http://creativecommons.org/licenses/by-nc-nd/3.0/

Attribution – You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

NonCommercial — You may not use the material for commercial purposes.

NoDerivatives — If you remix, transform, or build upon the material, you may not distribute the modified material.

Infrastructure: for people or for profit?
The crucial role of responsible and democratic governance

Edited by Nancy Alexander (Heinrich Boell Foundation North America)

Cover design and interior layout by Gustavo Alzugaray
gustavoalzugaray@gmail.com

Cover Images:
“Strip coal mining”, by Stephen Codrington (CC BY 2.5)
“Kerr Dam”, by tiswango (CC BY-SA 2.0)
“Coal Scooper”, by Marcel Oosterwijk (CC BY-SA 2.0)
“Wind Turbines at Sunset”, ©iStockphoto.com/ dan_prat
“Cash Background”, ©iStockphoto.com/LUke1138

The views expressed in the publication are those of the authors alone. They do not necessarily reflect the views of the Heinrich Boell Foundation North America or Latindadd.

Table of contents

Acknowledgements 5

Preface 7

Prologue 9

Introduction 11

Relying on institutional investors to finance infrastructure
Forces which pose risks to public debt and budgets 17
Aldo Caliari

Section I - Latin America 29

Building Regional Governance for Infrastructure 31
César Gamboa and Francisco Rivasplata

Governance of Infrastructure Investment in Brazil
Implications of Energy-Related Mega-Projects for Society, the Environment, and Democracy 45
Celio Bermann

The Political, Economic, and Social Impacts of Private Financing
Public–Private Partnerships in Central America 61
Carlos Benavente Gómez

The Private Sector and Development
The European Union's Latin America Investment Facility 69
Molvina Zeballos

A General Analysis and Preliminary Evaluation of Public–Private Partnerships in Peru 81
Germán Alarco Tosoni

The Mesoamerica Project
Public-Private Partnerships and building infrastructure in Central America 91
Jorge Coronado Marroquín and Juan Pablo Ozaeta

The Nationalization of Oil in Argentina
A new kind of public–private partnership? 101
Jorge Marchini

Mega projects and Natural Resource Extraction
The Case of the Olmos Project and its link with Public-Private Partnerships (PPP) in Peru 107
Giancarlo Castiglione

Section II - The World 117

Distributed Infrastructure, Community Power and Radical Affordability 119
Justin Guay, Jigar Shah and Stewart Craine

Achieving "Energy for All" in India
Key Principles for overcoming policy barriers to the provision of inclusive access to clean, affordable and sustainable energy 129
Srinivas Krishnaswamy and Sunita Dubey

Public-Private Partnerships in Indonesia
Policy and Public Responses 137
Siti Khoirun Ni'mah

Implications of Turkey's Coal Projects for Society, the Environment and Democracy 151
Fidanka Bacheva McGrath and Daniel Popov

Energy Infrastructure Contestations in South Africa
Opposition to financing Eskom's Medupi and Transnet's Durban mega port grows 165
Patrick Bond

About the Authors 177

Acknowledgements

We wish to acknowledge not only the authors of the chapters in this book, but also those individuals who (in addition to ourselves) played a significant role in bringing this publication to fruition: Aldo Caliari, Center of Concern; Maria Jose Romero, EURODAD; and Nora Rohde, Heinrich Boell Foundation-North America. We also wish to recognize our copy-editor, Tadzio Koelb, our translator, Charles Roberts and, especially Gustavo Alzugaray, who provided tremendous assistance in copy-editing, translation, lay-out and design expertise. We appreciate the support of the Heinrich Boell Foundation - North America which made this publication possible.

Nancy Alexander, Heinrich Boell Foundation-North America
Carlos Bedoya, LATINDADD
Oriana Suarez, LATINDADD

Preface

Infrastructure: For People or for Profit?, published by the Heinrich Boell Foundation and Latindadd, brings together several articles on investment in infrastructure projects, including public-private partnerships (PPPs). Using both a theoretical and an empirical lens, the themes of the book revolve around the dilemmas of risk and profitability of those investments.

In the 19th century, when infrastructure services were profitable, they were developed with private capital, but when they became unprofitable, the services ended up in the hands of the State. This was the case with railways, ports, trolley services, and various public utilities, including urban gas and water and sewerage. Once private operators did not benefit from the operation of the infrastructure anymore, it was not developed any further, as in the case of roads in the upland regions of the Andean countries. On the other hand, railways and other infrastructure were developed and maintained in order to transport raw materials from the sierra to the coast for exporting to Europe.

From the 1960s to the 1980s, infrastructure development was pursued in conjunction with national development related to the expansion of manufacturing and domestic markets. During the short life of that positive approach to development, there was acceptance of the Keynesian notion, reinforced by the work of Prebisch, that there should be public investment in infrastructure. But, these notions fell into disfavor by 1985.

Now, as long as the model of development that relies on commodity exports holds sway, the case is made for investment in infrastructure in order to, for instance, mine, move and export these commodities.

In one chapter of this book, Aldo Caliari goes to the heart of the matter when he indicates that the problem of infrastructure investments through PPPs is the distribution of risks and the issue of profitability. The construction of the Paris metro highlights this problem. Line 1 of the metro was built in 1899 by an agreement between the city of Paris and the Compagnie du Chemin de Fer Métropolitain de Paris (CMP: Paris Metropolitan Railway Company, which in turn was the result of a joint venture between the Compagnie Générale de Traction and the Schneider Creusot Iron and Steelworks). The city would build the tunnels and stations, and CMP would build the entrances and provide the services. The idea behind this PPP was that the private partners had the know-how for building the trains and would manage the service while the city would be well-served by less traffic in the streets and quicker transportation. The result was a more modern, cleaner, and quieter city.

The system worked quite well, until CMP was nationalized in 1938 and transformed into Régie Autonome des Transports Parisiens (RATP), a company organized under public law. CMP was a type of PPP in which the risk was shared until the real risks materialized in the run-up to the world war and the private-sector owners pulled out. For strategic reasons, the government took over the company in 1938. This example highlights the way in which the public sector can be forced to assume unanticipated risks and costs. Was shutting down the Paris metro and the inter-urban services a viable alternative? Part of the problem with the development of infrastructure is that they provide essential services for the population, which is why they were developed in the first place.

Infrastructure includes “hardware” and “software.” In this example, the hardware is the tunnels, stations, stairs, and trains. But there is also the software, activities and processes which make it possible to offer the service. Either of these may fail at some

point, but the state cannot allow the transportation service itself to fail, and that is why the risk is transferred from the private to the public sector.

There is no unnecessary infrastructure because the decision to install such works is usually due to citizen demand. Some infrastructure projects facilitate exports, while others are aimed at the domestic market, but infrastructure geared to exports also facilitates the movement of vehicles that transport persons and integrates regions.

There can be no economic integration without infrastructure. South America's lack of integration is due in part to the lack of transportation infrastructure, whereas in Central America, the Pan-American Highway promoted the integration of five countries, thus turning the export market into a single regional market.

Integration requires more than infrastructure, but it is a necessary condition. The authors' question is whether private actors can assume the risk of failures, or whether the infrastructure service providers assume that they will always be bailed out by the state. Well, the service will always be bailed out, unless it's obsolete.

The authors also ask whether bilateral cooperation for building infrastructure can be adequately replaced by private finance in this era of financialization and financial innovation, where highways, for example, are built with loans based on discounted cash flows over a given period. There may be various problems: a poor financial projection for example can result in unanticipated declines in returns. Or, the projection may be too optimistic and the company may have no recourse other than to underperform in order to maintain its rate of return as established in the contract, deceiving everyone. In this case, the withdrawal of the private provider leaves an under-performing service in the hands of the government.

In 2008, we observed the tendency of rich countries (which were traditional donor countries) to accumulate enormous public debts. Thereafter, it was not feasible for these countries to carry on providing international development assistance at the same orders of magnitude as before. Some authors find that the roles of traditional donors are being supplanted – for instance, Brazil is playing an important role in South America's development and China plays a major role in Africa. These dynamics confirm the shift in the hegemonic pole, slowly but surely. Overseeing and challenging these new actors is essential, considering the danger of repeating the sloppy performance by traditional donors.

From the perspective of the public interest, the question is not only how one can ensure the private sector's rate of return, but how the risk borne by the state is to be covered, as it is the financier of last resort. This concern is made explicit in at least two of the articles and should be the center of public and academic analyses.

Oscar Ugarteche

Prologue

This timely volume refers to one of the most important "rediscoveries" of recent years: the essential role of infrastructure in economic development, and in particular its impact on productivity and the standard of living.

The renewed interest in this question is evidenced in particular in the emerging consensus among the leaders of the Group of 20 (G20), the policies of the multilateral financial institutions, and the debates underway in the United Nations concerning a new post-2015 development paradigm. Moreover, the similarity between this consensus and the views of the emerging economies is emblematic; among the initiatives of these economies is the creation of a BRICS[1] Bank, with a main focus on infrastructure finance. In the G20, the response to the crisis included investment in infrastructure as a way to stimulate demand and thereby guarantee a recovery from the depressed levels of growth, demand, and economic activity. Given that the G20 accounts for the majority of votes in the global and regional financial institutions and includes the BRICS, this consensus can be easily translated into expanded efforts to finance infrastructure around the world.

The articles in this volume contribute to an important debate as they reflect mounting concerns over this growth paradigm. While the debate applies across the board to all forms of infrastructure, the emphasis chosen in this book is on energy infrastructure. While it is representative of issues that arise in other sectors, the energy sector may best reflect some of the dilemmas posed. This is due to the importance of energy for growth, along with the need for new energy sources in order to undertake the transformation towards low-carbon production to help mitigate climate change.

Without calling into question the importance of infrastructure for development, the different chapters reflect the experience and research of members of organizations and academic institutions, and their partners (including social movements and grassroots organizations), putting forth perspectives that are the result of participation in numerous workshops, forums, seminars, and debates in many countries. They invite us to reflect on the limitations of the paradigm, even from the narrow perspective of seeing infrastructure as a demand stimulus and a motor of economic growth.

One such limitation is that several infrastructure mega-projects are proposed as necessary for national and regional integration. Nonetheless, most of the benefits are concentrated in certain industries, especially extractive industries. There does not appear to be any strategic vision for industrialization and expansion of the productive matrix, value addition, or even adequate compensation for states, through taxation, for the natural resources already being extracted.

In addition, the new infrastructure model mobilizes foreign investment, both public (for example, sovereign wealth funds or the national development banks of countries such as China, India, or Brazil) and private (e.g., institutional investors). In some cases, this approach may rob nations of their capacity to maneuver using fiscal policy; indeed, governments have experienced constrained budgets since the onset of the global financial crisis. What the discourse hides is that, in comparison to the option of footing the infrastructure bill with domestic resources, mobilizing foreign investment generally requires equal or greater fiscal resources to guarantee the investors' risks. The possibility of contributing to investors' returns and mitigating the risks of private equity with taxpayer resources and user fees raises profound questions about the distributive consequences and moral hazard of mobilizing foreign investment.

1. Brazil, Russia, India, China and South Africa.

While one of the justifications for infrastructure projects is the need to expand access to services by the vulnerable and lower-income sectors, these social sectors are usually the ones which are negatively impacted by infrastructure projects. Some of the chapters suggest that a commitment by governments to abiding by minimum principles for consulting the beneficiary populations, throughout the project cycle (including the project selection process), could improve the possibilities of meeting those populations' actual needs.

At the 2012 UN Conference on Sustainable Development (also known as "Rio +20"), all participating countries committed to a new development framework that takes stock of the three pillars of sustainable development: economic, social, and environmental. Achieving this "triple baseline" becomes unavoidable, not only on a project-by-project basis, but also in the general paradigm itself. It is no longer viable to continue pursuing an infrastructure paradigm from an exclusively economic perspective.

The analyses and case studies in this publication are a necessary and timely appeal to reconsider the nature and direction of the infrastructure paradigm that is needed for this century. The authors remind us that it will be essential to have laws and regulations that implement principles of responsible investment in infrastructure (including in the areas of human rights, gender, environment). These laws and regulations should help realize the commitment to democratic, participatory, and accountable governance.

José Antonio Ocampo

Introduction

The world is preparing for a wave – if not a tsunami – of investments in mega-projects in the coming years. This trend, which is promoted by the Group of 20 (G20) and the BRICS (Brazil, Russia, India, and South Africa), among others, is mobilizing private financing (for example, from banks and institutional investors) to create a portfolio of "bankable" projects.

In this way, the private financial sector can increase its influence over the state's development process to a hitherto unimaginable degree. In order to attract private financing, public-private partnerships (PPPs) are being established in which public financing (for example from the World Bank and regional development banks, but also national public financial resources) is used to compensate private investors for their risks. The mega-projects will mainly promote the expansion of power supply, industry, and transportation infrastructure (ports, railways, road systems), which are intended to accelerate economic integration.

To date, these processes have neglected the requirements of democratic governance. A change in this trend would facilitate people's governance as opposed to elitist governance. In effect, people's governance would focus on distributing the benefits of trade, favoring citizens and communities, and protecting the environment, including reducing our carbon footprint.

This approach can add citizens' voices to a debate which, to date, has been monopolized by governments and transnational companies. It also alerts us to the fundamental need to ensure that citizens steer their national development strategies in sustainable directions by establishing and using procedural mechanisms to participate in the identification and implementation of projects.

At present, there is a great lack of transparency; projects are imposed upon citizens. In general, excessive costs are borne by the state, while benefits disproportionately accrue to private investors. These dynamics represent a challenge to sustainable development and the enjoyment of human rights. This publication lays a foundation for responding to the challenge by describing the networks of actors involved in infrastructure deals, including the winners and losers, and the consequences of their actions.

The Group of 20 (G20) is playing key roles in promoting infrastructure development. After the eruption of the financial crisis in 2008, the G20 was established as the forum for resolving the problems caused by the economic catastrophe. While its initial Summits and agreements emphasized recovery, growth, and financial regulations required to avoid future crises, subsequently, it embraced the issue of how infrastructure development could boost world economic growth and job creation.

Accordingly, in 2010, the G20 began to promote investment in infrastructure using mechanisms, such as PPPs, including those with financing from the World Bank and other multilateral institutions. These institutions focus primarily on financial considerations, often paying less attention to the objectives of sustainable development (social and environmental considerations) and the context (including the diversity of local, national, and regional governance).

This book demonstrates that this approach, biased towards financial considerations rather than participatory governance, provides a way to mobilize stagnant private sector resources for profitable investments in a context of generalized economic uncertainty. Unfortunately, we find that this unbalanced approach is accorded legitimacy in decision-making about infrastructure investments.

The World Bank estimates that the needs for infrastructure financing of all developing countries should represent approximately 7% of their gross domestic product, considering both new investments and maintenance of already-existing infrastructure. In the case of the low-income countries the estimate is higher: 9% of GDP. Hence the central concern becomes how to nearly double the level

of investment by attracting private investment, instead of focusing on the kinds of infrastructure people need and what kind will shrink the planet's carbon footprint.

The experiences described in this book address the relationship among international, national, and local governance

"After the eruption of the financial crisis in 2008, the G20 was established as the forum for resolving the problems caused by the economic catastrophe"

mechanisms and the tendency for the governments of developing countries to embrace international initiatives which often have negative consequences at the local level.

To address this issue and provide a general overview, Aldo Caliari's chapter explores the financial impacts of infrastructure investment on states. He suggests that states (including their taxpayers and users of infrastructure services) often assume too much risk on behalf of private investors. In particular, he discusses the budgetary and balance of payments risks of PPPs, which increasingly facilitate private investment in infrastructure.

Regional Trends in Latin America

A series of four chapters describe regional trends with regard to the governance of large infrastructure projects in Central and South America.

The first, by César Gamboa and Francisco Rivasplata, addresses the problem of the governance of infrastructure investment in South America, describing the various actors in the geopolitical context, including the international institutions (e.g., the G20 and multilateral development banks); the regional institutions (e.g., UNASUR, BNDES) and major players, particularly China. China is increasingly present in various regions of the world, with a major portfolio of projects in sectors such as energy infrastructure and extractives. This chapter also addresses environmental deregulation, the Brazilian influence, the predominance of extractive projects in infrastructure investment, and, finally, the weaknesses and strengthens of civil society organizations and social movements when moving from opposition and resistance to the projects, on the one hand, to envisioning an appropriate investment model, on the other.

In the second chapter in this section, Celio Bermann characterizes infrastructure investment in Brazil and describes the mega-projects underway, particularly the hydropower projects, their use of the PPP model, which is common in Brazil. He also addresses the problems with environmental assessments and licensing as well as with mobilizing financing. Finally, the text includes a mapping of the social actors which promote the perspectives of civil society.

In the third chapter, Carlos Benavente analyzes the trend toward PPPs promoted by the World Bank and Inter-American Development Bank, among others, in Central America. The author uses six different categories to assess the extent to which Central American countries are capable of governing PPPs. He finds that none of these countries has the basic capabilities to effectively implement PPPs. To the contrary, the mega-projects and presence of extra-regional actors who promote PPPs are not usually oriented toward development or regional industrialization. Therefore, it is not surprising that the mega-projects have not contributed to reducing poverty, but rather to commercial goals, e.g., connecting the Atlantic with the Pacific. To provide effective support for these countries, one would have to ensure that investments are aligned with the national development strategies. To that end, it is essential to ensure the particip-

"it is not surprising that the mega-projects have not contributed to reducing poverty, but rather to commercial goals"

ation of the project-affected communities as well as job creation in small- and medium-sized enterprises.

The fourth chapter in this section is a brief evaluation by Molvina Zeballos of the Latin America Investment Facility (a European initiative) through four case studies in Central America, Colombia, El Salvador, and Mexico, which are financed with a mix of official development aid and loans from the international financial institutions. The author asks how one can harmonize the business approach (growth and

profitability) with an integrated approach that considers the indivisible and universal nature of human rights so as to construct a coherent vision of development. The cases discussed by Zeballos show that the business sector benefits disproportionately from this type of financing. In addition, she notes the lack of regulation of private sector activity, which makes it essential to have mechanisms for project evaluation and supervision as a fundamental part of governance. This chapter also includes a box by Angélica Canavire, which sets forth some of the development banks which provide support for the private sector in the region.

Latin American Case Studies

After describing regional trends, the book turns to several chapters that address specific cases in Latin American countries. The first, by Germán Alarco, begins by taking stock of Peru's experience with PPPs and, particularly, the lessons learned from the benefits and drawbacks of PPPs in the country. The chapter analyzes several projects, such as the Paita port concession, the north pier of Callao, the southern, southeastern, and central railways, stretches of the Pan American highway, the Jorge Chávez international airport, the southern and central interoceanic highways and the irrigation projects in the coastal region, all of which are characterized by problematic elements. Finally, he offers a series of recommendations for the state to define when (and under what conditions) it should consider a PPP. In general, Alarco favors the public works model over the PPP model.

"the mega-projects and presence of extra-regional actors who promote PPPs are not usually oriented toward development or regional industrialization"

The second chapter by Jorge Coronado and Juan Pablo Ozaeta, which focuses on two hydropower projects, one in Guatemala and the other Costa Rica, reveals a series of defects and impacts of these infrastructure initiatives which were imposed upon the two countries. The projects have perpetuated a cycle of community opposition and government repression, sparked by violations of the right to consult, and the failure to prioritize and protect archeological sites. In addition, benefits, such as tax exemptions for the investors, and the increase in sovereign debt levels pose fiscal risks for the countries.

The third chapter by Jorge Marchini focuses on the nationalization of the Argentine oil company YPF in 2012 by means of the expropriation of shares of the Spanish company REPSOL. The chapter suggests that the nationalization was intended to usher in a new PPP model in the energy sector in Argentina. Later, after an agreement was signed with the U.S. company, Chevron, the PPP continued to cause significant damages. The lack of transparency facilitated impacts including excessively costly concessions and specific regulations to benefit private investors and provide them with coverage for risks and losses. Marchini asks whether one can actually speak of a new Argentine PPP model, especially when, within the G20, Argentina joins the consensus in favor of infrastructure PPPs.

The final chapter in this section focuses on the Olmos irrigation and power generation project in northern Peru. Giancarlo Castiglione studies impacts such as the concentration of landholdings, the changes to and refinement of the modalities of private investment in the context of the neoliberal reforms, as well as the irregularities and corruption that surround PPPs. He also addresses the benefits accrued by large multinationals to the detriment of small farmers and how changes in rules have benefited companies. Castiglione shows that corruption is not exclusive to public works, as claimed by many, but that it also pervades private arrangements and initiatives.

International Experiences with Energy Infrastructure

A chapter by Justin Guay, Jigar Shah, and Stewart Craine advocates for local energy economies to expand access to electricity globally. This approach is at odds with the trend of government, public institutions, and multilateral banks which are investing in energy mega-projects. The evidence shows that most of the population without electricity would benefit much more from small-scale, decentralized energy infrastructure based on renewable sources. Not only can one access these small-scale structures more easily, but they are also cheaper to build and maintain. This analysis documents alternatives to energy mega-projects, noting

their positive impacts on health, education, productivity, and inclusion in the energy grid of persons previously without access.

The second chapter by Srinivas Krishnaswamy and Sunita Dubey illustrates how the model of small-scale decentralized energy infrastructure can advance universal access to electricity in a way that both promotes social justice and addresses climate change. The authors present concrete examples of how these goals are achievable, especially in the Indian context.

The remaining case studies of governing infrastructure in Indonesia, Turkey, and South Africa share a common theme – namely, the alarming tendency to favor expanding the production of carbon-based energy at the expense of renewable sources.

Siti Khoirun Ni'mah ("Nikmah") documents Indonesia's arrangements with different international and regional forums such as the G20, the Asia-Pacific Economic Cooperation (APEC) Forum and the Association of Southeast Asian Nations, which are intended to bridge the gap in the country's infrastructure. In its collaboration with the international financial institutions, G20, and APEC, Indonesia is establishing a model governance arrangement for PPPs. Nikmah's chapter notes important economic, social, institutional, and environmental impacts of PPPs. It is crucial for civil society to understand who benefits from these agreements, as well as the risks which undermine the capacity of the state to serve the public interest.

The chapter on Turkey describes how the state engages in a balancing act to satisfy the rapidly growing demand for energy. These efforts favor coal (especially imports) over the need to rely more heavily on the enormous potential of the country's renewable energy sources. Authors Fidanka Bacheva McGrath and Daniel Popov indicate that civil society is critical of the short-term orientation of the Turkish energy strategy, which deepens the country's dependence on imported coal because, due to its poor quality, domestic coal cannot compete with foreign coal. Yet, as the authors describe, the new conception of democracy in Turkey fosters hope that civil society will struggle for greater participation in key decisions, such as those relating to the energy sector. Accordingly, the Turks can still tap the potential to serve as a regional model for the use of renewable sources of energy.

The chapter on South Africa presents the cases of two mega-projects which further aggravate the country's dependence on hydrocarbons. This chapter by Patrick Bond describes the controversial financing of the construction of a giant coal plant (Medupi) and the expansion of the railway network and the industrial port of Durban (Transnet). Financing for these projects is not only resulting in a major increase in the foreign debt, but also having major negative effects on communities and the climate.

Bond's analysis shows the continuation of the historical collaboration among mining, heavy industry, and the state (the energy-mining complex) in South Africa, which promotes coal as a dominant source of energy. In this process, inequality is exacerbated by the fact that industry receives cheap energy, while the poorest of the poor pay more for (or lack access to) energy.

Conclusion

This book describes the main trends and current problems with infrastructure governance in Latin America and other parts of the world. At the same time, the book is aimed at both contributing to civil society's knowledge base and offering a starting point for its efforts to actively influence infrastructure governance.

Based on the experiences described, we propose three key advocacy messages:

- Ensure participation in the development of "appropriate scale" infrastructure. The case studies show a bias towards high-capacity mega-projects rather than "appropriate scale" projects which are more likely to benefit target communities, beginning with the most vulnerable. Project development should involve civil society, including affected citizens, in the process of identifying and implementing "appropriate scale" infrastructure operations, instead of having projects imposed "from above" in ways that exclude those affected.

- Relinquish the bias in favor of PPPs. Policy-makers should relinquish the bias in favor of PPPs and prioritize conventional public works or the infrastructure modalities that provide the best "value for money." Throughout, one must respect the laws, regulations, and guarantees in relation to information disclosure and transparency mechanisms, the rights of affected communities (including indigenous communities), and human rights. In addition, as experience shows, it is also important to ensure that the contracts and fiscal agreements with investors do not compromise the capacity of the state to address the needs and aspirations of citizens.
- Exploit renewable energy sources and diminish reliance on fossil fuels. International experiences show the worldwide trend toward reliance on coal and other fossil fuels over renewable sources of energy, even in countries where there is a great potential for renewables. To curb the dependence on coal, the costs associated with its use (health, environmental, etc.) must be internalized in cost-benefit calculations.

In order to ensure people's governance of infrastructure, additional work is needed, particularly, to demonstrate how infrastructure can:

- diversify the economy to avoid concentration in just a few exports,
- include micro-, small-, and medium-sized enterprises in infrastructure projects, and
- promote sustainable industrialization, including secondary and tertiary processing of raw materials.

At every step one must strike a balance between the needs for local, national, and regional integration, on the one hand, and the needs for global integration, on the other. Such challenges are the priorities when it comes to shaping the future of infrastructure governance. We hope that in producing this volume we are contributing to that purpose.

Nancy Alexander, Heinrich Boell Foundation-North America

Carlos Bedoya, Latindadd

Oriana Suárez, Latindadd

Relying on institutional investors to finance infrastructure

Forces which pose risks to public debt and budgets

Aldo Caliari

By any measure, the infrastructure investment needs dwarf the amounts currently invested in the sector. Many calculations illustrate this gap. According to one estimate, infrastructure spending totals some 3-4 per cent of GDP in developing countries, while to meet poverty reduction and MDG commitments, spending should be around 7-9 percent of GDP.[1] A more recent estimate places the investment needs for Sub-Saharan Africa alone at USD 93 billion a year.[2] In an estimate for global –not just developing countries'- infrastructure needs, the World Economic Forum considered the gap between actual and needed investment at USD 1 trillion annually.[3]

At the same time, due to subdued growth, fiscal consolidation and "austerity" policies in several traditional donor countries, public financing capacity, including amounts devoted to Official Development Assistance (ODA), have suffered and may continue to decline. In 2011, for the first time since 1997, absolute levels of ODA fell, further calling into question the seriousness of donor countries' promises to meet the target of contributing 0.7% of gross national income (GNI).

Globally, contractionary fiscal policies have become a fashion (or a form of precautionary measure) even in countries that arguably do not need them. Such policies represent a self-imposed limit on the budgetary envelope, including for infrastructure.[4]

Given this situation, a growing number of actors are exploring alternative sources of finance that include: foreign governments with large surpluses (such as China), and institutional investors, including pension, mutual funds, private equity, and sovereign wealth funds. According to this narrative, global savings dwarf the huge infrastructure financing needs and only need to be "unlocked" to underwrite such needs. But, such investors would be fortunate to find infrastructure projects on which to earn a return. For instance, the World Economic Forum states "In spite of the much needed investment in infrastructure, and the significant supply of private capital from pension funds, insurance firms, sovereign wealth funds and private equity funds in excess of US$ 60 trillion, countries are often faced with the paradox of a dry pipeline of projects."[5] The OECD says that "With over US$ 70 trillion in assets, institutional investors (such as pension funds and insurance companies) are frequently cited as an alternative source of financing. . . . Investments in real, productive assets, such as infrastructure could potentially provide the type of income which these investors require supporting investment and driving growth."[6]

What this narrative fudges is the inescapable truth that private savings will go to sectors that can generate high returns and the consequences that such pressure to generate maximum levels of returns will put on infrastructure recipients and users.

1. UNCTAD 2008.
2. Gilpin 2013.
3. World Economic Forum 2013.
4. Ortiz and Cummins 2013.
5. World Economic Forum 2013.
6. OECD 2013. See also UNTT 2013a ("Annual global savings are estimated to be around $17 trillion, as of 2012 (IMF, 2012a) with global financial assets at around $218 trillion, as of 2011. . . . Although reallocating the pool of global financial assets would be challenging, re-investing a small percentage, say 3 to 5 per cent, of this investment in sustainable development could have an enormous impact.")

There is no question that infrastructure assets have grown in popularity among institutional investors. This is associated with investors' growing appetite for so-called "alternative" assets, that is, assets that can contribute to delivering portfolio returns that are "above average." The search for such higher yielding assets was fueled during the "Great Moderation" (the years that preceded the global financial crisis), when only limited yields were available through traditional investments. In post-crisis years, the build-up of excess savings has continued, significantly because of the excess liquidity generated by the unconventional monetary stimuli of central banks.

As with commodities, infrastructure is being considered as an asset class that could generate high risk-adjusted returns, on the one hand, and help ensure returns by diversifying the portfolios of asset managers, on the other.

It is worth noting that the evidence for both of these effects is highly contested among researchers as is the soundness of attributing uniform properties to an asset class covering the heterogeneity of sectors and instruments that could be considered infrastructure investments.[7]

Leaving those difficulties aside, the important message of this paper relates to the way in which institutional investors are looking for above-average returns from the infrastructure sectors. According to Inderst, expectations for returns from infrastructure assets were well in the double-digits at the start of the infrastructure boom and, in spite of some dampening effect by the global financial crisis, infrastructure-based products continue to feature fairly ambitious targets.[8]

This has important consequences from the perspective of the taxpayers and consumers in countries where the infrastructure is being built. This is because, inevitably, higher-than-average returns for this asset class can be facilitated by shifting risks from the private sector to the public sectors, taxpayers or users of infrastructure. We are seeing significant efforts to shape national and international policy and institutional environments in ways that can ensure the swift transfer of risks to the public sector and enforcement of such transfer at the lowest cost.

To explain this overall dynamic, this paper explores two channels by which risks can be transferred to the public sector: misleading accounting techniques for allocating fiscal risks and the relaxation of debt sustainability requirements.

I. Fiscal considerations associated with private investment in infrastructure

The above narrative implies that governments with fiscal constraints could turn to private investment as a way to help finance infrastructure. The apparent limitations of public budgets after the crisis have made this argument just more appealing.

But the common myth that private investment carries few costs to the public sector needs to be debunked. The main form proposed for private investment in infrastructure is the Public-Private Partnership (PPP). PPPs are broadly defined as arrangements where the private sector supplies infrastructure assets and services that traditionally have been provided by the government.[9] From the experience with PPPs, and from the findings of literature, there is nothing to back up the claim that they involve few, if any, fiscal costs. In fact, PPPs may end up costing more to the taxpayers than a conventional public project. The only difference is in the way in which those costs are recorded and accounted for.

Given the pressure to increase returns for the private investors in infrastructure, the probability that PPPs may transfer significant risks and costs to the public sector should warrant special attention.

Due to some of the characteristics of PPPs, the fiscal commitments associated with them are prone to be unrecorded, unreported, or less likely to draw scrutiny in analyses of fiscal sustainability. This lack of transparency does not make fiscal vulnerability less probable. According to the World Bank, fiscal commitments in PPPs are long term, extending over the lifetime of the contract, and often do not materialize until several years after a contract is signed. In addition, payments for contingent liabilities – obligations

7. See Inderst 2010.
8. *Ibid.*

9. IMF 2004, p. 3.

that materialize only if a particular event occurs – are by definition uncertain. This stands in contrast to government budgets which are cash-based, with a relatively short planning horizon.[10] The Bank warns that "If fiscal commitments are not clearly acknowledged and managed, PPPs may be pursued simply to postpone the budget impact of public investment, and to move the associated debt off the government balance sheet in a way that does not take into account the longer term implications for public finances."[11]

PPPs can generate costs for the public budget through the following channels:

- **Fiscal incentives:** PPPs frequently require the provision of upfront fiscal transfers to the private provider. The transfer may come in the form of a tax incentive, but it may take the form of "viability gap" payments, which are government capital contributions to ensure an economically desirable project can proceed even if it is not commercially viable.[12] Fiscal incentives may also be included in the financing instruments used to raise funding in financial markets, such as tax exemptions on returns on infrastructure bonds.[13]
- **Foregone revenues:** PPP contracts usually call for transferring to the private provider either the capacity to levy user fees or the funds levied by the government. Where user fees are already charged, the contract may even stipulate the ability of the provider to restructure or raise them.
- **Underinvestment:** The private sector has never been the main source of investment in infrastructure. For instance, the African Development Bank found that, in 2011, the public sector spending on infrastructure in Africa was 250 times the level of private sector commitments. Indeed, one cannot assume that zealously protecting the profits of the private sector provider will lead to greater investment on its part. On the contrary, there are numerous experiences of PPPs where the private sector failed to live up to the investment targets that were contractually stipulated.[14]

The problem with the under-investment by the private sector is that when contracts are not well-designed or monitored, it may take years before the under-investment is even discovered. When control of an infrastructure asset reverts to the state, the state may find considerable deterioration and assume high costs for repairs. But, sometimes, the state cannot easily assume control from a firm. Depending on the contract, the state may actually incur liabilities if it tries to sever its partnership with a private firm, even when this firm fails to fulfil its investment obligations.

The cost of infrastructure deterioration to the rest of the economy and consumers may translate into significant fiscal costs over many years. Conventional feasibility studies do not take into account such eventualities.

Potential need to subsidize under-served segments (but with less fiscal space)

Historically, the private sector has neglected vulnerable or low-income segments of the citizenry because they are not profitable or they cannot afford infrastructure services when tariffs recover costs. In such cases, the State may need to intervene financially, either to assume the job of service provision or to provide subsidies to the excluded populations. This is particularly the case when States have responsibilities for the provision of certain services.[15] When the State steps back into service provision or subsidizes the provision to excluded sectors, its fiscal position will be weakened. This will especially be the case if the private

10. World Bank *et al* 2013.
11. *Ibid.* Similarly, see Polackova 1998 ("policymakers pursuing a balanced budget or some deficit target tend to favor off-budget forms of state support that do not require immediate cash and that, at least for some time, hide the underlying fiscal cost. . . . Major fiscal risks outside the budget derive from explicit promises and implicit expectations that government will help when various failures occur. The subsequent emergence of moral hazard in the markets can exacerbate these risks."); IMF 2004 ("the driving force behind PPPs may be not only a quest to increase economic and social efficiency, but also the ability to bypass expenditure controls, and to move public investment off budget and debt off the government balance sheet, by exploiting loopholes in current fiscal accounting and reporting conventions.")
12. World Bank *et al* 2013.
13. UNECA and NEPAD 2013. Final Draft Study Report for the 29th Session of NEPAD Heads of State and Government Orientation Committee, Addis Ababa. 25 May.
14. This is especially so given the increased financialization of the world economy. The ILO found that in the 2000-2007 period in the advanced countries, the share of profits in total GDP increased but the share of investment in GDP stayed static (See ILO 2011, Chapter 2). So a greater share of profits was going to financial assets. For a review of underinvestments in Argentinean privatizations in the 1990s see Aspiazu and Schorr 2003.
15. See Estache 2005.

partner controls the collection of tariffs and revenues. The government's position would be especially difficult because it would be unable to cross-subsidize, which finances consumption by poorer rate payers with the tariffs of more affluent rate payers.

It is worth noting that PPPs may produce efficiency gains when the private sector brings improved know-how or management or production techniques. But one cannot assume that such gains will be captured either by the State, through revenue collection, or by the population. It all depends, too, on the design of a contract.

Public guarantees

A public guarantee offsets the risks of private firms that are partners in a PPP. They transfer risk from the private to the public sector and, thereby, represent a fiscal risk. Some examples of guarantees relate to changes in the exchange rate, the inflation rate, the level and type of government regulation, the minimum demand for goods or services, and the price at which the transferred assets can be sold at the end of the partnership (residual value guarantees).

Some of the fiscal risks that public guarantees create are:

- Uncertain fiscal impacts. The impacts of guarantees are difficult to value, monitor and assess. The length of the term and complexity of the contracts contribute to rendering the valuation of the potential cost of some of the public guarantees extremely difficult. The IMF stated that "full disclosure of the terms of original and renegotiated PPP contracts, along with some simplification and standardization, is essential. However, the legal complexity of PPP contracts means that they will always be hard to interpret, and this will complicate assessments of risk transfer even when the focus is on a few key risks. Moreover, the PPP contract may not tell the whole story, since it is only relevant to ex ante risk transfer."[16]
- In countries with weak governance and institutional frameworks and checks and balances or limited transparency and public scrutiny of contract negotiations, officials are more prone to offering ill-advised, high-risk guarantees.[17]
- Procyclicality: A procyclical – as opposed to countercyclical – impact is one that magnifies or amplifies the ongoing trend, rather than mitigating it. Public guarantees are procyclical because they are more likely to be triggered in situations of an economy-wide shock or crisis than in good times, thereby magnifying and compounding what may be an already difficult fiscal situation.
- Moral hazard: The reliance on public guarantees might encourage private investors to manage risks poorly, fail to carry out rigorous due diligence or to offer the best level of service. As Thobani states: "if a government assumes the risk of project failure – for example, by guaranteeing demand for the services to be provided – private investors have little incentive to choose financially sound projects and to manage them efficiently."[18] One of the arguments offered in favor of private sector participation is, precisely, that private sector providers will have access to "state-of-the-art" capabilities, techniques and know-how to reduce costs and manage risks. Paradoxically, the public guarantees can undermine this benefit by eliminating the incentive for the private provider to offer such quality of services.
- Asymmetry: While a private firm's violations of its contractual obligations may, at least in theory, lead to a lawsuit against it, private sector liabilities are capped, in the most extreme case, by the equity capital of the company.[19] A company could always resort to bankruptcy protection to force creditors to take losses if its financial position prevents it from paying its obligations. The reciprocal is not true. There is no limit to the liabilities of the sovereign and there is no bankruptcy system to which a State could resort.

16. IMF 2004.

17. *Ibid.* ("Because guarantees are valuable to beneficiaries and provided at the discretion of government, they can undermine good governance.")
18. Thobani 1999. See also IMF 2004 ("A 'guarantee culture' is created where the private sector . . . seek guarantees as an alternative to properly managing risk themselves.")
19. WEF 2013 (reminding that "risk transfer to the private party is mostly limited by that party's equity exposure.")

Guarantees can be classified as direct or contingent. The former are obligations that will arise in any event, whereas the latter are triggered by an event that may or may not occur. Guarantees can also be classified as explicit or implicit.[20] The former are established by the law or a contractual provision, whereas the latter "involve a moral obligation or expected responsibility of the government that is not established by law or contract but instead is based on public expectations, political pressures, and the overall role of the state as society understands it." For instance, according to Polackova, the state providing subsidies for people unable to afford purchases from a private sector provider or stepping back in the sector to provide the service by itself, regardless of any contractual provision to do so, would fall under this category.[21]

Contingent liabilities create the greatest fiscal uncertainty, since they are "off-budget" and, by definition, not transparent. The event triggering the liability is uncertain, the value at risk difficult to evaluate, and the extent of government involvement difficult to predict. It is very hard to identify and estimate the size of contingent liabilities, and they may represent significant budgetary commitments if the triggering event materializes. They pose particularly large risks if the macroeconomic framework in the country is weak, the financial sector vulnerable, regulatory and supervisory systems inefficient, and disclosure of information in the markets limited.

II. Debt sustainability considerations associated with private investment in infrastructure

This section reports on the trend towards setting more flexible parameters to define a "sustainable" level of public debt. Among other things, this flexibility intends to accommodate higher levels of borrowing and public debt by developing countries, particularly to finance infrastructure.

This flexibility alone would not necessarily warrant concern. But, in an environment where investors in infrastructure assets expect higher-than-average returns, one cannot help but question whether public debt is being used to subsidize their investments.

Debt sustainability indicators, traditionally in the form of debt-to-exports, debt-to-budget revenue or debt-to-GDP ratios, are a tool that is too blunt to account for the distinction between borrowing purely for consumption purposes as opposed to borrowing for investment in new capacity that can eventually help re-pay debt. But, under this logic, applying more lenient borrowing rules for debt-financed infrastructure is only warranted if the investment will increase output or productivity.

History has some lessons to offer. In the 1970s, the combination of excess capital in western banks – partly coming from deposits of oil revenues ("petrodollars") searching for higher returns in developing countries set the stage for a debt crisis. The petrodollars were invested in numerous projects which were considered profitable, but later proved to be ill-advised, "white elephant" projects. Excessive borrowing for these projects contributed to a debt overhang that increased poverty and worsened human development indicators in indebted countries for decades. Indeed, today, the debt crisis continues –at least for many countries.

In 2005, after the agreement to grant more than USD 150 billion of debt cancellation to several Low Income Countries (LICs), the Debt Sustainability Framework was established as a safeguard against excessive future borrowing. Analysts differ as to whether it was ever an effective tool. But it is clear that, since then, there has been a gradual weakening of the Framework and the diminishment of any value it may have had. Successive revisions have increased the flexibility of the framework, thus enabling nations to undertake increased levels of borrowing and debt. The reforms of both the DSF and policies on debt limits, taken together, unmistakably signal a gradual and continuing turn towards enabling Low Income Countries to increase their debt without triggering red flags signifying "unsustainability."

For the purposes of this section, the most relevant aspect of such flexibility is that oriented to accommodate "Greater recognition of the impact of public investment on growth."[22]

20. Polackova 1998.
21. *Ibid.* ("Depending on social preferences, some critical social and welfare functions, even when the government has contracted them out, are believed to be the ultimate responsibility of government.")
22. IMF 2009.

Expressing these concerns is consistent with the recognition that it is sensible to relax some of the constraints on borrowing.[23]

But, as stated above, the overall direction of these reforms is to enable developing countries to undertake greater debt-financed investment, particularly for infrastructure. This purpose primarily addresses the needs of investors with excess liquidity. Many of these investors see developing countries as a more promising destination than Western countries, some of which are experiencing a stagnant or a depressed economic situation. They also see infrastructure in developing countries as a "frontier asset class" capable of delivering high returns.

Is it fair for government to increase the public debt to satisfy the high rates of return sought by such investors? And, what are the distributional effects of asking taxpayers (current and future) in countries hosting such projects to pay for increased borrowing for infrastructure investments yielding such returns?

"Many of these investors see developing countries as a more promising destination than Western countries, some of which are experiencing a stagnant or a depressed economic situation"

To answer these questions truthfully it is important to be very clear about the expected returns from infrastructure projects and who will bear the risk in case these returns do not materialize. It is misleading to assume that all debt-financed investment increases the stock of public capital on a dollar to dollar basis. For instance, IMF researchers stated that efficiency of an investment and the absorptive capacity of a government are two of the factors that should determine to what extent such 1-to-1 relationship holds.

Assumptions about the investment – growth connection should not ignore the lessons of history. A 2009 IMF paper laid out many of the issues that determine whether a debt-financed investment is successful or unsuccessful. It also stated that the findings of the literature on the impacts of debt-financed investment on growth vary considerably.[24] It mentioned factors to take into account when making a determination, such as: the institutional context within which decisions on investment are undertaken, including the strength of fiscal institutions, the quality of project evaluation, selection and management and the regulatory and operational frameworks.

Likewise, one should be careful about assumptions about the growth – public revenue connection. The Fund cautions that "High ex-ante rates of return on investment are not sufficient indicators of the appropriateness of scaling up public investment and its growth benefits. Even public investment that has significant positive effects on growth may not be sustainable if governments are unable to realize the fiscal dividends of growth (e.g., because of a weak tax system or poor tax administration)."[25]

At the same time, as we ask whether it is fair to ask for taxpayers to bear the burden of ensuring a certain rate of return in infrastructure investments, it is fair to inquire: In whose interest are the infrastructure projects being undertaken? Who will benefit from the infrastructure being built?

Comparing debt to GDP growth or capital stock does not tell us about the distributional impact of the developments taking place. Where infrastructure facilitates growth, the benefits can be heavily skewed towards the needs of the richest, rather than those most in need. Some of the most ambitious (in terms of size and time horizon) infrastructure projects are justified on the basis of fulfilling the Millennium Development Goals (MDGs) and the needs of the poorest and more disenfranchised. But this promise should not be taken for granted. Oftentimes, smaller scale projects with and shorter time horizons, lower cost, and less risk can yield a higher dividend in terms of addressing the needs of the most vulnerable in society.

23. For instance, a deficiency of the Debt Sustainability Framework was its blindness to the purposes of contracted debt. Indeed, debt can be contracted for productive or non-productive purposes, and the destination of such funding affects the extent to which it improves or damages a country's repayment capacity. Looking at the volumes of a government's debt and the terms upon which it is contracted is not very useful without knowing the purpose for which it is deployed. Likewise, it is true that the discount rate used to determine the present value of rate in the context of applying debt limits has become considerably more onerous in the current low-interest-rate environment. By inflating the present value of debt in the context of higher world interest rates, the IMF would block countries from contracting certain loans.

25. IMF 2009.
26. *Ibid.*

The IMF's pilot model in Togo seems to have included these considerations (for instance, dismissing the feasibility of an accelerated rate of investment due to the fact that an increase from 2 to 4 percentage points of GDP in fiscal pressure would not be feasible in the environment). However, by taking a case-by-case approach, it is unclear whether the Fund's safeguards will be effective.

Moreover, when the public coffer undertakes costly investments to ensure a broad-based benefit the participation of the affected communities and people is a requirement. Whether the models of the IMF can ensure such participation is an open question.

Furthermore, the relaxation in debt limits plays the political function of shielding rich countries' diminished grant contributions from scrutiny. This is because with relaxed debt limits access to finance increases, thus removing focus from the limited grant contributions available (but forgetting that the newly-accessible finance carries repayment obligations in the future).

The other variable that may suffer from the increased pressure to finance infrastructure with debt is domestic debt. This was also being encouraged by the G20 High Level Panel on Infrastructure. While local currency debt may carry less risk for the borrower (it lacks currency mismatch risk) the overall level of riskiness will depend on several factors. Usually, for instance, interest rates on local currency-denominated debt will be significantly higher than on debt which is denominated in a hard currency. And the IMF confesses that it does not monitor domestic debt very effectively. A recent assessment revealed that almost all countries enrolled in the IMF's Poverty Reduction and Growth Trust had programs that included limits on non-concessional external debt, but "no program had a debt ceiling on total public debt (external plus domestic public debt)."

III. Conclusion

In the face of the perceived difficulties of mobilizing public funding for urgent infrastructure needs, a growing chorus of policymakers and companies are stepping up calls for "unlocking" the savings of institutional investors for this purpose.

Is this a win-win scenario in which investors earn good returns for infrastructure that facilitates sustainable development? On the one hand, countries that cannot afford to finance much needed infrastructure projects would gain access to needed resources. On the other hand, amidst the current environment of depressed yields, investors would benefit by getting exposure to an alternative asset class that can improve the returns on their portfolios.

But the expectation that investing in infrastructure will achieve such high returns should ring an alarm bell. Infrastructure investments are bedeviled by risks. So the achievement of a higher-than-average risk-adjusted return can only be achieved by unloading such risks onto somebody else. Taxpayers and consumers in countries where the infrastructure is built may end up bearing these risks. As more risks are shifted onto the taxpayers or users of infrastructure, and the policy and institutional environments are made failsafe to ensure swift and low-cost enforcement of such risk transfers, the proposition of a higher-than-average return for this asset class becomes more viable.

We can predict that, absent a countervailing force to strengthen the accountability, transparency and good governance of debt and fiscal management frameworks in developing countries, a renewed wave of infrastructure financed by institutional investors may lead to a significant redistribution of income and wealth from the taxpayers and users in host countries towards investors.

The paper analyzed two channels through which risks may be transferred to taxpayers and users of infrastructure in developing countries in particular.

First, public-private partnerships (PPPs), which are the main mechanism for channeling private investment into infrastructure, often transfer significant risks to the public sector of host countries. In fact, a number of studies find that a major reason that PPPs are chosen as an investment modality is that they help conceal budgetary and fiscal impacts of infrastructure projects. Poor governance and institutional environments, including lack of transparency, help governments and investors avoid scrutiny and increase the chances that risks materialize. Indeed, PPP contracts are rarely, if ever, disclosed to the public. Also, some inherent

characteristics of PPPs introduce a layer of complexity that defeats efforts to advance transparency and accountability. For instance, the fact that PPPs are generally long term contracts and that government risks are off-budget (contingent liabilities).

Second, the parameters that define "debt sustainability" in low-income countries have been gradually relaxed, thereby allowing those countries to contract growing levels of public debt for infrastructure. It is important to recognize that low-income countries face an impossible choice between under-investing in infrastructure or mobilizing the necessary funds in any way possible. But, their increased levels of borrowing for infrastructure may represent the seeds of a new debt crisis. The risks generated by the pursuit of debt-financed investment are, as it happens with PPPs, magnified in poor governance environments.

In short, reliance on institutional investments to finance infrastructure can only be advised for countries where there are highly developed legal and institutional frameworks and systems of checks and balances that include high levels of transparency and public engagement.

Annex: Evolution of policies on debt sustainability and debt limits

This annex elaborates on the evolution of the treatment of debt sustainability and debt limits by international financial institutions and donors. It offers further substantiation of the assertions made in the paper that such evolution points to increasing flexibility in borrowing for infrastructure financing purposes.

Debt Sustainability Framework: a brief synopsis

The Debt Sustainability Framework (DSF), adopted by the IMF/World Bank as the means for managing the debt of Low-Income Countries (LICs) in 2005, applies only to LICs since they are presumed to lack the capacity to access international capital markets, as the Middle-Income Countries (MICs) do. In other words, the LICs are subject to different rules because they are more dependent on official creditors.

The DSF is used to identify country-specific debt thresholds and, on this basis, determine whether and to what extent a country has room to undertake more borrowing in order to finance its development needs. Simplifying, it assumes that above the debt levels that can be undertaken "safely," countries will need to finance their needs through grants. An important characteristic of the DSF is that, unlike the HIPC Initiative, it is not used as a basis to calculate a government's eligibility for debt relief. Indeed, for governments to which DSF rules apply, the option of debt relief (or further debt relief, depending on the case) is ruled out.

Among LICs, the DSF applies as unique framework to those countries that have either never entered, or already graduated, from the Heavily Indebted Poor Countries Initiative (HIPC).

Countries that took advantage of the HIPC Initiative are assessed in the context of both the DSF and the HIPC rules. The policy consequence of lower debt thresholds under the HIPC Initiative (relative to the DSF) was to flag a government's need for greater debt relief. In contrast, when a government has a lower debt threshold under the DSF, it has less access to non-concessional lending and, therefore, it must raise higher levels of grant financing (or aid) to achieve development and poverty reduction goals.

The method for establishing the DSF's country-specific debt thresholds is based on three pillars: 1) the quality of the policies of the indebted country, 2) an assessment of actual and projected debt burden indicators based both on baseline and stress test scenarios, and 3) a comparison of

the country's debt burden against these indicators. These factors lead to an overall assessment of the country's risk of 'debt distress.' It is intended that all subsequent financing decisions of the government should be based on this overall assessment. These three steps are described in greater detail below.

1. Country policies. Country-specific debt thresholds are generated on the basis of the quality of a government's policy and institutional environment, as measured by the Country Policy and Institutional Assessment (CPIA) methodology. The CPIA system compares a country's institutional and policy framework against a set of pre-established criteria which define "good" performance in order to arrive at a government's CPIA score. Depending on their CPIA ratings, countries are placed into three groups (poor, medium and strong) and for different metrics of debt (e.g., debt-to-exports, debt service to revenue), they are assigned a threshold debt level, namely, a certain range of debt levels that the country should be allowed to undertake.
2. Potential shocks. The DSF process is 'assessing and interpreting a country's current and prospective debt-burden indicators under [a] baseline scenario and in the event of plausible shocks.'[27] The baseline scenario centers on macroeconomic and fiscal forecasts about the conditions likely to confront the country over the next twenty years, according to the IMF, while the exogenous shock scenarios or stress tests are circumstances such as diminished GDP or export growth, or a depreciation in the value of the national currency, that the country may face.
3. Level of debt distress. After a government's current indicators on debt are compared to its assigned thresholds, the IMF and World Bank determine a government's risk of debt distress (low, medium or high). A nuanced approach is encouraged in reaching the ultimate conclusion, meaning, for example, that countries breaching one or more of the thresholds can still, theoretically, be assigned a low risk of debt distress.

Such a rating is then meant to inform the longer-term financing strategies of the International Financial Institutions (IFIs) and other lenders and donors as regards the level of the grant element in new official aid flows to such countries. It is assumed that those countries at a lower risk of debt distress are better prepared to handle the fall-out from external shocks and higher levels of (concessional) financing. On the other hand, it is assumed that countries with high levels of debt distress should receive a significant level of grants. Concretely, a "traffic light" system has been established. Countries at a low risk of debt distress receive a "green light" (they are able to finance their requirements through loans). Those at a medium risk of debt distress receive a "yellow light" (they can be financed through a 50-50 mix of grants and loans). Those at a high risk of debt distress can only be financed through grants.

Debt levels, in this framework, are supposed to be brought under the country's allowed threshold through the application, over time, of a particular ratio of grants to loans in fulfilling their financing requirements.

The revisions of the DSF

The DSF calculations allowed for a high degree of flexibility and discretion. Instead of the absolute 150 % debt-to-export ratio that was considered sustainable in the HIPC initiative, the DSF made the determination of a government's debt "sustainability" dependent on a complex weighing of factors. Each of these factors is relatively obscure, including the CPIA, which is the product of an intricate process of evaluating countries' performance with regard to 16 policy areas. In fact, political realities drove the assessment process. That is, the fact that donors could not increase the levels of grant financing resulted in the judgment that many countries had "sustainable" debt levels.[28]

With the eruption of the 2008-09 global financial crisis many countries faced the need to borrow in order to sustain spending, which deepened debt and fiscal sustainability concerns.

27. IMF/IDA 2004, 24.

28. See Caliari 2006, analyzing IDA discussions at the time.

In 2009, the DSF was revised with the goal of enhancing the flexibility of the framework and addressing the concern that it was unduly constraining the ability of countries to borrow. An important aspect of this increased flexibility was "Greater recognition of the impact of public investment on growth."[29] The underlying idea was that public investment tends to have costs in the short-run but benefits in the long run that, if not accounted for, would tend to give the DSF application an anti-investment bias.

This line of argument was also picked up in a report by the G20 High Level Panel on Infrastructure during the French Presidency. The Panel welcomed the manner in which the 2009 reforms had made the DSF more flexible. At the same time, they identified additional reforms of the processes for establishing DSF and IMF debt limits, including:

- "The Public Investment Management Index (PIMI) could play a role in effectively assessing the efficiency of public investment and informing DSA [debt sustainability analysis] growth scenarios and complementing other institutional indicators used in setting the debt limits. The HLP [High Level Panel] would also like to encourage the on-going work on this index to further strengthen it and expand its country coverage;
- An increase in the transparency and consistency of the rules and procedures in relation to non-concessional borrowing policies would also be useful. The process involved in IDA's NCBP [Non-Concessional Borrowing Policy] decision making should be formalised and publicised, in order to provide recipient and lender countries with a certain level of predictability in their borrowing space. Moreover, ensuring consistency between the IMF's debt limit policy and the World Bank's NCBP in countries that no longer have a program with the IMF should remain a priority;
- Finally, the development of a specific and articulate methodology for setting debt limits for transformational regional infrastructure projects would be relevant. The IMF and the World Bank could cooperate in order to develop a specific methodology for assessing debt limits for transformational regional projects. The HLP supports professional assessments of transformational infrastructure projects, notably by the MDBs, in order to set up properly articulated infrastructure strategies. "[30]

In 2012, a new revision of the DSF by the IMF took account of the "criticism" that the DSF conservatively evaluates the benefits of debt-financed public investment. It stated: "Proponents of scaling up public investment maintain that productive investment, while increasing debt ratios in the short-run, can lead to higher growth, revenues, and exports—and therefore to lower debt ratios—over time. Some argue that LIC DSAs, by failing to take sufficiently into account the assets and future income that public investment may generate, lead to overly pessimistic risk assessments, which in turn discourage potential investors while constraining how much LICs can borrow in accordance with the Fund's external debt limits policy and the Bank's external non-concessional borrowing policy."[31]

In the same paper, the IMF referred to its model for analyzing linkages between public investment and growth. It claimed that the model incorporates a production function to show how productive government spending can directly raise output and "crowd in" as well as "crowd out" private investment. According to the IMF, the model was piloted in Togo and showed there that "a gradual investment path was preferable, to reduce inefficiency losses due to capacity constraints and to allow time for reforms in public financial management." The model is being piloted in 5 more countries.

The revisions of the IMF's policy on debt limits

In the same period, the IMF revised its policies on debt limits – or the countries' allowable limits to indebtedness, which are enforced in the IMF conditionality for specific countries. These are limits that the IMF consistently placed on all countries that have programs with it. According to the IMF, external debt limits in Low Income Countries eligible for an IMF program have been subject to what is essentially

29. IMF 2009.

30. High Level Panel on Infrastructure 2011. Report to G20, 9.
31. IMF 2012.

the "same overall design."[32] In 2009, the Fund revised its debt limits practices regarding LICs arguing that the financing patterns had changed, as many countries had reduced their debt levels and showed improved macroeconomic fundamentals.[33] The revisions at that time sought to introduce greater flexibility in the application of debt limits mainly by doing two things. First, the IMF included a menu of options to take more fully into account the diversity of situations in LICs, notably debt vulnerabilities and macroeconomic and public financial management capacity. The Fund decided it would carry out an evaluation of countries' capacity to borrow more heavily, taking into account their vulnerability. Second, it featured a stronger link to debt sustainability analyses.

In March 2013, the IMF relaxed constraints on borrowing in three ways. First, instead of evaluating eligibility for concessional borrowing on a project-by-project basis, the Fund will identify an average allowable level of concessional borrowing for each country.. This will enable countries to undertake different mixes of borrowing, resorting, for instance, to a mix that may include more "less concessional" or less "more concessional" loans.[34] Second, public financial management capacity, one of the two elements that the 2009 reform considered in order to determine a country's debt limits, will no longer be taken into account. The Fund stated that its assessments of public financial management capacity will continue, though, to play a role in the design of the debt sustainability assessment.[35] Third, the Fund will review the discount rate which will be applied in order to estimate the present value of debt. The staff proposed that the discount rates used as benchmark for borrowing should represent a longer-term average and that the rates should be kept at a fixed level for a longer period. As a practical matter, this reform will enable higher levels of lending.

32. IMF 2009, p. 8.
33. IMF 2009.
34. IMF 2013.
35. *Ibid.*

Bibliography

• Aspiazu, Daniel y Martín Schorr 2003. *Crónica de una sumisión anunciada.* Buenos Aires: Siglo Veintiuno Editores, Argentina.
• Banco Mundial, IFC, MIGA y World Bank Institute 2013. *Implementing a Framework for Managing fiscal Commitments from Public-Private Partnerships.*
• Della Croce, R. (2012), "Trends in Large Pension Fund Investment in Infrastructure", OECD *Working Papers on Finance, Insurance and Private Pensions*, No. 29,
• Estache, Antonio 2005. "PPI partnerships versus PPI divorces in LDCs (or are we switching from PPPI to PPDI?)". Disponible en: <elibrary.worldbank.org/doi/book/10.1596/1813-9450-3470>.
• FMI 2004. "Public-Private Partnerships", preparado por el Fiscal Affairs Department (en consulta con otros departamentos, el Banco Mundial y el Banco Interamericano de Desarrollo), 12 de marzo.
• FMI 2009. "Changing Patterns in Low-Income Country Financing and Implications for Fund Policies on External Financing and Debt", preparado por el Strategy, Policy, and Review Department (en consulta con otros departamentos), 25 de febrero.
• FMI 2013. *Review of the Policy on Debt Limits in Fund-Supported Programs*, 1 de marzo.
• Foro Económico Mundial 2013. *Strategic Infrastructure Steps to Prepare and Accelerate Public-Private Partnerships.*
• Gilpin, Raymond 2013. "Could Infrastructure Gaps in Fragile States be Addressed Using Public-Private Partnerships?". Disponible en: <inec.usip.org/blog/2011/oct/24/could-infrastructure-gaps-fragile-states-be-addressed-using-public-private-partners>.
• Hildyard, Nicholas 2012. *Infrastructure-as-asset-class: Financing development or developing finance? A Critical Look at Private Equity Infrastructure Funds.*
• Inderst, Georg 2010. "Infrastructure as an asset class", en *European Investment Bank Papers*, Vol. 15, No. 1.
• OCDE 2013. *Role of Banks, Equity Markets and Institutional Investors in Long-Term Financing for Growth and Development.*
• Ortiz, Isabel y Matthew Cummins 2013. "The Age of Austerity: A Review of Public Expenditures and Adjustment Measures in 181 Countries", documento de trabajo de Initiative for Policy Dialogue y the South Centre, marzo.
• Polackova, Hana 1998. "Contingent Liabilities: A Hidden Risk for Fiscal Stability", documento de trabajo 1989. Banco Mundial.
• Thobani, Mateen 1999. "Private Infrastructure, Public Risk", en *Finance and Development*, Vol. 36, No. 1, marzo. Fondo Monetario Internacional.
• UN Task Team Working Group on Sustainable Development Financing 2013. Capítulo 1, "Financing for sustainable development: Review of global investment requirement estimates".
• UN Task Team Working Group on Sustainable Development Financing 2013a. "Challenges in raising private sector resources for financing sustainable development".
• UNCTAD 2008. *World Investment Report.*
• UNECA y NEPAD 2013. *Mobilizing Domestic Financial Resources for Implementing NEPAD National and Regional Programmes & Projects - Africa looks within.*

Section I - Latin America

Building Regional Governance for Infrastructure

César Gamboa and Francisco Rivasplata

Summary

Over the last decade there has been an international push to expand infrastructure investment in Asia, Africa, and Latin America. The World Bank, the Inter-American Development Bank and the Latin American Development Bank [also known as the Andean Development Corporation, CAF)] are preparing various strategies to facilitate investment, in sectors which have the state (rather than the private sector) as the major investor. The multilateral development banks have important experience and lessons learned from their practices on improving the governance of infrastructure investments (for example, by enhancing the transparency of extractive industries or publicly disclosing information about investments in infrastructure). The banks also help to develop environmental and social safeguards, including for the roads and energy sectors.

In South America, there have been changes at the regional level following the intervention of financial institutions from BRICS countries – Brazil, Russia, India, China and South Africa – such as the Brazilian Development Bank (BNDES, for its Portuguese acronym) and the creation of the Union of South American Nations (UNASUR) – a regional structure for integration – and its South American Council on Infrastructure and Planning (COSIPLAN). This Council represents an opportunity to establish guidelines for the governance of natural resources and policies to maintain important environmental and social standards, environmental assessment policies, and "free prior and informed consent" (FPIC) for indigenous populations affected by projects. There is also a chance to establish standards dealing with the cumulative effects of infrastructure investments, starting with the design of investment flows at the regional level.

Civil society has played a significant role in devising strategies to reduce the negative effects of projects at the local level by promoting changes in public policies. This role has been challenged by a much more complex task that has to do with monitoring the flows that come from neighboring countries or regional bodies. Civil society's role is essential for acquiring knowledge and devising proposals to improve governance and create safeguards for energy, mining, and infrastructure. However, social groups in the region face internal and external challenges. To date, they lack clarity to identify strategic actions to get out of political disputes and have not yet forged a common strategy to deal with changes in the infrastructure sectors being driven by non-traditional economic actors, such as national development banks.

1. G20's Influence in South America and the Amazon Region

There is a global consensus among advanced and developing countries as well as among institutions (e.g., the G20 and multilateral and national development banks) about the imperative to boost growth, integration and job creation through financing infrastructure.[1] A comprehensive analysis of the investments taking place in infrastructure and extractive sectors at the global, regional and national level indicates the speed at which the development paradigm is changing to accelerate infrastructure financing in Latin

1. The conceptual framework for sustainable infrastructure raises issues about meeting social needs (poverty, access to energy for the poorest, etc.) and about public-private partnerships, but there is a clear absence of attention to environmental impacts. This can be seen in documents published by the G20, multilateral banks, regional institutional frameworks, national development banks, and individual countries (WB, 2011; G20, 2013; UNASUR, 2013).

America and beyond. A common impetus, including in Latin America, is the need to improve market connectivity for trading and particularly for the export of primary materials.

We have identified the following problems with the current investment trends, which emerge from the lack of a more progressive development approach in South America, among them:

- The lack of G20 proposals for investment in Latin America;
- Brazil's significant influence in the region's physical and economic integration process;
- An emphasis on regional integration that focuses primarily on the extraction/export of primary materials;
- Issues related to the alignment of multilateral development banks' strategies to promote investment in infrastructure and their problems and limitations.

1.1. Latin America's absence from the G20's infrastructure plans

Since the US triggered the global financial crisis, the relationship between advanced and emerging economies has changed. For the most part, economic growth in Brazil, Russia, India, China, and South Africa (the BRICS) is outpacing growth in the West. Initiatives such as the Trans-Pacific Partnership (TPP) – a trade agreement between the US and many Pacific Rim countries – and regional trade blocs, such as the Pacific Alliance (including Chile, Colombia, Mexico, and Peru), are creating different patterns of competition and could, potentially, reinforce the primary-export model.

The G20's proposal to boost global economic growth is based on questionable assumptions about development: on the one hand, it relies on an investment model using Public-Private Partnerships (PPPs), which has failed to generate much private participation in high-risk, low-return projects such as infrastructure; on the other, the promotion of investment policies largely ignore the importance of environmental sustainability and the lessons learned from past experiences of these kind of projects. For instance, in the Amazon, the construction of the Southern Interoceanic, Pasto Mocoa, Br 163 highways has caused significant deforestation and displacement of populations. These negative impacts have resulted in the design of mitigation mechanisms that have increased the costs of the project, but have reduced the social and environmental impacts of the highway.

At present, there is not only a lack of infrastructure investment for Latin America in the G20 proposal, but also a lack of a common regional position relating to the types of investment needed. This might be due to Brazil's desire to maintain its dominant position in the regional infrastructure market and public programs, such as the Initiative for the Integration of the Regional Infrastructure of South America (IIRSA), which also encourage new players such as China to expand their investment. So far, the regional structures (UNASUR and IIRSA) have managed to achieve some progress, but future G20 proposals could affect the patterns of Brazilian domination.

1.2. UNASUR/COSIPLAN's Proposals (Physical Integration and Connectivity)

In 2000, the most important investment program in South America called IIRSA was initiated by Brazil, IIRSA was designed to open up South American markets to such investment, overcoming the limitations of national markets and blocks – such as Mercosur and the Andean Community of Nations. Initially supported by multilateral institutions such as the IDB and the CAF, IIRSA currently integrates 550 infrastructure projects totaling more than US$ 130 billion.

Table 1. Portfolio of IIRSA Projects 2004-2011

Year	Number of Projects	Estimated investment (US$ billions)
2004	335	37.424
2007	349	60.522
2008	514	69.000
2009	510	74.542
2010	524	96.119
2011	531	116.120
2012	544	130.139

Fuente: Cosiplan, 2013.

The projects, grouped into nine categories or integration axes, only deal with connectivity, never environmental sustainability. Many of these projects (e.g., Madeira, Pasto

Mocoa, Southern Interoceanic, Pantanal) have focused on connecting primary materials' sources to key points for sale or export to international markets (soya for example). After a first decade of many criticisms IIRSA management was taken over by UNASUR's COSIPLAN in 2008, which is a council of representatives that meets to prioritize infrastructure projects.

Two interconnected factors affect the process of infrastructure investment in the region, namely the role of UNASUR, and the influence of the BNDES. UNASUR is a regional structure powerful enough to exert influence over global infrastructure investors. UNASUR is driven by a coalition of countries which consolidates the influence of Brazil, but which now faces an economic and political rival in the Pacific Alliance.

UNASUR, the most important force for integration in the region, is suffering a political crisis. Beneath this seemingly functional alliance, UNASUR is divided into two factions: the left-wing countries (Brazil, Argentina, Venezuela, Ecuador, and Bolivia) and the "Pacific Alliance" countries (Peru, Colombia, Chile, and Mexico), which are promoted by the U.S. The Pacific Alliance believes in achieving global integration by opening up markets; UNASUR believes in regional unity as the first step towards further integration at the global level.[2]

Brazil and its BNDES have more influence over investment by COSIPLAN than do the multilateral development banks, due to a requirement for consensus among UNASUR countries regarding the role of third parties, such as the banks and other cooperation agencies. Brazil's influence is cemented by the BNDES's privileged participation in COSIPLAN's Working Group on Financial Guarantees, which identifies possible financiers of infrastructure. For this reason, it is crucial that civil society participates in strengthening democratic governance in the regional integration model led by UNASUR.

Finally, the competition between UNASUR's alliance and the Pacific Alliance could set backs plans for integration and regional connectivity, given the fact that consensual agreements are needed among countries with different views on the use of infrastructure (i.e. markets fully opened vs a restrictive opening option). At the same time, the slower growth rates in the region and globally could lead to infrastructure investment which is restricted to certain areas of UNASUR, such as Mercosur, in order to ensure food security (soya production). It will nevertheless continue to be a model focused on natural resource extraction and connectivity of markets, now not on a big scale but just in subregions dominated by Brazil.

1.3. The Dominant Model: Energy and Highways

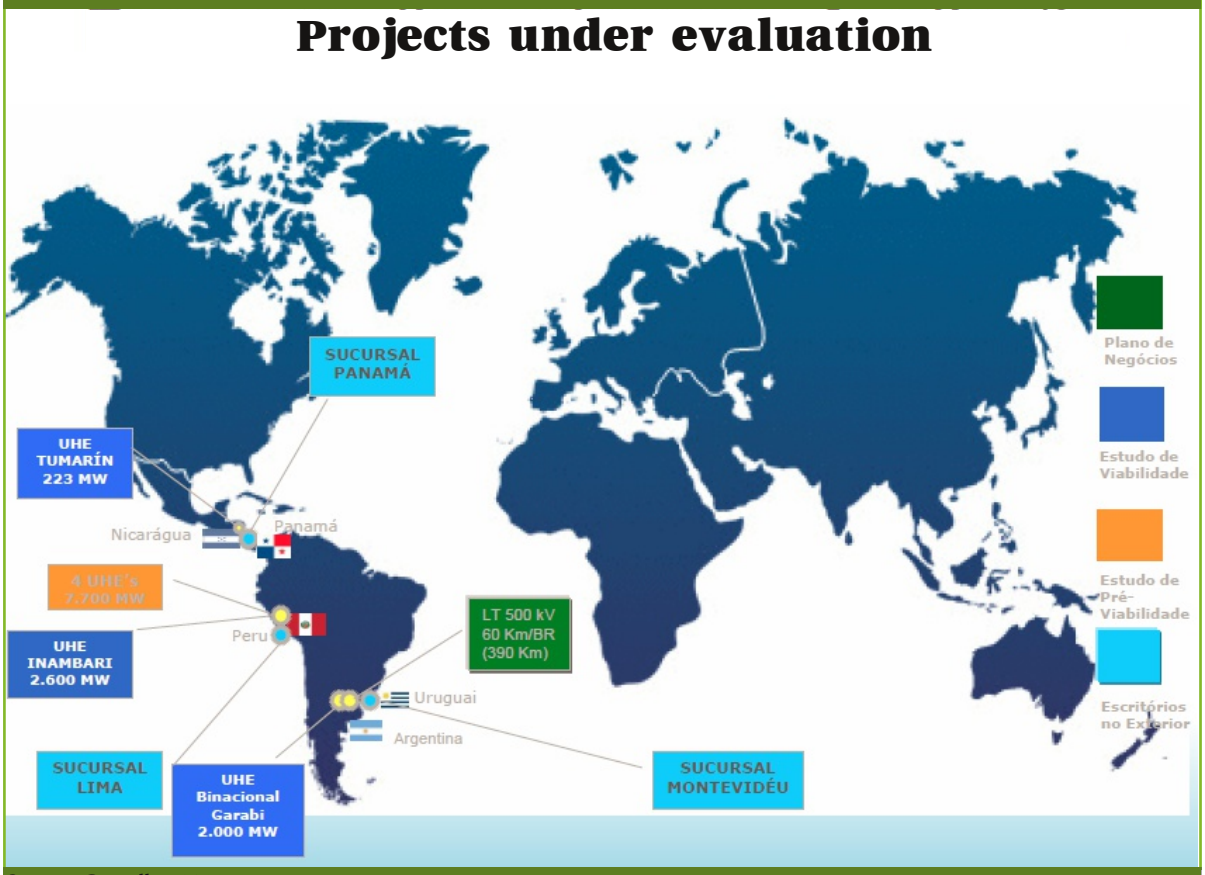
Four main characteristics define the patterns of infrastructure investment in South America: First, it is promoted by the public sector; second, it accentuates the model of exports of raw materials; third, it facilitates connectivity and integration; and fourth, it has a strong Brazilian influence, meaning that projects are planned to satisfy Brazil's energy needs and benefit its public or private companies (McElhinny, 2012).

"it is crucial that civil society participate in strengthening democratic governance in the regional integration model led by UNASUR"

The demand for primary commodities has driven the economic growth of nations. However, behind this demand there has been a concerted push by Brazilian companies in the region. Eletrobras, for example, planned the expansion of its investment in the region, particularly in the Amazon. In 2009, the Brazilian private sector focused its investment in Peru, with five electrical projects in the Peruvian Amazon. BNDES was the principal financier of these projects, and Odebrecht, Andrade Gutierres, OAS, Furnas, and Eletrobras won the concessions. In fact, BNDES owns approximately 20% of the public electric company, Eletrobras.

2. The objectives of the UNASUR Constitutive Treaty (2008) include: "art.3 Specific Objectives (…) d) energetic integration for the comprehensive, sustainable and solidarity based use of the region's resources; e) the development of infrastructure for the interconnectivity of the region and our communities using criteria for sustainable social and economic development; f) financial integration by adopting mechanisms that are compatible with the economic and fiscal policies of the Member States (…)".

Map 1. Eletrobras Investment 2009-2011



Source: Carvalho, 2011

Table 2. Hydroelectric Projects with Brazilian Participation in the Region

Country	Electrical Project	Energetic Potential/ Brazilian Company
Argentina	Kirchner Cepernic Garabí Panambí	1730 MW /Río Santa Cruz Camargo Correa (concession) 2100 MW/ Arg Brasil Ingevix (Viability Studies)
Brazil	Belo Monte	11,000 MW/ C. Norte Energía (implementation)
Colombia	Pescadero Ituango	2,400 MW/ Carmargo Correa (implementation)
Ecuador	San Francisco	1,000 MW/ Odebrecht (implementation)
Perú	Inambari Chaglla	2000 MW/ OAS Furnas Eletrobras (rejected) 400 MW/Odebrecht (implementation)

Source: DAR *et al.*, 2013; Verdum, 2013.

Another element to consider is that many Latin American countries are unprepared for an integration process; as they are "sovereignty-based" countries (Peña, 2009; Bedoya, 2012; Fairlie, 2012) and, as such, they are not interested in relinquishing their power in order to work towards integration within UNASUR. Resistance to regional integration hinders the development of governance structures to manage environmental, social, political, and economic impacts of project development. This makes the relations at the regional level different from the ones that China or Brazil face in their interactions with African countries. In practice, China and Brazil have different types of bargaining power in Africa than in South America (Gallagher, 2012; Argumosa, 2011, Delage, 2011), given the fact that South American countries enter into the integration process as a result of a negotiation. They have options that African countries are lacking.

An example is the Energy Agreement between Peru and Brazil, which has not been approved (Cueto, 2011). The aim was to build five hydropower facilities in the Peruvian

Amazon that would generate 7,000 MW a year. The Brazilian companies Odebrecht, Andreade Gutierres, OAS, Furnas, and Eletrobras won concessions. Because the project would affect fragile ecosystems and indigenous populations, public opinion turned against the agreement (Cueto and Gamboa, 2012). Investments in energy generation at the bilateral and regional levels are currently at a standstill.

Latin America lacks infrastructure, particularly access to electricity. Its energy deficit is not as great as the deficits in Africa or parts of Asia (Business20, 2013). However, the new generation of energy projects is focused more on serving extractive industries than on providing greater access to electricity or advancing industrialization.

UNASUR is spending US$ 130 billion between 2004–2020, which is focused on some countries of the Mercosur Area (Paraguay, Uruguay, and Argentina) in order to protect food sources and the Brazilian economy (livestock and agriculture) from the losses that Brazilian investors suffered in the Andean region (COSIPLAN, 2013). UNASUR/COSIPLAN has also invested in highways and soya fields instead of public services, human capital or social infrastructure.

1.4. Multilateral Opportunism: The Multilaterals' Strategies (World Bank, Inter-American Development Bank, Development Bank of Latin America)

Little by little, national development banks such as the BNDES have reduced the influence of the multilateral development banks, such as the WB and the IADB. Multilateral development banks and national development banks nevertheless agree on the importance of promoting infrastructure investment. The multilateral development banks have gained trust through applying environmental and social standards to their investments, however imperfectly.

Since 2013, multilateral development banks and the G20 have been developing strategies to mobilize infrastructure financing (including through institutional investors, such as pension funds) and, as more money flows into infrastructure sectors, the governance of infrastructure becomes more important. To attract investment, institutions such as the World Bank Group (including its International Finance Corporation) and the IDB are weakening the process of enforcing environmental and social safeguards and possibly compromising the integrity of the safeguards themselves.

At the same time, the G8's Extractive Industries Transparency Initiative (EITI)[3] is an opportunity to devise new transparency rules at the regional level, but potentially limits market autonomy at the regional level. This must be taken into consideration when linking the G20's plans, including those of the BRICS', with other emerging economies. For these economies the EITI represents an opportunity to negotiate the regulations regarding investment in infrastructure, in order to consolidate their own options for regional development.

The World Bank, the IDB, and the CAF have created tools and knowledge to clarify the role of infrastructure investment in national strategies and to mobilize financial support (Reuters, 2011). Attempts at improving the governance of infrastructure development include Strategic Environmental Assessments, the World Bank Knowledge Platform on Investment in Infrastructure, IDB's public consultation on its Infrastructure Strategy for Competitiveness, and the CAF's analysis of investment in infrastructure in the region.

2. Governance of South American and Amazonian Infrastructure

Investment in infrastructure is mainly public, extractive, and related to integration and connectivity. It makes few provisions for sustainability and has poor governance frameworks.

The private sector and civil society can influence investment, but such interest groups need access to sufficient information to play a constructive role in decision making. Increased transparency and access to information about the

3. Maintaining the flow and consolidation of investment in extractive industries has required transparency about the benefits. The G8, led by Canada, will assist Peru in improving transparency in the mining energy sector, with the following objectives: 1) improve efficiency and transparency in the management of resources related to the extractive industries, especially by local and regional governments, improve the living conditions of the men and women that live in areas close to the extractive projects; and 2) promote constructive dialogue between the state, communities, the private sector, and civil society, to contribute to the creation of a more responsible and sustainable extractive industry in Peru (G8, 2013).

management of natural resources and infrastructure projects are critical. Some countries are criminalizing protests and claim that business confidentiality and national security require secrecy of investment-related information. It is therefore important to secure rights to transparency, access to information and participation that is not engineered by the state to provide consent.

> *"Investment in infrastructure is mainly public, extractive, and related to integration and connectivity."*

2.1. Proposals for Governance (from Transparency to Planning)

Good governance initiatives have been introduced in the region to assess the progress in national decision-making related to natural resources. The G8-led EITI initiative marks a precedent that, together with the Open Government Partnership, could further improve transparency in the mining and hydrocarbon sector. This could cover transparency in income and expenditures, but also project design and evaluation. We nevertheless need to identify which governments and companies are more open to disclosure.

The next step is improving the "business as usual" investment model by offering planning processes for each investment, with clear, agreed and measurable policy objectives that optimize sustainable development. In general, nations resist implementing planning processes, which could be perceived as an obstacle to investment. Nevertheless, planning methodologies for infrastructure and resource extraction projects should identify outcome indicators relating to factors, such as sustainability, profitability, equality, and security.

2.2. Strengthening Environmental Standards (Public Consultation Mechanisms and Environmental Impact Assessments)

Good governance offers a way to improve public management by building consensus among stakeholders, which can legitimize a particular public or private investment. But, consensus-building processes require clearly defined rules for assessing the feasibility of an investment and a strategy to mitigate its environmental and social effects.

Investment rules are changing mainly because, over the last decade, the so-called "free market" investment model has been called into question. It is evident that investment in infrastructure will continue as a result of the push of the multilateral institutions and bodies such as the G20, WB, IFC, IDB and CAF and national development banks such as BNDES and the Chinese Development Bank. However, the current revision of the World Bank's safeguard policies could trigger a "race to the bottom" in terms of rules governing labor, environmental protection, and the rights of the communities affected by project operations.

For instance, the World Bank is diminishing the types of operations to which safeguards and standards apply. They only apply to ordinary investments (loans for projects) rather than to the increasing volume of investments in programs. In addition, the responsibility for enforcing the implementation of standards is being transferred from the Bank to the client (this has already been done at the International Finance Corporation). This weakens the enforcement of standards because countries may not effectively police their conduct in the way that a third party might. Sadly, there is a consensus that investors will be attracted to project management approaches that take a lax approach to enforcement of safeguards (McElhinny, 2013).

The weakening of standards and their enforcement at the international level (e.g., the World Bank) is accompanied by a similar phenomenon at the regional and national level. This is evident in the relaxation of frameworks for implementing or enforcing environmental and social standards in representative cases in the region (e.g., Belo Monte, Yasuni, Madidi) as well as legal changes to environmental assessment processes in Brazil, Ecuador, Peru and Bolivia.

International, regional and national weakening of such frameworks are causing national and global debates about the importance of standards and safeguards in preventing damage to communities and ecosystems or in triggering sanctions against the violation of standards. In order for the governance of standards to be effective, lenders or states

must assume responsibility for monitoring environmental and social obligations (follow-up, monitoring and supervision).

We find that the most important standards that need to be met by projects are environmental impact assessments and respect for indigenous populations' right to free prior and informed consent (FPIC). These two standards are at the center of global discussion of reform of investment regulation.

Environmental impact assessments are important for megaprojects that can affect fragile ecosystems, such as those in the Amazon. The Inambari hydropower project, under a temporary concession to Consorcio Egasur (OAS, Furnas, and Eletrobras), was expected to generate 2,000 MW per year for 30 years, with an investment of US$ 4.3 billion. But, it would have had a huge environmental and social impact on the southern Peruvian Amazon region. In the committee's environmental impact assessment, the effect of resettling 8,000 people, the deforestation of 40,000 hectares, the loss of aquatic life, and endemic illnesses were considered, but it was unclear how these problems would be mitigated. The effect of the project on deforestation and the generation of greenhouse gases were not considered. Local protests led to the project being abandoned.

For infrastructure projects, tools must be devised to protect the environment and vulnerable populations.

Photo 1. Flooding in Cobija (Bolivia), February 2012

Source: Brown, 2013

The social legitimacy of investments is increasingly important. In drawing up environmental impact assessments, the challenge is to include the views of vulnerable populations while the state is pressing on with implementation and claiming that a project has a common benefit or serves the "national interest".

Another important issue is the right of indigenous populations to public consultation. There has been a wave of recognition of this right in Brazil, Peru, Bolivia, Ecuador and Colombia.

However, observing this right is challenging within the framework of natural resource management. It is important to develop political and institutional tools to implement consultation processes due to the increasing economic activity on indigenous lands. National legal frameworks are cautious about defining when such consultation processes are required. However, indigenous populations take the position that consultation and consent should be required before the state grants any rights to exploit natural resources and/or before the approval of the environmental impact assessment.

As noted above, the tendency of states to weaken regulatory environmental frameworks is another obstacle to the appropriate respect for the rights of indigenous populations. A comparative analysis of the standards for consultation and environmental protection in the Amazon region would be useful in strengthening mechanisms to protect the rights of populations.

2.3. New Tools, Old Resistance: Strategic Environmental Assessments, Programs to Mitigate Indirect Project Impacts

Because the current infrastructure investment model increases risk, it is necessary to find a way to address adverse impacts. New tools must be incorporated into legal and institutional frameworks, including programs to mitigate the indirect effects of infrastructure projects. Despite adding to costs, such programs could make such investment sustainable.

In countries with an open-market approach, such as Colombia and Peru, the following improvements have been proposed:

1. The prior application of the Strategic Environmental Assessment to all investment plans, along with comprehensive environmental impact assessments, such as those applied in Brazil;
2. Quantifying the economic value of natural resources and environmental services can facilitate compensation for environmental damages, as is the case in Colombia. This process can complement measures for mitigating the direct or indirect impacts of infrastructure investment;
3. When various authorities are involved (for example, hydrocarbon activities in protected areas), it is crucial to implement inter-sector coordination of environmental assessments before rights are granted for exploitation of natural resources;
4. Improved processes for approving environmental impact assessments, as is the case of Chile, which are based on quality of benefits or damages rather than incentives to approve a certain volume of projects or assessments;
5. Improved social management throughout the project cycle in order to gain social approval and reduce the risk of social and environmental conflicts. Specialized offices should be set up for this purpose.

Improved environmental and social management of projects also requires a stronger state apparatus and permanent monitoring of the investments. The knowledge gained from the representative IIRSA infrastructure projects (Manta Manaos in Ecuador and Brazil, southern Interoceanic in Brazil and Peru, and Pasto Mocoa in Colombia) and the energy sector (Belo Monte in Brazil, Camisea in Peru, and Madeira in Brazil) have defined an agenda for improving infrastructure governance in the region. It is important to submit IIRSA, BNDES, or Chinese investments to public consultation and protect the rights of indigenous populations. Environmental assessments should be carried out by the IFIs, national development banks, and states.

The participation of social and indigenous groups is crucial. For example, national womens' networks working in defense of their rights should have audiences at the national and regional levels. Strong mechanisms to ensure environmental accountability, particularly when including local communities, have the capacity to reduce risks or improve the probability of effective mitigation. Such measures also improve the legitimacy of the investments.

3. Civil Society's Role and Aims (Proposals)

Civil society's role in the promotion of infrastructure investments in the region is becoming increasingly important. Often it is social movements that have proposed solutions that respect social equality and the environment. To change the nature of regional investment flows, civil society groups must come together at regional level with a long-term strategy for achieving their goals.

3.1. Learning from Advocacy: Strategies, Adaptations, Representative Cases

Civil society has experience in working on projects during their life cycles and using strategies (from direct opposition to proposing project alternatives) to halt or change the course of projects. It has not been as effective in changing public policies or regional investment flows. This may be due to a loss of knowledge over the last twenty years, but there are also strategic tensions and mistrust that limit coordination between organizations and social movements.[4]

Networks of civil society organizations often serve only as channels for exchanging information, without any common goals or coordinated strategies. Although this could be considered a problem, it can also be an opportunity for organizations with interest in improving transparency of and participation in the BNDES processes (Magro, 2013) to

4. The disappearance of certain regional initiatives such as the BICECA project, financed by the Moore Foundation and led by the Bank Information Center, which helped accumulate knowledge and articulate advocacy actions between 2005–2011 created a vacuum in confronting the challenges posed by regional governance. This project generated knowledge, coordinated regional efforts, and carried out advocacy with the countries and multilateral banks that finance infrastructure projects, especially in the Amazon. See: http://www.bicusa.org/es/servicios-e-instrumentos/biceca/.

participate at the regional level UNASUR/COSIPLAN, and above all, in monitoring specific projects that could affect the Amazon and other vulnerable ecosystems.

But social organizations have been weakened and, in the case of indigenous groups, are becoming less representative of the populations they aim to defend. One reason is that civil society organizations that collaborated with progressive governments have lost their influence in the region. (Hollender, 2012; Gudynas, 2012) They are discredited because their allies in many governments under progressive presidents (Lula, Dilma, Evo Morales, Correa, Humala, among others) did not fulfill their promises. Instead, these governments have followed the dominant economic model that focuses on opening up markets and promoting investment, emphasizing infrastructure and natural resource extraction.

A second reason is related to the financing of these organizations and their strategies. As many Latin American countries have reduced poverty using the revenues from natural resource extraction, they are now considered middle-income countries. Flows of international assistance have been reallocated to poorer nations in Africa or Asia. Therefore, civil society organizations are searching for new funding sources or alliances with the state, which will not compromise their independence or their role of criticizing the development model.

These trends have made systemic changes more difficult.

3.2. Taking Advocacy a Step Further: Regional Investment Flows

When considering regional investment trends, four actors could be possible targets for campaigns by civil society:

- BNDES: In 2010, the BNDES financed US$ 96 billion in investments, more than twice the amount of financing by the World Bank or the IDB that year.
- UNASUR: Through COSIPLAN, UNASUR is investing US$ 130 billion, of which the firm, Odebrecht, is a principal beneficiary.
- Chinese investments: The China Development Bank and the Export-Import Bank of China have signed investment agreements with Ecuador and Venezuela to import minerals and purchased shares in Petrobras in Peru for US$ 2.6 billion.
- The private sector: Private sector companies which are implementing controversial projects.

Civil society's strategy has been to monitor investments, analyze their possible effects, and develop proposals for improved governance. Overcoming lack of information, generating alliances with movements such as unions, establishing governance bodies, and, articulating a political message are all necessary. So is the development of knowledge to monitor pension fund investments, strategic planning, decision-making, risk assessment, among others. In order words, civil society should track and influence the entire institutional and operational framework of such investments.

At the regional level, civil society has adopted three common demands: improved governance and transparency among regional stakeholders; providing arenas for participation; and the implementation of social and environmental protection policies.

For civil society, it is important to advocate for the implementation of a forum for civil society within UNASUR under conditions that guarantee its participation in day-to-day activities and decisions, particularly in relation to the most active working council, COSIPLAN, which has overseen IIRSA projects since 2008. At Brazil's initiative, this Council has created a working group on financing and guarantees, which demonstrates how important these projects are for Brazil and its BNDES.

In addition, civil society should improve transparency in, and dialogue with, the BNDES. There are difficulties in persuading the bank to introduce a transparency policy for projects financed outside of Brazil (let alone to obtain information about projects inside the country). For instance, civil society needs to challenge the way in which the "national bank" structure allows the BNDES to invoke secrecy and confidentiality claims, thus blocking progress toward transparency or participation.

Finally, working at the national level is essential. Improved relations with representatives in UNASUR and COSIPLAN

would allow civil society organizations to become familiar with business ventures of the Brazilian government and its BNDES in countries throughout the region. Civil society should continue to conduct case studies on "representative" projects, as such activities yield valuable lessons.[5]

To advance work on the BNDES, it is necessary to build on what exists. Despite the lack of official information regarding BNDES's operations, civil society has developed an understanding of the institution that can serve as a basis for dialogue and joint work. A comparison of BNDES's policies with those of other banks (IFIs and national development banks) highlights its deficiencies and provides an argument for policies, such as a BNDES transparency policy.

A transparency policy is only a step towards establishing the necessary BNDES policies to ensure social and environmental protection. However, transparency about operations is an important step, which is a precondition for on-going dialogue among project beneficiaries, affected communities, authorities, and bank staff. Otherwise, it is highly unlikely that the negative impacts of BNDES-financed infrastructure investment can be addressed.

In order to create environmental and social standards for project investments, the following actions are needed:

1. Promote transparency policies for BNDES and UNASUR (mechanisms for dialogue, transparency and access to information, and for complaints; alliances with social groups);
2. Establish a mechanism for dialogue between UNASUR, COSIPLAN, and civil society, and between BNDES and civil society from the region. This implies strengthening UNASUR's Civic Participation Forum and BNDES's Forum for BNDES-Brazilian Civil Society Dialogue;
3. Promote environmental and social standards for BNDES and UNASUR/COSIPLAN investments.

3.3. The Future: Civil Society's Role

It is clear that civil society organizations could become leaders in public policy advocacy: generating knowledge, coordinating actions and lobbying to achieve change. Existing national networks should be set up or strengthened to work on common interests.

Unfortunately, many national networks are financed by the same donor and have little clarity regarding their objectives. Civil society networks should be change agents, rather than believing that they are victims or objects of change, as is often the case.

The Table 3 on the next page lists the principal networks that could work on advocacy related to infrastructure investment:

5. Examples of cases studies in the strategic energy and extractive sectors include those by DAR et al. (2013); the map of investments in the Amazon prepared by the Brazilian anthropologist Ricardo Verdum (2013); and an analysis by anthropologist Paul Little of investments in megaprojects in the Amazon (2012).

Table 3. Regional Civil Society Networks related to investment in infrastructure

Name	Institutions that participate	Strategies identified and/or observations
Regional Amazon Coordination	Made up of institutions from Colombia, Venezuela, Ecuador, Peru, Bolivia, Surinam, and Brazil.	Aims to contribute to reduced deforestation and the sustainable use of the Amazon's biodiversity. Among its objectives are: forestry transparency, new forest economy, and investments monitoring. It is not active in generating knowledge or advocacy.
Amazon Lawyers Network	Group of lawyers defending nature and the rights of indigenous populations of the Amazon in Venezuela, Colombia, Ecuador, Peru, Bolivia, and Brazil.	Mainly focused on strategic litigation in human rights. It monitors the BDB by gathering information about representative cases and analyzing investments in the region. It has been active in generating knowledge.
BNDES Platform	Brazilian civil society.	Their objective is the construction of an agenda for transparency and social control.
Latin American Extractive Industries Network	Organizations from Mexico, Peru, Colombia, Ecuador, Bolivia, Chile, and Brazil.	Focused on transparency in the extractive sector, gathering of knowledge, and supporting global networks such as Publish What you Pay or Revenue Watch. Not an advocacy organization.
Pan Amazonian Observatory	Cooperaccion, DAR, Peru Solidarity Forum, and the Antonio Ruiz de Montoya University from Peru.	In Peru, four priorities, including monitoring Brazilian investment via the BDB.
Brazilian Network on International Financial Institutions	Eighty organizations including social movements, unions, research and assessment institutions, professional associations, and NGOs.	They monitor, create and implement public policies and monitor the private sector and IFI. Publication "Ambientalizacao dos Bancos e Financeirizacao da Naturaleza".

Source: Author's own work

It is costly to create networks, so it is advisable to start by identifying organizations with analysis and advocacy experience.[6]

There are tensions among organizations whose leadership and nationalities generate mistrust and conflicts within the region. North American and European organizations can compete for alliances with local organizations, thereby becoming outsiders "meddling in domestic affairs". Another problem is the gap between regional organizations and Brazilian civil society organizations. The latter do not yet perceive their wider role on the continent. Whilst these Brazilian groups may be aware of their global role (G20, BRICS), or their internal problems, they may not be clear about their role in and relationship with neighboring countries, particularly regarding the expansion of Brazilian capitalism in Latin America and Africa (as demonstrated by Odebrecht's dealings in almost every country in the region).

The strongest tension in civil society alliances is not the lack of complementarity among strategies. Organizations are often incapable of identifying priorities for action to generate positive changes, so they withdraw from advocacy, which reduces their influence over regional investment flows, among other things. One example of these tensions at the national level is the disappearance of the "BNDES Platform," which sought progressive changes in the institution. Such problems can only be resolved by through dialogue and co-ooperation between the stakeholders.

6. This becomes obvious when we see that the different regional networks (IFIs en la Mira, Infraestructura & Energia, BNDES en la Mira) or new networks that denounce companies, such as the Red Global de Atingidos por Vale de Rio, have not become platforms for improving regional governance.

Finally, according to Little (2013), many organizations have recently begun to concentrate on specific opportunities, such as dialogue with BNDES and UNASUR. This does not mean abandoning other roles, such as defending indigenous rights, but rather opening up an opportunity for achieving change in the long term, particularly to boost regional environmental and social safeguards (Gudynas, 2008).

Conclusions

We have seen the consensus related to investment promotion at different levels (global, regional, and national) and the challenges faced by civil society in addressing this consensus. Civil society's strategy should relate to the project cycle (opposition and advocacy); and advocacy for improved policies at the national level (planning, standards, royalties, etc.) and for the regional and international level (bi-national agreements, UNASUR/COSIPLAN, BNDES, World Bank, IDB).

Priorities for civil society relate to promoting good regional governance and improving standards for environmental and social infrastructure-investment. Key proposals are to:

1. Strengthen the management of regional stakeholders, not only by adopting laws or standards, but also by ensuring their implementation.
2. Promote participation, consensus building, and investment planning, by creating facilities for dialogue prior to regional decision-making (for example, preparing annual work plans for COSIPLAN in collaboration with civil society).
3. Strengthen the environmental and social management of investments by adopting public consultation standards or by demanding new environmental standards that recognize the complexity of investment in fragile ecosystems.

The greatest challenge for civil society everywhere is to reach common, long-term goals for advocacy.

Bibliography

• Argumosa, J. “Brasil, camino de gran potencia”, en *Brasil, Rusia, India y China (BRIC): una realidad geopolítica singular.* Madrid: Ministerio de Defensa, 2011.
• Banco Mundial. *Transformation Through Infrastructure World Bank Group Infrastructure Strategy Update, FY12-15.* Washington DC: CODE, 2011.
• Bank Information Center. "Salvaguardias del Banco Mundial: punto de vista del BIC sobre arquitectura y alcance de revisión de salvaguardias". Washington DC: BIC, abril de 2013. Disponible en: <www.bicusa.org/wp-content/uploads/2013/07/Punto-de-vista-de-BIC-sobre-arquitectura-y-alcance-de-revisión-de-salvaguardas.pdf>.
• Bedoya, C. “Unasur, integración y crisis internacional. La hora de mirar para adentro", Revista *Voces en el Fénix*, N° 11. Buenos Aires: 2012.
• Brown, F. “El cambio climático y su impacto en la Amazonía”, en Panel Internacional de Ambiente y Energía en la Amazonía. Bogotá: 17 de abril de 2013.
• Business 20. *B20-G20 Partnership for Growth and Jobs. Recommendations from Business 20.* San Petersburgo: 2013.
• Carretero, D. “China y los países BRIC”, en *Brasil, Rusia, India y China (BRIC): una realidad geopolítica singular.* Madrid: Ministerio de Defensa, 2011.
• Carvalho, J. “A Eletrobras e a Integracao Energética da América Latina”, Presentación en Hydro Power Summit Latin America, organizado por Business News Americas. Sao Paulo, 25 y 26 de mayo de 2011. Disponible en: <www.latinhydrosummit.com/2011/hp_congress.html>.
• Castello, L. "Amazon river ecosystems being rapidly degraded, but remain neglected by conservation efforts". *Conservation Letters*, 2013.
• Cosiplan. "Cartera de Proyectos 2013, Unasur-Cosiplan", documento elaborado por IIRSA y aprobado por el Comité Coordinador del Cosiplan, IV Reunión Ordinaria de Ministros del Cosiplan. Chile, 29 de noviembre 2013.
• Cueto, V. *Acuerdo para el Suministro de Electricidad al Perú y exportación de excedentes entre Perú y Brasil: Buscando la Gobernanza Energética en el Perú.* DAR: Lima, 2011.
• DAR *et al. Casos Paradigmáticos de inversión del Banco Nacional de Desarrollo Económico y Social de Brasil (BNDES) en Sur América. Necesidad y Oportunidad para Mejorar Políticas Internas.*
• Fairlie, A. "Integración y convergencia en Unasur", 2012. Disponible en: <http://www.fes.org.pe/descargasFES/Dr%20Fairlie%20Integracion%20y%20Convergencia%20en%20UNASUR.pdf>.
• Fearnside, P. *Análisis de los Principales Proyectos Hidro-energéticos en la Región Amazónica.* 2013.
• Finer, M. et al. "Proliferation of Hydroelectric Dams in the Andean Amazon and Implications for Andes-Amazon Connectivity". *Plos One*, 2012.
• Gallagher, K. *et al. The New Banks in Town: Chinese Finance in Latin America.* Washington: Inter-American Dialogue, febrero de 2012.
• Gamboa, C. y Vanessa Cueto. *Matriz energética en el Perú y energías renovables. VI – Hidroeléctricas y conflictos sociales: Recomendaciones para una mejor gestión ambiental.* Lima: FES, 2012.
• G8. *Alianza para Promover la Transparencia en el Sector Extractivo en el Perú.* Lima: Embajada de Canadá, 2013.
• G20. *Workplan Group on Financing for Investments. Study Group`s Finding and Ways Forward*, julio de 2013.
• Gudynas, E. “Una introducción a las IFRs: Instituciones Financieras Regionales en América Latina”, 2008. Disponible en: <www.adital.com.br/site/noticia.asp?lang=ES&cod=34036>.
• Gudynas, E. "Behind New Extractivism: New Attitudes, Old Development", presentación para el seminario Environmental Politics in Bolivia: Buen Vivir vs. New Extractivism, New York University, 24 abril de 2012.
• Hollender, R. "Política ambiental de los países 'progresistas' en Latinoamérica: Buen Vivir vs. Neo-Extractivismo". 31 de octubre de 2012. Disponible en: <omal.info/spip.php?article4661>.
• IBASE. *Mapeamiento de proyectos financiados por BNDES.* Río de Janeiro, 2013.
• Little, P. *Megaproyectos en Amazonía.* Lima: RAMA/DAR, 2013.
• Magro, M. “Justica limita uso de lei acesso no BNDES”, 28 de mayo de 2013. Disponible en: <conteudoclippingmp.planejamento.gov.br/cadastros/noticias/2013/5/28/justica-limita-uso-de-lei-acesso-no-bndes>.
• McElhinny, V. *Oportunidades de Participación en las políticas y Programas de Unasur-Cosiplan. Elementos de una Propuesta. Hacia una estrategia de incidencia en Unasur y el BNDES.* Bogotá: ILSA, 2012.
• McElhinny, V. "Tendencias de préstamos del Banco Mundial prevén mayor disminución en cobertura de salvaguardas y signos de un retorno a préstamos de mayor riesgo y recompensa más alta". Washington: BIC, 2013. Disponible en: <www.bicusa.org/wp-content/uploads/2013/05/Translated_Trends-in-WB-Landing-SG-decline-info-brief.pdf>.
• Odegard, J. *Mega Infraestructure and civil Society in Amazon.* RFN, 2012.
• Peña, F. "La integración del espacio sudamericano: ¿La Unasur y el Mercosur pueden complementarse?", Revista *Nueva Sociedad.* Bogotá: N° 219, enero-febrero de 2009.
• RAISG. *Atlas Amazonía. Mapa de proyectos en Amazonía.* ISA, 2013.
• Reuters. “Bndes completará desembolsos por US$870M en 2011 para desarrollo de obras de infraestructura en A. Latina”. Sao Paulo: America Economica, 27 de septiembre de 2011. Disponible en: <www.americaeconomia.com/negocios-industrias/bndes-completara-desembolsos-por-us870m-en-2011-para-desarrollo-de-obras-de-infr>.
• Rivasplata, F. *Mapeo de Actores y Formas de Incidencia en el BNDES.* Lima: DAR, 2013.
• Unasur. *Infraestructura para la Integración Regional.* Santiago de Chile: CEPAL, 2011.
• Verdum, R. Brasil, *BNDES e projetos de investimento com implicações na Amazônia.* Lima: DAR, 2013.

Governance of Infrastructure Investment in Brazil

Implications of Energy-Related Mega-Projects for Society, the Environment and Democracy

Celio Bermann

Executive Summary

This chapter presents information about the economic and physical integration of the South American continent, with a particular focus on Brazil. It includes an evaluation of investments in infrastructure projects and aspects of their governance, taking into consideration the participation of civil society in the decision-making process and social and environmental issues.

The chapter also presents the dominant models of infrastructure development as well as the main integration projects underway in the transport, telecommunications, and energy sectors. It critically examines the energy sector, specifically electricity production from mega hydroelectric projects (as a false solution to reducing greenhouse gas emissions) as well as examining the Public-Private Partnership (PPP) projects currently underway in Brazil.

Finally, we assess the environmental licensing processes and the role of the BNDES (Brazilian National Bank for Economic and Social Development) in financing infrastructure projects in South America. Some good governance principles are proposed which are necessary to achieve integration in South America in a manner consistent with environmental sustainability and social justice.

1. The dominant models for infrastructure development

All infrastructure projects in South America are being coordinated in the context of the Initiative for the Integration of Regional Infrastructure in South America – IIRSA.

Launched in 2000, IIRSA is a bold effort by South American governments to construct a new infrastructure network for the continent, including roads, waterways, ports, and energy and communications connections. Many of the projects aim to provide road and river outlets to ocean ports, while offering incentives to increase exports of commodities such as soybeans and other grains, timber and minerals. Particularly in the Amazon region, projects are contributing to the advance of agriculture. This causes an increase in deforestation that seriously undermines the fragile ecosystem. Cattle ranches destroy the rainforest and agribusinesses occupy large tracts of land for the cultivation of soybeans, palm oil, and sugar cane for biofuel production.

Wildfires cause the loss of timber, put human health at risk due to smoke inhalation, and contribute to the increase of carbon dioxide emissions.

The exploitation of oil and gas fields and mining areas jeopardize aquatic systems and biodiversity. In addition, the

hydroelectric power plants under construction fail to protect and preserve the lifestyles and cultures of traditional communities.

A chapter of the Brazilian Constitution describes the rights of indigenous peoples and prohibits removing them from their lands without prior consultation and approval by the National Congress. These rights are also enshrined in the International Labor Organization Convention No. 169, which Brazil has signed. The Convention specifically requires "free prior and informed consent" of indigenous and tribal peoples before any decisions are made that may affect their assets or rights. But these protections are insufficient to mitigate the effects of licensing and implementation processes for roads and hydroelectric projects.

"Particularly in the Amazon region, projects are contributing to the advance of agriculture"

No attempt has been made to assess the cumulative impacts of the massive IIRSA scheme. For example, logging along new roads and waterways will have an impact on extensive areas of the Amazon, affecting indigenous and other traditional communities. The communities that lie in harm's way have not yet been informed about the planned projects, nor have they been asked what they think of these plans.

In environmental terms, the large scale private appropriation of natural resources represents a massive dislocation of the ecosystems upon which lives depend. The appropriation methods are unfair and the effects are distributed unequally across society: they always fall most heavily upon the poorest.

These investments create intense pressure on the Amazon biomass, the Brazilian Cerrado (Brazilian center west region), and the Pantanal (a Brazilian wetland region that is further west), as the media has reported. The deforestation of the Amazon to enable cattle and soy farming, in addition to its effect on global warming, has been changing rainfall patterns in and around the country. Such changes threaten food production in the South of the country, where the rainfall pattern relies on evapotranspiration and production of massive volumes of water and clouds in the Amazon Region. This is a phenomenon that relies on dense vegetation to retain water resources. The increase in the intensity and the delay in rainfall or precipitation throughout South America's Southern Cone affects grain production in the region.

The appropriation of water courses, either for large power generators and water intensive crops (such as sugar cane and eucalyptus), or for industrial use resulting in contamination (as in the case of sugarcane vinasse and the indiscriminate use of pesticides in agriculture), exacerbate problems of water access as well as sanitation and public health. Biodiversity reduction, either by means of pines and eucalyptus monocultures, or by genetic standardization of birds, pork, and beef, has been generating imbalances in ecosystems and triggering epidemics.

1.1 Proposed projects

South American governments are currently implementing 31 priority projects, costing US$ 130.65 billion in total. In all, 531 projects have been identified as part of IIRSA. The initiative receives technical and financial support from the Andean Development Corporation, the Inter-American Development Bank, Fonplata, the United Nations Development Program, and others including the BNDES.

The 31 priority projects are geographically divided into 8 axes (hubs). Most projects are road connections, although there are some railway connection projects and energy projects:

- Amazonas Hub (Brazil, Colombia, Ecuador and Peru): i) access to Napo's waterway; ii) access to the waterway of the Huallaga-Maranhao; iii) access to the waterway of the Ucayali River; iv) Amazonian waterways network; and v) access to the waterway of the Morona-Maranhao-Amazonas Rivers.
- Andean Hub (Bolivia, Colombia, Ecuador, Peru and Venezuela): i) Venezuela (North Llanero)-Colombia (North Zone) connection; ii) Venezuela (Caracas)-Colombia (Bogota)-Ecuador (Quito) connection; iii) Venezuela (Orinoco Apure Axis)-

Colombia (Bogota) connection; iv) Pacific connection-Bogota-Meta-Orinoco-Atlantic; v) Colombia-Ecuador connection II (Bogota-Mocoa-Tena-Zamora-Palanda-Loja); and vi) connection Peru-Bolivia (Huancayo-Ayacucho-Tarija-Bermejo).

- Capricorn Hub (Argentina, Bolivia, Brazil, Chile and Paraguay): i) Antofagasta-Paso de Jama-Jujuy-Resistencia-Formosa-Asunción; ii) Salto-Villazón-Yacuiba-Mariscal Estigarribia; iii) Asunción-Paranaguá; iv) Presidente Franco-Puerto Iguazú-Pilar-Resistencia; and v) 500 KV transmission line (HPP Itaipu-Asunción-HHP Yacyretá).
- Guyanese Shield Hub (Brazil, Guyana, Suriname and Venezuela): i) Brazil-Guyana interconnection; ii) Venezuela interconnection (Guyana)-Guyana (Georgetown)-Suriname (Paramaribo); and iii) interconnection Guyana-Suriname-French Guiana-Brazil.
- Paraguay-Paraná Waterway Hub (Argentina, Bolivia, Brazil, Paraguay and Uruguay): i) Paraguay River, Asunción-Corumbá; ii) Tietê-Paraná Rivers (HPP Itaipu); iii) Paraguay-Paraná Rivers, Asunción-Delta of Paraná; iv) the Paraná River, Itaipú-Confluence; and v) Uruguay River.
- Central Interoceanic Hub (Bolivia, Brazil, Chile, Paraguay and Peru): i) Chile-Bolivia-Paraguay-Brazil connection; ii) optimization of Corumbá-São Paulo-Santos-Rio de Janeiro Corridor; and iii) Santa Cruz-Puerto Suárez-Corumbá connection.
- Chile-MERCOSUR Hub (Argentina, Brazil, Chile, Paraguay and Uruguay): i) Porto Alegre-Argentina/Uruguay border-Buenos Aires; ii) Valparaiso and Buenos Aires; and iii) Northeast Argentine Gas Pipeline (AR-BO).
- Peru-Brazil-Bolivia Hub: i) Porto Velho-Peruvian Coast Connection (BR-PE); ii) 6 Hydropower Plants.

1.2 Alternative models

There are alternatives to this model of infrastructure deployment, suggested by NGOs, social movements and academic institutions.

What should an alternative model look like? It must be based on the needs of the people, communities, peoples and territories. Development should not be imposed; it should be organized by the people under the principle of solidarity –no one entity should shape the future without consultation with all affected parties. The development process must consider all current and future costs – social, environmental, and financial. It is essential to distribute access to land and the wealth of natural resources produced, and consider the fact that access to a healthy environment is a human right for all. Such an approach should be managed in order to overcome the inequalities of gender, race, ethnicity, and generations.

In other words, there must be a transition from the current capitalist based production and consumption model to a new system that is environmentally sustainable and socially just.

2. Hydropower as a means of greenhouse gas reduction – a critical view

As a renewable resource, hydropower was historically treated as a clean source of energy. But recent scientific research has challenged this view because of the effects of hydropower plants on sustainability.

In 2010, hydropower production represented about 16% (1,010 GW) of all global electricity production and about 76% of electricity from renewable sources. An estimated 30 GW of capacity was added that year. Asia (led by China) and Latin America (led by Brazil) are the most active regions for new hydro development. China, Brazil, Russia, Canada, and the USA have the biggest hydropower plants in the world. The vastness of these countries and the existence of large drainage basins could explain this concentration.

Brazil has 26 hydropower plants planned and under construction in the Amazon over the next ten years. In Peru, six hydropower plants are planned for start up in 2015 as part of an energy agreement between Peru and Brazil. Bolivia already has hydropower plants planned in the Madeira River basin. In Ecuador, there are two hydropower plants on

the eastern slope of the Andes in the Amazon region, and others are planned in Colombia, Venezuela, Suriname, and Guyana.

The environmental effects of hydropower include those from inundated forest biomass. In order for the reservoir to be used for other purposes (e.g. watersports, tourism, aquaculture), it is important to cut down the forest prior to flooding an area. This will also help to preserve water quality and to prevent the proliferation of insects. These dynamics affect public health and human migration patterns. Historically, there have been few cases of forest clearings before flooding.

Furthermore, hydropower plants produce significant amounts of methane. According to Fearnside (1995), in some cases these amounts can be higher than from power plants running on fossil fuels (in terms of carbon equivalence). The carbon is released when the reservoir is initially flooded. After the first decay, organic matter settling on the reservoir bottom decomposes in anoxic conditions, resulting in a build up of dissolved methane. This is released into the atmosphere mainly by degassing after water flows through the reservoir turbines. Seasonal changes in reservoir levels create a continuous supply of organic matter, which causes the emission of a regular flow of methane, especially in tropical reservoirs.

The precise contribution of hydroelectric reservoirs to greenhouse gas (GHG) emissions is still a matter of discussion. There is controversy, even in the scientific world, as seen in the debate over more than a decade on the methodologies and results of GHG emission estimates for tropical reservoirs in Brazil.[1] The key point of contention is accounting for gases - mainly methane - emitted by the hydroelectric plants' spillways and turbines. Reportedly, methane, concentrated at depths of around 30 meters, moves quickly at lower pressures and higher temperatures in the reservoir and becomes volatile when it makes contact with the atmosphere.[2]

3. PPP projects in Brazil

PPPs are one of the main instruments used by the Brazilian government to invest in infrastructure. Through a PPP, the federal, state or municipal government may select and contract with private companies, which are held responsible for providing services intended to serve the public interest for a finite time (sometimes for decades).

Private participation in infrastructure is not a new concept. According to Grilo (2008), outsourcing and concessions have been in place for centuries in many countries and private companies have played an important role in the development of physical infrastructure. In recent decades, however, private participation has fundamentally changed the ways services are delivered around the world. The most recent trend is the partnership between the government and the private sector in areas of provision and control of public services.

Through this approach, governments may provide different types of support, to make projects attractive to private investors. As a result, these schemes require a high level of public accountability, involving techniques such as economic analysis, cost benefit analysis, cost effectiveness analysis, "value for money" (VFM) analysis, and multi-criteria analysis. Ultimately, the government must demonstrate that a PPP deal offers VFM, particularly when it relies on the use of public resources.

VFM assessment frameworks have been used in different countries to test whether the PPP is the most efficient and effective way to deliver the associated services. These frameworks are therefore essential for the accountability and legitimacy of this new policy.

The earliest VFM frameworks were severely criticized on the basis of subjectivity in risk analysis, bias for the selection of the private financing option and manipulation of the results to produce the desired answer. Recently, VFM frameworks have been reformed to address the deficiencies of previous approaches and to incorporate the evolution in PPP regulation and policy making.

1. Fearnside, 2013; Fearnside & Pueyo, 2012; and Rosa *et al.*, 2004.
2. Fearnside, 2004; Kemenes *et al.*, 2007.

The Brazilian PPP Law was established in 2004 (Law No. 11,079). In 2006, the Brazilian Government created the National Public-Private Partnership Development Program through an international cooperation program with the Inter-American Development Bank (IDB) to: 1) Expand the supply of public services and infrastructure through private sector participation, improving the quality and efficiency of the use of available public resources; and 2) Institutionalize the PPP methodology as a new contracting model that promotes private sector participation in the provision of public services and infrastructure.

But investments in infrastructure in Brazil, which remain at 2% of the GDP, are insufficient. Only 18 PPP contracts were signed by states in Brazil from 2005 to 2012. In 2013, however, twelve contracts were signed by state governments, and the public consultation processes for another 15 were completed (as of November 2013), indicating that PPPs have begun to take hold.

Those governments interested in implementing infrastructure projects must compete for available resources and consider tradeoffs with other demands. Decisions about a project's nature and scale are invariably political. Cost benefit analysis can establish the economic merits of a project, but it cannot address the relative political merits of one project over another. A bridge or a highway can be economically justified. The decision to build one this year or next year or to launch a different project is a political one. Therefore, a project with public funding may take more time than one that is privately funded, even when the technical and managerial issues are similar.[3]

There are five stages of PPP structuring in Brazil: 1) Feasibility study. This can be done by a private firm, the government, or a hired consultant. This phase includes preparation of the business model, financial structuring, and legal analysis; 2) Manifestation of Interest Process (PMI) – the government probes private sector interest in the project; 3) Modeling. The government defines and evaluates the public interest of the project and reviews the feasibility studies; 4) Public consultation. The proposed model is assessed by interested companies, affected communities, and other stakeholders; 5) Bidding for the project. There are several models for bidding, but open auctions on the São Paulo Stock Exchange are becoming more common. Taking into account the suggestions received during the public consultation and the findings of analyses, the government determines whether or not to go ahead with the project.

In some cases, there may be increased transparency in the PPP hiring process (in comparison with public sector projects). The concession projects may be used as drivers of technological and management innovation. It is important to recall that the first concession projects in Brazil, more than 160 years ago, introduced new technologies relating to transportation and logistics for railroads and ports. These allowed significant reductions in transport costs, as well as the creation of new means of mobility for people, storage and merchandising service providers. In 1850, the first public lighting PPPs spawned the use of new lighting technologies, which prompted new industrial activities and service provision in a key primary export sector.

Despite such advances, the PPP experience in Brazil resulted in reliance on exports of primary commodities. Moreover, transparency in PPP processes is an aspiration, not a reality.

4. Environmental licensing

Environmental licensing is established using economic feasibility studies as terms of reference. Brazil has had functioning democratic institutions for the last three decades, as well as a free press. The constitutional rights of indigenous peoples are expressed in a specific chapter of the Brazilian Constitution, which prevents the removal of indigenous people without prior consultation and requires approval by the National Congress. Brazil is a signatory of International Labor Organization Convention No. 169, which ensures the rights of indigenous and tribal peoples to be consulted and to provide informed consent before any decision-making that may affect their assets or rights, but these protections are not enough to avoid the ongoing controversies surrounding the licensing and implementation of infrastructure projects.

3. Poshmann, 2003.

In Brazil, the procedures for environmental impact assessments (EIA) are defined by Article 90 of Law No. 6938/81, Resolution 001 of CONAMA– Conselho Nacional do Meio Ambiente (Environment National Council) of January 23, 1986, and the many subsequent resolutions relating to the disciplines of the EIA. These demonstrate that Brazil has an exemplary body of environmental legislation governing infrastructure project design.

Brazilian environmental legislation includes three steps for licensing works: LP – Previous License; LI – Installation License; LO – Operation License. Particularly for hydroelectric enterprises, Article 4 of CONAMA's Resolution No. 06, of September 16, 1987, points out that:

> "In the instances of enterprises that harness for hydropower electricity, in respect to the peculiarities of each case, the Previous License (LP) shall be required in the beginning of the Power Plant feasibility study; the Installation License (LI) shall be obtained prior to the bidding for enterprise construction, and the Operation License (LO) shall be obtained prior to the dam completion."

Contrary to environmental legislation, hydropower enterprises have been tendered for bidding immediately after obtaining the LP, not after obtaining the LI. In other words, the granting of the mandatory Previous Environmental License fails to follow the legislated procession. The terms and processes for each step of the environmental licensing of works are clearly set out in Article 14 of CONAMA's Resolution No. 237, of December 19, 1997. The resolution (Article 15) also lays out the terms that an entrepreneur must adhere to, when the environmental agency requests clarification or material related to the EIA (Article 15).

Environmental licensing is seen as an obstacle to implementing infrastructure projects in the country, with excessive red tape that delays the initial work schedule. In fact, many enterprises fail to obtain environmental licensing on time because they fail to meet the deadlines of the entrepreneur or operator. Moreover, a significant number of works are suspended because of the lack of financing. Government documents often blame the excessive time to start construction on "environmental difficulties", which contributes to the demonization of the environmental licensing process.

The government and the media claim that each infrastructure project is in the "national interest" and imperative for the country's development. As a result, any resistance is viewed with hostility. In the case of electricity production, the threat of a "blackout" is invoked to justify expansion, which is presented as meeting the "Brazilian people's necessities." The projects under the PAC–Programa para a Aceleração do Crescimento (Growth Acceleration Program) – which are marketed as necessary to serve the "national interest" – are hard to challenge and cannot be questioned by minority groups.

Furthermore, the criminalization of social movements and reduction of spaces for resistance are accompanied by attempts to change the environmental licensing processes for hydroelectric enterprises.

"rights of indigenous peoples are expressed in a specific chapter of the Brazilian Constitution"

Another problem relates to the barriers faced by the Federal Prosecutor's Office (Ministério Público Federal), which attempts to defend those affected by infrastructure projects and to promote environmental preservation. Its public civil actions are filed in order to request the suspension of works or to insist upon compliance with agreed commitments. They are also filed to ensure compliance with Law No. 8,437 of June 30, 1992, which governs the concession of preliminary injunctions against the actions of government authorities, among other measures.

Based on this law, the presiding judge can find that the suspension of any works can generate "severe damage to the public economy", for instance through a loss of jobs or revenues to the investors due to the interruption. By virtue of this law and the way in which it favors the entrepreneur, injunctions by civil groups are often dismissed in less than 48 hours, without considering the merits of the case filed by prosecutors.

It is a political strategy to demolish the environmental licensing process, which is a vital instrument of environmental management. It facilitates implementation of major

infrastructure projects in the country, especially those related to the electricity sector, such as the construction of dams and transmission lines.

Energy plans presented every year through the Decennial Plans for Energy, contain a series of projects that are not subject to scrutiny as part of a wider public debate. Public consultation is a "role playing" exercise of the the energy research company that discloses a "preliminary version" of the Plan, and opens a comment period, which is generally extremely short. During this time, demonstrations can be held and messages posted on a website. Suggestions and proposals submitted by the public are not disclosed. Through this process the final version of the Decennial Plan is made available, signed by the Mines and Energy Ministry, and presented as the outcome of a "democratic" public consultation.

While the Law 8,437/1992 prevails, little can be expected from the efforts of the Republic's prosecutors and chief judges advocating on behalf of our peoples and the environment. As a consequence, in the case of the works planned for the Amazon Rregion and in regard to its ecosystem fragility, each project will be contributing to the irreversible fading away of the traditional populations in that region, including indigenous peoples.

5. The role of the public banks: BNDES

BNDES, established in 1952, went through transformations under different government administrations. From the consolidation of the import substitution model to the privatization processes in Brazil, BNDES financed foreign and domestic operations – in part or in full – to facilitate the acquisition of Brazilian state- owned companies by domestic or international private firms. The bank's importance in terms of resources is growing, not only for the Brazilian economy: since 2005, the volume of credits extended by BNDES has risen by 391%, which surpasses the volume of World Bank loans.

BNDES funds are public – namely from the national treasury, taxes, and public contributions, such as the Worker Assistance Fund. However, the bank also raises funds on the international capital markets and from foreign banks, as well as from other countries' development agencies, and the multilateral development banks, such as the World Bank itself.

Nowadays BNDES is an instrument of Brazilian foreign policy, holding significant political and financial influence abroad through initiatives aimed at "regional integration". But instead of encouraging complementarity among Latin American and Caribbean countries, BNDES initiatives are targeted at ensuring the strong presence of Brazil on international markets – because they finance exports of Brazilian goods and services. In 2012, BNDES financed operations for 15 countries (in Latin America and the Caribbean, Africa, and Asia), totaling US$ 2.17 billion. The bank's financing of other governments in Latin America and elsewhere is determined by the profitability of the private companies borrowing from BNDES, without considering the socio-environmental and cultural effects of the projects.

In the early 1990s, new guidance re-oriented the bank's mission to promote "competitive integration within the globalization process", following up the structural adjustment and the neoliberal project at the national and regional level. BNDES assumed the main role in privatizing public services in Brazil. In addition to being responsible for administrative and technical support for the National Privatization Plan, BNDES participated in selling a significant part of national assets to foreign investors and to private national companies by offering long term interest rates well below market rates. From 1995 to 2000, 48% of revenues derived from the sale of electricity power–distribution companies were generated by public funds, either in form of BNDES loans (34%), or through holdings of pension funds (14%) such as the PREVI, from Banco do Brasil employees.

Increasingly, BNDES has been acting aggressively to acquire public services companies (energy, water, and sanitation), particularly in South America and Africa, reproducing the model of productive specialization and expropriating populations and territories in these regions. The bank's leverage in these sectors converts national companies into multinationals through massive transference of public resources, without transparency and proper debate in Brazil.

In the late 1990s, the Bank was responsible for designing the National Integration and Development Axes (Eixos Nacionais de Integração e Desenvolvimento). This led to the construction of regional infrastructure and the creation of the Initiative for the Integration of Regional Infrastructure in South America (IIRSA) in 2000. Regional integration subsequently followed the "open regionalism" advocated by the World Bank, designed to liberalize trade and investments, deepening the model of competitive entry.

While IIRSA projects aim to boost the external competitiveness of the region, they do not, as a rule, promote interdependence among South American countries. Of the 31 priority projects before 2010, eight are under execution, and all of them involve Brazil as a counterpart, making clear the country's leadership role in the regional infrastructure for exports.

The bank's investments in the region have already exceeded those of the IDB. They are intended to enable the structuring of export corridors on the one hand, and to expand the territorial base of the country for the exploitation of natural resources, on the other. To this end, they are relying on investment by Brazilian companies in neighboring countries, often in partnership with local companies, to exploit natural and human resources. In June 2010, for instance, Lula's government signed an agreement with the Peruvian government for the construction of six hydroelectric dams in the Peruvian Amazon, in the region of Inambari, where Brazilian companies were financed by BNDES funding. A significant amount of the energy will be transferred to Brazil, by means

"Public consultation is a 'role playing' exercise of the energy research company"

of transmission lines that will connect the dams in Peru to the power plants of Jirau and Santo Antonio, in Madeira River (RO). This is an example of regional integration, but the agreement actually entails the imposition of Brazilian interests on neighboring countries.

The Lula government supported the internationalization of the Brazilian economy, including through of the privatization and liberalization of the 1990s. The August 1995 repeal of Art. 171 of the Brazilian Constitution, under Fernando Henrique Cardoso's administration, still applies. The article established the distinction between a Brazilian company (incorporated under Brazilian law with headquarters in the country) and a Brazilian company with domestic capital (whose effective control is under the ownership of individuals residing in the country). The latter type of company can be under the control of individuals and agencies, that effectively control the company, own most of its voting shares, and control decisions over activities. These were given preferential credit and fiscal treatment. For the latter. BNDES continues to fund foreign companies in the same way as Brazilian companies with domestic capital and control.

Through its Productive Development Policy (Política de Desenvolvimento Produtivo), the Brazilian government plans to increase investment in innovation and technology, which is capable of promoting the export of products and services with higher added value, but it actually invests resources mainly in the commodities sector. Instead of seeking to balance the demand effect, the government effectively strengthens primary supply when it stimulates the concentration and internationalization of Brazilian companies that produce commodities and low tech products. Illustrative of this, the volume of resources allocated by BNDES in 2009 for the science and technology sectors amounted to only 5% of the total.

The economies of Latin America, Africa, and Asia appear to be dedicated to a productive model based mainly on the extraction of natural resources. Thus, a plausible expectation for the role of BNDES in Brazil would be to direct its funding policy to reverse the status quo in the medium or long term. However, we see a deepening of the current approach with no signs of change. From 2003 to 2009, the funding earmarked for manufacturing, agriculture, and extractive industries was directed primarily to natural resource intensive industries (27% of disbursements), in contrast to labor-intensive industry (2%), scale- intensive industries – chemical, rubber and plastics, metal and motor vehicles (13%) and science (11%)[4].

4. Tautz *et al.*, 2010.

There is no information about BNDES projects outside the country. The bank merely informs the public of the contracted amounts aggregated by country and cites commercial confidentiality. As stated on the bank's website, "direct operations of the Foreign Trade Division are conducted particularly by funding the foreign public entities which aim to increase the export of Brazilian goods and services, with international contracts subject to confidentiality clauses… and commercial confidentiality." As we can see, investments by Brazilian companies abroad are mediated by nation states, which deepens their indebtedness.

The bank has become a major player in Brazilian foreign policy. It is one of the main funders of the integration of South American infrastructure, which is led to a large extent by engineering and construction conglomerates headquartered in Brazil. The bank's focus on infrastructure integration involves coordination with other government agencies, especially the Ministry of Foreign Affairs. The large engineering and construction conglomerates, as well as some large manufacturing suppliers, are the main beneficiaries of public investment directed to the works.

6. Brazilian civil society perspective

Brazil has an extensive and strong network of NGOs and social movements that monitor and fight against legal violations by the infrastructure projects proposed by the Brazilian government and by public and private companies.

A list of NGOs and social movements which actively participate in a current network – "BNDES Platform" follows:

- Amigos da Terra – Amazônia Brasileira (Friends of the Earth – Brazilian Amazon)
- Association for the Taxation of Financial Transactions for the Aid of Citizens – ATTAC - Brazil
- Central Única dos Trabalhadores (CUT) (Central Workers Union)
- Conselho Indigenista Missionário (CIMI) (Indigenous Missionary Council)
- Coordenação das Organizações Indígenas da Amazônia Brasileira (COIAB) (Coordination of Indigenous Organizations of the Brazilian Amazon)
- Sistema de Cooperativas de Crédito Rural com Integração Solidária (CRESOL) (System of Rural Credit Cooperatives with Solidary Integration)
- Centro de Pesquisa e Assessoria (ESPLAR) (Center for Research and Consultancy)
- Federation of Organizations for Social and Educational Assistance (FASE) (Federação de Órgãos para Assistência Social e Educacional)
- Fórum Brasileiro de ONGs e Movimentos Sociais para o Meio Ambiente e o Desenvolvimento (FBOMS) (Brazilian Forum of NGOs and Social Movements for the Environment and Development)
- Fórum Brasileiro de Economia Solidária (FBES) (Brazilian Forum on the Solidarity Economy)
- Fórum Nacional de Segurança Alimentar (National Forum on Food Security)
- Frente Nacional do Saneamento Ambiental (FNSA) (National Front for Environmental Sanitation)
- Instituto Brasileiro de Análises Sociais e Econômicas (IBASE) (Brazilian Institute of Social and Economic Analyses)
- Instituto de Estudos Socioeconômicos (INESC) (Institute for Socioeconomic Studies)
- Movimentos dos Atingidos por Barragens (MAB) (Movement of People Affected by Dams)
- Movimento dos Trabalhadores Rurais Sem Terra (MST) (Landless Rural Workers Movement)
- Instituto Políticas Alternativas para o Cone Sul (PACS) (Institute of Alternative Policies for the Southern Cone)
- Rede Alerta contra o Deserto Verde (Alert Against the Green Desert Network)
- Rede Brasil sobre Instituições Financeiras Multilaterais (Brazil Network on Multilateral Financial Institutions)
- Rede Brasileira pela Integração dos Povos (REBRIP) (Brazilian Network for the Integration of Peoples)

- Rede Brasileira de Justiça Ambiental (RBJA) (Brazilian Network for Environmental Justice)

The following NGOs and social movements also act in an co-ordinated articulated way:

- Amazon Watch
- Articulação Antinuclear Brasileira (Antinuclear Brazilian Articulation)
- Comissão Pastoral dos Pescadores (CPP) (Pastoral Commission of Fishermen)
- Federação do Povo Huni kui do Acre (FEPHAC) (Federation of the Huni Kui people of Acre)
- Fórum Mudanças Climáticas e Justiça Social (Forum on Climate Change and Social Justice)
- Fundação Heinrich Böll Brasil (Heinrich Böll Foundation Brazil)
- Greenpeace Brasil (Greenpeace Brazil)
- Instituto Madeira Vivo (Madeira River Alive Institute)
- Instituto Sócio Ambiental (ISA) (Socio-Environmental Institute)
- International Rivers
- Jubileu Sul Brasil (South Brazil Jubilee)
  Misereor
- Movimento Tapajós Vivo (Tapajós River Alive
- Movement)
- Movimento Xingu Vivo para Sempre (Xingu Alive Forever Movement)
- Pastorais Sociais / CNBB (Social Pastoral)
- SOS Clima Terra (SOS Earth Climate)
- WWF Brasil (WWF Brazil)

Furthermore, some academic institutions are part of this process:

- Instituto Nacional de Pesquisa da Amazônia (INPA) (National Institute for Amazonian Research)
- Instituto de Energia e Ambiente da USP (IEE / USP) (Institute of Energy and Environment of USP)
  Instituto de Planejamento Urbano e Regional da UFRJ (IPPUR / UFRJ) (Urban and Regional Planning Institute of UFRJ)

According to Furtado (2008), the key goal of this loose coalition of civil society organizations is to ensure that BNDES promotes a model of regional integration which pursues the following objectives:

1. To promote the achievement of autonomy and sovereignty so that each country will be able to set out its own public policies.
2. To promote equality, participation, plurality, complementarity, and solidarity.
3. To find ways of relating to nature that do not see it as an obstacle to be overcome, exploited, and destroyed.
4. To transcend the logic of indebtedness that subordinates countries labelled as “debtors.”
5. To promote a type of integration that extends beyond the free movement of goods.

For this purpose, the bank must:

a) Create mechanisms for participation, monitoring, and social control on the part of social organizations in the affected countries, for a collective discussion between civil society, government and investors about of integration funding project proposals.
b) Support projects that strengthen regional and intra-regional integration, promote scientific and technological progress, cultural exchange, communication and economic solidarity, inter alia.
c) Ensure that physical and energy projects meet local and regional needs, respecting the environment and local populations.
d) Support the creation of new regional funding instruments that protect sovereignty.
e) Meet the above-listed requirements for foreign as well as domestic projects funded outside the country.

7. Towards good governance

Good governance is not restricted to public levels of administration, but extends to the ways of managing private and public enterprises. The term "governance" suggests a broader administrative approach in which managers work directly with the interests of the stakeholders collectivity involved in a project. Thus, it is possible to start from the premise that governance refers to a more democratic way of administering the development process.

Governance should be understood as a process promoted by public administrative policies and practices, that influences government decision-making. The central idea of governance relates to a collective decision-making process that involves the standards and institutions of the public administration and the formal and informal channels through which policies are implemented. We have thus the central idea of governance as it relates to collective processes of decision-making, involving the standards and institutions related to public affairs and the way they are implemented through formal and informal channels.

For public governance we must consider decisions and actions related to the administration of goods and services within a particular territory, understanding that those decisions and actions should be set out through dialogue among the involved and affected parties. Governance implies the establishment of a system of rules, standards, and behaviors that reflect the values and world views of those individuals that are subject to such a normative framework .

At least two difficulties arise: who are the parties involved in the matter? And what is the appropriate forum to gather them together? First of all, this is about defining the legitimacy of the interlocutors as well as how to discuss the problems affecting them in order to achieve a lasting solution.

Therefore, for the administration of the system of governance, it is necessary to pay attention to the conflicts of interests between the parties involved and balance among them during negotiations and the process of decision making. After all, governance is built on alliances and cooperation, yet evolves around conflicts deriving from the impact of the social asymmetries and their influence on the environment as well as from the resistance, organization and participation of the various players involved.

We have effective or "good" governance therefore relating to transparency, access to information, the rule of law, responsibility and the management of public and private actors. It requires the participation of the parties involved, agreement among them, and the deployment of collective decisions, without any undue influence by more financially or politically powerful groups.

It is also possible to take into consideration the idea of the effect of power and interests on distributive justice., because the deployment of one measure or another may or may not lead to a democratic and balanced decision making process. "Distributive justice" is understood as a socially just allocation of that which distributes honors or duties – meaning that this allocation considers every person's needs and circumstances. In this manner, we can accept that the criteria for participation and decision making should be defined by a public authority that must meet the interests of everyone in a balanced manner and generate good governance.

From this perspective, governance should be modeled on the true modern democracy. as a regime characterized by the aims or values toward which a particular political group aspires. The distinction between a democratic regime and a non- democratic regime lies in the extent to which the right to political participation of citizens and social groups is realized. They should have the power to influence the projects affecting them, as well as the right to social and economic equality.

From 1995 onwards, the public administration of Brazil underwent a reform process in which infrastructure sectors were given new institutional structures. As noted above, some private companies are now responsible for providing public services - previously the responsibility of the public administration. Some indirect administrative entities on (people linked to the administration who indirectly managed decentralized activities) gained power during the two mandates of President Fernando Henrique Cardoso

(1995–2002). Eventually, a public administration that follows these broad ideas was established, yet it retained the patrimonialism and paternalism of much of the bureaucracy (even though President Cardoso denied it).

It is evident that the governments of President Luiz Inácio Lula da Silva (2003-2011) and President Dilma Rousseff (2011 to the present) have retained the managerial model of Brazilian public administration, including some continuity with neoliberal principles of administration. Some progress has occurred in the areas of planning and democratic management, but this has not promoted good governance.

Currently, infrastructure management in Brazil is not based on democratic decision making and effective participation, and benefits of development are not widely shared. The imbalance in decision making undermines the ideal of democratic management and of good governance.

The Brazilian government conducts its infrastructure programs and projects (e.g., in the energy and water sectors) in an autocratic manner. Public hearings on environmental licensing – when they occur – are mere formalities where the projects are presented as *faits accomplis*.

For Brazilian public administration, "good" governance could be an important way to ensure more democratic and efficient management.

Acknowledgements

The author thanks Marcia Al Kass Issahak for her translation services. The author also thanks Nancy Alexander, Director of the Economic Governance Program at the Heinrich Boell Foundation, for her comments and contributions.

Bibliography

• FEARNSIDE, P.M. (1995) "Hydroelectric dams in the Brazilian Amazon as sources of 'greenhouse' gases." *Environmental Conservation* 22(1): 7 19. Available in:
http://philip.inpa.gov.br/publ_livres/Preprints/1995/HYDRO GH EC.htm. Accessed on: 11.04.2013

• FEARNSIDE, P.M. (2004) "Greenhouse gas emissions from hydroelectric dams: Controversies provide a springboard for rethinking a supposedly ´clean´ energy source," *Climatic Change* 66(1 2): 1 8. Available in:
http://philip.inpa.gov.br/publ_livres/Preprints/2004/HYDROELECTRIC%20DAMSspringboard%20commen
cc%20w%20figs.htm. Accessed on: 11.05.2013.

• FEARNSIDE, P.M. (2013) "Climate change and the Amazon: Tropical dams emit greenhouse gases." Harvard Review of Latin America 12(2): 30 31. Available in: http://www.drclas.harvard.edu/publications/revistaonline/winter02013/climate change and amazon. Accessed on: 11.18.2013.

• FEARNSIDE, P.M. & PUEYO, S. (2012) "Underestimating greenhouse gas emission from tropical dams." *Nature Climate Change* 2(6): 382 384. Available in: http://www.nature.com/nclimate/journal/v2/n6full/nclimate1540.html. Accessed on: 11.18.2013.

• FURTADO, F. (2008) *BNDES: Que Desenvolvimento é esse?* Brasília (DF): Rede Brasil sobre Instituições Financeiras Multilaterais, julho de 2008, 32 p. Available in:
http://www.plataformabndes.org.br/site/index.php/biblioteca/category/11 analises do desenvolvimento. Accessed on: 11. 20.2013.

• GRILO, L.M. (2008) "Modelo de análise da qualidade do investimento em projetos de Parceria Público Privada (PPP)." (Tese de Doutorado). Escola Politécnica da Universidade de São Paulo. São Paulo, 400 p. Available in:
http://www.pppbrasil.com.br/portal/content/livro sobre an%C3%A1lise do m%C3%A9 rito em projetos de ppp value money. Accessed on: 11.28.2013.
• KEMENES, A.; FORSBERG, B. R.; MELACK, J. M. (2007) "Methane release below a tropical hydroelectric dam." *Geophysical Research Letters*, v. 34, L12809. Available in:
http://onlinelibrary.wiley.com/doi/10.1029/2007GL029479/full. Accessed on: 11.05.2013.
• POSCHMANN, F. (2003) *Private means to public ends: the future of public private partnerships*. Toronto: C.D. Howe Institute, n. 183, 33 p. Available in:
http://www.cdhowe.org/pdf/commentary_183.pdf. Accessed on: 11.29.2013.
• ROSA. L.P.; SANTOS, M.A.; MATVIENKO, B.; SANTOS, E.O.; SIKAR, E. (2004) "Greenhouse gases emissions by hydroelectric reservoirs in tropical regions." *Climate Change* 66(1 2): 9 21.
• TAUTZ, C.; SISTON, F.; PINTO, J.R.L.; BADIN, L. (2010) "O BNDES e a reorganização do capitalismo brasileiro: um debate necessário". In: *Os anos Lula: contribuições para um balanço crítico: 2003 2010*. Rio de Janeiro: Ed. Garamond, 2010, p. 249 286. Available in:
http://www.plataformabndes.org.br/site/index.php/biblioteca/category/11 analises do desenvolvimento. Accessed on: 11.19.2013.

The Political, Economic, and Social Impacts of Private Financing

Public–Private Partnerships in Central America

Carlos Benavente Gómez

Summary

In the past, poverty reduction strategies implemented in Central America have barely achieved their objectives. Now, public-private partnerships (PPPs) are increasingly being financed by the World Bank and the Inter-American Development Bank (IDB), among others, to promote investment and development. The powerful member countries of the G20, in particular, continue to foster private sector involvement in large investment projects.

In 2012, the Economist Intelligence Unit (EIU) reviewed regulatory frameworks, institutional regimes, operational maturity[1], and investment climates to evaluate the effect of Public-Private Partnerships (PPPs) in Latin America and the Caribbean. In this study, Central American countries received the lowest ratings in the hemisphere. Nicaragua and the Dominican Republic received the lowest country ratings, while Panama, Costa Rica, El Salvador, and Honduras were rated slightly higher. As for the investment climate, all Central American countries have laws granting tax incentives to foreign companies. They have also set up offices to promote investment, but these initiatives have mixed success.

The region is currently experiencing an influx of mega-projects to connect the Atlantic and Pacific oceans, in which China is involved, either as a recipient of large concessions and/or as an investor.

Also, since 2001, the United States Agency for International Development (USAID) model for PPPs – known as Global Development Alliances – is currently being implemented in Guatemala.

Central America faces a range of challenges, including the needs to: improve governments' engagement with all stakeholders; the risks of political instability; experimenting with PPPs by implementing projects; developing a long-term vision; and consolidating fragmented legal and institutional frameworks.

There is no clear guidance to government departments regarding institutional, financial and implementation issues relating to PPPs. This means that financing large-scale infrastructure projects poses significant hurdles in the region.

Investments of any kind need to be aligned with national development strategies. Governments need to pay special attention to taxation and improve the accountability of projects to the communities they affect. Small- and medium-sized enterprises should play a central role in supporting economic development at the local level, given their importance to job creation. Such investments must be closely supervised to ensure financial transparency as well as compliance with international environmental, human, and social standards.

1. Operational maturity includes the following criteria: public capacity to plan and oversee PPPs; methods and criteria for awarding projects; regulators' risk-allocation record; experience in transport and water concessions; and quality of transport and water concessions.

Introduction

This chapter identifies trends in the implementation of infrastructure PPPs in Central America and analyzes the capacity of Central American and Caribbean countries to implement sustainable PPPs. It considers countries' regulatory and institutional frameworks, experiences with projects, and their investment climate and financial systems.

In Central America, poverty reduction efforts are often hampered by environmental disasters. Hurricanes occur on average every two years (the most destructive was Hurricane Mitch in 1998). They make landfall or come within 500 kilometers of the coasts, causing deaths and structural damage in the region. For the economies, the dominant model of exporting agricultural products and commodities means that the volatility of raw material prices has a big impact. In the political sphere, unrest exacerbates economic and social problems. From the low-intensity wars of the 1970s to the recent international financial crises (the most recent in 2008–2009), problems of indebtedness and impoverishment have persisted.

Poverty reduction efforts

Major regional strategies have not been very effective in reducing poverty. Strategies and programs include the Central American Common Market, established in 1960, with its own financial architecture and import-substitution model; the Puebla–Panama Plan, now known as the Mesoamerica Project, and structural adjustment policies. Free trade agreements, such as the Dominican Republic/Central America Free Trade Agreement (DR-CAFTA) with the United States and the Association Agreement (AA) with the European Union, were presented as drivers of development and poverty reduction. These are initial steps on the way to the establishment of a much larger trade agreement – the Trans-Pacific Partnership (TPP). In turn, this could revive the talks on a Multilateral Agreement on Investment, which would provide for stronger investor protections.

At the same time, the member countries of the Bolivarian Alliance for the Americas (ALBA)[2] have drafted a proposal for a new regional financial architecture that includes the ALBA Bank, the Single Regional Payments Clearinghouse, and the Reserve Fund.

For the last decade, the IDB Group, including its Multilateral Investment Fund (MIF), has been promoting PPPs for services delivery in Latin America and the Caribbean.

These PPPs require a specific institutional, political, and financial environment to be successfully implemented. According to the IDB, PPPs involve long-term contracts between a public sector institution and a private sector institution for providing public services. The IDB recognizes that the use of PPPs varies among and within countries. The lack of knowledge of the benefits of PPPs, as well as difficulties in bringing PPP projects to market, are factors which stand in the way of their implementation. These challenges are especially pronounced at the sub-national level. Provincial governments can incur excessive indebtedness, since information about fiscal liabilities is often excluded from state balance sheets.

The Role of the G20

G20 member countries insist on the fundamental role of the private sector and PPPs in assuring sufficient investment, especially in energy infrastructure to support global growth and development for which there is significant demand.

In the Leaders' Declaration from the 2013 Russian Summit[3] the G20 emphasized the need to improve PPPs. It encourages the private sector – including small- and medium-sized enterprises (SMEs), which are considered some of their most important business partners – to promote inclusive growth through job creation. The G20 recognizes the importance of putting conditions in place to promote long term financing, including for infrastructure and SMEs in order to promote sustained growth and job creation. To that end, the G20 Leaders ask economic ministers and central bank governors to explore means of mobilizing funds from institutional investors and from multilateral development banks, which can optimize use of existing resources. This includes leveraging private capital and boosting lending capacity.

2. The current members of ALBA–TCP are: Antigua and Barbuda, Bolivia, Cuba, Ecuador, the Commonwealth of Dominica, Nicaragua, St. Vincent and the Grenadines, and Venezuela.

3. See: www.g20.org/sites/default/files/g20_resources/library/Saint_Petersburg_Declaration_ENG.pdf.

It is important to improve transparency in all aspects of PPP infrastructure projects and to mobilize financing for project preparation. The design and terms of PPPs also need to be improved. The risks that the public and private sectors face should be disclosed.

The G20 established an Investment and Infrastructure Working Group, which has the potential to improve information dissemination and help mobilize resources. The World Bank has launched a shared global information platform on PPPs, including their potential to create jobs and fulfill national action plans for employment in low income countries.

The G20 says that it will pay special attention to fighting corruption, especially in high risk sectors, and promote integrity in relationships involving buying and selling between the public and private sectors.

The new scenario

One recent development is the presence of China as an investor in mega-projects and/or as a concessionnaire. For example, the Chinese firm Harbour Engineering Company is working on ten inter-oceanic railway lines in Honduras for US$ 100 billion, while Wang Jing, owner of the Xin Wei Telecom company, has signed a memorandum of understanding with the government of Nicaragua for ten projects related to an inter-oceanic canal for US$ 40 billion.

Elsewhere, the USAID PPP model is being used in a program called Alianzas (Partnerships) in Nicaragua, that seeks to leverage private sector resources (with a minimum of fifty partnerships) to improve health, education, and nutrition. The initiative, which involves leading national and multinational companies, intends to showcase sustainable development.

Unfortunately, while we hear the recurrent discourse on reducing poverty and sustainable development, exploitation of natural resources is on the rise. This reminds us of colonial times when gold (i.e., our natural resources) was exchanged for "beads" or "trinkets" (i.e., DR/CAFTA, AA, PPPs), reflecting a high degree of malinchismo[4] on the part of officials and politicians.

Evaluation

In evaluating the environment for Public–Private Partnerships in Latin America and the Caribbean,[5] the The Economist Intelligence Unit's "Infrascope" analyzes nineteen countries in Latin America and the Caribbean in terms of their preparedness and capacity to handle PPPs. Central American countries receive the lowest ratings. The countries of Latin America and the Caribbean are grouped into four categories: mature, developed, emerging, and nascent.

The general rating of each country includes ratings for nineteen indicators in four categories:

- Regulatory framework (including quality of PPP regulation, selection of and decision-making about PPP projects, transparency during tender and contract amendments, and dispute settlement).
- Institutional regime (including quality of institutional design and risk of delay and expropriation).
- Operational maturity (including capacity for planning and supervision, changes in processes for awarding projects, risk allocation, number of projects, failure/cancellation of projects).
- Investment climate (including business climate, political and corporate governance, social opinions of privatization) and financial capacity (related to capacity to bear risks, development of capital market, debt markets, and subsidies).

On a scale of 0 to 100, where 100 is the ideal climate for PPP projects, Nicaragua and Dominican Republic are "nascent" (with scores of 0 to 30) and Panama, Costa Rica, El Salvador, Guatemala and Honduras are in the category of "emerging" (with scores ranging from 30 to 80).

4. *Malinchismo* is a term in popular Mexican culture used to characterize one's conduct vis-à-vis that which is foreign. The term finds its origin in La Malinche, a woman who accompanied the Spanish conquistador Hernán Cortéz during the conquest of what today is Mexico, from 1519 to 1521; she helped him, serving as guide and interpreter. It was thanks to her help in part that the conquistadors were capable of establishing alliances and pacts to obtain the aid of other peoples against the Mexicans.

5. The study was prepared by The Economist Intelligence Unit with the support of the government of Spain and financing from the Multilateral Investment Fund (MIF), which also commissioned it. The third edition of "Infrascope" documents the Latin America and the Caribbean region's progress since 2010 in terms of its capacity to carry out infrastructure PPPs. The report analyzes the climate for PPPs in 19 Latin American and Caribbean countries. See: www5.iadb.org/mif/es-es/portada/conocimiento/datadedesarrollo/infrascopio.aspx.

None of Latin American and Caribbean countries studied can be classified as "mature" in terms of their capacity to prepare and implement PPPs, except for Chile. In addition, throughout the region, tax restrictions have created an ever-more favorable environment for leveraging private capital for investment in public works which have cost-recovery arrangements. In countries that have little prior experience with PPPs, projects are highly visible and the future of the PPP model depends on their success. Examples include the modernization projects for Puerto Cortés in Honduras and Puerto de la Unión in El Salvador and highway projects in Costa Rica and the Dominican Republic.

Regulatory framework

In 2010, the government of Guatemala adopted the Law on Partnerships for the Development of Economic Infrastructure in order to establish a more favorable climate for private sector participation in the country's infrastructure sectors. The law established the National Agency of Partnerships for the Development of Economic Infrastructure (Agencia Nacional de Alianzas para el Desarrollo de Infraestructura Económica - ANADIE) as the specialized agency for PPPs. It is responsible for designing and negotiating contracts for PPP projects, including advising private institutions entering into contracts with the state and administering projects with them. It is supported by the MIF through its Regional Public–Private Partnerships Advisory Services Program, also known as New Frontiers in PPPs. Under this program advisors are brought in to train key public and private sector personnel involved in PPPs. They help publicize new PPP initiatives and provide support for planning future PPP projects by, for instance, developing standard legal documents and defining the business model for projects identified by ANADIE.

In Honduras, projects have been prioritized for roads, ports, airports, and renewable energy. The Law for the Promotion of Public–Private Partnerships (which replaces the law on concessions) came into force in September 2010 and its regulations were implemented shortly thereafter. Their purpose is to speed up the administration, development, and implementation of public works and services through PPP contracts. This law provides a framework for local and foreign investors who wish to invest in infrastructure and/or services in Honduras. It created the independent Commission for the Promotion of Public–Private Partnerships (Comisión para la promoción de la Alianza Público–Privada - Coalianza), which is in charge of administering and carrying out PPP projects backed by the Superintendency of PPPs.

There are a variety of PPP modalities, including: participation agreements (contratos de participación), joint ventures, and trust agreements. Contracting can occur through a national process, or international bidding or tender. PPP project proposals for public works and services can be submitted to Coalianza by both the private company and government agencies. The current law on PPPs has been modeled on those in other countries, such as Peru where PPP projects have already been used for roads (construction and maintenance of highways) and port facilities.

El Salvador has introduced the Law on Public–Private Partnerships to establish the legal framework for the develop-

"In countries that have little prior experience with PPPs, projects are highly visible and the future of the PPP model depends on their success"

ment of infrastructure and public service PPPs. The law provides for oversight and inspection by the state to verify that contract commitments are met. In addition to oversight by the state, independent inspection will be considered in order to safeguard public interest. This task has been entrusted to the Public–Private Partnership Oversight Agency (Organismo Fiscalizador de Asocios Público-Privado), responsible for monitoring compliance with the law, the bidding and contract terms.

In Panama, Law 349 applies to infrastructure ranging from drinking water, sanitation and sewerage systems, highways, tunnels and bridges to riverine, terrestrial, and maritime ports, airports and railways, social infrastructure, schools, hospitals and sports centers. The government sent a new bill on PPPs to Congress, but had to withdraw it in the face of opposition from public sector workers.

With the exception of Panama, civil society organizations in Central America have not opposed PPPs. In Panama, the

National Federation of Civil Servants' Associations (Federación Nacional de Asociaciones de Servidores Públicos) filed one complaint with the ILO, objecting to the state's failure to reinstate dismissed union leaders, and another arguing that the government has ignored the ILO's recommendations. The civil servants reject PPPs on the grounds that private sector participation threatens their job security.

Nicaragua has not yet enacted a law on PPPs. A constitutional amendment is being discussed in the National Assembly. It highlights the role of the private sector including cooperatives, associations and community businesses to complement the state's role in stimulating public and private policies that will promote access to credit for rural and urban population. It introduces a model where the government partners with the business sector under the principle of shared responsibility, which "reflects the permanent dialogue which the government has established with private business at this time." Nicaragua is the first country in the world to have a constitutional mandate to pursue this model.[6] It includes a commitment to establish a legal framework for promoting public–private projects.[7]

Institutional framework

The EIU study showed that El Salvador and Honduras improved their ratings by reforming their institutional frameworks to facilitate sub-national concessions. El Salvador has created an Investment Fund for Local Economic Development for local governments known as the Asociación de Municipios de Los Nonualcos. Government officials from Costa Rica and Nicaragua on the other hand have found that the assignment of sub-national concessions may be unattractive for the private sector since local projects are smaller than national ones.

Operational maturity

The Dominican Republic has a record of improving PPPs for transport, specifically highway concessions. In Honduras, a proposed public sector project for the modernization of Puerto Cortés has evolved into a PPP.

Investment climate

The Costa Rican government has given priority to infrastructure development. El Salvador has introduced new legislation on PPPs to back up its commitment to leveraging private investment. In Nicaragua, government provides incentives to private investors in the renewable energy sector in order to recalibrate the national energy mix. ProNicaragua, the national investment promotion agency is providing political support to develop PPPs in additional sectors, including transportation. In Guatemala, EIU scores declined since 2010 due to the growing risk of political intervention that counters improvements in the business climate.

Trends by country

Costa Rica

PPPs in Costa Rica are most common in the transport sector (tolls and airports). They are limited in the electricity, telecommunications and health sectors (under Law 7762/8643), and support for PPPs in the water sector is very low due to public opposition.The National Council on Concessions is in charge of preparing, putting out to tender, coordinating and supervising projects. However, it is only one among several agencies that have to approve PPPs in the country which, together with a general opposition to PPPs, presents another barrier to advancing the PPP agenda.

Costa Rica is one of the few countries in Latin America and the Caribbean that has not restructured its electricity industry. The state-owned Instituto Costarricense de Electricidad controls the vast majority of power plants and holds significant shares of the market for the transmission and

6. "The State, by giving impetus to public policies, should play a role in developing the private sector that makes it possible to improve the functionality and efficiency of public institutions, simplifying red tape, reducing barriers to entry to the formal sector, making progress in the coverage of social security and social benefits, and facilitating the work of existing formal-sector firms. This should be developed in a model of partnership of the government with small, medium, and large enterprises, and the workers, under the principle of shared responsibility and in a permanent dialogue in the search for points of consensus, both territorial and sectoral." (Article 98, paragraphs 4 and 5 of the proposed reform).
7. "The State guarantees foreign investments so that they may contribute to the country's economic and social development, without detriment to national sovereignty and the labor rights of workers, as well as the legal framework for giving impetus to Public-Private projects that facilitates, regulates, and encourages the medium-and long-term investments needed to improve and development the infrastructure, especially energy, roadways, and ports." (Article 100 of the proposed reforms).

distribution of electricity, thus preventing the private sector from investing in those components of the energy market. Regarding components, for example, renewable energy projects, the private sector is confronted with a variety of limitations concerning the size and capacity of the investments allowed.

El Salvador

In El Salvador the IDB gave US$ 360,000 to the Fundación Nacional para el Desarrollo to establish the Investment Fund for Local Economic Development and to strengthen the institutional structure of the Asociación de Municipios de Los Nonualcos, which promotes local economic development in the region of Nonualcos through public–private collaboration. The agency's objective is to increase the competitiveness of the municipalities' productive sectors using PPPs.

Still pending is approval of the framework law for PPPs. It remains to be seen whether progress is sustained in PPPs for transport and electricity sectors and whether the PPP model can be reformed with the support of the legislature. The PPP regulatory and inspection agencies need to be strengthened to supervise contracts negotiated through the Export and Investment Promotion Agency.

Guatemala

For the new agency - ANADIE - it is important to synthesize the existing knowledge about transportation PPPs to improve cooperation with the different ministries with responsibility for the sector. In addition, 5 years after its announcement, the PPP Law 2862 (Ley de Alianzas para el Desarrollo de Infraestructura), which seeks to improve conditions for transport PPPs, still awaits broad implementation (to date only three projects have been initiated).[8]

Honduras

The 2010 Law on Promotion of Public–Private Partnerships creates confusion between PPPs and traditional investments in public works. For instance, it does not specify how to distribute risks between the public and private sectors. Due to a lack of detail, it does not ensure a well-functioning PPP framework. The Coalianza agency and the regulator, the Superintendency of Public–Private Partnerships, need to be strengthened. The threat of expropriation needs to be resolved in order to restore the confidence of the business community.

Nicaragua

ProNicaragua, the national agency for investment promotion, has been an intermediary between and advisor to the private sector and the contracting ministry. In July 2012, the National Assembly approved Law 800, which outlines in detail the Great Inter-Oceanic Canal of Nicaragua. It also creates the Empresa Gran Nacional to construct and operate the canal. In June 2013, this Law was repealed by Law 840, which grants the concession to a private Chinese company. One group of legislators has tabled a proposal for constitutional amendments that introduces the concept of "shared responsibility" between private enterprise and the unions.

A long-term plan should be developed for electricity and other sectors, and sectoral laws need to be consolidated and harmonized to establish a unified framework for PPPs. The Constitution should be amended to carry out the commitments of Law 840.[9]

Panama

Since 2010, PPPs have progressed unevenly in Panama. Some initiatives have failed due to strong opposition. The government sent a new PPP law to Congress in 2011, but withdrew it in the face of objections from public sector workers. PPP legislation varies from sector to sector, with little concentration of decision-making authority and expertise. For PPPs in the water and sanitation sector, the government has yet to determine the legal status of private entities. Maritime ports operate under a different legal

8. See: http://www.central-law.com/_blog/Blog_Central_Law/post/alianzas-publico-privadas-guatemala/

9. The proposed reform says: "Given the country's advantageous geographic position, through the Law the State may enter into a contract or grant a concession for the construction and rational operation of an Inter-Oceanic Canal. The approval, amendment, addendum, adhesion, or repeal of such law shall require the vote of sixty percent of all the members of the National Assembly of Nicaragua (National Assembly, October 31. Statement of Grounds for Amendments to the Constitution).

framework, which adopts a lessee–lessor model for port regulation.

Market conditions limit the opportunities for new PPPs in the electricity sector. The government is considering regulatory changes that could establish a multi-tiered tariff system and segment the market for long term contracts, depending on the type of technology used to generate electricity.

Other trends in Central America

Mega-projects

By 2028, Central America will have two wet canals, two dry canals, and one superhighway. Perhaps by then Colombia will also have achieved its dream of a dry canal, and maybe Mexico will have its "trans-isthmus corridor". If all the proposed projects actually materialize, there will be seven canals in a single geographic region, all designed to connect the Atlantic and the Pacific.

railway and Mexico a railway and highway bridge cutting across the narrowest part of its territory, the Isthmus of Tehuantepec.

All these countries want to take advantage of an historic opportunity and construct a canal similar to the Panama Canal, which was built more than 100 years ago, and which is now too small to handle the size and volume of ships that need to move from one ocean to the other. China is playing an important role in investing in and/or operating these canal projects.

The USAID model for PPPs

The Global Development Alliances program is presented as the 21st-century model in which public resources are aligned with private capital, including from corporations, foundations, non-governmental organizations (NGOs), universities, local businesses and Diaspora groups.

Table 1. New Projects

Country	Project	Length in kilometers	Possible investors	Estimated Cost (US$ millions)
Colombia	Inter-oceanic railway	220		7,600
Costa Rica	Network of highways or "logistical corridor"	178		452.5
Guatemala	Two way coast-to-coast railway, pipelines, and new industrial zones	372		9,000
Honduras	Ten rail lines that will run from the Caribbean to the Gulf of Fonseca	280	Harbour Engineering Company Ltd.	100,000
México	"Trans-isthmus corridor," a railroad and road bridge cutting across the Isthmus of Tehuantepec	300		1,500
Nicaragua	One wet canal, one dry canal, two deepwater ports, two airports, and free trade zones	286	Hong Kong -Nicaragua Development Investment	40,000
Panamá	Expanding the Canal	80	CUPG consortium	375

A two-way railway will cut across Guatemala from coast to coast, and the country will have oil pipelines and new industrial zones. Honduras will have two rail lines running from the Caribbean to the Gulf of Fonseca, which it shares with its neighbors: Nicaragua and El Salvador. Nicaragua will have a wet canal, a dry canal, two deepwater ports, two airports, and free trade zones. Costa Rica will have a network of highways or "logistical corridors" that will move products from the Caribbean to the Pacific. Colombia will have an inter-oceanic

The program has been operating since 2001. It claims to have leveraged more than US$ 20 billion in public and private resources to stimulate economic growth, develop businesses and jobs in the health and environmental sectors, and expand access to education and technology. It has formed more than 1,600 partnerships worldwide with more than 3,000 partners who share the risks, responsibilities and rewards of the projects. In each industry and sector, it works with international and local private sector organizations.

Conclusions and recommendations

- Several issues related to PPP governance should be resolved: they are related to institutional, financial and implementation factors. Guidance is needed for government agencies, particularly since most agencies are reluctant to abandon their control over procurement. In most countries, the high cost of designing projects is a burden on public budgets.
- Financing large infrastructure projects is a problem for Central America. International commercial banks are reluctant to participate because the risks are not rated; this leaves the option of multilateral financial institutions. There are new project promoters (consortia including transnational corporations), in partnership with new local investors.
- The use of PPPs for economic infrastructure sectors is more highly developed than in the the social infrastructure sectors. Indeed, there has been considerable controversy over the use of such PPPs in sectors, such as education and health.
- In Central America, investments need to be brought into line with national development strategies, including national industrial and agricultural policies and priorities for increasing the role of the domestic private sector. Ownership and sovereignty must be respected through an appropriate framework.
- Public–private projects need to be more accountable to affected communities. There should be a guarantee that the projects and investments will have a positive impact, with clear and well defined objectives and clarity over the outcomes, as well as proper project supervision. Outcome indicators could be included in the project proposal.
- As job creators, SMEs should play an essential role in supporting development at the local level. The domestic economy is critical for mobilizing national resources and expanding productive capacity. Private investments should meet local needs, while absorbing the necessary knowledge and technology.
- Special attention needs to be given to tax matters. The trend in Central America is to offer incentives that have a negative impact on tax revenues and facilitate tax avoidance and evasion. All firms should present clear and transparent financial statements and information on beneficial ownership.
- Compliance with social and environmental standards should be carefully supervised. This can be done through national regulations and independent international supervision.
- It is difficult to ensure financial transparency, especially by financial intermediaries, which negatively affects development. More detailed public reporting by financial intermediaries is needed, and government agencies should only channel financing to intermediary institutions if flows can be tracked and investigated.

The Private Sector and Development

The European Union's Latin America Investment Facility[1]

Molvina Zeballos

Summary

In recent years, private firms have become key participants in strategies to achieve sustainable economic development. The 2011 Busan Partnership Agreement makes their role explicit.[2] It considers the private sector crucial to investment and participation in public–private partnerships and value chains.

We define the private sector as for-profit businesses that are not state-controlled. The European Union (EU) places this sector at the center of its strategies to leverage funds to increase resources for development. It creates investment mechanisms or public-private facilities – also known as 'blending mechanisms' – which link non-reimbursable grants from the European Commission (EC) with loans from development finance institutions, particularly for infrastructure projects.

This chapter outlines the experience of the Latin America Investment Facility (LAIF), launched in 2010 to boost regional interconnectivity; transportation and energy infrastructure; environmental protection; and to improve social services. From 2009 to 2013, total LAIF financing came to EUR 125 million. Given the announcements of cutbacks in EU bilateral cooperation for the period 2014-2020, the facility is likely to be one of the most important forms of cooperation for the Latin American countries that have been cut off from EU bilateral assistance.

Since September 2012, ten projects have received LAIF approval. They are geared primarily to producing renewable energy, mitigating climate change and building transport infrastructure. Only one of them directly supports small and medium sized enterprises (SMEs). This raises the question: Which private sector actors does LAIF benefit? The evidence points to large corporations, through public procurement processes and public-private partnerships. The approved infrastructure projects involve big business and prioritize their interests over those of the local population. One example is the Bii Nee Stipa II (Stipa Sayaa) Wind Park project in Mexico, evaluated as a case of "bad practice" due to its detrimental impact on the local people and their land.

At present, few binding standards or legal obligations regulate private sector impact on human rights. Most LAIF projects support initiatives by large for-profit corporations which are often based in the European donor country, whereas SMEs, crucial for development in Latin America, have received little support. LAIF projects are intended to help populations emerge from poverty and join the formal economic sector, which is also part of the broader EU's development objectives. Private sector involvement should therefore be consistent with LAIF's development objectives.

1. I thank Jorge Balbis for his help in the preparation of this article. A considerable part of the contents is from the publication Nuevas estrategias de Cooperación al Desarrollo de la Unión Europea en América Latina: La facilidad de inversión LAIF, CIFCA y Grupo Sur, with the support of Oxfam Solidaridad and the participation of ALOP, APRODEV, and EURODAD, Brussels–Mexico City, June 2012. It includes contributions by several authors, including Jorge Balbis, Gustavo Hernández, Laura Palomo, Toni Sandell, and Camilo Tovar.
2.http://effectivecooperation.org/files/OUTCOME_DOCUMENT_-_FINAL_EN2.pdf

Introduction

In recent years, private firms have increasingly partnered with governments to promote economic development. This is nothing new in practice; what is new, however, is the increasing public discourse which promotes private sector actors as crucial players and partners in development. The 2005 Paris Declaration on Aid Effectiveness called for grant aid to be coordinated with other forms of development finance and urged participation by civil society and the private sector (paragraph 15 of the Declaration). As a follow-up to the Paris Declaration, the 2008 Accra Agenda of Action called on governments to encourage partnerships with both public and private groups, including the for-profit business sector and civil society organizations.

The 2010 United Nations Millennium Summit and the G20 also consider the expansion of private sector business activity as key to sustainable development and to ending global poverty. The 2011 Busan Partnership Agreement is the most notable example of official statements promoting the role of the private sector. It recognizes "the central role of the private sector in advancing innovation, creating wealth, income and jobs, mobilizing domestic resources and in turn contributing to poverty reduction and sustainable development."[3] Paragraph 32(a) mentions the need to work with business associations and trade unions to improve the legal environment and to promote investment. It also calls for a regulatory climate that will support private sector development to attract foreign direct investment (FDI), encourage public–private partnerships (PPPs), and improve value chains. Section 32(b) asks for private sector participation in decision making, to both define and select development strategies.

This growing recognition of the role of the private sector in boosting development is not always accompanied by a common or consensus-based definition of the "private sector." Actors may include a broad and heterogeneous spectrum of formal and informal economic entities, from large international and transnational companies which focus on profit-maximization to micro, small, and medium enterprises, a wide diversity of social enterprises, and millions of individuals who are carrying out economic activities to maintain themselves and their families.

The private sector and development: A growing relationship

The increasing importance linkage between the private sector and development becomes evident in the figures on financing: the amount of funding which flows from international financial institutions (IFIs) to the private sector is set to rise from US$ 40 billion in 2010 to US$ 100 billion in 2015.[4] The decline in official development assistance following the global financial crisis of 2008 has intensified reliance on private investment. Bilateral and multilateral financial institutions and development agencies are seeking private sector participation to fill the gaps in international development budgets.[5] The public sector is expected to leverage private financing by using financial instruments including loans, equity investments, and guarantees.

Private sector firms receive official development assistance (ODA) for government procurement. According to EURODAD US$ 69 billion annually, more than 50% of total ODA, is spent on procuring goods and services for development projects from external providers.[6] In this context, the EU is trying to find new ways to place the private sector at the center of its development strategies through support for SMEs, free trade agreements, and

3. Busan Alliance on Aid Effectiveness, 2011, Ch. "Private Sector and Development," 32.

4. *Private profit for public good? Can investing in private companies deliver for the poor?* Eurodad, 2012. Available at: http://www.eurodad.eu/Entries/view/1543000/2012/05/29/Private-profit-for-public-good-Can-investing-in-private-companies-deliver-for-the-poor

5. The slowdown in ODA in recent years is explained, among other things, by the reduction in external debt forgiveness, the variability of policies for development financing, and the international financial crisis of 2008, which brought a halt to economic growth of some of the main donors, miring several of them (such as Spain, Greece, Italy, and Portugal) in a profound recession. The first effects were experienced in 2009, when there was an approximate reduction of 2% from the USD 122 billion allocated to ODA in 2008. Nonetheless, from 2010 to 2011 ODA grew by 12% in relation to 2009 and reached USD 133 billion. In 2012, ODA was reduced by 6% in relation to 2011. Carla Celi and Camilo Molina: "¿Hacia dónde va la Ayuda Oficial al Desarrollo con América Latina y El Caribe luego de la crisis financiera? Revisión de sus tendencias", in *Mito y Realidad de la Ayuda Externa en América Latina al 2012*, ALOP, Mexico City, at press.

6. Eurodad also notes that approximately two thirds of unconditioned aid is still linked to companies from the countries of the Organization for Economic Cooperation and Development, and 60% of the internal aid resources of developing countries go to companies from the donor country. "How to spend it. Smart procurement for more effective aid.", Eurodad 2011. Available at: http://eurodad.org/files/pdf/5284d26056f24.pdf, cited in *Nuevas estrategias..., op. cit.*, p. 10.

incentives for financing and implementing development projects (in particular through infrastructure initiatives).[7]

To that end, the so called "blending mechanisms" – investment facilities that link development aid with loans from publicly owned financial institutions or commercial lenders (in particular for large development projects) – have become the flagships of private sector financing.[8] Within this framework, the number of PPPs has increased as part of EU support for economic development.

The EU's blending mechanism

The EU's new investment facilities link non-reimbursable grants from the European Commission (EC), earmarked as ODA, with loans from European development finance institutions and regional development banks, to "mobilize" or "leverage" additional investments to support development, especially infrastructure projects. An initial facility was created for Africa (the EU-Africa Infrastructure Trust Fund) in 2007. Since then, seven new facilities have been launched that cover almost all the regions with which the EU cooperates on development.

The combination of grants and loans in a single project is not entirely new. For example the European Investment Bank (EIB) and the German development bank (Kreditanstalt für Wiederaufbau - KfW) have historically used their own grant resources alongside loans for infrastructure projects and other development initiatives. Over the last ten years, the EC has worked with the EIB and with regional development banks financing technical assistance and offering loan guarantees or grants for infrastructure projects.

The Latin American Investment Facility (LAIF)

The LAIF was officially launched in May 2010. It is financed with funds from the EU's Development Cooperation Instrument, which has an explicit focus on poverty reduction.[9] The EC justifies the LAIF mechanism because it is used to support regional interconnectivity, transportation infrastructure and energy, greater protection for the environment, improved social services, and strong growth for SMEs. The EU justifies the focus on energy and infrastructure by the fact that the countries of the region have difficulty attracting investment capital to improve infrastructure, which is key for technological development and for improving competitiveness in world markets. At the same time, infrastructure could accelerate growth and poverty reduction. For their part, Latin American governments also highlight the private sector orientation, access to European investors and the importance of these investors to the region.

LAIF financing for the 2009–2013 period is relatively modest (EUR 125 million), but the EC has announced "a higher share of aid to be delivered through such innovative financial tools" under its 2014–2020 multi-annual programming.[10] Given the cutbacks in the EU's bilateral cooperation with eleven countries in Latin America in 2014, LAIF will probably be the most important single cooperation facility for the countries cut off from bilateral EU assistance.[11]

Who is benefiting from private sector support through LAIF?

Since September 2012, ten projects have received final approval from LAIF's Operational Board, located in the EU. Of these, five are located in Central America, and three cover

7. According to the EC, " crucial to developing countries' success is attracting and retaining substantial private domestic and foreign investment and improving infrastructure." Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, "Increasing the impact of EU Development Policy: an Agenda for Change". Brussels, 13.10.2011 COM(2011)637 final, cited in *Nuevas estrategias..., op. cit.*, p. 11.
8. Concerning blending mechanisms, see, for example, the analysis of the European Think Tank Groups: "EU Blending Facilities: Implications for Future Governance Options", Overseas Development Institute, January 2011, "Leveraging private sector finance: How does it work and what are the risks?", Bretton Woods Project, April 2012 and "A dangerous blend? The EU's agenda to 'blend' public development finance with private finance", Eurodad 2013.
9. This facility seeks to help achieve the regulatory objectives of the Development Cooperation Instrument and the Regional Strategy for Latin America by addressing, for example, the challenges of climate change and its impact on the environment.
10. See the website:
trade.ec.europa.eu/doclib/docs/2012/january/tradoc_148992:En.pdf
11. As of 2014, EU cooperation at the national level in Latin America is likely to continue only with Bolivia, Cuba, El Salvador, Guatemala, Honduras, Nicaragua, and Paraguay, although all the countries of the region continue to be eligible for regional programs such as those of the LAIF, thematic programs (public goods and civil society organizations/local authorities), and horizontal EU development cooperation instruments (Instrument contributing to Stability and Peace, Instruments for Democracy and Human Rights, and Instrument of Association).

Latin America. Two projects are related to the production of renewable energy, two to accessing international financing to address climate change, three are for construction of transport infrastructure, and one is for water management.[12]

Taking into account the list of projects financed by the LAIF to date, it is necessary to ask which private sector actors are being supported by these financing mechanisms? Of the projects approved by LAIF so far, only one directly supports SMEs.[13]

LAIF primarily supports large corporations through its provisions for government procurement related to infrastructure investments. Since LAIF projects prioritize technological innovation from Europe as a way of promoting the "green economy", especially in the energy and technology sectors, it would not be surprising if most of the contracts were awarded to European companies.[14] This has been the case in the ten projects approved so far. The most obvious example is the construction of a wind farm in the Isthmus of Tehuantepec in Mexico, through a project called Bii Nee Stipa II. This project was led by the Italian Society of Companies Abroad (SIMEST), a development finance institution that supports Italian businesses abroad.[15] The project is being implemented by Italian energy giant ENEL. Spain, an EU member state, probably voted to approve the project since ENEL collaborates closely with the Spanish wind energy company Gamesa.[16] Investors did not consult the indigenous population about the wind farms in Tehuantepec. Local communities object to the scheme because it is sited on ancestral lands and provides energy mainly to the companies' subsidiaries or partners (ENEL Green Power in Mexico, Nestlé, and Coca-Cola), not to the population in the area.[17]

It is therefore reasonable to ask whether this project was approved to help combat inequality and reduce poverty, or whether the interests of the key European companies were more important.[18] In the current scheme, the only clear benefit to local people is a commitment to hire personnel from the area, as a contribution to sustainable economic development.

Case studies of LAIF projects

On the basis of a general mapping of the ten projects approved for financing by September 2012, we selected four projects[19] for research and a more in-depth analysis.[20]

Case 1 – Energy Efficiency and Renewable Energy Program, Central America

The program, called "Green Micro" (Iniciativa MIPYMES Verdes), facilitates access to finance for micro, small, and medium sized enterprises (MSMEs), for investments in energy efficiency and renewable energy. Its objective is to contribute to environmental protection through energy savings and to improve the competitiveness of these MSMEs by increasing their productivity, cutting operating costs, and improving profitability. The program is led by the German development bank (KfW) with a loan of EUR 30 million, and implemented by the Central American Bank for Economic Integration (CABEI), which is contributing EUR 3.3 million in loans. It also receives a subsidy from LAIF for technical assistance totaling EUR 3 million.

12. The projects approved are: (1) Energy Efficiency Program for Central America, (2) Program of Sustainable Electrification and Renewable Energy in Nicaragua, (3) REDD Mechanism Climate Change (Mexico), (4) Expansion of the "5 de Noviembre" hydroelectric plan (El Salvador), (5) Climate Change Program (Regional), (6) Sustainable Transport Networks (Regional), (7) Rural Highways Program (El Salvador), (8) Latin America Carbon Financing Facility (Regional), (9) Bii Nee Stipa Wind Park (Mexico), and (10) Integrated Water Resources Management (Colombia). Information available at: ec.europa.eu/europeaid/where/latin-america/regional-cooperation/laif/documents/laif_presentation_en_january_2012.pdf
13. The Energy Efficiency Program for Central America, which provides financing to SMEs to invest in reducing energy consumption, energy efficiency, and renewable technology for generating energy. The project will be carried out through financial intermediaries, who will be given technical assistance and financing to support SMEs.
14. On the importance of European firms in the energy sector in Latin America, see, for example: www.cepal.org/publicaciones/xml/0/46570/2012-181-LIE-capitulo_IV.pdf.
15. See the website: www.simest.it/home.html.
16. See the website: www.enelgreenpower.com/es-ES/plants/projects/mexico/bii_nee/.
17. See the website: www.noticiasnet.mx/portal/principal/beneficiados-empresas-eolicas-istmo.
18. This also holds for blending facilities in general, as concluded by a study commissioned by the European Parliament: "There are justified concerns, however, that these blending facilities are not appropriate to address many development needs and that the assistance in the form of concessional loans can put heavily indebted countries at risk. Nevertheless, the use of blending facilities of the Development Cooperation Instrument can be beneficial if well devised. They should be used to complement but not substitute for traditional development finance. Furthermore, care is required to ensure that blending instruments are effectively oriented towards poverty reduction, avoiding a return to a focus on investment." Blending Grants and Loans in the light of the new DCI. European Parliament, June 28, 2012.
19. Based on four criteria: (1) geographic and thematic balance, (2) relevance of the projects for civil society networks, (3) availability of information, and (4) balance among potentially "good" and "bad" cases.
20. Camilo Tovar: "LAIF: Estudios de caso", in Nuevas Estrategias de Cooperación al Desarrollo…, op. cit., pp. 29–36.

The program addresses access to financing, a crucial factor identified as one of the main barriers to the development of micro, small, and medium enterprises. The loans made by the KfW and CABEI are channeled to MSMEs and energy developers through the Central American financial institutions that are eligible for a global line of credit approved by CABEI. The LAIF subsidy provides technical assistance and training to the financial institutions. This enables them to establish financial instruments for MSMEs aimed at financing investments in energy efficient and renewable energy projects. In addition, the LAIF finances energy audits of MSMEs to determine the investment needed for energy efficient projects and the potential energy savings. Finally, LAIF funds feasibility and environmental impact studies for small renewable energy projects and supports initiatives by financial institutions and MSMEs, to promote investments in energy saving and in alternative energy sources.

In theory, the program could have positive effects on environmental protection (cutting energy consumption and generating power from renewable sources), reducing dependence on fossil fuels and exposure to the volatility of their prices, and improving the competitiveness of and access to financing for MSMEs. This could lead to more job creation by MSMEs, helping to reduce poverty and inequality. Job creation, however, depends on several factors external to the program and evidence for this cannot be obtained from the EC or the institutions involved.

Based on the scarce information available, the program has the potential to have a positive impact, but the following questions need to be answered. How was the project designed? Who participated and what supervision mechanisms were defined? How does the project support regional integration within Central America? What are the procedures for contracting services (training, consultancies and studies) and procurement of goods (equipment)? What type of companies these contracts benefit? Was any social and environmental impact study undertaken before the program started? How was this project prioritized over other financing needs?

Case 2 – Expanding the 5 de Noviembre hydropower plant, El Salvador

The project is designed to meet the demand for electricity in El Salvador by generating renewable energy, contributing to environmental protection and reducing dependence on the imported fossil fuels to achieve greater energy security. It expands the "5 de Noviembre" hydropower plant from the current 99 MW to 180 MW by installing two 40 MW turbines using the existing dam and reservoir. The project is led by the KfW (with a loan of EUR 46 million), co-financed by CABEI (with a loan of EUR 46 million), and by the Hydroelectric Executive Commission of the Lempa River (CEL, for its Spanish acronym) with a contribution of EUR 34.4 million. The subsidy from LAIF (EUR 6 million) is a direct contribution that pools the funds of KfW and CABEI. According to the EC, it obviates the need for CEL to seek a larger loan. The total financial package makes the project viable. The construction contract was signed in January 2013 by CEL and the winner of the tender, UDP Consorcio Constructor Expansión Cinco de Noviembre (Constructora Queiroz Galvão S.A.-Andritz Hydro Inepar do Brasil S.A.). The construction period will take three years.

CEL commissioned an environmental impact assessment (EIA) for the project, carried out by Euroestudios, a Spanish consulting firm in May 2012. The EIA concludes that "from the environmental standpoint, the project is considered appropriate – that is, it will not introduce significant changes in hydrological or hydraulic conditions, no populations will be relocated, no protected plant or animal species have been identified in the zone of direct influence, nor will private lands be purchased or occupied."[21] The EIA identifies some negative impacts and suggests measures for

21. "Estudio de Impacto Ambiental del Proyecto Expansión de la Central Hidroeléctrica 5 de Noviembre". Contract No. CEL4561-S. May 2012.

prevention, mitigation and compensation to be adopted in the Environmental Management Program, with an estimated budget of US$ 784,096.

The EIA calculates the net revenues from the project's sale of energy and carbon bonds, estimating operating and maintenance costs at approximately US$ 211 million and project costs of US$ 136.4 million (including the costs of mitigation and environmental monitoring), which would generate a net benefit of US$ 74.6 million.[22] However, these calculations were optimistic. On the one hand, it presented an underestimation of the costs: according to CEL, costs are estimated at US$ 189.37 million per year.[23] On the other hand, the EIA assumed a sales price for carbon bonds of US$ 10 per ton of CO_2, but the carbon bond market has collapsed. In April 2014 the estimated price was US$ 0.44 per ton of CO_2. It was not possible to confirm with the project managers whether the project has been registered and approved under the Clean Development Mechanism (CDM), and no record was found on the United Nations Framework Convention on Climate Change (UNFCCC) website. According to the economic evaluation in the EIA, the net benefit to El Salvador is on the order of US$ 21.1 million per year. CEL and the EIA figures, however, indicate that the project would generate a deficit - even without taking into account the lower revenues from carbon bonds. Repeated attempts were made to contact CEL to verify the data and obtain an updated cost-benefit analysis of the project, but there has been no response.

"It is no exaggeration to say that the future of the Lempa River will determine, in large measure, the future of El Salvador"

In addition, the EIA did not take into account environmental and social variables in different categories of water use. For example, no techniques were used to measure the "hydrologic footprint" and the amount of "virtual water" in each of the impacts.[24] The Lempa River is El Salvador's main source of water, accounting for two-thirds of the country's hydrological potential. Water has many environmental and social functions and the relative wealth of different regions in El Salvador is associated with the availability of water. Priority should therefore be given to water supply to meet basic needs and secure better quality of life.[25] This has not been taken into account in the EIA. At the same time, the Lempa River has its source in Guatemala and runs through Honduras before entering El Salvador. Comprehensive management therefore requires coordination by the three countries, as demonstrated by the recent disputes between El Salvador and Guatemala over the exploitation of the Cerro Blanco Mine. Dr. Ángel Ibarra, president of the Unidad Ecológica Salvadoreña, said: "It is clear that the recovery of the Lempa is a decisive battle in going forward along the path of social and environmental sustainability for El Salvador. It is no exaggeration to say that the future of the Lempa River will determine, in large measure, the future of El Salvador."[26]

This project as presented prioritizes economic logic over the social and environmental aspects of development, although the underestimation of costs proved that it was not accurate. The issue is whether at the time of evaluating this project, LAIF's Board took into account the social and ecological relevance of the Lempa River or if the evaluation was just based on the profitability of the investment or the objective of meeting the demand for electricity (and generating it) from renewable sources.

Case 3 - Bii Nee Stipa II (Stipa Sayaa) Wind Park, Mexico

The aim of the Bii Nee Stipa (BNS) project is to promote the wind energy industry through a public-private scheme to build a wind farm in Ejido La Ventosa in the Isthmus of Tehuantepec in Mexico to generate 74 MW with 37 wind turbines. This is the second stage of a project, planned and developed by Gamesa Energía S.A. (Spain) and the Mexican company Cableados Industriales S.A. de C.V. (CISA). The Public Private Partnership (PPP) process was undertaken by

22. "Perfil de Proyecto. Expansión de la Central Hidroeléctrica 5 de Noviembre". Hydroelectric Executive Commission of the Lempa River (2013).
23. *Ibid.*, pp. 5–8.
24. Information provided by Carlos Salvador Zepeda, Ph.D. candidate University of Warwick, United Kingdom, to Camilo Tovar, author of the LAIF case studies for the publication *Nuevas Estrategias de Cooperación al Desarrollo…, op. cit.*, pp. 29–36.
25. Ibarra, A.; Campos, U., and Rivera, F.: Hacia la Gestión Sustentable del Agua en El Salvador. Propuestas básicas para elaborar una Política Nacional Hídrica. Unidad Ecológica Salvadoreña, El Salvador, August 2005.
26. *Ibid.*

the Comisión Federal de Electricidad (CFE) (the Mexican public company operating the electric energy generation, transmission and distribution) and Comisión Reguladoria de Energía (CRE) - the federal regulatory body for energy.

Launched in 2007, the Bii Nee Stipa project evolved in three phases.[27] The financing for the third phase is as follows: the lead finance institution is SIMEST (the Italian Society for Companies Abroad) with EUR 5 million; it received a EUR 3.3 million subsidy from LAIF; it was co-financed by the IDB with a corporate loan of US$ 76 million made to Italy's Enel Green Power (EGP); SIMEST also provided a subsidy to the interest rate for the financing provided by the Banco Bilbao Vizcaya Argentaria (BBVA, Spain) to EGP for EUR 44 million. These funds went to a "Special Purpose Vehicle" (SPV) to finance elements of the project. The SPV owns and operates the wind plant while the transport infrastructure from the wind plant to the national grid was financed by Italy's Enel Green Power (EGP) with a subsidy from LAIF, as described below.[28] The energy produced will be sold and used mostly by two large multinational companies - the Grupo Nestlé México, and Fomento Económico Mexicano S.A. These two groups have a small equity share in the SPV through which they end up supplying energy to themselves (self generators). The surplus of energy (22% of expected generation)[29] can be sold to other clients who participate in the self generation scheme or can be sold to the CFE.

The EUR 3.3 million subsidy approved by LAIF was earmarked to finance the public component of infrastructure, namely the transmission lines connecting the wind farm and the national grid. This is an investment estimated at EUR 8 million, 41% of which would be covered by LAIF. The financing agreement has yet to be signed with SIMEST, therefore the EC has yet to disburse these resources, but according to Gamesa Energía S.A., one of the planning and developing companies, this component of the project has already been built. This situation gives rise to several questions that are not possible to answer, because the institutions involved (EC, SIMEST, and EGP) did not respond to the questions put to them by the authors. These relate to both the financial and developmental incentives of the LAIF grant: How was it possible, ultimately, to finance the transmission component if it was thought that LAIF's contribution was fundamental? And will the EC accept a subsidy for work already completed? If so, how will the LAIF resources be used once the financing agreement is signed with SIMEST? How rigorous was LAIF's evaluation of the need for the facility, if the project was financed and implemented without the disbursement of LAIF resources? This is particularly important because EGP carried out a similar project, BSN III, a few months after BSN II without needing a subsidy.

The BNS II project proposal submitted to LAIF argues that it is aligned with the principles of Convention 169 of the International Labor Organization on involving local and indigenous communities. This assertion is based on agreements entered into with the communities known as Ejido La Mata and Ejido Ixtaltepec and through a series of activities promoted by EGP.[30] However, the company did not respond to

"the company did not respond to requests for information"

requests for information about the implementation of these agreements. In addition, a draft document from the IDB on the environmental and social strategy of the BNS II project asserts: "There is no indication in the documentation that affected people have been appropriately consulted on the Project, which will be investigated during the Due Diligence." This is backed by representatives of local communities, such as Bettina Cruz, a community leader in the region, who argue that no process of free, prior and informed consultation was undertaken with local communities and employment associated with the farm was limited to hiring workers during the construction period.[31]

27. The wind farm built during the first stage - BNS I (26 MW) - was sold to the Spanish company Iberdrola Renovables in 2010. Italy's Enel Green Power (EGP) took responsibility for the second phase (BNS II, 74MW) in 2010 and announced the completion of the third phase (BNS III, 70 MW) in December 2012.
28. The "Special Purpose Vehicle" is the Mexican Company Stipa Nayaa S.A. de C.V., formed by Gamesa and CISA in 2011. Gamesa and CISA were also responsible for the construction of BSN II which was completed in 2012.
29. Contribution Request No. A1 presented by written procedure of the Operational Board on April 2012", Latin America Investment Facility (LAIF). SIMEST, February 23, 2012.
30. "Contribution Request No. A1 presented by written procedure of the Operational Board on April 2012", Latin America Investment Facility (LAIF). SIMEST, February 23, 2012.
31. "New European Union development cooperation strategies in Latin America: The Latin American Investment Facility (LAIF)" CIFCA and Grupo Sur, June 2013, pp. 38. Available at:
http://www.cifca.org/IMG/pdf/Report_LAIF_EN.pdf

The indigenous and local population has resisted the wind parks in the Isthmus of Tehuantepec. Without proper consultation the parks have been sited on ancestral lands and sacred territories. Also, evidence of adverse social impact has emerged in the construction of a large wind park by Mareña Renovables in San Dionisio del Mar, Oaxaca. The local community organized to resist the project and defend its territory and protestors have been targets of threats, harassment, and attacks.[32] They have faced a clampdown from local and state authorities, and some of the protest leaders have been forced into hiding. Mareña Renovables pressures the Oaxaca authorities to offer guarantees for the investment and to facilitate the startup of the work, without gaining the consent of the local population and without taking into account the project's cultural, social, and environmental impact.

The BNS II wind park was built in an agricultural area. The project's developers reported that all the landholdings are privately owned,[33] but Bettina Cruz contradicts this view. She claims that, years ago, a government resolution declared some areas as "communal land". The developers and the government claim that the land where the wind parks are located is unproductive. But the leader of the Unión de Comunidades Indígenas de la Zona Norte del Istmo, Carlos Beas Torres, contradicts this view, arguing that the land supported significant crop production and livestock. A few years ago, in La Ventosa, where BNS II was built, "the best cheese of the Isthmus was produced; now cattle feed is scarce and production of milk and other dairy products has declined; as a result, many people have lost their jobs."[34] The productive alternatives and job opportunities created by the wind parks are neither sustainable nor significant in number. During the construction of the park around 200 local employees were hired - a short-lived bonanza lasting a few months.

Once this stage was concluded, the vast majority of workers was left without employment or agricultural work as an alternative. Very few local people continue to be employed. They work in surveillance and supervision, since the wind park operates automatically and maintenance is generally conducted by foreign personnel.

Information published by the IDB describes the environmental issues and impacts of the BNS II project. The documents identify possible impacts during the process of marking out the area of the properties, installing wind tur-

"The productive alternatives and job opportunities created by the wind parks are neither sustainable nor significant in number"

bines and of vehicle traffic. The study concluded that the project would not have serious effects on the surrounding area since most of the impacts are moderate and temporary, but it calls for a study on migratory bird routes.[35] In 2011, Gamesa Energía S.A. and CISA commissioned a study of resident and migratory birds, which concluded that the number of collisions of birds with the turbines would not be significant or negatively affect the bird population, but it recommends developing a plan for surveillance and supervision of this possibility.[36]

According to the project proposal submitted to LAIF board, SIMEST and the IDB would supervise the environmental, social, labor, health and safety aspects of the project through site visits and document reviews, but to date no information on such supervision is available.

Finally, it is worth mentioning that in 2005, Gamesa Energía S.A., one of the developers of the project, registered the BNS II under the UNFCCC's CDM, to obtain Certified Emission Reductions (CERs). The project design document submitted by the company to the CDM states that the revenues derived from the sale of the CERs at a price of US$ 5 to US$ 20 per ton of CO_2 are needed to make the project financially viable.[37] However, it is important to note that the carbon bond market has collapsed, and CERs, which in 2008 were traded in the market at a price of US$ 0.20 per ton of CO_2,

32. "Informe la situación de los derechos humanos en Oaxaca. Grandes pendientes", Comité de Defensa Integral de Derechos Humanos Gobixha A.C. CODIGO DH, 2012, pp. 68-78. Cited in *Nuevas Estrategias de Cooperación…, op. cit.*, p.33.
33. "Contribution Request No. A1 presented by written procedure of the Operational Board on April 2012", Latin America Investment Facility (LAIF). SIMEST, February 23, 2012.
34. Beas Torres, C. (2012): "Los mitos del megaproyecto eólico del Istmo de Tehuantepec", ALAI–América Latina en Movimiento, October 24, 2012.
35. "Guía sector eléctrico modalidad particular", Bii Nee Stipa II Wind Park. IDB, 2009.
36. Montejo Díaz, J. E.: "Reporte final del estudio de aves residentes y migratorias del proyecto eólico 'Bii Nee Stipa I'", La Ventosa, Oaxaca, Xalapa, Veracruz, 2011.
37. "Project Design Document (CDM-PDD) – Bii Nee Stipa", Clean Development Mechanism. Gamesa, 2005, p. 14.

were traded at US$ 0.44 per ton of CO_2 in March 2013. That month UNFCCC's CDM web page did not register any request for the issuance of CERs by this project.

Although the BNS II project has been considered an example of how LAIF can contribute to energy efficiency through a PPP, it could be considered "bad practice" in development cooperation on several grounds. There is not enough evidence that the subsidy approved by LAIF passed the development and financial additionality "test," as it could be thought that the project would have been possible even without the grant. Also, the project is a private initiative to produce energy for use by large private companies. The public component is minimal and would not benefit the local population, for whom electricity tariffs continue to climb. The project was implemented despite protest from the local population and in a context of on-going conflicts between local people, the Mexican authorities and wind farm companies. This situation does not appear to have been sufficiently considered by the EU delegation to Oaxaca, or by the EC.

Case 4 – Comprehensive Water Resources Management, Colombia

The project was designed to support the implementation of the Colombian National Policy for Comprehensive Water Resources Management and the execution of the National Water Plan. The outline submitted to LAIF by the French development agency L'Agence Française de Développement (AFD), with co-financing from the Andean Development Corporation (CAF), consists of budget support for the Colombian state over five years, a mechanism for monitoring the start up of the water resources management policy and technical cooperation. Specific objectives of the project are:

- To ensure that the selected river watersheds are prioritized for the implementation of the actions.
- To provide the technical and financial resources for executing the plans of the Regional Autonomous Corporations, which are responsible for the management of environmental and natural resources in their territories.
- To integrate risk management into development planning for the watersheds.
- To ensure that the Watershed Councils implement participatory management of the watersheds.
- To give the Institute of Hydrology, Meteorology and Environmental Studies effective tools to supervise water resources in the priority areas.

The project has three main components:

- Budget support of EUR 137.8 million through loans from the AFD and the CAF, for implementing the comprehensive water resources management policy.
- Supervision of implementation of the comprehensive water resources management policy, with an annual report based on relevant indicators for each environmental authority.
- Technical cooperation and a pilot project. The EUR 4.5 million subsidy approved by LAIF is earmarked for this last component.

According to the information available in late March 2013, the European Commission's (EC) financing agreement with the AFD for beginning implementation of the last component was in the negotiation phase. The LAIF subsidy will be disbursed by AFD to the Ministry of Environment and enable it to draw up the guidelines for standardizing implementation of the National Water Plan. Most of the costs would be consultancies and studies, with some investment in equipment and construction. According to the request for funding submitted to the LAIF and the information supplied by the Ministry of Environment of Colombia, the LAIF subsidy will be used as follows:

- EUR 1 million in technical assistance for four years given to the Ministry of Environment and Sustainable Development.
- EUR 2.8 million for a pilot project to implement the Land Use and Watershed Management Plan for Lake Tota, which seeks to strengthen the Regional Autonomous Corporation of Boyacá (the government entity charged with carrying out the project), to strengthen technical knowledge, and to strengthen community participation.

- EUR 0.3 million for awareness raising and communication on comprehensive water resources management.
- EUR 0.4 million for contracting an external implementing unit to support the Ministry of Environment in providing technical and financial support for project implementation.

Lake Tota is the largest fresh water lake in Colombia, with a unique ecosystem. It is situated 3,015 meters above sea level. Its ecological importance is unquestionable, but there are several environmental and social conflicts over the use of the water and its watershed due to damaging practices, including: the extensive use of agrochemicals and fertilizers in the large onion crops adjacent to the lake, growth of the industry that involves raising trout in floating cages (prohibited as an unsustainable practice in other countries), infrastructure for tourism and urbanization of the shore, provision of free water for irrigation and other industrial activities with no control whatsoever, and pollution due to the dumping of wastewater and deficient public services (drinking water, sewerage, and waste collection) in the areas along the shore. Other problems are the shortcomings of the state agencies related to monitoring and surveillance, the non-existence of a visible autonomous agency devoted exclusively to managing the Lake Tota watershed (for example, a Watershed Council), as well as the fact that the lake is not classified as "protected" in any way. There is also great concern about the impact of the exploration and extraction of oil (planned by the French multinational Maurel & Prom) and mining resources in the area, including the higher altitude areas (páramos) surrounding the lake.[38]

The project proposal submitted to the LAIF mentions only that the project, by improving water resource management, helps to optimize the volume of flow of the river channels. It therefore argues that the project contributes to the adaptation to climate change by reducing regional disparities in the distribution of water in Colombia.

Project information on the AFD website emphasizes that the project will have a positive social impact by reducing the conflicts associated with water between the population, institutions and the private sector. Impacts of floods or lack of water availability on the poor will be reduced. Drawing up a socio-environmental impact study prior to project implementation was not a requirement, but the Ministry of Environment submitted a socio-economic and environmental assessment to AFD. The baseline for project implementation was constructed using this assessment.

This project has the potential to demonstrate "good practice" in the context of LAIF. It is implementing an ambitious national policy (locally defined) for the comprehensive and sustainable management of a natural resource, which means it is a public resource that prioritizes its social and environmental function over its economic value. The financing by LAIF complements and strengthens the budget support granted by the AFD and the CAF to the national government, facilitating a pilot project developed in a strategic watershed. The pilot project places emphasis on social participation and can be a model for other watersheds in Colombia.

The project also includes mechanisms and indicators for supervision, which is critical because social participation should be adequate and comprehensive.

Conclusions

In recent years, policies and instruments that support and promote the private sector as a central player in development have emerged. But there are no binding rules or legal obligations to regulate the private sector´s activity, especially with respect to human rights. This causes one to doubt whether mechanisms such as the LAIF can reconcile profitability and economic growth promoted by the private sector, on the one hand, and a rights-based approach to eradicating poverty, on the other.

In general, PPPs and blended finance mechanisms do not yet have unified rules on monitoring and evaluation. At present, the lead financial institution for each project applies its own criteria. Following EU principles, it may insist on including poverty reduction in the strategies of the European and Latin American development banks, as well as improving transparency and sustainable development

38. Information obtained from the "Causa Tota" and the Movimiento Cívico pro lago de Tota y su cuenca. See: www.causatota.net/index.html.

mechanisms. If implemented extensively, this could be considered one of the greatest strengths of LAIF.

To date, however, there is no compelling evidence that the objectives of LAIF projects are consistent with the priorities of EU cooperation with Latin America. The vast majority of projects financed by LAIF do not explicitly consider reducing poverty, inequality and exclusion. Most of the projects supported by the LAIF are initiatives by large, for-profit companies, often based in the European donor country, with, at best, only indirect investments that benefit the poor.

Strengthening SMEs is crucial for development in Latin America, but to date LAIF has given little support to local SMEs. If the EU adopts more effective poverty reduction strategies in Latin America, the focus should be on productivity and employment generation to diminish inequality.

The benefits of the economic and political leverage that LAIF gives the EU can only be assessed through more transparency and data about what is happening on the ground in order to provide evidence for a much broader discussion about the purpose of the financing mechanisms that engaged the private sector. In theory, the private sector can create economic opportunities for the poor through investment, fair and decent employment, expanding markets, innovation and generating sources of income for government programs. But not all investments help to alleviate poverty or inequality in many countries which are experiencing strong economic growth because most private sector companies do not take responsibility for their social impact. This is an important issue, but a not widely discussed one.

For this reason, LAIF should be more transparent about the criteria for selecting projects and should design mechanisms for social accountability. The latter is one of the principles of the Paris Declaration on Aid Effectiveness. As long as the "private sector" continues to be seen as a broad and vague category and the political use of aid to support European companies is dominant, there will be no clarity about the best way to involve the private sector in sustainable development.

To date, donors have not been able to analyze how economic activity financed by overseas development assistance contributes to poverty reduction.[39] To achieve this, public funding for projects involving the private sector should meet economic development objectives. National development plans should focus on reducing poverty and inequality and include the opinions of the poor and the marginalized.

If private sector companies are to be considered true development partners, they must be ready and willing to improve the lives of poor and marginalized populations. Initiatives should create economic opportunities for these excluded populations, focus on the economic empowerment of women and create conditions for dignified work. They should also support economic inclusion and social protection.

Donor's aid should target private sector actors that are able to:

- Strengthen and develop small scale agriculture;
- Improve the conditions of workers in the informal sector;
- Eliminate legal and institutional barriers to women engaging in economic activity;
- Reform and monitor the conditions for dignified work; and
- Channel investment to SMEs, cooperatives and other forms of social entrepreneurship.

In conclusion, donors should avoid partnerships and initiatives with large for-profit corporations that are often located in the donor country. At best, they only provide indirect investments for the poor, as most LAIF projects to date demonstrate.

39. As regards the relationship between ODA and the private sector and its effects fighting poverty and reducing inequalities, see: Aid and the Private Sector: Catalysing Poverty Reduction and Development? The Reality of Aid, Philippines, 2012, especially: "Political Overview", pp. 9–23. Available at: http://www.realityofaid.org/wp-content/uploads/2013/02/ROA_Report_2012-Aid_and_the_Private_Sector1.pdf.

Private financing for development in Latin America

Angélica Canavire - Fundación Jubileo

1. Capital flows to Latin America

In general terms there was an increase (albeit volatile) in foreign private capital flows into the region. This was the result of:

- The attractiveness of investing in financial services, telecommunications, and extractive industries (hydrocarbons and mining);
- Support and promotion for private sector companies from multilateral financial institutions and regional banks;
- The fact that principal capital flows come through public debt (including sovereign debt), private debt and foreign direct investment.

2. Financial resources to the private sector

The resources flowing to the financial sector come from:

Multilateral and bilateral cooperation. One would suppose that Official Development Assistance (ODA) aims to achieve the Millennium Development Goals, but it also supports the private sector. Because ODA represents public funds, it is important to analyze the impact of its private sector initiatives on the population and the environment.

Regional financial institutions such as the IDB and CAF. It is important to analyze the financing that a regional multilateral financial institution provides to the private sector. This includes how the funding relates to the development of the countries in the region, including negative impacts.

Public–Private Partnerships. PPPs initiatives in Latin America and the Caribbean are concentrated in infrastructure and public services. At present, most PPPs are in areas that should be the direct responsibility of the public sector, such as health and water supply. In Bolivia, 36% of total investment in hydrocarbons comes from the private sector. In Peru, several PPPs have been established since 1998 in energy and infrastructure, and more recently in social security.

3. Leading International Financial Institutions/regional development banks

These institutions support public investment and provide technical assistance at the different levels of government. As described below, their functions are changing:

Inter-American Development Bank. Among the services it offers to the private sector are loans, concessional financing, technical assistance and equity investments. This support for the private sector is estimated to reach 32% of total IDB loans.

Andean Development Corporation. It supports the private sector through long term loans, lines of credit, advisory services for the design and implementation of projects, including PPPs, provision of debt and/or equity financing, etc. It is estimated that 23% of its loan portfolio is geared to financing projects and firms without any sovereign guarantee.

Brazilian Development Bank (BNDES). The Bank promotes integration in South America, financing the Brazilian private sector and PPPs dedicated to the construction of physical infrastructure (e.g., energy, telecommunications, and transport) in Brazil and other countries. Some analysts believe that the BNDES has increased its loans from US$ 20 billion in 2002 to US$ 70 billion in 2013. This is concentrated in infrastructure planned by the Initiative for the Integration of Regional Integration of South America (IIRSA), now proceeding under the South American Infrastructure and Planning Council of UNASUR.

A General Analysis and Preliminary Evaluation of Public–Private Partnerships in Peru

Germán Alarco Tosoni[1]

Executive summary

This chapter aims to evaluate Peru's experience with public–private partnerships (PPPs) and to explain why these partnerships are considered as one solution to the constant crises of global capitalism. It is divided into three sections. The first provides historical context, describing how this type of investment was first introduced in Europe and outlining the ideology that has resulted in the resilience and adoption of PPPs in Latin America. This section also examines the relationship between PPPs and the crises in capitalism in recent decades. The main argument is that PPPs improve aggregate demand by coordinating and regulating private investment. But, over time, this policy choice and others have been inadequate.

The second section discusses the advantages and disadvantages of PPPs. Advantages include the maintenance carried out on the asset during its lifespan and the greater probability of delivering higher quality services. Disadvantages include the higher transaction and administration costs associated with PPPs, problems when tendering projects, the lack of strong institutions and mechanisms related to PPPs, and constant changes to contracts. Income becomes concentrated when PPPs involve public guarantees of profit and incentives for a small group of large companies (particularly in countries where the business sector is underdeveloped).

The third section highlights the relevance of using the "value for money" methodology or the public–private comparison mechanism (PPCM) in the initial phase of the PPP system as well as the problems with the design, implementation, and operation of the main concessions in Peru. Transport infrastructure examples are presented, including the port of Paita, the northern and southern dock concessions in the port of Callao and the Jorge Chavez International Airport concession. As a result of these cases, this article also presents some suggestions for the different phases of PPPs.

Finally, the chapter concludes that:

1. Detailed evaluations of Latin America's experience with PPPs should be carried out.
2. PPPs are more useful when there are serious constraints on public finances. Moreover, different financing options should be considered for each component of a project; this approach challenges the myth that PPPs are always the best option.
3. The state can regulate the amount and type of PPP-related investment and the associated risks.
4. There is a need to strengthen the state's capacity to promote and manage PPPs. In particular, it is important to adjust the regulatory and procedural frameworks to prioritize the well-being of the population, instead of focusing solely on particular economic interests.
5. An evaluation should be carried out at the end of the first round of project implementation and corrective actions taken.

1. Research professor at the Postgraduate School of the Pacific University. Thanks to Patricia del Hierro Carrillo for her comments and to César Castillo García for his collaboration as research assistant.

Introduction

During the 1980s, there was an ideological bias towards promoting PPPs in developed economies, especially Great Britain. Initially, they were used for transportation infrastructure projects, but their use was then extended to other sectors. Privatization strategies, including PPPs, assumed that the private sector is always more efficient than the public sector. In the first phase of their development, the criteria were ideological. They were rooted in the adjustment programs introduced by the International Monetary Fund (IMF) in the 1970s to privatize public services.[2] The programs included measures to reduce demand for goods and services, promoting saving and investment to boost production. These measures were later described as "structural adjustment reforms".

Adjustment programs, including privatization strategies, became part of the Latin American agenda following the debt crisis in the 1980s. In the nineties, the strategies were reinforced by the Washington Consensus (1990), first articulated by John Williamson. Two of the recommendations of the Consensus were to balance public finances and to privatize public companies. Underscoring the extreme fragility of public finances, the first PPPs in Latin America were supported by the World Bank and later by the Inter-American Development Bank (IDB). Efforts to improve transport infrastructure in the previous decade had been abandoned, which provided the ideal scenario for implementing PPPs. In some Latin American countries the reform of regulatory structures began during this period, while in others this process started at a later stage. The remaining countries still wait for such reform to take place. The constant re-negotiation of contracts is part of this process; this has costs and benefits that need to be examined.

Twenty years have passed since the first Latin American PPP contracts and/or concessions were signed. PPPs were first introduced into the transport infrastructure sector, then adopted for the electricity sector, the provision of water and irrigation, and all types of public services including health, education, and penitentiary services.

In most Latin American countries, there has been no evaluation of PPPs, due to a combination of inertia and ideology. The initial errors and failures triggered widespread social resistance in Argentina. But, in many countries, little is said on the topic and there is minimal sharing of experiences.

Worryingly, in Peru, the few evaluations that have been carried out did not identify any significant problems. The authorities, the business sector, and much of academia insist on the need to expand the use of PPPs. This is due to ideology; technical questions are overlooked, unlike the cases of Chile and Colombia, for example.

The main objective of this article is to evaluate the Peruvian experience with PPPs. The system has advantages that should be seized, but disadvantages that must be addressed. Especially now, when contracts and concessions signed in the 1990s are expiring, it is imperative to design improved proposals.

The second objective is to analyze the PPP strategy within the framework of the global crisis of capitalism.

This article is divided into three sections. The first part will analyze PPPs as one of the many solutions developed over time to confront the global crisis of capitalism. The second part analyzes the advantages and disadvantages of PPPs. The final section discusses some lessons learned regarding the design, implementation, and operation of the principal PPPs in Peru.

This chapter does not seek to carry out an exhaustive analysis of all Peruvian PPP projects and their respective components: it does not analyze their regulatory problems, nor does it consider the type, ideal size, detailed procedures, environmental components, civil society participation, and social validation that should be considered in PPPs. Many forms of public-private cooperation were used all over the world – in the USA, Europe, and eastern Asia, including Japan and China – before PPPs; these are not analyzed in this document.

2. Khan and Knight 1986.

1. PPPs as a response to the crisis of capitalism

Global capitalism has suffered two major crises in the last hundred years: one in the 1930s, and the other beginning in 2007. We also find one major crisis in each half of the 19th century. For Freeman and Perez (1988), these occurred due to the problems caused by a transition between different techno-economic paradigms with the rise of industrialization.[3] Marxists,[4] Keynesians,[5] and post-Keynesians have different interpretations.

Keynes formulated three recommendations to resolve the crisis of the 1930s: low interest rates, the socialization of investment, and taxes on income and inherited wealth. This last recommendation is useful for redistributing income, increasing the propensity for consumption, and increasing the multiplier for expenditure, demand, and production. Other mechanisms were implemented such as the unemployment benefits system, minimum prices for principal agricultural products, and the minimum wage.[6] The socialization of investment did not mean that the state assumed ownership of the means of production; for Keynes it was enough if the state recognized the additional resources for increasing the volume of investment capital and the rate of return on investment. He nevertheless argued that no method, transaction, or means by which governments cooperated with private firms should be excluded. In a modern reading of Keynes, PPPs would embody this cooperation as a set of modalities required to finance investment and pave the way toward full employment.

Since the 1930s, other solutions to financial crises have been found. In the 1950s and 1960s, when the USA had a high growth rate, expenditures for the space race with the USSR and the war in Vietnam were expansionary.[7] In the 1990s, according to Greenspan (2008), the central driver of economic growth was the improvement of information and communications technologies. The opening up of former socialist economies furthered this, as it meant more markets for developed countries, particularly the USA, as did the coming into force of diverse commercial treaties, the intensification of the commercial opening up of many Latin American countries, and the privatization of companies following the Washington Consensus. In the first decade of the new millennium, it was the dynamism of the Chinese and other Asian economies, the expansive monetary policies of the U.S. Federal Reserve System, and the expansion of consumer credit that led to the formation of bubbles in the real estate sector which—before it burst—promoted the expansion of consumption, demand, and production. In addition, there are other elements that have contributed to strengthening developed economies. For example, the growth of private pension funds, which not only validate a more popular aspect of capitalism, but also, by adding demand to the capital and stock markets, contribute to rising expectations in these markets and in the economy in general. The contribution of these pension funds to Latin American economies were realized in the last twenty years. It is undeniable that PPPs, as a model for coordination and regulation of private investment, are useful for simultaneously creating productive capacity and demand for specific necessities. Paradoxically, however, they are primarily the result of state-led rather than market-led initiatives.

According to Summers (2013), the recent international financial crisis was less damaging than that which occurred in the 1930s; although it is lasting a long time. The implementation of anti-cyclical monetary and fiscal policies has been useful for mitigating the magnitude of the imbalances. These and other policies that have been applied over time—including PPPs—have not been sufficient to confront the crisis, however. It is important to revive policies to improve the structure for income distribution. Furthermore, it is important to ensure that, in addition to these anti-cyclical fiscal and monetary policies, other policies aimed at achieving technological change and job creation are implemented. In no way are PPPs the only solution to capitalism´s structural crisis. They could, however, be one element of a solution.

3. Each paradigm involves a combination of product innovation and interrelated processes that have implications for almost all markets, promoting important socio-institutional and political changes.
4. Marxist theory also talks of a structural crisis in capitalism, suggesting that technical progress leads to under-consumption (or less growth in effective demand due to increased inequality and less use of labor) and a decline in wages.
5. Guillen 2013. Keynesian theory alludes to problems with effective demand and excessive savings as causes of the Global Depression. Post-Keynesians see distributive issues as the origin of problems of effective demand.
6. Alarco y Del Hierro, 2006.
7. Galbraith, 1969; Baran and Sweezy, 1968.

2. Advantages and disadvantages of PPPs

This section outlines the advantages and disadvantages of PPPs. It is a general discussion rather than focusing on the experience of any particular country.

The main advantage of PPPs is that they allow infrastructure to be built or improved and services to be supplied when government funds are not available during the initial project phases. By using PPPs, the state can call on private companies to finance the early phases of investments, with the promise of compensation. It is an ideal scheme when public finances are in trouble, because the investment can be repaid later. PPPs facilitate projects that could not otherwise be carried out and which provide services for the population and boost economic activity.

There are different types of PPP. Some are self-financing; others require additional financial resources from the state. The latter are known in many countries as "co-financed projects." The first case is more like privatization, given that the concessionaire or contract holder not only assumes the costs, expenses, and profits, but also commits to paying a certain amount to the state in consideration for the service. In the best-case scenario, the private operation may improve profitability, given that the service may have also been profitable for the state. In the case of co-financed projects, however, the private management may be superior to public management.

PPPs not only improve the relationship between the public and private sectors, but they also regulate the nature and amount of investment in the different phases of the project cycle. Furthermore, they generate incentives for carrying out investments more quickly and for introducing new technologies. If the private corporation executing the PPP has the necessary experience, it can utilize "best practices".[8]

One advantage of PPPs may include the fact that the private firm may maintain the asset during its lifespan or at least during the contract or concession. This is an important advantage, since obstacles (such as the lack of institutional capacity or budgetary constraints) may result in underestimates of this cost by the public sector. The public authorities tend to prefer investment in new projects rather than maintenance, since they get more credit for new projects than from maintenance or remodeling. This is a problem that occurs in both developed and developing economies, but it may be more pronounced in the latter. There is a greater probability of obtaining better results when investments are provided by a PPP rather than by the public sector, at least if they are contractually stipulated and if there is adequate supervision of the concessionaire's activities.

A simplified description of the principal disadvantages of PPPs follows. First, PPPs involve higher transaction and administration costs for the system[9] compared to the traditional approach to public works. There is a lack of experience in putting projects out to tender and formulating contracts, and a dearth of mechanisms for controlling the implementation of the projects, among other things; the contracts established are therefore constantly being modified. Supposedly stable rules change constantly as a result of technical factors that were not originally considered. The pressure exerted by concessionaires can lead to the state investing staff and resources to make these modifications possible.

The continual process of amending a contract delegitimizes the tender process that led to its creation. This means that concessionaires do not make serious proposals when they apply for projects, but rather wait to negotiate with the respective authorities at a later date. These processes are generally not transparent, giving rise to corruption or regulatory-capture that has negative effects on social well-being.

Contracts or concessions which cover a prolonged period (e.g. decades) tend to generate a more stable economic environment for the private sector. This is because clear rules are established that provide more predictability for decision-making. Furthermore, as mentioned above, PPP contracts are a mechanism for improving coordination between the public and private sectors. This can nevertheless be distorted when the protection provided by these contracts and concessions establishes private benefits and incentives that are not the same as those applied to other

8. Cartes Mena, 2012.

9. *Ibid.*

companies or productive sectors.[10] Also, profits will be appropriated exclusively by the operator if there is little public institutional capacity, if the existing regulatory framework is inadequate, or if the contract does not consider the retained profits from efficiency gains. This is detrimental to the rest of the productive sector and provides no benefits to society.

"The public authorities tend to prefer investment in new projects rather than maintenance, since they get more credit for new projects than from maintenance or remodeling"

However, under good regulatory circumstances, PPPs are still a reasonable way to regulate the demand on the investment side and increase productive capacity. They could fence off future possibilities, such as the alternatives offered by more competitive and less regulated markets. With PPPs, there may be creativity and momentum at the early stage of the project cycle, but this could eventually decline. That is, if the specific private benefits and incentives are substantial, the firms' incentives for continual innovation and creation of new opportunities and possibilities for production could decline (Schumpeter, 1967).

Private sector investors and operators are attracted to PPPs due to their promise to provide "reasonable" profit levels over an extended time period. If the public sector did not guarantee the profit levels, this would not be a problem. However, guarantees to private firms engaged in PPPs give them an advantage over the majority of private companies that are not involved in this kind of partnership. Firms without guarantees assume the normal and natural risks of the business, whilst the small minority involved with PPPs have a distinct advantage.

Another important question is: what is the level of "reasonable" profitability? Over the last few decades, the desired and real profitability for business activities has increased as income is concentrated in a few select firms. In the extreme case, the PPP scheme could guarantee growing profit rates. It is beyond the scope of this chapter to describe how traditional methodologies used at the international level support this tendency to raise the "opportunity cost" of capital over time.

10. Particularly instruments such as fiscal or tax stability clauses.

Under an extended PPP regime, the redistributive function of the state is limited. Previously, the state directly contracted workers and private contractors; whereas it increasingly deals only with its commitments regarding concessionaires and investors. The state's payments include periodic quotas for maintenance and operations, the financing of construction, and offsets for those risks which are defined as "contingent liabilities" of the treasury. These are budgetary reserves to compensate private investors should specified risks materialize.[11] The distribution of income is likely to change given the following dynamics: the profit margin for concessionaires may be elevated during construction and operation of the PPP. In other words, inequality results as there is a greater return to the financial components of the project (operating or profit surpluses) than to wage-earners. The functional distribution of income could be even more skewed if one considers the fact that PPPs charge for services that were once provided for free by the state. Any quotas, tariffs, or tolls for services disproportionately affect low-income users. It must nevertheless be pointed out that, despite these charges, diverse mechanisms – such as partial or total exemptions or repayments for these services – could be implemented to mitigate the impact on low-income users. The question is whether or not the state has the capacity to implement such mechanisms and whether, in the end, they are effective. To be fair, it is important to point out that, if the PPPs directly or indirectly produce more jobs than alternatives, they contribute to a progressive distribution of income.

When examining the Peruvian case below, a series of concrete problems will be mentioned. For instance, when construction companies are the contract- or concession-holders for transportation infrastructure, this can inflate costs for the construction phase of the project. Also, there are negative impacts when the trade-offs involved in PPPs are not properly assessed. As an example, urban highways may reduce travel time for drivers, but negatively affect the

11. Generally, the state agrees to pay the concessionaire when the levels of traffic, amount of use, or attention are below the thresholds established in the respective contract.

urban environment by dividing it up and reducing green areas. In general, drivers should have toll-free alternatives and, if they are affected by PPPs, they should be duly compensated.

The majority of PPP projects are medium and long-term in duration. While PPPs may not require financial support from the state in the early stages of a project, they are likely to require it in the medium and long-term. For instance, the state may guarantee a certain level of demand for the services provided by a concessionaire and, if that level does not materialize, the state must compensate/pay for it anyway. The lack of transparency with regard to budgetary liabilities (especially continent liabilities, which are "off-budget") creates significant negative problems for the future management of public finance.

"Under an extended PPP regime, the redistributive function of the state is limited"

Each PPP produces potentially valuable experiences for its operators and for the state. But the state may not learn from experience if there is a lack of continuity in its institutions (in politics, personnel, and other resources). In such circumstances, the state may be doomed to repeat similar mistakes in future contracts and concessions to the detriment of the country and its citizens. In many countries, investment strategies focused on PPPs are being created. These are based on simplifying legal frameworks for PPPs, but not for public work, which creates a bias in favor of PPPs.[12] The state may also fail to identify budget impacts of PPPs (contingent liabilities), carry out ex-post evaluations, or compare ex-ante and ex-post evaluations.

In economies with an underdeveloped business sector, PPPs are generally carried out by a small group of the country's largest companies. In these circumstances, the concentration of present and future income is skewed in favor of these companies, to the detriment of small and medium-sized companies. This means large companies have more political weight in the state's decision making processes. If there are weak state agencies in charge of managing PPPs, regulatory capture of the state by private firms decreases the projects' benefits to citizens.

3. Lessons from the Peruvian experience with PPPs

A central issue regarding the PPP system in Peru is that the initial phase – applying a value-for-money methodology or the Public-Private Comparison Mechanism (PPCM) – is problematic. The PPCM should be used to evaluate which option is most appropriate for an investment project: a PPP or a public work, on the basis that the project should be carried out by whichever option can offer greater quality at a determined cost, or the same quality at a lower cost. Unfortunately, the history of the PPCM in Peru is problematic.[13]

In May 2008, legislative decree 1012 established a legal framework for PPPs, stating that a PPCM should be undertaken to select the appropriate modality (PPP or other alternatives) for a project. A detailed PPCM methodology, which was posted on the Economy and Finance Ministry's website in June 2008, has been deleted and a supreme decree suspended the use of the PPCM methodology. In June 2011, a legislative decree required that the PPCM methodology is replaced with a simplified cost-benefit analysis, stating that the details would be published in a ministerial resolution.

The private sector, with considerable support from the media, insists that the PPCM should not be applied, arguing that it is more complicated, requires detailed information that is not readily available, and demands too much cross-sector coordination. These criticisms of the PPCM are without foundation and any outstanding questions about the methodology could be negotiated. Furthermore, this methodology could be accompanied by explanatory manuals for use in central, regional, and local governments. Detailed methodologies have been routinely used by many countries over the years.[14]

12. Which is analyzed in detail in the following section of this document.

13. Alarco, 2013.

14. Hinojosa, 2013. Great Britain (1999 and 2006), Australia (2001–2003), Chile (2002–2003 and 2005), Canada (2003), South Africa (2004), Mexico (2006 and 2010), Greece, Japan and Korea (2006), Netherlands, Ireland (2007), France and Australia (2008), Italy, Colombia, Malaysia (2009), and Uruguay (2012)..

Table 1 outlines the problems associated with some of the major PPPs in Peru. This table starts with a PPP for the privatization of the port of Paita (on the northern coast of the country) where the concessionaire raised the non-regulated tariffs before investing. In addition, there was an error in the design of the concession as a result of a lack of knowledge of the port's operating capacity.[15] In the case of the concessions within the port of Callao, the central problem was lack of planning and the absence of a vision integrating the port with other means of transport.[16]

Table 1. Problematic elements in the principal concessions in Peru

Concession	Problem	Cause
Port of Paita	Concessionaire raised the non-regulated tariffs. Lack of consolidation before investing.	Only the maximum tariff for basic manoeuver (ship/dock/ship) was fixed.
Northern dock of the port of Callao	International demand for competitive conditions that differ from the conditions of the southern dock's concessionaire.	Different criteria for assignation within the same port. In one case investment and tariffs, in the other case tariffs.
Southern dock of the port of Callao (containers terminal)	Inefficiency due to problems with external roads and railways and connections with other means of transport.	Lack of an integrated administrative system in the whole port of Callao and planning problems.
Railway concession (south, south east and center)	No significant investment for expansion planned, only marginal improvements.	Tender process that had few prerequisites, despite the fact that the concessions started in 1999.
Segments of the north and south Panamericana highway	Concentrated among few concessionaires from the construction sector.	Tender process that had few prerequisites.
	Reduced investment for improving highways in the short term. Only medium and long term improvements considered.	Few companies with knowledge of PPPs and highway concessions.
Jorge Chavez International Airport Lima-Callao	Constant contractual renegotiations.	Problems with definitions in tendering procedures and concession contracts.
	Raised tariffs for clients.	Objective has been to maximize the government's income.
	Increased visual pollution.	Insufficient indicators to measure well-being of population. Existing indicators are reviewed in year 8 and year 30 of the concession.
South and central Inter-oceanic highways	Two lane highways for local and cross border traffic.	The choice of transportation technology (highway) was made before carrying out an analysis of needs and objectives.
	Intermediate lifespan and maintenance costs.	Limited planning and lack of more detailed studies.
	Duplication of investment on the southern Initiative for the Integration of Regional Infrastructure in South America (IIRSA) (US$2,095 million compared to the planned US$893 million).	Poorly designed initial financial evaluation.
	Southern IIRSA causing serious environmental effects.	
Irrigation projects along the Peruvian coast (e.g., Olmos, among others).	New lands being incorporated are highly concentrated among a few people and entities.	Criteria for land assignation depend on who pays more per hectare, with a pre-established price for water.
		Lack of redistributive objectives and mechanisms regarding other agricultural property sizes.
		Criteria for financial evaluation include a minimum consideration of positive externalities (e.g., greater level of economic activity, employment, and taxes).

Source: author's own material.

15. There should have been a variety of regulated tariffs for integrated manoeuvers from the dock to the truck and vice-versa.

16. The inside of each port terminal was considered, but not what happened outside of each terminal. The absence of integrated administration for the whole port area meant that different assignment criteria were established for each terminal, when they should have been the same. Productivity gains achieved in the container terminals of the southern dock are jeopardized by the serious congestion problems on the highways and railways that serve the port.

There were no significant investment requirements for the railway concessionaires. Equipment maintenance and general administration have improved since the 1980s. The lack of investment resources, however, results in transportation times that have not improved for a decade.

The highway infrastructure PPPs were among the first in Peru, which is why many were awarded to the country's main construction company.[17] That is one of the reasons why expansion of highway lanes did not begin for a decade. When a construction company takes responsibility for the expansion, maintenance and operation of a highway, this provides a perverse incentive to elevate and/or overestimate the investment it will later recover via tolls - or in the case of the co-financed highways, via government contributions.

The Jorge Chavez International Airport that serves the cities of Lima and Callao is a source of income for the government. But it is important to ask whether (or the extent to which) public services should generate income by raising user tariffs. The few indicators for measuring well-being are only evaluated in the eighth and thirtieth year of the concession. This PPP has had the most modifications (addendums) to its concession.

The southern and central Inter-oceanic highways had planning problems: highways were not the most appropriate option for joining points as far apart as the Atlantic and Pacific Oceans. These highways are useful for border commerce and for moving freight and passengers inland, but railways are the best mode of transport over great distances.

"In the irrigation and agricultural expansion projects, the newly incorporated lands are concentrated among a few people or legal entities"

In the irrigation and agricultural expansion projects, the newly incorporated lands are concentrated among a few people or legal entities. This is because the concessionaire did not meet objectives for land distribution. Moreover, the criteria for evaluating these projects are only financial, since the concessionaires are only interested in maximizing their income. These criteria are blind to the potentially positive outcomes that could result from the incorporation of new lands for cultivation, increased farming production, and potentially higher levels of economic activity and employment. The concessionaires assign land through public auctions to buyers who offer the highest possible price per hectare of land and assume a pre-determined value for irrigation water.

Although still at early stages, PPPs are being devised for the health sector and for the construction and operation of prisons in Peru. At the international level, evaluations of this kind of projects are highly complex, with uncertain results. However, the focus of these project evaluations seems to be on ethical issues rather than on technical factors. The cost of PPPs in the health sector tends to be higher than for traditional funding options (due to the fact that profit margins are incorporated), although there are advantages, such as meeting budgets and planned time frames for the construction of hospitals and maintenance of these installations.[18] In the case of prisons, the only information comes from the U.S., where the system costs as much as US$ 60,000 per prisoner per year. As a high proportion of imprisonments in the U.S. is related to illegal immigration, investors pressure legislators and the prison system to fill their prisons more "effectively". This has had negative effects on the judicial system and immigrants.[19]

Conclusions and Recommendations

In this section, we conclude by offering ten recommendations for improving the different phases for the design, implementation, and operation of PPPs in Peru. First, the prejudice against implementing investments as public works should be eliminated by simplifying procedures. To date, procedures for implementing PPPs have been simplified, while the complex bureaucratic procedures for public projects remain unchanged. Although public works require public expenditures to initiate, PPPs only defer public expenditures.

17. Alarco, 2011.

18. McKee, Edwards and Atun, 2006.
19. BBC World, 2013.

Table 2. Recommendations for the design, implementation, and operation of PPPs in Peru
1. Eliminate prejudices against traditional service provision (as compared with PPPs).
2. Engage the public in defining future infrastructure needs.
3. Identify criteria for deciding the most desirable service provision modalities.
4. Identify the project's objectives and indicators.
5. Ensure that the project design will meet specified objectives.
6. Set forth clear rules and procedures for fair and transparent tender processes.
7. Provide detailed follow up (monitoring and evaluation) in the pre-operational phase.
8. Strengthen oversight and regulation.
9. Establish procedures that guarantee fiscal transparency in all processes.
10. Coordinate with international partners regarding private codes of conduct, oversight and supervision, among other things.

Source: author's own material.

Second, the state must promote the desired types of investment, including the appropriate location, time frame, and technology. The private sector, with its dominant profit motivation, does not have the capacity to decide, for example, if a highway or a railway is needed. Generally, firms would prefer to invest in highways because they require less investment and less time to recover the investment. Yet, for longer distances, railways or shipping are better options.

Third, the tender process should define and incorporate objectives, indicators and criteria for the selection of the operator. In the second phase of contracts and concessions in Peru, it is important to ensure benefits to the users.[20] The rules should be clear and the tender process should be competitive and transparent. It is also important to consider the option of separately tendering the different components of a project to avoid concentration of power and ownership and promote competition or improve social outcomes.[21] For instance, an investment project could be divided into two parts: the first half could be executed as a public work, while administration and operation could be tendered out to private companies.

It is necessary to establish new and improved practices in state regulation in order to benefit consumers. Technical capacities related to the pre-operational phases of projects should also be improved. For instance, the criteria for evaluating the contingent liabilities associated with co-financed projects requiring state resources must be transparent. It is also important to improve the government's financial expertise, including its knowledge of international and domestic capital markets.

Finally, international coordination is needed to exchange information between governments and NGOs, establish codes of conduct for international companies and exchange supervision and training expertise.

20. Alarco and Ortiz, 2008.
21. In economic jargon, this is called "opening the black boxes".

Bibliography

• Alarco Tosoni, Germán 2014, "¿Nueva ofensiva NPP?", diario *La Primera*. Viernes, 3 de enero de 2014, p. 12.

– 2013, "Algunas enseñanzas de las APP a partir de la experiencia peruana". Universidad del Pacífico. Presentado en el foro Impactos políticos, económicos y sociales de las estrategias de financiamiento privado. Lima, 28 de octubre de 2013.

– 2011, "Concentración y prácticas no competitivas en las cadenas logísticas de comercio exterior: el caso del Perú", *Análisis económico*. Vol. XXVI, N°62, pp. 91-117.

– 2010, "Fallas de mercado y sobrecostos en las cadenas logísticas de comercio exterior de Perú", *Comercio Exterior*. Vol. 60, N°2, pp. 126-141.

• Alarco Tosoni, Germán y Humberto Ortiz 2008, "Contratos de concesión de infraestructura y contribución al bienestar", *Revista de Regulación en Infraestructura de Transporte*. Año 1, N°2, pp. 73-96.

• Alarco Tosoni, Germán y Patricia del Hierro 2006, "Lecciones de la política fiscal anticíclica norteamericana para América Latina", *Investigación económica*. Vol. LXV, núm. 255, enero-marzo 2006, pp. 159-201.

• Baran, Paul y Paul Sweezy 1968, *El capital monopolista*. Buenos Aires: Siglo XXI editores.

• Cartes Mena, Fernando 2012, "Evaluación social de proyectos y APP". CEPAL. Presentado en el II Seminario de la Red de Sistemas Nacionales de Inversión Pública. Puebla.

• Devlin, Robert y Graciela Moguillansky 2009, *Alianzas público-privadas para una nueva visión estratégica del desarrollo*. Santiago: Cepal.

• Freeman, Christopher y Carlota Pérez 1988, "Structural crises of adjustment: business cycles and investment behavior", en *Technical change and economic theory*. Londres: Pinter Publishers.

• Galbraith, John Kenneth 1969, *El nuevo estado industrial*. Barcelona: Ariel.

• Godet, Michel y Philippe Durance 2007, "Prospectiva estratégica: problemas y métodos", *Cuaderno de Lipsor*. N° 20. París: Laboratoire d'Investigation Prospective et Stratégique y Prospektiker-Instituto Europeo de Prospectiva y Estrategia.

• Greenspan, Alan 2008, *La era de las turbulencias: aventuras en un nuevo mundo*. Barcelona: Ediciones B.

• Guasch, José Luis 2011, "Infraestructura y PPPs en América Latina y Caribe: Problemática y Solución". Banco Mundial. Presentado en ALIDE FORO. Asunción, mayo de 2011.

• Guerrero, Gabriela, Claudia Sugimarú y Santiago Cueto 2012, *Alianzas público privadas a favor de la primera Infancia en el Perú: Posibilidades y Riesgos de su Aplicación*. Lima: GRADE.

• Guillén Romo, Mauro 2013, *Las crisis. De la Gran Depresión a la primera gran crisis mundial del siglo XXI*. México D.F.: Ediciones Era.

• Hinojosa, Sergio Alejandro 2013, ""VALUE FOR MONEY" y la promoción de proyectos de inversión en infraestructura mediante APP: mejores prácticas internacionales". IKONS. Presentado en Seminario: Las Asociaciones Público Privadas (APP) como alternativa de inversión en infraestructura pública. Lima, abril de 2013.

• Hinojosa, Sergio Alejandro 2008, "Análisis Costo y Beneficio en Esquemas de Asociaciones Público-Privadas y Aplicaciones". IKONS. Presentado en el taller: "Experiencias Internacionais de PPP". Belo Horizonte, 5 noviembre de 2008.

• Keynes, John Maynard 1943, *Teoría general de la ocupación, el interés y el dinero*. México D.F.: Fondo de Cultura Económica.

• Khan, Mohsin y Malcolm Knight 1986, "¿Retardan el crecimiento los programas de ajuste apoyados por el Fondo?", *Finanzas y Desarrollo*. Vol. 23, N° 1, pp. 30-32.

• Macroconsult 2006, "Determinación y aplicación de la metodología de valuación de los pasivos contingentes del Estado derivados de la suscripción de los contratos en la modalidad de Asociación Público Privada (APP), en el ámbito de la descentralización". Consultora Macroconsult S.A. Lima, noviembre, 2006.

• Márquez, William 2013, "Los indocumentados y el negocio de las cárceles privadas en EE.UU.", BBC Mundo. Washington, 23 de julio de 2013. Disponible en: <www.bbc.co.uk/mundo/noticias/2013/07/130711_eeuu_carceles_privadas_lobby_reforma_migratoria_wbm.shtml>.

• Mckee, Martin, Nigel Edwards y Rifat Atun 2006, "Public-private partnerships for hospitals". *Bulletin of the World Health Organization*. Nov. 2006, N°84, pp. 890-896

• Morote, Hugo 2013, "Ley de APPs y su Reglamento". Roselló Abogados. Presentado en el Programa de Desarrollo de Capacidades en Asociaciones Público-Privadas. Lima, 1 de abril de 2013.

• Porter, Michael y Mark Kramer 2011, "La creación de valor compartido", *Harvard Business Review América Latina*. Enero-febrero 2011, pp. 3-18.

• Rozas Balbontín, Patricio, José Luis Bonifaz y Gustavo Guerra-García 2012, *El financiamiento de la infraestructura. Propuestas para el desarrollo sostenible de una política sectorial*. Santiago: Cepal.

• Schumpeter, Joseph A. 1967, *Teoría del desenvolvimiento económico*. México D.F.: Fondo de Cultura Económica.

• Summer, Lawrence 2013, IMF Fourteenth Annual Research Conference in Honor of Stanley Fischer speech. Washington D.C., 8 de noviembre de 2013.

• Vivallos Medina, Leonel 2006, "Experiencia de la Asociación Público Privada en Chile". Ministerio de Obras Públicas de la República de Chile. El Salvador, diciembre de 2006.

• Williamson, John 1990, *Latin American Adjustment: How Much Has Happened?* Washington: Institute for International Economics.

• Wolf, Martin 2013, "¿Por qué el futuro pinta lento?", diario *El Comercio*. Jueves, 21 de noviembre de 2013, p. B16. 19-1-2014.

The Mesoamerica Project

Public-Private Partnerships and building infrastructure in Central America

Jorge Coronado Marroquín and Juan Pablo Ozaeta

Summary

The Mesoamerica Project is an ambitious plan to connect southern Mexico to Colombia through the Central American isthmus by means of transportation and energy corridors. The main purpose of the Project is to facilitate trade and stimulate private sector business, including through the increased use of Public–Private Partnerships (PPP) in infrastructure.

This study reviews how energy-related initiatives are being promoted, analyzing the construction of hydropower projects in Guatemala and Costa Rica. This analysis describes the focus of the Mesoamerica Project on the energy sector and the PPP model.

There is a risk to water reserves and aquifers in Central America as a result of the proliferation of hydropower projects. This is due to the environmental impacts of directly intervening in a large number of rivers, wetlands, and forests in the region. Negative social and environmental impacts primarily affect rural and indigenous communities and range from the appropriation and flooding of community lands to the displacement of entire communities. Currently, there is a manifest lack of interest in considering the opposition or viewpoints of affected communities; nor is there respect for international treaties signed by the countries that require consultation with the communities impacted. Indeed, the legal frameworks governing PPPs may even criminalize community resistance.

Looking ahead, there is a need for more in-depth studies to determine how transportation and energy sector PPPs affect budgets, taxation and public debts in Central American countries.

Introduction

The use of PPPs has intensified since 2010. Backed mainly by the powerful nations (e.g., the G20) and international financial institutions, such as the World Bank, they increasingly focus on financing cross-border infrastructure projects that, according to those agencies, stimulate regional integration. The projects are aimed primarily at infrastructure for transportation (highways, bridges, ports, airports) and energy (especially hydropower).

The Mesoamerica Project is a case study focused on how infrastructure projects link southern Mexico with northern Colombia, crossing the entire Central American isthmus with the aim of opening a port of entry to the Andean Region. The Mesoamerica Project provides indications of the extent to which PPPs are progressing in Central America. This chapter will assess the consequences of the manner in which the Mesoamerica Project advances regional integration. One of the priorities is to show that social and environmental impacts are neglected in PPP implementation. This is a fundamental failing of the PPP model for infrastructure investment (Cui: 2013).[1]

1. Cui, Shoujun. Director of Research, Center for International Energy and Environment Strategy Studies, Renmin University, China. "What is missing in the G20 infrastructure investment initiative?". *G20 Update*. Heinrich Boell Stiftung. No. 16, May 2013.

This article includes two case studies that are part of the Mesoamerica Project. The first one relates to the construction of hydroelectric projects in the Franja Transversal del Norte (FTN), or Northern Transversal Strip, of Guatemala. Mexico, on the one hand, and Guatemala and Honduras, on the other, have a major aquifer, mining, and oil reserves. In that region, 75% of the population is indigenous and 80% of the population lives in poverty or extreme poverty. In addition, seventeen of the twenty-four municipalities are classified as having poor or very poor nutrition.

The second one relates to the Diquís Hydroelectric Project ("big waters" or "serpents of waters" in the Teribe language). Situated on the border with Panama, the project cuts through indigenous reserves and requires the relocation of entire communities.

This chapter focuses on energy-related initiatives because the Mesoamerica Project is dominated by hydropower projects. This is a sensitive topic, since these projects have significant social and environmental impacts that affect rural and indigenous communities and often result in displacement and flooding of land, which leads to major social conflicts.

Further research into the use of PPPs for financing regional integration projects, such as the Mesoamerica Project, is required. Over time, it will be necessary to evaluate not only the social and environmental impacts but also the governance and financial implications of these projects.

There has been insufficient research and analysis of these projects to date. We therefore hope to help put the debate on the agenda, particularly for civil society groups, with an emphasis on the communities affected by the Mesoamerica Project.

PPPs and infrastructure for integration

The Puebla–Panama Plan was launched in June 2001 at the Presidential Summit of the Tuxtla Mechanism, in San Salvador, at the initiative of Mexico. This Plan foreshadowed the Mesoamerica Project. The Puebla–Panama Plan was designed to integrate Mesoamerica (South/Southeast of Mexico to Panama) through eight initiatives. Each country took charge of coordinating one of them: Belize (Tourism), Costa Rica (Transport), El Salvador (Telecommunications), Guatemala (Energy), Honduras (Trade Facilitation and Competitiveness), Nicaragua (Sustainable Development), Panama (Natural Disaster Prevention and Mitigation), and Mexico (Human Development).

A comprehensive review of the Puebla–Panama Plan began in 2007, resulting in a new proposal for integration. In July 2009, in the context of the Eleventh Presidential Summit of the Tuxtla Mechanism for Dialogue and Coordination, in Guanacaste, Costa Rica, the Project for the Integration and Development of Mesoamerica – known as the Mesoamerica Project – was officially launched. It also included the Dominican Republic and Colombia.

The Mesoamerica Project has two components:

1. Productive Integration and Competitiveness
   - Transport
   - Energy
   - Integration of Telecommunication Services
   - Trade Facilitation and Competitiveness
   - Biofuels
2. Human Development and the Environment
   - Health
   - Climate Change
   - Housing
   - Rural Development

The objectives of the Mesoamerica Project are to:

- Promote and coordinate joint actions to attract international cooperation.
- Take up the challenges and opportunities posed by the convergence of trade agreements in the region and foster competitiveness.
- Develop financial arrangements for social cohesion among the members.
- Foster investment in PPPs that support the implementation of projects.
- Continue to coordinate efforts among finance ministries and multilateral financial agencies.
- Raise public awareness of the Project.

This is an ambitious project with the objective of connecting Mexico with the Andean region. Its main purpose is to facilitate trade in the region; thus the two key infrastructure priorities are transport and energy.

For transport, the main aim is the construction of a Pacific corridor that joins the Panama Canal to southeastern Mexico, running throughout Central America. The idea is to facilitate flows of exports and imports via the Panama Canal to the United States. For Central America, this internal corridor will also facilitate these flows to the United States overland under the U.S./Central America Free Trade Agreement.

The objectives of the energy component are to create a regional energy grid and energy market, including a 2,500 km transmission line that joins South/Southeastern Mexico to Colombia.

The Mesoamerica Project proposes 381 hydroelectric dams of various sizes throughout the Central American region, using public and private capital, particularly from Colombia, Spain and Mexico.

Table 1. Characteristics of Access to Electricity in the Central American Region

Country	Population (millions)	Population with no access to electricity (millions)	Percentage electrification (%)
Guatemala	14.40	2.11	85.30
Honduras	8.00	1.50	81.30
El Salvador	6.20	0.54	91.20
Nicaragua	5.80	1.48	74.60
Costa Rica	4.60	0.04	99.20
Panama	3.50	0.35	90.10
Total	**42.50**	**6.02**	**85.80**

Source: Author's data derived from ECLAC and the Mesoamerica Project.

The PPP investment model for infrastructure, as promoted by the G20, involves national and multilateral development banks.[2] The main sources of financing for the Mesoamerica Project are the Central American Bank for Economic Integration (CABEI), the Inter-American Development Bank (IDB), and the Andean Development Corporation (CAF).

Since its initiation in 2009, much of the Mesoamerica Project is still in an exploratory phase. However, in the next few years, there will be a major deployment of domestic and external financial resources in the region. Some components of the Mesoamerica Project, particularly the Pacific Corridor, are already progressing. In general, highway projects such as the Pacific Corridor have been financed by government borrowing and the award of contracts to construction companies from Mexico, Colombia, and Central America. In addition, a large Dutch transnational corporation has been entrusted with the construction and administration of the port facilities at Puerto Quetzal in Guatemala, Puerto Cabezas in Nicaragua, and Puerto Moín in Costa Rica.

There are three main private energy operators: Unión Fenosa, a private Spanish company with operations in Guatemala, Nicaragua, and Panama, that accounts for 22% of the regional electricity market; Empresas Públicas de Medellín, a private Colombian company that has operations in Guatemala, Panama, and El Salvador, and accounts for 21% of the regional electricity market; and AES Corporation, a private U.S. firm with operations in El Salvador, accounting for 10% of the regional electricity market. Apart from those private companies, there are two major state operators who are also interested in the interconnection to expand their market options. These are the Instituto Costarricense de Electricidad (ICE), which operates in Costa Rica and accounts for 19% of the regional electricity market, and the Empresa Nacional de Energía Eléctrica, which operates in Honduras and accounts for 15% of the regional electricity market.

These large operators' main interest may be the option to sell energy to Mexico and the Andean region, through the opportunities that will result from the Central American Electrical Interconnection System. These operators already work with the PPP financial model in order to expand the regional interconnection. One example is the 50 MW La Joya Hydroelectric Project in Costa Rica, which is being built by the Spanish company Unión Fenosa. This will operate

2. Alexander, Nancy et al., "Responsible Investment in Infrastructure: Recommendations for the G20." Heinrich Boell Stiftung. Washington, DC, October 2013.

using the PPP option known as "Build, Operate, and Transfer" (BOT);[3] it will be entrusted to Unión Fenosa for twenty years and, at that point, it will become property of the ICE.

One project risk relates to the way in which energy projects are likely to exploit the region's water resources in the context of a limited framework for oversight and regulation. This national framework has been further affected by the new PPP legislation, which introduces considerable flexibility into the regulation governing the exploitation of aquifers.

The Expansion of hydropower PPPs in Guatemala

By December 2012, Guatemala had thirty-four privately-owned hydroelectric dams in operation, generating 509 MW; there are also nine state-owned hydroelectric dams with a total generation capacity of 484 MW.

A Guatemalan agency, Invest In, promotes foreign investment projects, including hydropower projects.[4] Laws which provide incentives for the development of hydropower facilities include:

- The 2003 Law of Incentives for Renewable Energy Projects, Decree 52-2003, which grants exemptions for the payment of import duties on machinery and equipment, and exemptions on the payment of income tax for 10 years for any hydropower project.
- The 2010 Law on Public-Private Partnerships for the Development of Economic Infrastructure, under Decree 16-2010.

In addition, the IDB's Multilateral Investment Fund has provided important support for implementation studies.

At present three private companies stand out for their capacity to produce hydropower: HidroXacbal, part of the Grupo Terra in Honduras – owners of the country's largest private hydroelectric power plant; the Italian company ENEL, which has five hydroelectric dams in operation (in addition to newly authorized projects); and Corporación Multi-Inversiones, an equity group held by the Gutiérrez-Bosch family, which has great influence in Honduras.

In the last twelve years, private energy projects have received important financial support from the CABEI. From 2001 to 2008, 60% of its non-intermediated private loans were concentrated in five projects, four of which were private hydropower plants: Tres Ríos, HidroXacbal, Río Hondo, and La Perla.[5]

All this capacity for hydropower generation is in the departments of Huehuetenango, El Quiché, and Alta Verapaz, which are part of the FTN, the "Northern Transversal Strip". The area crosses, in a horizontal line, the lowlands of northern Guatemala, from Huehuetenango in the western region, bordering Mexico – to the department of Izabal, in the east, bordering Honduras. This territory has water, mining and oil resources. It is also the area in which a road project is being promoted that will connect Mexico to Honduras (also part of the Mesoamerica Project).

The FTN is Guatemala's most socially-deprived region, where 75% of the population is indigenous. More than 80% of the municipalities are in poverty or extreme poverty, and seventeen of the twenty-four municipalities have high or very high rates of malnutrition.[6] The departments of Quiché and Alta Verapaz – where the largest dams in the country are located – are two of the four departments with the least access to electricity.[7]

3. The BOT modality allows ICE to sign contracts for the purchase of energy from private operators interested in building power plants for generating hydraulic, geothermal, or wind energy, under two conditions: that all the production is sold exclusively to the Institute and that, at the end of the contract, the works are transferred to the ICE.
4. Invest In is an entity created by the Ministry of Economy and the Chamber of Industry of Guatemala, to promote projects in infrastructure, assembly plants, mining, call centers, tourism, etc. It receives funds from the IDB.

5. CABEI: Estrategia de País 2009.
6. See the 2003 Census of Weight and Height in children aged 0 to 5 years.
7. Solano, Luis. "Contextualización histórica de la Franja Transversal del Norte", February 2012.

The main binational projects (Guatemala/Mexico)

In April 2013, the presidents of Mexico and Guatemala announced their intention to build four hydropower plants along the banks of the Usumacinta River, in Guatemalan territory[8] and one in Mexican territory.

The binational projects along the Usumacinta River are:

- Mexico: Tenosique (originally known as Boca del Cerro); Guatemala: La Línea, Yaxilán, Isla del Cayo, and El Porvenir. The Usumacinta basin has an area of 106,000 km^2 and includes the state of Tabasco and northeastern Chiapas in Mexico, as well as the departments of Quiché, Huehuetenango, Alta Verapaz, and El Petén, in Guatemala. In Guatemala, the estimated investment is US$ 625 million. In Mexico, the initial budget is US$ 545 million, according to the Federal Electricity Commission.
- Xalalá Hydropower Project: Ixcán, Quiché, and Cobán, Alta Verapaz. The project is located downstream from the Chixoy hydroelectric plant. It will encompass the Chixoy and Copón Rivers with an installed capacity of 181 MW. The maximum elevation will be from 285 to 290 meters above sea level. It is estimated that flooding will cover 31.8 km^2. The approximate cost is US$ 312 million.
- Xacbal Hydropower Project: San Gaspar Chajul, Quiché. This project on the Xacbal river will have an installed capacity of 94 MW and an approximate cost of US$ 198 million.
- Cambalan I and Cambalan II Projects – Hidro Santa Cruz: Santa Cruz Barillas, Huehuetenango. On the Cambalán River, this project will have an installed capacity of 17 MW and an approximate cost of US$ 30 million.

Financing the hydroelectric projects is based on acquiring the necessary land; water rights; and state authorization to carry out the project.

The right to use water, which is a "public good", is determined by a concession granted by the state of Guatemala to private operators. Generally, these concessions are granted for 50 years and can be extended. Such concessions often lead to the displacement of many communities from their land.

The severe agrarian crisis and the location of a majority of indigenous and farm populations where hydropower projects have been established are the main cause of conflicts in those territories. In the municipality of Ixcán, Quiché, in the face of the impending construction of the Xalalá dam, the population complained about the pollution of the Xacbal River caused by the Hidroxacbal dam in the municipality of San Gaspar Chajul. In addition, the volume of the river's flow drops and rises suddenly, endangering the lives of the communities that use its waters.[9] Moreover, the Usumacinta River project could have a negative impact on the country's heritage, because the reservoir would flood the Piedras Negras, which is extremely important to Mayan culture.

A resistance camp has been established at Santa Cruz de Barillas to prevent the entry of machinery or workers from Hidro Santa Cruz. The disputes with the company's security agents have already cost the life of one community leader, Andrés Francisco Miguel, in May 2012. This triggered the burning of the company's machinery and facilities by local people. The government's response was to impose a state of siege in Santa Cruz Barillas, which resulted in the arrest of thirteen community representatives (of a total of thirty-three arrest warrants handed down by the Minister of Interior). Conflicts flared in 2013 and the tension generated by the presence of the army in Barrillas resulted in the death of one soldier.

Since 1996, when Guatemala ratified International Labor Organization Convention 169, there have been nearly ninety community consultations on mining, oil, and hydroelectric projects, and the construction of a highway in the FTN. These consultations, conducted throughout the department of Huehuetenango, have been promoted by municipal authorities and ancestral indigenous leaders.

8. See the website: www.orbe.com, 27/04/13; News item: "Analizan México-Guatemala Construir 4 Hidroeléctricas".

9. Communiqué from the Commission for Follow-up on Ixcán Community Consultation, May 2011.

Although the results of the consultations were delivered to the Congress of the Republic, they have not been binding.

Under the government of Álvaro Colom (2008–2012) efforts were made to draw up regulations on community consultations. But citizen participation was not promoted. The proposal was publicized for only thirty days, with an arrangement for opinions to be delivered via the internet. Social groups argued that this process should be unconstitutional.

In an effort to reduce agrarian conflict the current administration announced that it will promote a new 0.5% to 1% tax on the generation of energy, which would create an energy fund. The Ministry of Energy and Mines considers this proposal viable, since these hydropower projects enjoy tax exemptions. But the Association of Generators of Renewable Energy has already stated its opposition to the proposal and argued that specific projects are financed (schools, highways, and productive projects) in the communities, but without taxing a percentage of profits.

Table 2. Information on consultations related to Hydroelectric Projects

Project Name (year)	Location	Results
Hidro Santa Cruz Project (2007)	Municipality of Santa Cruz Barillas, Huehuetenango	Nearly 100% of almost 46,000 persons rejected the projects
Xalalá Hydroelectric Project (2007)	Municipality of Ixcán, Quiché	90% against the project
Hydroelectric Projects on the Usumacinta river (2012)	Municipality Las Cruces, Petén. 39 communities; 11,100 votes in all.	98.9% against the project

Source: Data provided by organizers of the consultations.

The Governance of the Diquís Project in Costa Rica

Diquís, a hydropower project of the ICE, is the most ambitious project of its type in Costa Rica. Initially it was to be located in the Boruca/Cajón region, covering a zone of the Río Grande de Térraba, but there were objections due to the need to resettle a large number of indigenous communities. The project would have affected 7,141 hectares of indigenous territories and more than 140 archeological sites and flooded 2,500 hectares of forest. Because of these impacts and protests by the communities who were never consulted, the IDB hired a private Colombian consulting firm to find a new site with fewer environmental and social impacts.[10] In 2004, Boruca/Veraguas (El Diquís) was chosen.

Diquis, which is IDB's largest hydropower project in Central America, is considered one of the fundamental pillars of the regional electricity market. It is backed by the IDB's Fund for the Financing of Technical Cooperation for Initiatives for Regional Infrastructure Integration. The initial amount allocated for the project was US$ 2.164 billion, with the fund contributing US$ 1.5 billion and the ICE US$ 664 million. Financial and environmental feasibility studies, underway since 2005, have been financed by the IDB. This funding is in the form of technical assistance from the U.S. Trade and Development Agency along with the CABEI. The technical feasibility study cost US$ 4 million. The hydropower project is expected to start operations in 2017, though this is not yet confirmed.[11]

While the social impacts on affected farmers, indigenous persons and communities affected are low, the environmental impacts are significant. In all, 1,800 hectares of wetlands are affected and 2,105 hectares of forest will be flooded by the reservoir. While only 1,130 indigenous people would have to be resettled, some 326 archeological sites would be flooded!

In 2008, the government declared that the Diquís Project was in the "national interest." This decree was challenged by indigenous communities, since it was made without any consultation with those affected, particularly the Térraba people. That led indigenous communities to invoke the

10. *Reseña Histórica del Proyecto Diquís.* ICE. Bureau of Communication, May 2010.
11. *Informe de avance del Proyecto Diquís.* Bureau of Communication, ICE, August 2012.

United Nations International Convention on the Elimination of All Forms of Racial Discrimination, to which Costa Rica is a signatory. In October 2010 the United Nations sent a communication to the Costa Rican state which expresses "its profound concern over the information received according to which the Térraba people have not been consulted or allowed to participate in the decision making process, and that its petitions to this end have been rejected by the public servants of the State as they have been considered premature." In addition, Costa Rica was asked to "provide information on the measures taken to ensure the effective participation of the Térraba people and of other indigenous peoples whose decision making is needed with respect to all aspects and stages of the plan for the Diquís dam for the purpose of obtaining their free, prior, and informed consent for this project."[12]

In April 2011 and May 2012 the United Nations Special Rapporteur on the rights of indigenous peoples visited Costa Rica to investigate the situation. In the report on his first visit the Rapporteur noted:

> "Under the current proposals, the reservoir and part of the dam will cover 818.24 hectares of the Térraba indigenous territory, which accounts for around 10 per cent of the territory of the indigenous Térraba people. The reservoir will also flood 97 hectares of the China Kichá indigenous territory of the Cabécar people. Furthermore, the Rey Curré and Boruca indigenous territories, which belong to the Brunca people and are located downstream of the dam, could be affected by changes or alterations in the river's course. Housing thousands of workers for several years during the construction of the dam would also have a social impact on the indigenous communities living in the area. The following indigenous territories, which are located upstream of the dam, were included by the ICE in the area of indirect influence of the project: the Cabagra, the Salitre, the Ujarrás and the Coto Brus. The reason for this is that the reservoir would be created and maintained in part with water flowing from these territories".

Through the United Nations Rapporteur, a process for consultation with the communities about the Diquís Hydroelectric Project was established. A team of independent experts was proposed to facilitate the consultation process. The United Nations office in Costa Rica, coordinated by the Regional Office of the High Commissioner for Human Rights, would set the terms of reference, and operations were to begin as soon as possible.

As part of that initial dialogue, the indigenous peoples put several points on the agenda:

- Concerns with regard to land tenure
- Ways to create a climate of dialogue and trust with the state
- Strategies for addressing the communities' fear of the hydropower project
- Approval of the draft Law on Autonomous Development of the Indigenous Peoples
- Lack of representation and problems with governance of the Associations of Integral Development (Asociaciones de Desarrollo Integral)
- Respect for the rights of indigenous peoples
- Dangers of extinction of the indigenous peoples as a result of the Diquís Hydroelectric Project
- The need to update the population census in each territory
- Financing the consultation process within affected communities.

Between May 2012 and November 2013, three regional fora for indigenous communities were held to move towards consensus on their positions. Communities were also preparing for the formal process of consultation with the Costa Rican state, which was to be mediated by the United Nations, in 2014. To date, the facilitator team has not been constituted. It would be comprised of international experts from the United Nations that would serve as guarantors of the official consultation process. Also pending is a determination of how community and indigenous organizations will be officially represented.

The ICE and state institutions involved in the process have attempted to manipulate indigenous and farmer groups so

12. *Official note from the U.N.'s Committee on the Elimination of Racial Discrimination to the Government of Costa Rica, with respect to the Diquís Project. October 2010.*

that the majority of communities' interlocutors or organizations are comprised of persons in favor of the hydropower project. The Diquís Project has created, as organizational points of reference, the Liaison Committees (Comisiones de Enlace) or Partnership Committees (Comités de Alianza), which bring together members of different communities in order to counter the various groups opposed to the project.[13]

Final thoughts

The Mesoamerica Project is the most ambitious regional infrastructure plan ever attempted in this region. It is aimed at integrating trade and facilitating the exchange of goods. This objective is not in itself a problem, however the plan is geared to serve the interest of transnational corporations, including trans Latin American corporations which operate within the framework of Free Trade Agreements and Bilateral Investment Treaties signed by Central American countries.

The project represents the consolidation of the Pacific Partnership, a neoliberal integration initiative that includes Chile, Colombia, Mexico, and Peru. In Central America, Costa Rica, Guatemala, and Panama are seeking inclusion. This focus on infrastructure is thus aimed at integrating, by means of highways and ports, the entire geographic zone that includes the Pacific Partnership. It is also designed to take advantage of reserves of cheap electricity, produced by abundant Central American water resources.

A major problem is that the Mesoamerica Project's infrastructure operations – both public and private – have been designed and – most of them – are being implemented without consultation with any civil society groups or affected communities. Everything is run by governments or regional or sub regional governmental agencies.

Preliminary information tells us that in regard to taxes, the projects – either PPPs or private projects –are protected through a system of exemptions and incentives promoted in the region. These are designed to attract foreign direct investment (FDI) through free trade agreements and bilateral investment treaties. This means that private sector companies are likely to operate with a lack of fiscal transparency, as has been the case with regional FDI in the past.

The private sector providers involved in the cases we have studied - the Hidroxacbal, Cambalan I, and Cambalan II projects in Guatemala - have been covered by a law that gives them a variety of tax breaks such as exemptions from income taxes for twenty years, from import duties on goods or raw materials and from municipal taxes.

The Mesoamerica Project poses the danger of external indebtedness for the countries involved, because of the reliance on external resources to build such large-scale infrastructure. At a time of rising government deficits in all countries, modest economic growth (increases of 2.5% to 3% in GDP annually) and a sharp rise in national debts (on average 50% to 60% of GDP), Central American economies could face years of economic struggle.[14]

The regional electricity market proposed by the Mesoamerica Project required modifying the regulatory frameworks of Guatemala and Costa Rica to further open up their electricity markets to private capital. There is strong resistance in both countries, not only from state sectors linked to the electricity sector, but also from broad segments of the population.

In any event, from the outset the Mesoamerica Project has promoted the PPP model for energy infrastructure. In this article we have sought to show how different modalities of PPPs operate in the region: on the one hand, in Guatemala the operation of the electricity sector is primarily in private hands, and, on the other hand, in Costa Rica, the state is the dominant actor in the operation of the electricity sector.

Around 14% of the Central American population - over 6 million people - does not have access to electricity. The countries with the least access are Guatemala, Nicaragua, and Honduras. This suggests that the involvement of private capital does not necessarily lead to greater access to electricity (the cases of Guatemala and Nicaragua). Yet it has also

13. Universidad de Costa Rica. "Aproximaciones al Megaproyecto Hidroeléctrico El Diquís", March 2012.

14. Coronado, Jorge et al. IV Informe de Impactos de los TLCs en Centroamérica. Red Centroamericana de Monitoreo de los TLCs, November 2012. Managua, Nicaragua.

not been possible to cover unmet demand where the state is the dominant actor.

In the case of Guatemala, we have described the threat from the proliferation of hydroelectric projects, mainly driven by private finance. They all enjoy major tax incentives to encourage private investment. The projects are been carried out not just without consulting the communities but, in many cases, to their detriment. That is what we have observed in Santa Cruz de Barillas and Ixcan/Quiché in Guatemala.

Social conflict has been triggered by almost all the hydroelectric projects. The response has been repression and criminalization of protests. In cases where consultations with the communities took place, such as in the case of Huehuetanango in Guatemala, where they were promoted by municipal authorities and indigenous leaders, the result of these have not been recognized by the state or the private companies, which do not consider them binding. This makes a mockery of consulting the communities.

Costa Rica is at the other extreme, with a gigantic hydropower project. It has public and private financing but as in the cases in Guatemala, it is being carried out without consulting the affected communities. The only difference with the case in Guatemala is that in Costa Rica the resistance has not been openly criminalized,[15] although indigenous and rural leaders are pressured, and attempts have been made to buy their approval for the project. In both Guatemala and Costa Rica there is no respect for the binding nature of the formal and consensus-based consultation, in keeping with ILO Convention 169 signed by both countries.

In the case of Costa Rica United Nations intervention has been necessary, through its Special Rapporteur on the rights of indigenous peoples, to force the state to start the dialogue and to prepare a formal consultation with the indigenous communities facing the Diquís hydropower project. It remains to be seen whether the presence of the United Nations will guarantee a genuine process of binding consultation, in the face of powerful financial and public–private investment interests and regional interests.

Finally, we have shown that PPP projects in Mesoamerica have triggered social conflict due to the little sensitivity to address in an integral and responsible way the rights and needs of affected communities. If some changes have taken place from the original plan, these have been as a result of social fights. Until there is a radical change in the way these projects are carried out, this form of investment is unlikely to deliver greater transparency, improved governance, or better social and environmental impacts.

15. In the case of Guatemala the government imposed a state of siege in 2012 in Santa Cruz de Barillas, with the detention of 13 community leaders. A worker was assassinated in Ixcan/Quiché in the first quarter of 2013.

The Nationalization of Oil in Argentina

A new kind of public–private partnership?

Jorge Marchini

Summary

For decades, the debate on underdevelopment in Latin America has revolved around the dependency discourse emphasizing the issues faced by peripheral countries that supply and export raw materials, particularly given the terms of trade. That is, the region has suffered from the fact that its economic prospects have been determined by the prices for its raw materials. For many years, these prices were on a downward trend, particularly in relation to the prices of manufactured goods imported from industrialized countries. But, the unprecedented rise of commodity prices since the 2000s sparked a change in the discussion about the implications of exploiting Latin American resources.

The intense exploitation of non-renewable natural resources takes place when there is a polarization within Latin American society. This polarization divides governments which support the neoliberal agenda (Chile, Colombia, Mexico, Peru, and Central America) from those which want to strengthen the role of the public sector in controlling and regulating key sectors of the economy like the extractive sectors (Argentina, Bolivia, Ecuador, Venezuela and, to a lesser extent, Brazil and Uruguay).

In this context an analysis of public–private partnerships (PPPs) in Argentina's oil sector is particularly interesting. In April 2012, during a national energy crisis, the government surprisingly announced that it would re-nationalize the largest oil company in the country, Yacimientos Petrolíferos Fiscales (YPF).

Despite initial expectations of this change, public ownership has boosted private international investment, in particular through an initially confidential agreement with Chevron for the exploitation of enormous hydrocarbon deposits, which will require techniques such as hydraulic fracturing to extract. Such extraction does not take into account the urgent need to switch to renewable sources and conserve energy, given Argentina's scarce energy resources.

A public debate is needed about YPF's lack of transparency (as evidenced by the negotiations with Chevron behind closed doors) and the danger of irreversible economic and environmental harm. Confidential agreements for the exploitation of shale oil fields raise questions about whether the "YPF model" will set a standard in Latin America for negotiating PPPs for the exploitation of non-renewable resources without democratic debate.

The return of commodities

For much of the 20th century, the debate in Latin America focused on its inability to break away from dependence on exploiting natural resources. The continent lacked industrial development characterized by more advanced countries. The most recurrent argument on the "evil of underdevelopment" concerned the deterioration in the terms of trade in relation to developed nations.[1] This put countries from the region at a disadvantage, since it resulted in recurrent

1. Prebisch-Singer thesis demonstrates the tendency in the 20th century towards a deterioration in the terms of trade to the benefit of the more industrialized and powerful countries and to the detriment of the weaker raw-material producing countries.

balance of payments crises.[2] Social and economic disparities within countries and between rich and poor countries, were exacerbated.

However, in recent years, prices for raw materials have risen, boosting the prospects for countries rich in natural resources, including those in Latin America.[3] Argentina, for example, has experienced the "soyization"[4] of the country's best agricultural zones, large mining investments,[5] and most recently, the possibility of accessing enormous hydrocarbon reserves with the help of new technologies.

This has prompted debates about the alternatives, conditions and consequences of renewed investment in raw materials both in countries that want to open their economies up to global competition and involve the private sector and among those that prefer government control of key sectors.

PPPs have been widely used in Argentina for the construction of public works. In the 1990s, the legal basis for PPPs was established, within the framework of a privatization process, but the mechanism has been reformed in recent years "with the aim of allowing the participation and cooperation between both the public and the private sector, partnering in a way that ultimately increased the overall efficiency of the economy."[6] However, PPPs have been used for specific investment projects (for example, gas pipelines, water, electricity, transportation) through the creation of special funds.[7]

PPPs in the Argentine oil sector need to be analyzed because:

- With Argentina's energy deficit worsening in the last few years, the oil sector is critical for the national economy.[8]
- The earlier privatization of the sector in the 1990s was reversed with the partial renationalization of YPF in 2012.
- Public debate is needed about the consequences of exploiting enormous secondary gas reserves (shale oil) using new hydraulic fracturing technologies.
- Argentina is a member of the G20, which makes it possible and necessary to analyze whether there is a correspondence between the G20's emphasis on PPPs and policies at the national level.

Self-sufficiency and the privatization of YPF

Over recent decades, Argentina has experienced profound changes in its oil sector. In spite of having limited non-renewable natural resources, since the 1920s, the country has increased production and processing through the state owned company YPF.[9] This resulted in a brief period of oil and gas self-sufficiency in the 1980s.[10]

During the Carlos Ménem administration (1989–1999), the country abandoned the consensus in favor of state-led development. Instead, the government introduced an aggressive neoliberal strategy of deregulating markets and opening them up to free enterprise. The most significant impact on the energy sector was the privatization of YPF. From 2002 to 2007, the principal shareholder was the Spanish multinational REPSOL.[11]

2. Its most notable derivative has been, no doubt, the recurrent "debt crises" Argentina experienced in recent decades: 1976/76, 1981/82, 1989/90, 2000/01.
3. Jenkins, Rhys: "The 'China Effect' on Commodity Prices and Latin American Export Earnings", *CEPAL Review No. 103*, Santiago, Chile, 2011.
4. "Soyization" is a reference to the huge expansion of transgenic soy production in the most fertile region of Argentina (the Moist Pampa), which climbed from 11 million tons in the early 1990s to more than 53 million tons today (2012–2013 harvest). Due to its high profitability, soybean has displaced traditional wheat, corn, sunflower, and sorghum.
5. Essentially copper, gold, silver, zinc, lead, and lithium. See more details on recent investments in "Argentina Mining", *Engineering and Mining Journal*, Global Business Reports, Singapore, 2013.
6. Decree 967/2005, which defines the national regime for PPPs.
7. Specific funds, also called trusts, administered independent of the national budget, regulated by Law 24,441. For more information, see the website of the Ministry of Federal Planning, Public Investment, and Services: institucional.minplan.gov.ar/html/fiduciarios/.
8. Energy Balance Sheets, Secretariat for Energy of the Nation, Ministry of Public Planning, Public Investment, and Services. Website: energia3.mecon.gov.ar/contenidos/verpagina.php?idpagina=3366.
9. Solberg, Carl, *Petróleo y Nacionalismo en Argentina*, Editorial Hyspamérica, Buenos Aires, Argentina, 1986.
10. Sabbatella, Ignacio and Serrani, Esteban, "A 20 años de la privatización de YPF: Balance y Perspectivas", *Voces en el Fénix*, No. 10, School of Economic Sciences, Universidad de Buenos Aires, Argentina, 2012.
11. Kozulj, Roberto, "Balance de la privatización petrolera en Argentina e impactos sobre las inversiones y la competencia en los mercados minoristas de combustibles", *Recursos Naturales e Infraestructura*, No. 46, ECLAC-UN, Santiago, Chile, July 2002.

The results promised, such as greater dynamism, improved management and increased investment, were not achieved. In the early stages of the privatization period, Argentina became a net exporter of oil and gas, by decimating its resource base. The ultimate result was that Argentina lost its self-sufficiency and turned to an importer of fuel oil, gas oil and natural gas. It has neither changed its energy mix to include renewable resources, with more than 80% of supply still based on fossil fuels, nor turned to more efficient consumption, as was demanded by environmental organisations.[12]

Improved balance sheets for REPSOL[13] meant less investment in exploration and maintaining production levels. It is estimated that nearly 50% of the proven oil reserves and 15% of the gas reserves were exported.[14] The strong growth of the economy[15] compounded the difficulties, because there was no parallel increase in domestic energy production to meet the growing demand, which made the country more dependent on imports.

The new nationalization of oil

Faced with deterioration in the balance of payments and an annual deficit in the foreign trade of energy products of US$ 9.2 billion,[16] the Argentine government decided to nationalize the majority of the shares in YPF in April 2012. Despite strong opposition from REPSOL and the Spanish government, the measure was presented as a step towards recovering national control. It was reinforced by allegations of breach of contract and failure to invest.[17] REPSOL denied these accusations, arguing that the Argentine government's expropriation reflected its hostility to Spanish capital and its desire to exploit the huge potential of non-conventional hydrocarbon resources.[18]

REPSOL lodged a claim with the International Centre for Settlement of Investment Disputes (ICSID), a part of the World Bank.[19] It stated that Argentina had violated the bilateral investment treaty with Spain that has been in force since 1992,[20] by carrying out a "discriminatory expropriation that did not respect legal provisions." The claim valued REPSOL's 51% share in YPF at more than US$ 10 billion.[21]

In an unexpected move in November 2013, a year and a half after nationalization, representatives of REPSOL and the Argentine government announced that they had privately negotiated an agreement in principle based on compensation for the expropriated shares.[22]

The rush to exploit non-conventional deposits

The Argentinean energy crisis has propelled the search for large investments to exploit hydrocarbon deposits. The need to prioritize energy efficiency and renewable resources has been ignored. Extraction using new hydraulic fracturing techniques has focused on the south of the country—particularly a region known as "Vaca Muerta" in the province of Neuquén. Argentina is thought to have the third largest reserves of non-conventional gas and the fourth largest reserves of non-conventional oil in the world.[23]

The supporters of such exploitation claim that it could contribute to a significant increase in oil and gas production, a rapid return to self-sufficiency and an export boom. They argue that "a way must be found to make the development of these resources happen very fast."[24] But there is a pressing need for public debate, particularly as an initial contract

12. De Dicco, Ricardo, *Avances del Plan Energético Nacional 2004–2019*, Centro Latinoamericano de Investigaciones Científicas y Técnicas, Buenos Aires, 2013.
13. According to its public balance sheets, REPSOL generated profits of US$ 16.6 billion in from 1997 to 2010.
14. Economistas de Izquierda, Argentina, "Afloran límites del modelo", March 2012. Available at: www.sinpermiso.info/articulos/ficheros/EI.pdf.
15. Economistas de Izquierda, Argentina, "Afloran límites del modelo", March 2012. Available at: www.sinpermiso.info/articulos/ficheros/EI.pdf.
16.Source: National Institute of Statistics and Census.
17. YPF, *Informe Mosconi*, joint paper by the Ministry of Economy and Public Finance and the Ministry of Planning, Public Investment, and Services, Buenos Aires, June 2013. Available at: www.mecon.gov.ar/wp-content/uploads/2012/06/Informe-MOSCONI-v12-modif.pdf.
18. "Argentina busca alivio energético", *El País* (Spain), April 14, 2013.
19. See the website: icsid.worldbank.org/ICSID/.
20. See complete text at: unctad.org/sections/dite/iia/docs/bits/argentina_spain_sp.pdf.
21. "REPSOL demandó ante el CIADI por la expropiación de YPF", *Diario INFOBAE*, Buenos Aires, December 3, 2012.
22. Initial reports indicated that the payment would be around US$ 5 billion in Argentine treasury bonds, although the Argentine Minister of Economy, Axel Kiciloff, immediately made clear that no details could be provided due to "issues of confidentiality" since "it is a publicly-traded company." ("Kiciloff se aferró a 'cuestiones de confidencialidad' y no informó," *Clarín*, November 27, 2013)
23. US Energy Information Organization, "World Shale Gas Resources: An Initial Assessment of 14 Regions Outside the United States", Washington, June 2013.
24. Statements by the President and CEO of YPF in a talk at the Unión Industrial Argentina, December 3, 2013.

between YPF and the US multinational Chevron has prompted fears of irreparable environmental damage.[25]

The confidentiality of agreements negotiated between YPF and private companies for the exploitation of shale oil deposits also raises questions about whether the "YPF model" could become a yardstick for natural resources exploitation via PPPs throughout in Latin America. This is ironic in view of the expectation that nationalization of energy companies would reverse the global trend towards increased private sector involvement.[26]

The new YPF: a public company with private management?

In May 2012, the national legislature adopted the law on partial renationalization of YPF, which has had significant repercussions. The main stated objective was to return the country to oil and gas self-sufficiency, which might require "integrating public and private capital, national and international capital, in strategic partnerships aimed at the exploration and exploitation of conventional and non-conventional hydrocarbons."[27] The provision and its subsequent regulation[28] made no mention of a specific mechanism or requirement for consultation with the public before entering into agreements.

YPF then announced the "100-day Plan" - their strategy for 2013–2017 - forecasting US$ 37.2 billion in investment to increase oil production by 27% and gas production by 23%. It is noteworthy that this forecast assumes reliance on hydraulic fracturing. At the same time, a new oil deposit was discovered in the Gulf of San Jorge and the government announced that "the vector of exploratory growth focuses on expanding productive basins and on characterizing non-conventional resources."[29] This had already been anticipated by the president of YPF, who said his company "has to be the leader in non-conventional oil deposits".[30] This was to justify the use of hydraulic fracturing technology to solve the national energy crisis, simultaneously rejecting concerns from environmental groups and affected communities about massive water use in regions with limited water supplies, and about the lack of information on the use of chemical additives.

In July 2013, the government made a surprise announcement about a new regime for promoting oil investments.[31] From the fifth year on after their investments, companies, along with "third-party associates" (which could be companies associated with YPF that disburse at least US$ 1 billion for a hydrocarbon project), will be able to sell 20% of their production without paying export duties. They are also free to decide about the purpose of the foreign exchange earned from those exports, which implies an exception to the strict foreign exchange-control regime established by the Argentine government in October 2011. A few days earlier the Supreme Court of Argentina lifted an embargo on assets held by Chevron's subsidiary in Argentina.[32]

YPF–Chevron: what is known and what is secret

In July 2013, drilling of more than 100 wells began in a pilot area of 20 km^2 with an investment of approximately US$ 1.5 billion. A possible second stage would extend through 2017, reaching daily production of 50,000 barrels of oil and 3 million cubic meters of gas in 1,500 wells.[33] The announcement sparked social protests outside the Neuquén provincial legislature which were suppressed. The native Mapuche communities,[34] supported by political and social groups, enacted a symbolic occupation of the oil wells.[35]

Despite social protests, the YPF-Chevron agreement was declared "extremely important" by the government. President Cristina Kirchner said: "it is contradictory; they were

25. Of particular concern, the declarations of the Permanent Assembly of the Comahue for Water, in the provinces of Neuquén and Río Negro (www.apca.noblogs.org/) and the decision of the legislature of the city of Cinco Saltos (Río Negro, population 33,000) to prohibit the use of hydraulic fracturing for obtaining hydrocarbons; it is the first Latin American city to do so. See: www.marcha.org.ar/1/index.php/nacionales/94-ambiental/3227-cinco-saltos-ratifica-la-prohibici.
26. In July 2013 YPF signed an initial contract with Chevron that sparked polemics due to the failure to disclose the contractual details. See: www.infobae.com/2013/08/28/1504818-ypf-nego-la-justicia-revelar-el-convenio-firmado-chevron.
27. Law 26,741, Article 3(c).
28. National Executive Branch Decree 1277/2012.
29. YPF, *El Plan Estratégico 2013–2017*.
30. Statements by Miguel Galuccio, *El Cronista*, Buenos Aires, May 10, 2012.
31. National Executive Branch Decree 929/13.
32. On June 5, 2013, the Supreme Court of Argentina, with a favorable opinion from Solicitor General Alejandra Gil Carbó, overturned the embargo on the Argentine accounts of Chevron's local subsidiary, which had been requested by the Ecuadorian courts for Chevron Corporation's failure to pay USD 19 billion as compensation for environmental damage caused in the Ecuadorian Amazon.
33. Press release by YPF, July 16, 2013.
34. The Mapuches (people of the land, in their language) are the largest indigenous community in southern Chile and southwestern Argentina.
35. *La Nación*, Buenos Aires, August 28, 2013.

telling us that we weren't bringing in foreign investment, that we weren't inspiring confidence. We were able to bring one of the largest oil companies in the world to Argentina and all we hear is criticism."[36] The Argentine government justified the announcement of the YPF–Chevron agreement without adequate public debate along the following lines:

- Neither YPF nor Argentina has sufficient financial resources for the large investments needed to solve in the short-run the energy deficit and to take advantage of the opportunity to become an international player in energy generation with export capacity.
- The new techniques for obtaining oil and gas from deep deposits should not harm the environment.
- YPF does not have the technological know-how for using hydraulic fracturing.
- An agreement with a global company such as Chevron shows Argentina's willingness to attract investment from abroad.[37]
- The conditions of the YPF–Chevron agreement are in the national interest and guarantee energy sovereignty.[38]

Objections were raised to these arguments related to:

- YPF's negotiating strategy given that Chevron was granted huge advantages.[39]
- The effect of the deal on the country's energy mix. There are dangers in prioritizing secondary resources extraction and in the extensive use of technologies with unknown environmental impacts.[40]
- The allegations of secret clauses, because the terms of the contract were not made public.[41]

Other questions have been raised by nationalists who are not opposed to oil and gas extraction by hydraulic fracturing, but who criticize the ways in which YPF's future independence may be undermined. They are unconvinced by the argument that YPF lacks financial resources, since YPF itself had said that its five-year investment plan would only require small contributions from strategic partners.[42] The argument about lack of technological knowledge is disputed because YPF has said that it is already using hydraulic fracturing technology in the same region. Additional expertise could be procured where needed, without a long term partnership, such as the one agreed with Chevron.[43] The agreement was also criticized because of its lack of clarity in relation to technology transfer.

Another even more controversial issue has emerged as a result of the allegation of a secret clause in the YPF - Chevron contract. This is said to include coverage for risks and losses by the US company;[44] the application of New York rather than Argentine law and an agreement that future disputes would be subject to arbitration at the International Chamber of Commerce in Paris, not at ICSID. ICSID is the forum where REPSOL brought the claim against Argentina, following nationalization.[45]

YPF management publicly denied the existence of "secret clauses",[46] but continues to refuse to disclose the contract despite court orders, claiming "that it is a joint-stock company and an open company (traded on the New York Stock Exchange) and, therefore, disclosure of the agreement could create competitive advantages for third parties."[47]

36. *El Día de La Plata*, Argentina, July 18, 2013.
37. Argentina has not had access to the international financial market for voluntary loans since the January 2012 default on the sovereign debt. While over the last decade it was able to renegotiate conditions of pending obligations with many creditors, there are loans with the Paris Club still pending and disputes with investors who did not accept restructuring offers and brought claims against Argentina in tribunals abroad.
38. Lecture by YPF's CEO, Miguel Galuccio, August 22, 2013, at the Tenth Meeting of the Council of the Americas.
39. "La Oposición más dura con el Acuerdo entre YPF y Chevron", *Clarín*, Buenos Aires, July 20, 2013.
40. Di Sbroiavacca, Nicolás, "Shale-oil y Shale-gas en Argentina. Estado de Situación y Perspectiva", Fundación Bariloche, 2013.
41.Critical arguments have been pulled together by the Observatorio Petrolero Sur. Available at: www.opsur.org.ar/blog.
42. YPF's own *Strategic Plan 2013–2017* includes total estimated planned investments of USD 37.2 billion; only a contribution of just over 11% of the total (USD 4.2 billion) was required.
43. Martínez, Enrique, "Por qué no es Conveniente ni Imprescindible el Contrato YPF-Chevron". Available at: www.propuestasviables.com.ar/index.php/2013/07/19/por-que-no-es-conveniente-ni-imprescindible-el-contrato-ypf-chevron/.
44. "An Odd Alliance in Patagonia", *New York Times*, United States, October 22, 2013.
45. "El contrato entre YPF y Chevron se regirá por leyes de EE.UU. y tribunales franceses", *El Cronista*, July 19, 2013.
46. In an official press release of October 24, 2013, "YPF ratifies that, contrary to media reports released today, the agreement signed with Chevron for the development of the first cluster of shale in Vaca Muerta does not contain secret clauses."
47. "YPF Negó a la Justica Revelar el Contrato con Chevron", *El Cronista*, Buenos Aires, Argentina. August 28, 2013.

Argentina and the G20: priority issues

Argentina is one of the smallest economies in the G20, the key forum in which industrialized economies and the "developing" economies can debate important issues. Argentina's membership in 1999 was originally interpreted as a gesture of recognition of its foreign policy alignment with the U.S. Argentina was considered in the vanguard of developing countries in terms of its adoption of neoliberal policies including privatization, deregulation and opening up the economy to foreign investment. But, following the major political and economic crisis in 2001 and 2002, Argentina rejected neoliberalism and prioritized its relationship with continental and other emerging countries.[48]

With some exceptions, Argentina has not played a key role in driving the G20's agenda and it has generally tended to seek and accept consensus agreements. Among other issues, it has emphasized:

- The need for better global financial and banking regulations in the wake of the 2008 crisis, the reform of the multilateral agencies to take peripheral countries into greater account in decision-making, and the need to abolish tax havens.
- The need to fight speculation with regard to peripheral countries' public debts.
- The environmental crisis.
- The participation of the International Labor Organization and the need to improve working conditions.[49]

Argentina has not challenged G20 proposals to increase the use of PPPs for development purposes, an idea that has become extremely important in the forum since the 2010 Summit in Seoul, South Korea. However, it is well-known that Argentina is not among the countries that support all the assessments and actions proposed by the industrialized countries in the G20. Argentina has promoted greater civil society participation in the summits[50] and has maintained independent positions on several foreign policy matters.[51] Its criticisms of the global economic and financial situation have been particularly strong.[52] Yet Argentina has not been critical of the way that PPPs involve multinational corporations or the way that mega-projects disrupt the environment in the process of exploiting natural resources.[53]

The Chevron–YPF model must not lend credibility to those that argue against transparency and public debate over particular projects or the economic direction of the country.

48. Abeles Martín, Kiper Esteban, "El rol de Argentina en el G-20", Friedrich-Ebert-Stiftung, Buenos Aires, Argentina, 2010.
49. Petrella, Fernando: "Argentina: Gobernanza Global y Participación en el G20", Consejo Argentino de Relaciones Internacionales (CARI), Buenos Aires, 2013.
50. Report on the Colloquium "Argentina, the G-20 and the construction of a new international order", organized by the Foro Ciudadano de Participación por la Justicia y los Derechos Humanos and the Centro de Economía y Finanzas para el Desarrollo de la Argentina, in Buenos Aires, November 2012.
51. Argentine foreign minister Héctor Timerman, "Lineamientos de la Política Exterior Argentina", *Página 12*, Buenos Aires, October 12, 2011.
52. "What we are experiencing, gentlemen, is not capitalism. This is total financial anarcho-capitalism, in which no one controls anyone," stated President Cristina Kirchner in a meeting with business people at the G20 Summit in St. Petersburg, Russia, September 2013.
53. Certainly, huge incentives remain for multinational investment in mining that were introduced by Argentina in the "neoliberal decade" of the 1990s, to the point of inhibiting the existence of state enterprises. See the website: www.mineria.gov.ar/marcolegal.htm.

Mega projects and Natural Resource Extraction

The Case of the Olmos Project and its link with Public-Private Partnerships (PPP) in Peru

Giancarlo Castiglione

Executive Summary

This article examines the construction of the Olmos Hydropower Project in northeast Peru, which was originally designed to support small- and medium-sized farming operations in the Lambayeque region. Despite having received some public resources, the project benefits have overwhelming gone to three corporations.

The Olmos Project shows how the rules on governance of infrastructure in Peru have changed over the course of the project implementation. A major milestone was the state reform introduced by Alberto Fujimori's government, which liberalized the Peruvian economy and took dramatic measures to integrate the country into the international financial system. This involved legal reforms to promote investments, particularly those linked to the extractive industries, by creating a favorable climate for investors. Under Fujimori's government (1990-2000) the country also saw generalized corruption involving special benefits, such as customized laws, to businesses that supported the regime.

Having taken almost 90 years to implement, the Olmos Project has confirmed public perceptions that the state is inefficient in responding to citizens' demands, particularly in the case of large infrastructure projects. As a result, it is now considered preferable to rely on private capital for infrastructure projects.

Since the 1990s, Peruvian legislation has been fine-tuned to promote investment in public infrastructure using private capital. To make things easier for investors, the state's capacity to regulate investments has been gradually dismantled. One result is that companies can renegotiate contracts to favor their interests above those of the public. It has also led to the progressive privatization of services for which the state was previously responsible.

Introduction

The Olmos irrigation and hydropower project in the Lambayeque region in northeast Peru is one of the largest engineering works in the world. Its original designs go back almost 90 years[1] and many people have long considered it the "Lambayequan Dream".

It was originally designed to benefit the region's farmers. But from the 1990s onwards, a process of economic liberalization brought with it a gradual concentration of land ownership that agrarian specialists have labeled "neolatifundialization".[2]

1. See: "Olmos Irrigation and Hydropower Project"- Integration Workbooks Series 2- Peru Solidarity Forum.
2. See http://www.cepes.org.pe/portal/node/11683 ¿La tierra para el que tiene más plata? Ricardo Marapi, Centro Peruano de Estudios Sociales – CEPES.

Studying the Olmos Project enables us to analyze how major investment in extractives and infrastructure was facilitated. From the 1990s, we began to see stabilization clauses in contracts (curtailing the ability of the state to regulate), different forms of private initiatives, and a gradual increase in reliance on Public-Private Partnerships (PPPs).

Since 1991, the state's regulatory role over public goods, territorial organization and the use of natural resources has been chipped away and dismantled, causing an increase in social conflicts. Extreme liberalization has resulted in a precarious institutional democracy, lack of transparency, the limited application of the law and a gradual dismantling of regulations. It has generated a development model that bases economic growth on foreign investment and exports of primary commodities.

This chapter focuses on the changes to the infrastructure development model. Two aspects will be discussed: the governance of infrastructure and the risks to the country's institutions. Key concepts are the role of the stakeholders involved, the reforms implemented by the government and the changes to the country's institutions in order to stimulate investment. The characteristics of the process, the mechanisms implemented by the state, civil society, and the unions and the power relationships between different groups are discussed.

The national context: the views of experts and the media

The memory of widespread corruption and mismanagement of public companies in the 1970s and 1980s encouraged the introduction of neoliberal reforms and the subsequent wave of privatization. Today, the Peruvian public is generally supportive of PPPs, given the lack of infrastructure in the country and particularly the lack of road connectivity. Greater connectivity would help achieve more decentralized and inclusive development. This perception is reinforced by the media and a large sector of academia that has close ties to big business groups and associations.

It is also worth mentioning the leading role of institutions such as the Association to Promote Infrastructure (Asociación de Fomento de la Infraestructura - AFIN).[3] AFIN states that it:

> "…aims to be a leading association that promotes the development of infrastructure for public services that contributes to economic growth and the reduction of poverty." AFIN unites the principal private infrastructure companies that deliver energy, transportation, telecommunications, and sanitation services in Peru. Its mission is to: "coordinate and join efforts to convince public authorities and society in general that, in order to reach the levels of development and social inclusion that the state requires, private investment must play a part. We promote private investment in infrastructure and the stability and predictability that these investments need. We aim to make society aware of the importance of expanding and improving infrastructure as a way to improve competition, reduce poverty and develop and modernize Peru."

"The memory of widespread corruption and mismanagement of public companies in the 1970s and 1980s encouraged the introduction of neoliberal reforms and the subsequent wave of privatization"

AFIN's efforts have raised the awareness not only of society but, more fundamentally, of decision-makers. On 14 February 2013, AFIN suggested that a US$ 3 billion[4] investment fund be created for infrastructure; shortly thereafter, a 1.5 billion soles fund to promote PPPs was created (approximately US$ 520 million).[5]

AFIN's proposals are successful because its members include the principal construction companies (including Odebrecht), the principal telecommunications companies,

3. See http://www.afin.org.pe/.
4. See http://gestion.pe/economia/afin-plantea-crear-fondo-inversion-infraestructura-us-3000-millones-2059105.
5. The current exchange rate is 2.80 soles to a dollar.

universities, and prestigious law firms. There is also a large group in academia that shares, promotes, and reinforces AFIN's commitment to increasing the share of private capital in infrastructure projects. For example, José Bonifaz and Roberto Urrunaga write:[6]

> "Investment in public infrastructure is an important deciding factor for economic growth because of its effect on the improvement of capital productivity" (…) "the infrastructure that has the greatest impact on production is in transportation, energy and sanitation…"
>
> "The estimated infrastructure gap until 2062 is 90% more than Peru's GDP in 2011. This poses a challenge for the Peruvian government regarding future necessities…"
>
> "The infrastructure investment model has failed in the country because of major delays in implementation and because it has neglected the maintenance work that infrastructure obviously needs…"

These statements highlight the downsides of the public works model and the advantages of promoting private participation in investment projects. They also suggest the need for outsourcing project monitoring and evaluation.

In proposals by Bonifaz and Urrunaga, there is no mention of social or environmental impacts or the appropriateness of mega-projects in the Andean or Amazon regions. The proposals do not even mention the rights of the indigenous peoples that live in the territories where big businesses intervene.

6. "Cuando despertemos en el 2062. Visiones del Perú en 50 años" – Essay – "Acortando Brechas en la Infraestructura Pública" – Bonifaz y Urrunaga – Universidad del Pacífico, February 2013.

1. A brief history of the Olmos Project[7]

The Olmos Project was initially designed by engineer Charles Sutton in 1924 as an agricultural irrigation project. In 1930, outgoing president Augusto B. Leguia (who governed Peru between 1919 and 1930) was erroneously informed that work had started.

In 1940, an energy component was incorporated into the Olmos Project based on studies by the engineer Antúnez de Mayolose. These established the project's potential for generating energy and transformed Olmos into a hydropower and irrigation project.

Almost 42 years later, the Olmos Project's initial design, in Law 16101, passed on the 19 April 1966. The law stated that the implementation of the irrigation works in the Olmos pampas was necessary and useful to the public.

In the 1970s, during General Juan Velasco Alvarado's military government,[8] two Soviet companies carried out the definitive study on the viability of the project. Work on the Trans-Andean tunnel began in this decade.

The Supreme Decree 0907-74-AG of 17 September 1979 defined the Olmos Project as a Special Project, giving it higher priority. But lack of funds meant that work was delayed for many years.

It was only during Alberto Fujimori's administration that a decision was made to seek private investment, on the condition that private lands be irrigated. From 1991 onwards, successive modifications were made to national legislation as part of the government's neoliberal reforms.

7. Adapted from "Olmos Irrigation and Hydropower Project" – *Integration Workbooks Series 2* – Peru Solidarity Forum.
8. Known as the "Revolutionary Government of the Armed Forces", it promoted a series of nationalist and left wing reforms. The most important of these was the agrarian reform, which broke with the oligarchic power over land ownership.

In a ministerial resolution[9] allowed the state to borrow US$ 40 million; with interest, the state ended up paying US$ 77 million.

In 2002, it was suggested – without success – that the entire project be developed through concessions. Years later, the project was divided into three components and concessions for each component were granted separately.

In 2004, during the Toledo administration, the project was opened up to international public tender. The Regional Government of Lambayeque acted as intermediary in signing the contract that granted the concession to the Trasvase Olmos company.

In June 2010, the García administration signed a contract granting a concession to H2Olmos S.A., a subsidiary of Odebrecht, for the project's irrigation component.

This is how almost 90 years elapsed between the project's conception and its implementation.

2. The Olmos Project in detail

The Olmos Project is one of the biggest infrastructure projects in Peru. It includes both a hydropower complex and an irrigation complex, taking advantage of the water resources provided by the three rivers located on the Atlantic watershed.

The Olmos district is the largest district in Lambayeque province, which is situated in the department of the same name in the extreme northwest of Peru, approximately 900 kilometers from the country's capital. It includes more than 165 small towns.

In terms of climate, on the eastern side there is constant rainfall and large scale flooding (Atlantic watershed), while the west side is the opposite. The land is dry and arid (Pacific watershed) due to the presence of the Andes, the second highest mountain range in the world, which provides a natural barrier dividing east from west and preventing clouds from advancing. What once seemed impossible – moving water from one watershed to the other – has become a reality in recent years with the implementation of the Olmos project.

The project has created a reservoir containing more than eleven thousand million cubic meters of water. This water is channeled 19.3 kilometers across the Andes via one of the deepest tunnels in the world and irrigates 43,500 hectares of arid land.

The project was designed to encourage economic development, transforming the productive base of the region to benefit agricultural workers. It is divided into three components:

- Water transfer. The concession for this component was awarded to the Trasvase Olmos company in 2004.
- Hydropower. A concession contract was signed between the Regional Government of Lambayeque and the Sindicato Energético S.A. (SINERSA) on 15 October 2010 for all work related to energy production.
- Piping and distribution of water for irrigation for agricultural production. A concession contract was signed between the Regional Government of Lambayeque and the company H2Olmos S.A.

The water transfer and irrigation projects are currently under construction or partly completed.

Irrigation Project

The concession granted to H2Olmos S.A.,[10] a subsidiary of the Brazilian company Odebrecht, includes the irrigation of 38,000 hectares of new land belonging to the Regional Government of Lambayeque and 5,500 hectares of Valle Viejo and the farming community of Santo Domingo de Olmos. The project will develop and manage hydraulic infrastructure.

9. Ministerial Resolution No. 328-2001-EF of 8 November 2001.

10. This company joined the Lima Stock Exchange in November 2013 with two corporate bond investments, the first for 77 million soles and the second for 252 million soles. This is how the company plans to fund its investment. For more information see: http://www.odebrecht.com.pe/noticias/h2olmos-ingresa-a-la-bolsa-de-valores-de-lima.

The Regional Government of Lambayeque transferred the undeveloped lands to a trust, which is in charge of selling the land by auction. The concessionaire assumes the responsibility for building the necessary infrastructure, for the collection and distribution of water and the transmission of electricity to the parties to whom the lands are awarded. The funds generated by the auctions are paid into the trust, in order to pay the Regional Government for the land and to fund part of the investment in infrastructure.

The first stage of the land acquisition took place in December 2011, when the Committee to Promote the Public Auction of Project Olmos' Land sold nineteen thousand hectares of land (out of the 38,000 hectares) to ten bidders at a price of US$ 5,122 per hectare. This came to a total of US$ 97.3 million. At those prices, with each plot measuring 1,000 hectares, farmers with only small- and medium-sized landholdings were excluded from the process.

Of the ten agribusiness companies acquiring the lands, nine were domestic and one was foreign. The companies were: Corporación Azucarera del Norte S.A.; Gloria S.A.; Angloamericana Michiquillay S.A.; Danper Trujillo S.A.C.; Ingenieros Civiles y Contratistas Generales S.A.; Chimú Agropecuaria S.A.; Agroindustrias A/B S.A.; Pesquera Rosario S.A.; Empacadora Agroexport S.A. de C.V. and Agrícola Challapampa S.A.C..

In order to finance the construction of the project without public money, Odebrecht (via the investment company OLPK) sold another five 1,000 hectare plots of land with a base price of US$ 6,500 per hectare and three 250 hectare plots with a base value of US$ 7,500 per hectare to private investors in October 2013.

The land auctioning process of Project Olmos has raised many concerns, particularly among Lambayequan farmers. Out of the 38,000 hectares, 80% of the land has ended up being shared among three big companies: the Gloria group has 15,600 hectares, Odebrecht has 10,000 and the Uruguayan company Parfen S.A. has 4,000 hectares.[11] The project has ended up following the global and Latin American pattern of concentrating land ownership among big corporations.

3. Olmos Project: stakeholders and irregularities

In the last few years, the type of project stakeholder has changed. Those involved now have more links to Odebrecht and its subsidiary companies.

The Economic and Finance Ministry (MEF),[12] together with the Agency to Promote Private Investment (Proinversión),[13] has played a central role in facilitating the project, because public funds have been used to ensure it goes ahead. The staff of each organization has routinely favored concessionaire companies. For instance, the MEF and Proinversión have reduced the role of different government stakeholders including the Agricultural Ministry, Congress, and the Regional Government of Lambayeque, in order to speed up the project.

The first stakeholders to oppose the project were the Federation of Farming Communities of Lambayeque - FEDECCAL,[14] part of the National Agro Convention (Coveagro).[15] Some of those who should have benefitted from the original irrigation project lost their land because they could not compete with the private stakeholders in the land purchasing process.

The Bar Association denounced a series of irregularities in the modification of the contracts. According to the Law on Public-Private Partnerships (Legislative Decree No. 1012), the original contract may not be modified during the first three years of the concession. But the contract was modified in December 2010 and again in May 2012.[16] This means

11. See http://lamula.pe/2012/07/19/analizan-irregularidades-en-la-subasta-del-proyecto-olmos-radicales-libres/cepesrural/. Interview with Jaime Escobedo, coordinator of the Land Observatory and CEPES researcher, Radicales Libres program.

12. See www.mef.gob.pe.

13. See www.proinversion.gob.pe/ whose mission statement is "Promoting investment by private agents not depending on the Peruvian State, so as to incentivize Peru's competitiveness and sustainable development and improve the population's well-being."

14. See https://www.facebook.com/pages/Federaci%C3%B3n-de-Comunidades-Campesinas-de-Lambayeque-Fedeccal/563011403732632.

15. http://www.conveagro.org.pe/ Conveagro is a forum for dialogue and analysis, where expectations and goals can be shared among agricultural unions, civil society organizations, academics and those interested in agricultural issues. It is the main reference point for the agricultural producers in the country, with 17 national producer unions among its members.

16. "El gran negocio de Odebrecht en Olmos". *Diario 16*. Lima 07 November 2012.

that, during the first two years of the concession, the addendums benefitted only the private concessionaire.

For example, clause 6.1 of the concession contract states that when the undeveloped lands set to benefit from the irrigation project are auctioned, the concessionaire is barred from participating in these auctions. The second addendum to the contract redefines this clause, allowing companies linked to the concessionaire to acquire the land.

As a result, 25% of the undeveloped land is now owned by the concessionaire's shareholders. The land was bought at undervalued prices and, once the project is completed, it will increase in value. The Lambayeque Bar Association believes that these are sufficient grounds to nullify the concession contract.

Technical and financial experts from the Lambayeque Engineer's Society pointed out that the cost of the work was overpriced and that there were insufficient standards required for its implementation. It is remarkable that, although the Japanese consultancy Nipon Koei presented a proposal that was technically and financially more beneficial to a broader range of stakeholders than the one from Odebrecht, it was not even considered. The Society claimed that Odebrecht kept information about this proposal secret.

The displaced farmers believe that the project only benefits large foreign companies. In December 2012 they marched against the land auctioning process.[17] They were joined by regional unions, professional groups, and civil society organizations that considered the sale of the land to be detrimental to the interests of the region. The Federation of Farmer Communities in Lambayaque has demanded that the state recognize their right to the land.

The concession that has been granted to Odebrecht is plagued with irregularities. The company has barely risked anything and has had laws modified to suit its interests. The way the project's lands are being auctioned ignores the property and possession rights of the Olmos farming comunity. The project is exempted from multiple norms, for example, the ones included in the National Public Investment System (SNIP).[18]

Just as the latifundia system previously concentrated land ownership among oligarchic families, today land is in the hands of a few agro-industrial companies, who displace small farmers. When agrarian reform was carried out in the 1960s, the Peruvian latifundi owned between 200 and 1,000 hectare plots;[19] today's debate is over whether land ownership should be limited to a maximum of 30,000 hectares. The Lambayequan dream has become a nightmare, which fails to benefit farmers with small- or medium-sized land holdings in the region.

4. Neoliberal reform, the new boost to the Olmos Project and the G20 agenda

Given the huge amount of time it has taken for the Olmos Project to be implemented, it could be considered the forerunner of modern Peruvian PPPs. It has legitimized PPPs in the eyes of the public, businesses and politicians. Since it has taken almost a century to complete this mega-project, it is emblematic of the state's weak capacity to carry out large-scale projects. It reinforces myths such as: "No one is more efficient than private businesses when the State has been shown to be corrupt and lacking in expertise."[20]

Changes in the infrastructure development model

The development of the Olmos Project, particularly over the last twenty years, demonstrates how the business and investment climate, along with the Peruvian model of infrastructure development, has changed to fit the neoliberal Washington Consensus and suit the international financial

17. See http://eldigital.pe/publicacion/2012/12/08/catpot/marcha-contra-subasta-de-tierras-del-proyecto-olmos#.Uq52-OKs9MI "Marcha contra subasta de tierras del proyecto Olmos" Chiclayo, 8 December 2012..

18. The SNIP is one of the eleven state administrative systems that use a series of technical principles, procedures, and laws to determine the quality and viability of public investment projects. The aim is to improve efficiency and sustainability, encourage major social-economic impact, and improve the quality of public investment to generate the greatest social well-being.

19. The agrarian reform limited land ownership to a maximum of 150 hectares for non associated companies. "Reforma agraria y desarrollo rural en el Perú" Fernando Eguren – CEPES (page 21).

20. Cuando despertemos en el 2062. Visiones del Perú en 50 años - Essay "Acortando Brechas en la Infraestructura Pùblica" - Bonifaz y Urrunaga.

institutions. This has allowed for a consistent increase in foreign direct investment.

The way that the Olmos Project was promoted following the legal changes after 1991, and especially since 2004, exposes the government's support for mega-infrastructure. This is in line with the agendas of the G20, the World Bank and the Inter-American Development Bank, among others.

There is a link between infrastructure and the extraction of primary materials, particularly minerals, due to the increase in their prices. The increasing reliance on natural resource extraction in the so called periphery countries is a negative development.[21]

5. The Olmos Project and its social and governance implications

As table 1 shows, according to Standard & Poor's, Peru has the second best investment grade (credit rating) in Latin America. However, this also weakens democracy, as corporations use the institutional framework to favor their interests, which can lead to non-transparent or corrupt practices becoming legal. The public administration generally fails to resist this process or confront the conflict of interests.

This leads to a state at the service of business, which, in most cases, is only interested in profit. The rights of investors are prioritized over the rights of the people, and land is reorganized to serve economic interests. The predominance of economic stakeholders over political stakeholders erodes democracy.

Development model and social equality

The economic structure lacks diversification since it is based on attracting foreign investment and building infrastructure to exploit primary commodities, especially minerals. Mega-infrastructure projects are therefore seen as the key to sustainable economic growth in the country and to reversing the existing deficit.

Table 1. Investment grade

Country	S&P
Chile	A+
Peru	*BBB*
Mexico	BBB
Brazil	BBB
Panama	BBB
Colombia	BBB-
Uruguay	BBB-
Costa Rica	BB+
Guatemala	BB
Paraguay	BB-
Bolivia	BB-
Dominican Republic	B+
Venezuela	B+
Honduras	B+
Argentina	B
Ecuador	B
Jamaica	B-
Nicaragua	B-

Source: Standard & Poor´s, 2012.

If we compare this table to the Table 2 (next page), we see that, while Peru is ranked second in Latin America for its investment climate (credit rating), it is in 14th place in the Human Opportunities Index.[22] Peru has also been ranked second in Latin America for accumulated economic growth over the last twelve years although, despite certain advances, this has not resulted in a substantial improvement in living conditions. The proportion of GDP invested in health and education is among the lowest in Latin America, according to the UN Economic Commission on Latin America and Caribbean (ECLAC).

21. According to UNCTAD, more than 85% of the total exports of countries such as Bolivia, Ecuador, Paraguay, and Venezuela are raw materials. Even the more industrialized countries in Latin America, such as Brazil or Argentina, have seen a rise in such exports in relation to manufactured goods.

22. This Index measures access to basic services and the distribution of these services using the principle of equality. It was designed by the World Bank.

Table 2. Human Opportunity Index (2012)

Country	Position
Chile	1
Argentina	2
Costa Rica	3
Venezuela	4
Uruguay	5
Mexico	6
Colombia	7
Ecuador	8
Jamaica	9
Brazil	10
Dominican Republic	11
Panama	11
Paraguay	13
Peru	*14*
Bolivia	15
Honduras	16
Guatemala	17
Nicaragua	18

Source: World Bank

Socio-environmental impact

There is little social participation as part of the large-scale infrastructure projects in Peru due to the lack of awareness about the human rights of the indigenous Andean-Amazon and farming communities. The Peruvian president himself has stated that prior consultation is "a tool to legitimize investment,"[23] which shows that there is a lack of acknowledgment of civil society's rights. In other countries, there are complaints that the mechanisms for prior consultations for large infrastructure projects cause delays in their implementation.

The effects of mega-projects on the environment, climate change and cultural heritage are not part of the public agenda, and therefore not taken into consideration. The Environment Ministry has limited resources and capacity to stand up to the Energy and Mines Ministry, let alone the Ministry of Economy and Finance or Proinversión.

Infrastructure and taxation

The Group of 20 (G20), which is comprised of 19 of the most powerful economies in the world plus the European Union, has an Investment and Infrastructure Working Group focused on mobilizing long term finance and revenue, including taxes, to bridge the existing infrastructure gaps identified by governments and big business.

In the Olmos Project, the Peruvian government promised to invest US$ 40 million but ended up spending US$ 77 million, due to underestimates by the Lambayeque Engineering Society. This figure does not include the sale of under-valued land to concessionaires that will eventually be re-sold at a higher price.

The creation of a fund of more than US$ 500 million to promote investment in Peru has had a huge fiscal impact. Resources are aimed at supporting construction companies, yet at the same time there are regions such as Cajamarca, the main gold producing region in the country, where malnourishment among children exceeds 50%.

Peru's fiscal budget is coming under strain. The country can spend money while it has funds, but a significant deficit raises the risk of growing indebtedness for infrastructure projects that benefit foreign construction companies more than they benefit the nation.

6. Proposals and recommendations

It is important to establish parameters so that private investment in general and infrastructure PPPs in particular take inclusive development into consideration. We recommend:

- A new cost/benefit analysis that, in addition to the economics of a project, includes factors such as:
  - Short, medium and long term environmental effects and subsequent mitigation and remedial costs. This should

23. See http://www.larepublica.pe/25-05-2013/presidente-humala-lanza-7-medidas-para-promover-la-inversion.

include the impact of the carbon emissions produced during the life of the project.
    - The impact on the living conditions of the indigenous population and farming communities, among others. Can they be displaced without disrupting their way of life?
    - The impact on the local and national economy. Which economic activities will the project stimulate and which will it displace? Is the project in line with, or does it contribute to, the productive potential of the area where it is being implemented?

- Improved regulation of PPPs, respecting national and local laws and planning instruments. Clear sanctions should be applied when commitments are not met, including restrictions on the use of public resources for a project.

- Forbidding the renegotiation of concession contracts. Companies should shoulder their responsibilities if they fail to carry out high quality, long-term feasibility studies.

- Respect for a free, prior and informed consent (FPIC) mechanism that gives indigenous populations the right to approve or reject a project proposal. If they are in favor of a project, they could be valuable allies, and should benefit from the economic activity on their ancestral lands.

- Eliminating legal obligations such as:
    - Stabilization clauses in contracts that exempt highly profitable companies from paying taxes, particularly in the extractive sector.
    - Mechanisms that allow companies to carry out work to complement their economic activities while freeing them from paying taxes.

- Annulling certain laws, including:
    - Law 30025 on expropriations, on the grounds that it is unconstitutional and confuses private interest with public interest.
    - The legal package (seven laws) approved between May and July 2013 "to promote investment" that ease environmental, cultural heritage, and other regulations relating to prior consultation and consent.

- Bridging the infrastructure gap within the framework of planned development at the national, regional, and local levels in a way that serves citizens, not only the interests of pressure groups led by construction and telecommunications companies, which are driven by profit motives.

What is needed is a PPP model that, in addition to building public works to fill infrastructure gaps, incorporates objectives for environmental sustainability and provides social benefits to affected communities. We must find a way to integrate economic growth, local interests and the sustainable use of natural resources, into decision making. To do this, it is necessary to stop the privatization of the governance of infrastructure.

Section II - The World

Distributed Infrastructure, Community Power and Radical Affordability

Justin Guay, Jigar Shah, and Stewart Craine

Summary

The world's population is currently growing at about the same rate as the population gaining access to electricity. According to the International Energy Agency (IEA), electrification rates will only slightly outpace population growth. What's worse, nearly 2.5 billion people today considered "electrified" receive only a few hours of electricity per day. We are losing the battle to light the world. This is important because light is essential to the empowerment of women, education of children, effectiveness of health care, and the attainment of the Millennium Development Goals.

The IEA has made clear in a series of reports that the only way to reverse this situation is to rely heavily on small scale distributed energy infrastructure in rural areas. However, current investments by governments, public institutions and multilateral banks involved in the United Nations Sustainable Energy for All (SEFA) are heavily skewed towards investments in large-scale centralized power plants and grid extension. This "business as usual" approach is guaranteed to leave at least one billion people in the dark by 2030.[1]

But we have a tremendous opportunity to change course. Today, three out of every four new mobile phone subscribers live in emerging markets. Around the world, 411 million people have access to a mobile network, but no electricity to charge their phones. This communications demand has resulted in the construction of roughly 650,000 off-grid cell phone towers – all powered by costly and polluting diesel generators.

This offers the opportunity to create a distributed clean energy infrastructure capable of delivering power faster, cheaper and more effectively than grid extension. When combined with the rapidly changing economics of clean energy, innovative financial solutions enabled by machine-to-machine (M2M) communications, and emerging business models aimed at serving the energy poor, we have a once-in-a-generation opportunity to end energy poverty.

In order to seize this opportunity we offer five lessons:

Lesson #1: We are using the wrong yardsticks. The use of a price-per-kilowatt is inherently biased against projects that have high capital expenses (CapEx) but low operating expenses (OpEx), such as renewable energy, and rarely includes "all in" costs, such as the transmission and distribution associated with grid extension. To that problematic metric we add another: the continued use of gigawatts of supply and kilometers of transmission and distribution built. A focus on aggregate supply ensures large (i.e., centralized) sources are prioritized, even if their supply never reaches the intended recipients. Instead of using such metrics, policy-makers should judge investments on energy services actually delivered (not just supplied to the grid), households receiving power, and time to deployment, with a heavy prioritization of interventions that take effect sooner rather than later.

Lesson #2: Small is fast. At best, large-scale power plants take years to construct. Worse, they can be constructed without the accompanying transmission and distribution infrastructure, meaning that the poor never receive power. In contrast, small-scale systems can be deployed in a matter of months. One of the best examples is the Bangladesh

1. See: http://www.washingtonpost.com/blogs/wonkblog/wp/2013/05/29/heres-why-1-2-billion-people-still-dont-have-access-to-electricity/

rooftop solar program, which is currently deploying 30–40,000 systems per month. Given the life-changing nature of energy, even at the level of the watt, we need to prioritize energy interventions on a time-scale that matters now.

Lesson #3: The money is there, it is not being spent wisely. There is plenty of capital available; it is not being allocated equitably. According to the IEA, subsidies are an extremely inefficient way to reach the poor. In 2010, developing countries provided over US$88 billion in subsidies to fossil fuel. Only 20% of subsidies went to the lowest income groups. The money spent on subsidies dwarfs the World Bank's roughly US$8 billion energy portfolio for 2012. We estimate that only US$400 million (a small fraction of the bank's budget) is needed annually[2] to provide basic lighting services via clean energy.

Lesson #4: Ring-fenced public capital is required. Given the dearth of capital available to this sector, and its overwhelming development impact, public institutions must step in to provide targeted support. We need to mobilize public money flowing through a "fund of funds" to create products tailored to reach small-scale project levels that are currently neglected. Organizations and agencies such as the UK's Department for International Development (DFID) are financing a "fund of funds" through the Commonwealth Development Corporation (CDC) that can capitalize local financial institutions to invest in clean energy access entrepreneurs, amongst other things.[3] The latter is an excellent example of how a multilateral institution like the International Finance Corporation (IFC) could make a big difference in this space.

Lesson #5: Energy efficiency leads to skinnier grids that cost less. LED lighting has revolutionized the amount of power households need to get their basic needs met, from hundreds of watts per household to 10–30W. Combined with innovative 1–2 kilovolt (kV) transformers that are designed to take this lower power and current, Skinny Grids of far thinner conductors can service many hundreds of households, and often from existing off-grid sources of power, or from the edge of the grid. It is important to overhaul the design of rural electrification systems in order to take these modern technologies into account.

Lesson #6: Small is bankable. Crowdfunders have demonstrated that they can fill a financing void left by large financial institutions. However, we need traditional financial institutions to recognize that it's not just large projects that require finance. On a significant scale, off-grid entrepreneurs lack access to capital. More importantly, their smaller projects can have much greater development impact, which makes it imperative for development institutions to step in and provide capital where the market has failed.

Ultimately, we need larger pools of capital from development institutions and institutional investors to address this problem. Even if a modest US$500 million clean energy access fund is created, as entrepreneurs have been demanding, the lessons we've learned will be critical to ensuring effectiveness; if there's anything we know for sure, it's that pouring more money into "business as usual" ensures "failure as usual."

Introduction: "Business as usual" means "Failure as usual"

The world's population is currently growing at about the same rate as the population gaining access to electricity. According to the International Energy Agency (IEA), this means that by 2030 there will only be a 14% decrease in the un-electrified population (a decline from 1.3 to 1 billion people). Even worse, the nearly 2.5 billion people who are currently considered "electrified" receive only a few hours of electricity per day. In essence we are losing the battle to light the world.

As a result, the world's poor pay nearly US$40 billion for heavily polluting and dangerous fuel-based lighting. This represents roughly 20% of the global lighting bill but only 0.1% of the lighting services produced. Put differently, the poor pay 10,000 times what we pay and they get poor light and poor health in return.

2. $20 basic solar lanterns that eliminate kerosene lighting x 200 million households over 10 years.
3. See: http://bit.ly/14eallf.

The IEA estimates that US$14 billion per year will be spent on extending energy access between now and 2030. Its central conclusion is that there is inadequate financing to address the lack of energy access. The IEA concludes that more money is needed to solve the problem, somewhere on the order of 3% (US$33 billion) of global energy investment.

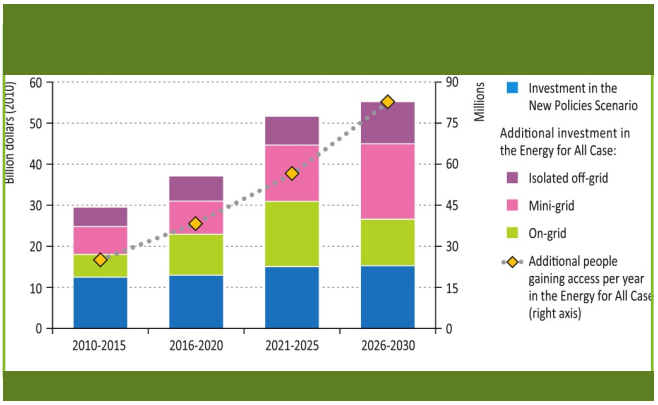
While money is required, it's far more important how it is spent. Current energy expenditures could easily end energy poverty, but they are largely funneled into an inefficient and ineffective approach to rural electrification that prioritizes large-scale centralized generation and distribution of electricity.

This model, unlike the 1920s push for rural electrification as a part of the New Deal in the United States, is largely failing to provide electricity to the world's citizens (outside of a few notable examples including China and Vietnam). In India, for instance, home to roughly one-quarter (300 million) of the un-electrified population, a 60% increase in the energy supply over the past decade has only increased energy access levels by 10%.[4] High transmission and distribution costs, commercial theft, low population densities in rural areas, large numbers of existing grid-tied but marginally-served customers, and remote, difficult-to-reach areas have all contributed to this failure in India and elsewhere.

Distributed renewable energy is cheap; centralized fossil fuels are expensive

The global community must divert scarce public resources away from the unfavorable economics of centralized grid extension. The IEA has outlined a universal energy access scenario in which over 60% of all energy investment supports decentralized, clean energy for 70% of rural inhabitants worldwide. By increasing the support for decentralized renewables for rural populations, we can solve the universal electrification problem faster, more cheaply, and more effectively.

The most important factor driving the opportunity to expand decentralized systems is that there is a once-in-a-generation



shift in energy economics that is up-ending the world of energy. On one hand, the cost of fossil fuel is rising and becoming increasingly volatile. On the other, the costs of clean energy inputs such as solar panels and LED light bulbs are plunging. These changes are unlocking the potential of distributed clean energy to end energy poverty.

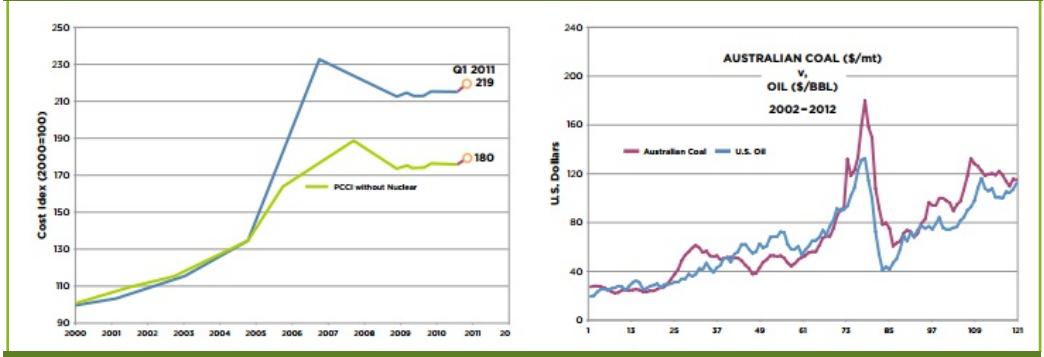
The starkest example of rising fossil fuel costs can be found in Asian economies, which are now faced with rising plant construction and fuel price risks that are significantly affecting profit margins and future construction.[5] A prime example is the Tata Mundra project, which is the first in a series of "Ultra Mega-Power Projects", intended to end India's energy supply crunch and ensure energy access. Given soaring costs, this IFC-financed project has been forced to request rate increases from Indian regulators[6] – thereby increasing the cost of energy for average citizens and hampering energy access efforts.

Standing in stark contrast to the economic woes of the Tata Mundra plant is the price trajectory of renewable energy, which is plummeting as industries and technologies rapidly mature. The price per watt of solar modules has fallen by more than 50% from 2001–2010[7] and another 11–14% in the United States in 2011 alone.[8] Globally, this trend is expected to continue through at least 2015 with a further 67% reduction expected.[9]

4. This despite an energy access definition that defines electrified villages as those where 10% of a village enjoys access to the grid.

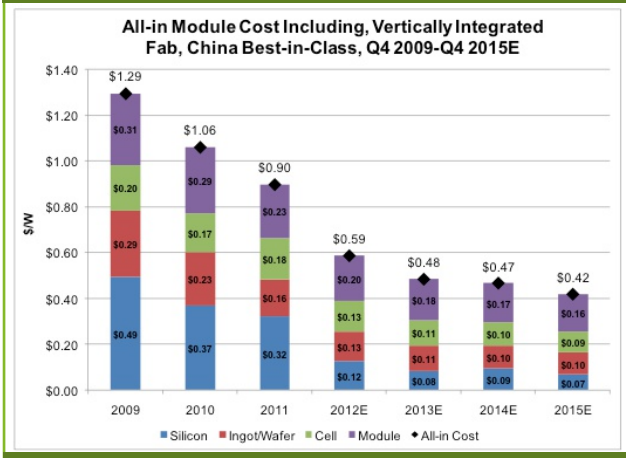
5. Locked In: The Financial Risks of New Coal-Fired Power Plants in Today's Volatile International Coal Market, 2012.
6. See: http://www.thehindubusinessline.com/companies/tatas-allowed-to-hike-tariff-for-power-generated-from-mundra-plant/article4620284.ece.
7. Solar Buzz, 2010.
8. Lawrence Berkeley National Laboratory, 2013.
9. Greentechmedia, 2013.

Figure 2: Coal Plant Capital Costs North America, Benchmark Australian Coal Prices



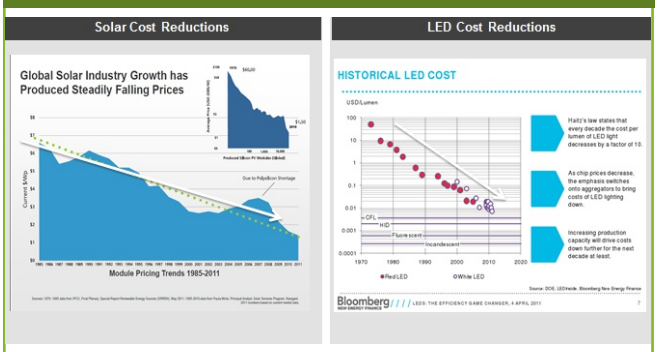
Source Sierra Club, 2012.

Figure 3: Chinese Solar PV Price Projections



Source: Greentechmedia.

Figure 4: LED and Solar Cost Reductions



Source: Bloomberg New Energy Finance.

Source of Fuel	Generation Cost per kWh (Rs.)	Transmission Infrastructure Cost Per Km for a load of 100 kW (Rs.)	Other Maintenance costs/distribution infrastructure etc per kWh (Rs.)	Total Cost of Generation per kWh @ 1 Km (Rs.)	Total Cost of Generation per kWh 5 Km from Grid/33KVA line (Rs.)	Total Cost of Generation per kWh at 10 Km from Grid/33KVA (Rs.)	Total Cost of Generation per kWh at 15 Km from Grid/33KVA (Rs.)	Life of the Unit
Coal	4.50	1.00	0.50	6.00	10.00	15.50	20.00	30 years
Micro Hydro	4.50	-	0.30	4.80	4.80	4.80	4.80	25 years
Bio-mass	5.00	-	0.50	5.50	5.50	5.50	5.50	15 years
Wind-Solar Hybrid	12.00 7.50	-	0.30	12.30 7.8	12.30 7.8	12.30 7.8	12.30	25 years
Solar PV	12.00 7.50	-	0.20	12.20 7.70	12.20 7.70	12.20 7.70	12.20	50 years

- **For remote villages, line costs alone exceed solar PV costs**

Once the additional cost of grid extension is included (in the form of transmission and distribution line construction), decentralized clean energy becomes the more cost-effective means of delivering energy for off-grid populations. In India, where a mere 10 km from the grid, distributed solar is cheaper than extending transmission lines from a coal-fired power plant at today's prices. Given these economics, the decentralized approach will be far cheaper than a business-as-usual approach that will still leave billions in the dark. For example, if 250 million households bought a 1.5-watt solar desk lamp that charges a mobile phone, it would cost roughly US$4 billion. It would cost US$38 billion to displace the use of kerosene with 10 watts of power in the form of a solar home system – at the cost of roughly US$150 per household – for "real" lighting levels. Spread these costs over 10 years, and an investment of only US$0.4–4 billion per year (at most) is needed to eliminate the need for kerosene. This range is roughly 1% of the cost of rural electrification, according to the IEA.

Of course, energy needs extend far beyond lighting. A rice husking mill or similar agro-processing equipment or shared refrigeration facilities may require a minimum of 3kW of power per village of 100 households, or 30W per household. Micro-energy investments can be effectively used as building blocks to move rural populations up a revamped energy ladder. At higher rural income levels, a US$400 per household budget could secure 30 watts to power a TV, radio, and lights. The

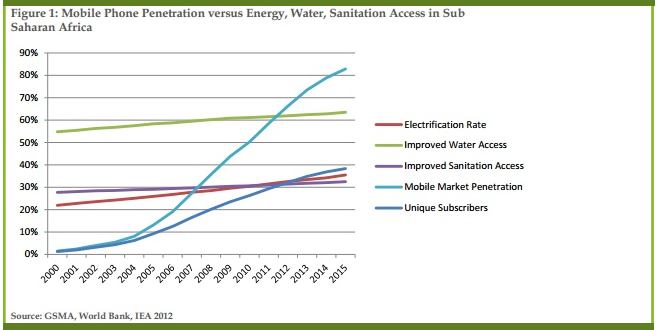
requirements could be even lower, as the Nepal micro-hydropower program has shown,[10] particularly if battery storage can be avoided. Scaling up such 30–50W/household systems would cost US$100 billion over the same time – or US$10 billion per year. More importantly, they can be added incrementally, which helps avert over investment in power generation which can lock in "too big to fail" investments, such as Tata Mundra. This approach avoids the need for regulators to raise rates to recoup sunk costs. It also avoids the pitfalls of large-scale infrastructure price tags that are inducements to corruption, especially in countries with a "democratic deficit."

Mobile phones push community power

While the economics of distributed clean energy are attractive, it's imperative to have proven business models for deploying this model at scale. Luckily, changing energy economics are coinciding with rising mobile phone penetration in rural areas, to create the infrastructure backbone for a radically different vision of rural electrification and micro-energy service delivery. Today, three out of every four new mobile phone subscribers are in the developing world and 411 million people worldwide have access to a mobile phone network but no connection to the electricity grid.[11] The dramatic increase in mobile phone users in rural parts of the developing world led to the construction of 639,000 off grid "base stations" by 2012.

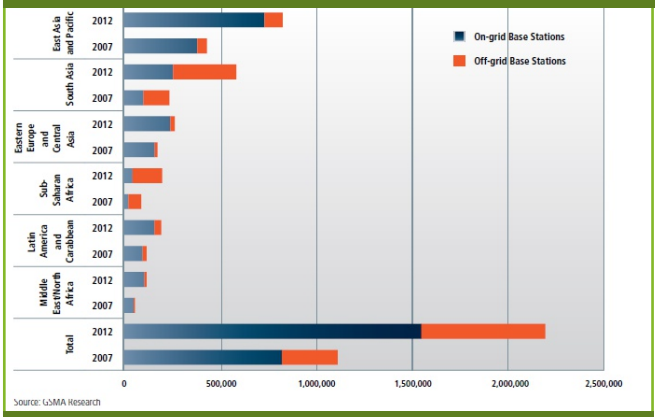
These base stations have traditionally been powered by diesel generators reliant on increasingly costly and unstably priced diesel. As a result, mobile phone providers are seeking stable, reliable, and less costly renewable energy alternatives. These base stations could provide a key to unleashing "community power" because, if they are built with excess capacity, electricity can then be sold to local communities via mini-grids, transportable batteries, or by directly charging applications on-site.

Figure 5: Mobile Phone Penetration Versus Energy, Water, Sanitation Access in Sub-Saharan Africa



Source: GSMA, 2013.

Figure 6: Growth in base stations in developing regions, 2007–2012

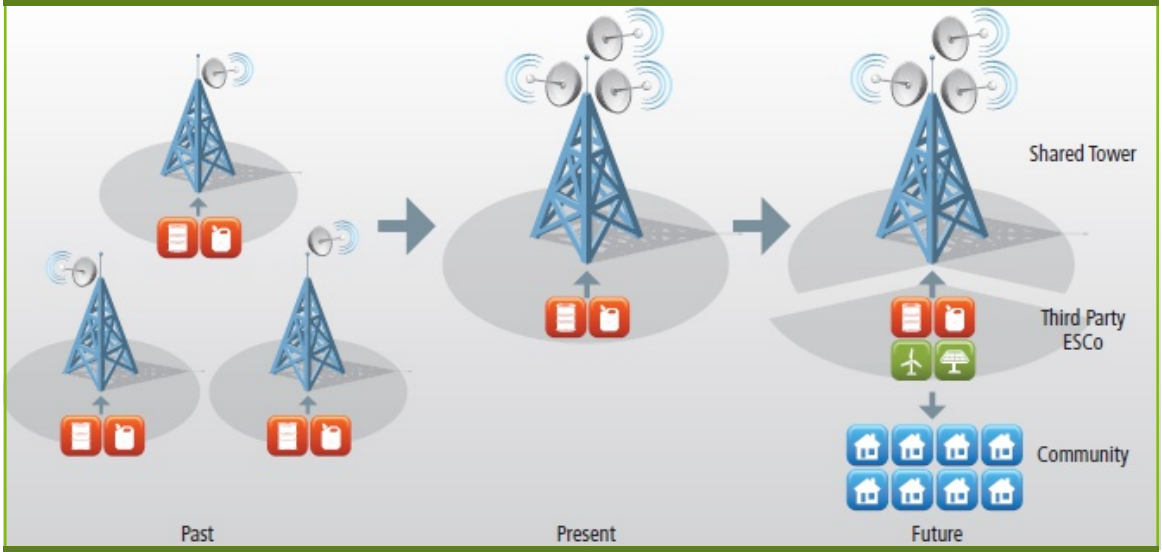


Source: GSM, 2010.

According to this model, cell phone operators represent the "anchor" or primary demand for services and a stable revenue stream; third-party entrepreneurs own and operate the renewable energy plants, and local communities receive electricity and provide revenue for the entrepreneur. In essence, this model obviates the need for centralized grid infrastructure by piggybacking on the most successful leapfrog technology to date – mobile phones. The mobile industry association (GSMA) says there is potential for 200,000 community power projects capable of providing electricity to 120 million people worldwide. Already, entrepreneurs are busy demonstrating the viability of this model in rural India.[12]

10. See: http://microhydropower.net/download/mhpcosts.pdf.
11. Green Power for Mobile: Sustainable Energy and Water Access through M2M connectivity, 2013.
12. See: www.omcpower.com.

Figure 7: Evolution of Telecoms Infrastructure Business Models



Source: GSM, 2010.

Radical affordability

The most exciting aspect of this model is that other services can piggyback on the distributed-electricity infrastructure. Already companies are pioneering models to deliver distributed Wi-Fi services as well as electric transportation.

At the same time that off-grid electricity infrastructure is established, social entrepreneurs are creating financial innovations capable of overcoming a stifling lack of access to capital. These innovations are enabling entrepreneurs to reach deeper into the economic strata than have traditional financial institutions. Just as third party ownership has unlocked the residential solar market in the US, financial innovations are now opening up clean energy to the rural masses. The most exciting innovations include machine-to-machine (M2M) technology to enable "pay-as-you-go" financing options and crowdfunding. They are providing financial inclusion that will help unlock clean energy for the "bottom of the pyramid" (BOP), or the masses of low-income people.

M2M technology allows customers to "pay as they go" using "mobile money" –money loaded onto cell phones which the people can use to pay for services such as clean energy. Mobile money is catalytic because it provides payment flexibility and built-in financing. The technology is still nascent, but already M-Pesa in Kenya enables over 15 million people to access the financial system and accounts for US$12.3 billion in transactions.[13] An exciting example of this model in practice is Simpa Networks, which uses mobile money to enable solar home system financing.

Crowdfunding, on the other hand, is a potentially disruptive financial innovation that unlocks and aggregates small amounts of capital via Web-based platforms. SunFunder currently leverages this model to finance solar lanterns in the developing world, while Solar Mosaic was able to raise US$313,000 in its first 24 hours of operation to finance solar projects in the United States.

These financial innovations enable customers to overcome hurdles such as cash flow mismatches, a lack of land title, or insufficient collateral, that leave large portions of the unelectrified market outside the formal financial sector. Ultimately, overcoming these financing hurdles empowers consumers at the BOP to shift away from the use of dangerous and expensive fuel based lighting such as kerosene.

13. Green Power for Mobile: Sustainable Energy and Water Access through M2M connectivity, 2013.

Rethinking and redesigning rural distribution

The first application of electricity for the poor is lighting, quickly followed these days by mobile phone charging. With the advent of white LED lighting, the light supplied by 100W of incandescent bulbs can be met with just 5W of well-designed LED lighting. A phone charger takes similar power, meaning the power per household for basic services drops by 90%. This leads to an equivalent drop in the current in the "poles and wires" that connect households in conventional grids, and therefore the potential to use much thinner and cheaper wiring. Combined with smaller poles and longer spans, or locally dug underground trenches, the cost per household for reticulated wiring can be vastly reduced via "Skinny Grids": thin cable designs not previously imagined.

Combined with innovations like 1–2 kV low cost, low power transformers such as those used in Andhi Khola, Nepal, or those promoted by www.microformer.org, Skinny Grids could reach households 5–10km from power sources cost effectively. In some countries, over 95% of all households are within 5–10km of an off grid telecom tower or the edge of the grid, and these towers are often grossly under-loaded compared to the power demand for the tower (e.g., 3kW load compared to 15kW installed capacity). Therefore, the power generation to connect 10–20W of load per household may already exist for the majority of the off-grid market, and the only investment needed is US$1/meter of Skinny Grid connections. Such minigrids can quickly be converted to solar and other renewable sources. Peak load issues on the grid can also be reduced by 20–50% in emerging countries by relamping incandescent and fluorescent lamps with LED lamps, at cost much lower than building new peak power generation, and at a cost of megawatts of energy comparable to current prices paid to independent power producers. Energy efficiency, combined with distributed power and new "high voltage", low power transformers, can revolutionize rural electrification.

Conclusion: Aligning public policy with a distributed future

Despite the clear opportunity decentralized clean energy provides, development institutions and their aid continues to support a failed "business as usual" approach. For example, a 2011 study by Oil Change International found that – of all fossil fuel projects financed by the World Bank – none provided energy access for the poor.[14] Of these projects, the only one that achieved this goal was a US$1.25 million investment in small scale, decentralized biomass gasifiers that benefited 2,500 people in India. In contrast, the solar crowdfunding start up organization, SunFunder, facilitated US$414,000 over nine projects to benefit 105,000 people since 2012. That means SunFunder provides energy access at a level ten times higher than the World Bank using a fraction of the capital. We offer policy-makers the following lessons to incorporate into lending decisions, in order to bring about an investment shift that will unlock distributed clean energy infrastructure:

Lesson #1: We are using the wrong yardsticks. The use of a price per kilowatt metric to determine where and when the poor receive energy should be supplemented by other metrics, including gigawatts of supply and kilometers of transmission and distribution. Moreover, policy-makers should judge investments on energy services actually delivered (not just supplied) to the grid and households receiving power, among other things.

Lesson #2: Small is fast. At best, large-scale power plants take years to construct. Worse, they can be constructed without the accompanying transmission and distribution infrastructure, meaning the poor never receive the power. In contrast, small-scale systems can be deployed in a matter of months.

Lesson #3: The money is there; it is not being spent wisely. Capital is not being allocated properly. In 2010, only 20% of the US$409 billion in developing countries' fossil fuel subsidies reached the lowest income group.

14. See: http://bit.ly/1esSHVS.

Meanwhile, a tenth of the amount spent on subsidies (US$400 million) is needed annually to provide lighting services via clean energy.

Lesson #4: Ring-fenced public capital is required. Given the dearth of capital available to this sector, and its overwhelming development impact, public institutions must step in to provide targeted support.

Lesson #5: Energy efficiency leads to skinnier grids that cost less. LED lighting has dramatically reduced the amount of power households require to meet their basic needs. Rural electrification design needs an overhaul to combine innovative transformers and Skinny Grids (of far thinner conductors) to service vast numbers of households.

Lesson #6: Small is bankable. Small-scale finance (e.g., Crowdfunders, such as SunFunder) is catalytic and vital because it addresses a profound market failure. However, traditional financial institutions must urgently increase support for these smaller projects with impressive development impact.

Projects funded by public money flowing through vehicles such as a "fund of funds" would need to be tailored to reach small-scale projects. Crowdfunding platforms, as well as local financial institutions, will be critical to aggregate small loans in order to tap into larger financial flows available from such a fund. Specific products could be funds that match dollar-for-dollar money raised from the crowd, or loan guarantees that could help unleash capital for local entrepreneurs. They could also replicate the World Bank's successful operation in Bangladesh – namely, buying long-term solar home system loans from local banks, thereby creating liquidity in the market and shifting the risk from the local bank to the multilateral institution. Ultimately, this marries the best of both worlds – the nimble ability of crowdfunders to support small-scale projects that have an immediate impact on the lives of the poor with the larger pools of capital that the development institutions can tap into, without forcing them to directly engage in small-scale projects.

Ultimately, we'll need to bring the larger pools of capital from development institutions and institutional investors to bear on this problem. Certainly, if there's anything we know for sure it's that pouring more money into "business as usual" ensures "failure as usual".

Conclusion: The local energy economy revolution

It is unconscionable that biased spending priorities leave hundreds of millions of rural poor to spend huge portions of their daily income on dirty kerosene and diesel instead of cheaper, cleaner, and safer energy sources. Meanwhile, they wait for the fossil fueled transmission grid to arrive – a grid that hasn't come for decades, and won't come for decades more.

How many babies in poor households need to be born in the dark? How many underserved children should lose their schooling opportunity to darkness because someday the coal powered grid will arrive? More importantly, how many of those waiting for grid power will be displaced, or have their land, air, and water heavily polluted in the rush to build coal plants or expand coal mines?

Over the next decade, mobile phone penetration, community power, and radical affordability will drive a local energy economy revolution. The resulting radical "democratization" of energy will hold profound implications for societies around the world. First and foremost, the creation of local energy economies avoids the tragic legacy of displacement and disenfranchisement associated with large-scale, centralized energy projects. At the same time, local energy economies have the cascading development effect of improving health, education, productivity, and income.[15] Ultimately, this revolution will do what traditional efforts have thus far failed to do – bring billions around the world from darkness to light.

In the meantime, villages across the world wait for the grid to inch its way closer, and every day they pay an

15. Data compiled by the World Bank's Lighting Africa Initiative shows that solar lighting has increased revenues for rural enterprises by as much as 60%, as entrepreneurs are able to increase the number of working hours (Lighting Africa, 2010).

"opportunity cost": the opportunity for a child to study, the opportunity for a vendor to increase sales, the opportunity for a village to escape darkness. It's time that policy-makers wake up to the opportunity that will end this 19th century approach to rural energy delivery and provide distributed power, entrepreneurial solutions, and bottom-up electrification.

References

• Greentechmedia The Global PV Manufacturing Landscape. Available at
http://www.greentechmedia.com/articles/read/the-global-pv-manufacturing-landscape-in-2012-and-beyond-a-brave-new-world/

• Green Power for Mobile Program Charging Choices. 2011. Available at
http://www.gsmworld.com/documents/charging_choices.pdf
GSM World. (2010). Green Power for Mobile. Available at
http://www.gsmworld.com/our-work/mobile_planet/green_power_for_mobile/

• IEA, UNDP, UNIDO. Special early excerpt of World Energy Outlook 2011: Energy for All – Financing Access for the Poor. Available at
http://www.iea.org/Papers/2011/weo2011_energy_for_all.pdf

• Lighting Africa. Solar Lighting for the Base of the Pyramid, Overview of an Emerging Market. Available at
http://www.lightingafrica.org

• Sierra Club. Available at www.beyondcoal.org

• Sustainable Energy & Water Access through M2M connectivity. GSMA. Available at
http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2013/01/Sustainable-Energy-and-Water-Access-through-M2M-Connectivity.pdf

• Solar Buzz. (2010). Module Pricing. Available at
http://www.solarbuzz.com/facts-and-figures/retail-price-environment/module-prices

• Tracking the Sun IV. Lawrence Berkeley National Laboratory. Available at
http://eetd.lbl.gov/ea/ems/reports/lbnl-5047e.pdf

• Locked In: The Financial Risks of New Coal-Fired Power Plants in Today's Volatile International Coal Market, Sierra Club 2012. Available at
http://www.sierraclub.org/international/lockedin/downloads/06-12-Locked-In_Coal_Whitepaper.pdf

Achieving "Energy for All" in India

Key Principles for overcoming policy barriers to the provision of inclusive access to clean, affordable and sustainable energy

Srinivas Krishnaswamy and Sunita Dubey

Executive summary

This chapter analyses India's current energy policy framework (which is typical of many other developing economies) and proposes solutions. These include guiding principles, an action framework and governance and institutional mechanisms that could ensure that every citizen of India has reliable access to clean, affordable energy, while setting the country on a pathway that is climate resilient, gender sensitive and sustainable. The solutions are based on models that have worked "on the ground" – a combination of decentralised renewable energy systems designed to interact and co-exist with the electricity grid infrastructure, while ensuring that energy access goes beyond lighting.

Access to "clean, affordable and reliable energy" continues to remain a problem in many developing countries. In India, close to 70 percent of households continue to depend on traditional biomass to meet their cooking and heating requirements, and 33 percent of households continue to depend on kerosene to meet their lighting requirements. This despite that fact that India's policy makers have recognised energy access as a priority for development. There have been major, well funded programs specifically aimed at addressing energy access.

In the last decade, India's electricity generation capacity has risen by nearly 80,000 MW. One of the key justifications for such a large increase in capacity has been to ensure "access to energy for all" and to address the huge deficit in electricity supply. But only a small percentage of this additional capacity is accessible to vulnerable and rural communities.

One of the main reasons that India has not met its energy access targets is the country's top down development planning, which has led to failures of service delivery to poor communities. Globally and domestically, the dominant development model is focused on macroeconomic growth, which is measured by gross domestic product (GDP). India aims to achieve double-digit GDP growth rates for the next 20 years. This has resulted in a focus on investment in large scale energy infrastructure to fuel growth (i.e., large-scale coal, large hydro, transmission grid and pipelines). Much of the energy infrastructure in developing countries is designed to expand domestic urban centers and energy exports to other countries, rather than for local use.

One of the most significant problems is the continued reliance on dirty coal-fired plants, which dominate the Indian power sector. Around 400 new coal-fired power plants, totaling close to an additional 350,000 MW of electricity generation capacity, are in advanced stages of approval and commissioning. Direct effects from the construction and operation of coal-fired plants include emissions of pollutants and hazardous chemicals, contamination of local waterways and degradation of land used for storing the by-product of burned coal, known as fly ash. Adding nearly 400 new coal-fired power plants will have huge environmental effects.

Regrettably, socio-economic, health and environmental impacts are not factored into the cost of coal, and more emphasis is placed on the potential amount of electricity generated by these power plants. Even though an environmental impact assessment is part of the approval process, it is just used as a step to obtaining environmental clearance.

This chapter provides a set of guiding principles that energy and development planners should factor into policy frameworks. It also outlines ways to ensure that the barriers to widespread adoption of decentralized renewable energy are removed. It explains the link between access to clean energy and overall development and that universal access could lead to a substantial rise in the Human Development Index (HDI) of India.

An energy secure future for India will not only involve access to energy resources but also require dealing with increasingly pressing environmental and ecological issues. Tackling these issues needs input from all stakeholders.

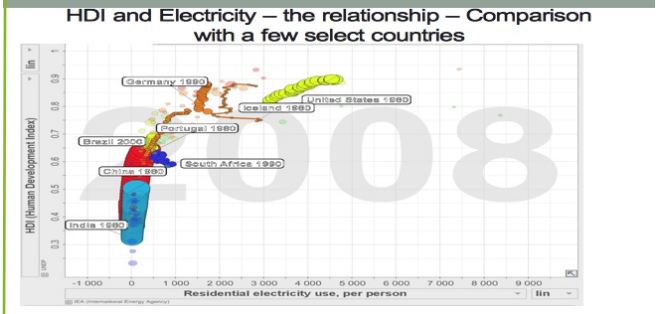
I. Background

The demand for "inclusive and sustainable growth" is not new; it has been part of the political and social landscape for decades. The current approach to development, however, has emphasized GDP growth, despite the fact that in many countries GDP growth has been accompanied by a rise in poverty and income inequality.

Traditionally, access to energy services has been seen as a way to lift people out of extreme poverty. But close to 1.6 billion people are faced with energy poverty in the world. In India, 33 percent of the population still lacks access to electricity, and close to 75 percent of households are dependent on traditional biomass to meet their basic energy requirements. The current efforts to boost GDP and install large scale centralised infrastructure have failed to make meaningful progress toward providing clean, affordable and sustainable access to energy services for all.

Although there is no inherent relationship, there is a broad correlation between the Human Development Index (HDI)[1] and per capita energy consumption across countries (see Figure 1). This correlation does not mean that higher energy consumption necessarily adds to human development, but rather that the availability of energy services is an important ingredient for advancing many aspects of human development. For example, there is an entire range of countries,

Figure 1: HDI and Electricity Consumption Pattern



Source: Compiled on the basis of data from IEA.

from Hong Kong to Germany to Ireland, that have HDI levels above 0.9, but whose energy consumption only ranges from around 2.5 to 4 ton of oil equivalent (toe) per capita. Clearly, it is possible to be "developed" without consuming energy at the level of the United States or Canada.

India is a typical country where a low HDI is also characterised by extremely low per capita energy consumption. In 2011, the per capita energy consumption of India was a mere 684 kWh, while China recorded a per capita energy consumption of 3,298 kWh, Brazil 2,438 kWh, South Africa 4,694 kWh, Germany 7,081 kWh and the USA 13,246 kWh.[2] India's 2011 census shows that nearly 43.2 percent of India's rural households continue to depend on kerosene for lighting, while 0.5 percent of its population (nearly 897,760 households) is in perpetual darkness.

The table on the following page summarises sources of lighting in India, based on census data from 2011.

1. HDI is a way of measuring development by combining indicators of life expectancy, educational attainment and income into a composite human development index. HDI offers a single statistic as a frame of reference for both social and economic development.

2. See: http://data.worldbank.org/indicator/EG.USE.ELEC.KH.PC

Table 1: Sources of Lighting: All India[3]

	Absolute number			%		
	Total	Rural	Urban	T	R	U
Total	**246,692,667**	**167,826,730**	**78,865,937**	**100.0**	**100.0**	**100.0**
Electricity	165,897,294	92,808,038	73,089,256	67.2	55.3	92.7
Kerosene	77,545,034	72,435,303	5,109,731	31.4	43.2	6.5
Solar	1,086,893	916,203	170,690	0.4	0.5	0.2
Other oil	505,571	407,919	97,652	0.2	0.2	0.1
Any other	493,291	361,507	131,784	0.2	0.2	0.2
No lighting	1,164,584	897,760	266,824	0.5	0.5	0.3

Source: Census 2011, Government of India.

Table 1 shows that almost 33 percent of Indian households do not have access to electricity. The penetration of solar and other renewable energy is extremely low, a mere 0.4 percent of households, as against 31.4 percent of households dependent on kerosene for lighting. The great majority of unelectrified households are in rural India; the urban electrification rate is approximately 92 percent.

What do these patterns imply? It is obvious that a major challenge for India is ensuring that its energy-deprived masses get access to clean and affordable energy sources, including electricity, liquefied petroleum gas (LPG) for cooking, and access to transport (preferably public transport). Affordability of cleaner fuels is important, but if modern fuel distribution systems do not reach rural areas, even the households with sufficient income cannot purchase fuel. Thus, efforts to bring improved energy services to the poor must enhance the energy supply and set up programs and policies relevant to the existing sociocultural and socio-economic context.

Access to electricity for lighting purposes is a problem in India, but the energy sources for cooking and heating present an even more dismal picture.

Table 2 shows that 76.2 percent of India's rural households continue to depend on "traditional biomass" for meeting their cooking and heating requirements, while 70.30 percent of all households are dependent on traditional biomass.

Table 2: Source of cooking and heating in India

	Absolute number			%		
	Total	Rural	Urban	T	R	U
Firewood	120,834,388	104,963,972	15,870,416	49.0	62.5	20.1
Crop residue	21,836,915	20,696,938	1,139,977	8.9	12.3	1.4
Cow dung cake	19,609,328	18,252,466	1,356,862	7.9	10.9	1.7
Coal, lignite, charcoal	3,577,035	1,298,968	2,278,067	1.4	0.8	2.9
Kerosene	7,164,589	1,229,476	5,935,113	2.9	0.7	7.5
Liquefied Petroleum Gas/ piped natural gas	70,422,883	19,137,351	51,285,532	28.5	11.4	65.0
Electricity	235,527	118,030	117,497	0.1	0.1	0.1
Bio gas	1,018,978	694,384	324,594	0.4	0.4	0.4
Any other	1,196,059	1,040,538	155,521	0.5	0.6	0.2
No cooking	796,965	394,607	402,358	0.3	0.2	0.5

Source: Census of India 2011.

In urban centers, electricity access can be synonymous with energy access. It not only meets lighting needs but also caters to a variety of household energy needs (for example, appliances). In rural areas, however, "electricity access" generally refers to the capacity to meet lighting requirements.

Policy makers cite two justifications for such a large number of unelectrified households in India: a shortfall in demand

3. See: http://www.censusindia.gov.in/2011census/hlo/hlo_highlights.html

for electricity and the lack of funds to provide electricity infrastructure in rural areas. While there is some truth in this, the political will to ensure universal household access is crucial, as noted in a 2010 comparative study on rural electrification in India, China, Brazil and South Africa, conducted by the International Energy Agency (IEA).

The IEA report states that "social fairness should be the guiding principle" in designing the stages of electrification to ensure universal household electricity and energy access. Unfortunately, this has not been factored into the Indian policy framework for energy access.

In the past few years, there has been significant increase in electricity generation capacity from 74,420 MW[4] in 2002 to 153,487 MW[5] in 2013. Over the same period, the supply of electricity reached only 6.4 percent additional rural households, however, despite the 100 percent increase in electricity generation capacity.

Table 3: Electricity generation from thermal power plants and its relation to energy access

	2002 (MW)	2013 (MW)
Installed Capacity of Thermal Power Plants	74,420[6]	153,487[7]
Total Unelectrified Households	45%[8]	33%[9]
Unelectrified Rural Households	51%[10]	44.6%[11]

4. Sources of Electricity Supply, 1985–2009, Planning Commission, Government of India.
5. *Ibid.*
6. *Ibid.*
7. "Power Sector at a Glance" – Ministry of Power, http://powermin.nic.in/indian_electricity_scenario/introduction.htm0.
8. Source: Rural Electrification Programme, Ministry of Power, Government of India.
9. Source: Census 2011
10. Source: Census 2001.
11. Source: Central Electricity Authority, rural electrification figures, 2013 and Census 2011.

II. Current gaps in policy implementation: Why energy access is still an issue in India

The main issues in policy formulation for the energy sector are:

a) Development planning in India has been driven from the top, which has led to service delivery failures. More attention should be paid to bottom-up and people-oriented energy planning. As noted above, the dominant development model focuses on achieving economic growth. This results in investments in large-scale energy infrastructure to provide energy for growth (i.e. large-scale coal, large hydro, transmission grid and pipelines). Also, much of the infrastructure for energy in developing countries is for export of energy to other countries, or to urban centers, and not for local use. The theory that increases in electricity generation would translate into "electricity to the electricity-starved population" has consistently been proved wrong in India and in many other developing countries. The bulk of increase in the electricity generation actually is used to meet increasing an increasing demand from urban and industrial users.

b) Tackling this huge disparity between inclusive development and energy growth requires a bottom-up approach to planning, including mainstreaming gender issues into energy policies. Most energy policy frameworks ignore the fact that limited access to energy has a disproportionate effect on women, especially in rural areas.

c) All development planning in India is compartmentalized, with issues addressed in different "silos" by different ministries and departments with little or no coordination. For instance, there is no link made between access to reliable and affordable electricity and income generation - for women's groups, local micro-entrepreneurs and farmers (especially those who grow cash crops and horticultural produce). Also, there are few links drawn between clean energy access, health and education.

d) For rural India, policy makers are focused on electricity rather than energy services and development. Therefore, any policy on energy access should cover all heating and lighting requirements of the poor as well as requirements relating to livelihoods, micro enterprises and transport. Low carbon rural transport can contribute to reducing poverty by creating jobs and expanding market access. Heating requirements should go beyond cooking and look at related agricultural cottage industries, amongst other local activities.

e) Access to energy services should address the key issues of: (a) universal access; (b) equity (in terms of bridging the gap between urban and rural availability of energy supply and access to services); (c) reliability; (d) affordability (pricing and subsidies); and (e) appropriateness.

f) In considering the energy needs of the poor and marginalized, policy makers should address the question of subsidies. In the current system, the rich and urban consumers benefit from hidden as well as overt subsidies of fossil fuel based energy sources, such as LPG and other petroleum products and centralized electricity generation systems.

g) Currently, there is a large funding gap in the provision of energy access for the poor, which is not being seriously addressed by existing financial mechanisms and institutions.

h) In the above context, current Indian policy is geared towards financing fossil fuel-based projects. Resolving many of the problems in the energy sector will require new technologies and practices. These need to include more efficient "conversion" and the development of low pollution and low greenhouse gas emitting technologies, especially renewable energy technologies. Improved environmental practices in the energy sector, as well as improvements in land use and forestry, are necessary.

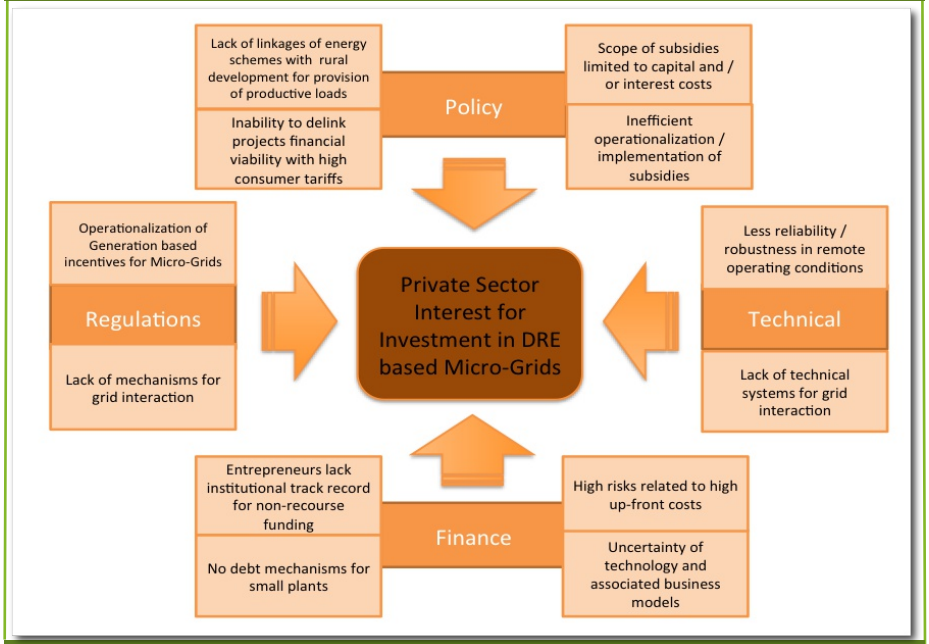
i) Some of the main obstacles to decentralized renewable energy systems in India, which result in very low-level penetration of such projects, are:

- High investment requirements: These are particularly relevant to decentralized renewable energy systems, as they require higher storage capacity (batteries).
- Subsidies for decentralized renewable energy systems competing with fossil fuel: If the subsidy for kerosene and diesel for rural household electrification and irrigation pump sets were diverted to solar systems, it would significantly reduce the investment requirements at both the front and back of the energy supply chain.
- Lack of linkage between decentralized renewable energy mini grids and central grids. In India, a major barrier to the expansion of renewable energy is the lack of connectivity and links between decentralized renewable energy mini grids and central grids. In many cases, grid extensions to a particular location do not reach decentralized renewable systems. The two systems must be linked so that the potential for decentralized renewable energy systems can be realized. This underutilization also creates major risks for private investors in renewable energy systems.
- Higher energy costs for rural consumers: It is problematic that the cost of energy to end-use consumers of renewable energy systems is higher than for urban consumers, who are connected to the domestic grid. The cost of electricity to typical rural consumers should be compared with the cost of kerosene. Therefore, to expand renewable energy systems, subsidies must be directed away from fossil fuel sources towards renewable energy sources. This would place the cost of providing 24-hour energy services to rural communities on par with or below the cost of urban domestic provision.

- Willingness and ability of rural households to pay, primarily because energy demands are currently linked only to lighting needs rather than employment generation and better livelihoods. Studies have highlighted that rural consumers are willing to pay for high quality energy services.

There are two critical questions that remain to be answered: When will these technologies and practices be deployed? Who will take the political risk to change the status quo? The flow chart below summarizes the main challenges the Indian energy sector faces in ensuring universal energy access.

Table 4: Private sector interest in decentralized renewable energy (DRE)



III. Guiding principles and recommendations for energy access in India

There is an urgent need to redefine priorities for the energy sector, particularly to ensure clean, affordable, sustainable energy for all. Key questions are:

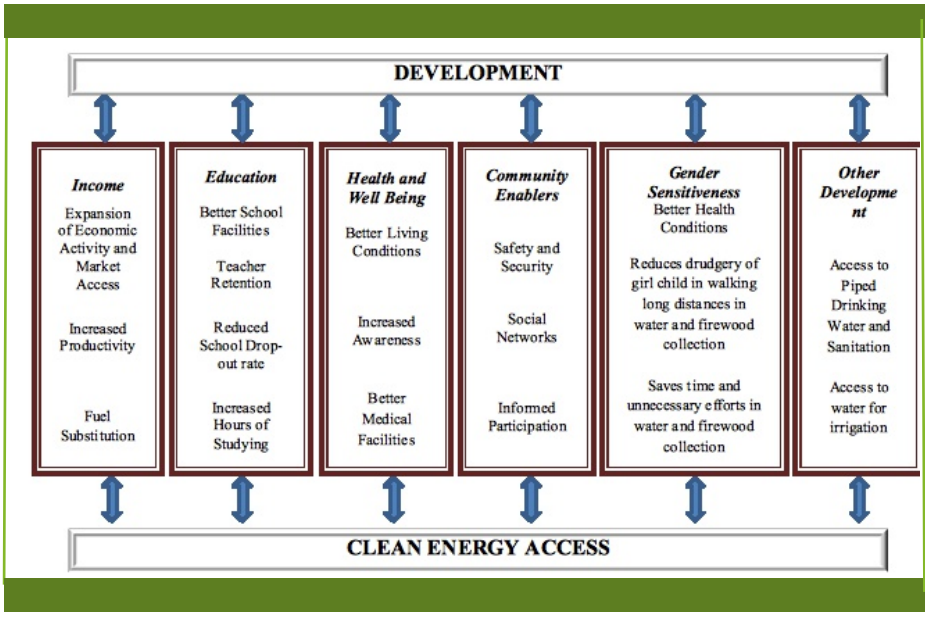
- For what/whom is the infrastructure required?
- On the basis of the above, what kind of energy infastructure would be most suitable?
- What are the costs and benefits of such proposed infrastructure, taking into account not only the economics of electricity generation, but also external costs (e.g. pollution, health, climate)?
- Does the desired infrastructure represent the best available technology?
- Does it provide the greatest potential in terms of environmental and social sustainability? If not, what are the alternatives?

Technologies must be compared on a life cycle basis, taking into consideration technical performance, economics, socio-environmental impacts, availability of manufacturing and maintenance capability within each individual country and institutional issues.

When evaluating how technologies can help with the provision of clean, affordable and sustainable energy for all, the following guiding principles should be considered:

a) Implement holistic development planning rather than an approach to development where every department and ministry is concerned only with its narrow mandate. For example, there is a very clear link between energy access and development. This cuts across the sectors of health, education and access to water and sanitation. It also has a major bearing on income generation, gender and livelihood enhancement.

The diagram below provides a snapshot of the links between energy access and development. Even a small increase in electricity consumption can lead to a marked improvement in the quality of life for poor and vulnerable people. The small increase in electricity consumption would primarily meet lighting needs and cooking and heating requirements, but could also be linked to overall growth and development.



b) Introduce a transparent and consultative institutional and governance framework that adopts a bottom-up approach.

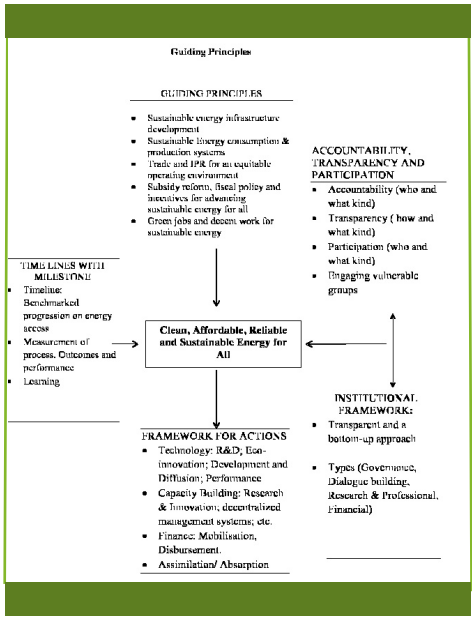
c) Conduct a cost-benefit analysis with a full audit of energy requirements and potential. This should rigorously factor in all risks, including social and environmental costs, displacement of communities and effects on the health and livelihood of communities, while also looking at alternative, cleaner options for electricity generation.

d) Particularly for a country such as India, energy efficiency, conservation and reducing the percentage of energy transmission loss need to be prioritized over adding electricity generation capacity. The only way to balance economic growth with domestic demand without endangering the planet is to gradually raise the energy efficiency of all domestic and commercial energy uses.

e) In the design of financial mechanisms and institutional delivery systems, the above recommendations need to be the guiding principles. This would ensure the removal of current financial barriers to solutions for clean, affordable and sustainable energy access.

f) India already has mature clean energy technologies and is considered a leader in this field. Most of these products find their way to the export market, however, with very little uptake in the domestic market. To ensure that renewable and clean energy product manufacturers should also target the domestic market, government policies must stimulate domestic production and create a favorable investment climate. Efficient implementation of policies is also required, including penalizing producers for noncompliance. For instance, India has renewable purchase obligations that make it mandatory for utilities to purchase a stipulated quantity of electricity from renewable energy sources. But there is no penalty for non-compliance with this obligation.

The diagram below provides a bird's eye view of the guiding principles for an energy policy framework for India.



Conclusion

In a country such as India, energy access is linked to overall human development, and there is a direct correlation between energy consumption and a higher ranking in the HDI. New policy guidelines are needed to establish new institutions and mechanisms and to implement a program on universal rural energy access.

A range of solutions are required to address universal energy access while placing the country on a path that is sustainable, climate resilient and gender-sensitive. From a rural energy access perspective, it is very important to meet the holistic energy needs of communities, and this should go beyond mere lighting. Such comprehensive energy access targets can only be met by a combination of solutions in which decentralized renewable energy plays a dominant role. Renewable energy cannot be used as a fig leaf in order to hide all polluting investments in the power sector, such as dirty coal.

Renewable energy should be seen as a key to achieving clean and affordable energy access, especially where grid connectivity is lacking. For example, many households rely on biomass and inefficient chulahs (open stone stoves) for cooking, which has negative impacts on women's health. The government needs to make the provision of clean cookstoves a national priority. This will not only improve women's health, but will reduce black carbon emissions, which are another major cause of climate change.

Improving energy services to the poor is not just about supply. It is also about India introducing policies that address the associated economic, financial and sociocultural problems.

Public–Private Partnerships in Indonesia

Policy and Public Responses

Siti Khoirun Ni'mah ("Nikmah")

Executive Summary

To address gaps in its infrastructure development, the government of Indonesia has sought to enter into arrangements for long-term financing through various international fora such as the Group of 20 (G20), Asia Pacific Economic Cooperation (APEC), and the Association of Southeast Asian Nations (ASEAN). These efforts seek to implement Public–Private Partnerships (PPPs) and to consolidate national infrastructure financing to sustain connectivity across regions within Indonesia and between Indonesia and the rest of the world. At the same time, the government of Indonesia is sending a message to the international community that Indonesia is prepared to launch an improved generation of PPPs.

This paper examines three key questions. First, what is the nature of the PPP policies related to infrastructure development in Indonesia? Second, how are affected communities responding to PPP projects? Third, what opportunities exist for renewable energy infrastructure development using PPP schemes?

The first question refers to a) a series of policies, laws, presidential regulations, and ministerial regulations across various sectors; b) the establishment of relevant institutions, such as the Indonesian Infrastructure Guarantee Fund (IIGF); and c) the budget allocation for guarantees and land acquisition. The second question explores communities' reaction to the pilot PPP project, the Central Java Coal-fired Power Plant (CJPP) and its potential effects. People feared this project would lead to relocation from their homes and land. With regard to the third question, national planning documents describe the projected increases in Indonesia's reliance on coal and natural gas and significant declines in the share of renewable energy sources in the country's overall energy mix by 2025. This does not bode well for the country's future. In formulating country-wide policies or in identifying and designing projects, it is crucial to engage the citizenry. If the government aims for sustainable infrastructure development, the people must be involved as partners in the entire process, from planning to implementation and monitoring. This is because the citizenry lives with the outcomes of the development process.

1. Introduction

The provision of infrastructure services to its citizenry is one of the key functions of the state. Indeed, the capacity to ensure service delivery should be an indicator of a robust state. For the state, a positive development strategy involves strengthening its capacity to ensure infrastructure development. State building is therefore inseparable from infrastructure development.[1]

1. Makmur Keliat, Asra Virgianita and Fina Astriana. 2013. "Pembangunan Infrastruktur di Indonesia dan Peran G20" [Infrastructure Development in Indonesia and the Role of G20], INFID and University of Indonesia. See Ghani *et al.*, 2006.

Indonesia is actively promoting infrastructure development through various international fora such as the Group of 20 (G20), the Association of Southeast Asian Nations (ASEAN), and the Asia Pacific Economic Cooperation (APEC). Promoting long-term financing for investment, including for infrastructure development, continues to be a high priority for the G20. Meanwhile, the ASEAN Infrastructure Fund was established with initial support from ASEAN member countries and complementary support from the Asian Development Bank accompanied by the list of projects set out in the Master Plan on ASEAN Connectivity. In October 2013, the APEC meeting in Bali drew up a Multi-Year Plan on Infrastructure Development and Investment for which Indonesia will host a center with an expert panel to develop Public-Private Partnerships (PPPs). Launching PPPs will involve consolidating the financing for national infrastructure in order to sustain connectivity across Indonesia and between Indonesia and the rest of the world. Through launching a new generation of improved PPPs, Indonesia wants to send a message to the international community that the country has all of the prerequisites (institutional, legal, and financial) to expedite infrastructure development.

Numerous studies and assessments of PPPs in Indonesia have been conducted over the past decade. Research carried out by Strategic Asia, for example, examines the potential of PPPs to accelerate infrastructure development in Indonesia.[2] The study specifically probes the challenges of developing PPPs, given the central government's capacity and its relations with local governments. Another study conducted by the Organization for Economic Cooperation and Development (OECD) explores PPP governance, mainly in terms of policy, process and structure, while highlighting the need for institutional capacity.[3]

"If the government aims for sustainable infrastructure development, the people must be involved as partners in the entire process, from planning to implementation and monitoring"

The International NGO Forum on Indonesian Development (INFID), in cooperation with the University of Indonesia (UI), also reviewed infrastructure development in Indonesia and the role of the G20.[4] We found that infrastructure development in Indonesia is slowed by five types of imbalance. First, there is a geographical imbalance. Infrastructure development is centered on Java and Sumatera, leaving other regions in Indonesia far behind, resulting in inequitable development. Second, there is an imbalance between economic growth and infrastructure development. That is, the rate of infrastructure development lags behind Indonesia's economic growth rate of 6% per year. Third, there is an imbalance in the governance of infrastructure. In principle, "infrastructure" is defined as "goods and services that to meet public demands"; however, there is a decade-long trend toward the management of infrastructure by private sector monopolies, which has not served the public interest. For instance, monopoly control of infrastructure development by private firms has made it difficult for citizens to participate or express their concerns or complaints; the role of the private sector in infrastructure development has nevertheless expanded, and public participation declined. Fourth, there is a budget imbalance. In the past decade, the budget allocation for infrastructure development has expanded, but it has never exceeded 2% of GDP. In terms of the proportion of government spending, the infrastructure budget accounts for an average of 10% of total annual expenditure. Finally, there is an imbalance in capacities for policy-making and implementation.[5] That is, actual capacities fall short of what is required for effective governance of infrastructure.

All these imbalances increase the complexity of the infrastructure development process in Indonesia. Thus far, infrastructure-related policies have opted for mobilizing resources from outside the state budget by involving the private sector, through the establishment of PT Sarana Multi

2. Strategic Asia. 2012. "PPP (Public-Private Parnerships) in Indonesia: Opportunity from the Economic Master Plan".

3. OECD. 2012. "OECD Reviews of Regulatory Reform – INDONESIA: Public–Private Partneship Governance: Policy, process and structure".
4. Makmur Keliat *et al., op. cit.*
5. Keliat *et al.*, 2013.

Infrastruktur (PT SMI) in 2009 and the Indonesian Infrastructure Guarantee Fund (IIGF) in which public funds offset private risks.[6]

Given the above context, this chapter examines three key questions. First, what is the nature of the policies and institutions governing PPP infrastructure development in Indonesia (e.g., the government's commitment to financing infrastructure; policies relating to whether or how to guarantee private sector risks). Second, what is the role and response of communities affected by the pilot PPP project, the Central Java Coal-fired Power Plant (CJPP)? And third, what opportunities exist for promoting renewable energy through infrastructure PPP schemes?

This chapter is divided into five sections. The first presents background information. This is followed by a section on government infrastructure development policies and commitments, including its commitment to providing infrastructure and its financing. It also explores the role of the private sector in infrastructure, including how the government provides guarantees to offset private risk (a feature of the Indonesian PPP) and the way in which the regulatory framework mitigates risks to society and the environment. Section three assesses the public's response to the first PPP project under the guarantee scheme. Section four focuses on the development of renewable energy under PPP schemes. The final section concludes with key points and recommendations.

2. PPP Policy in Indonesia

2.1 The Government of Indonesia's commitment to infrastructure development

The Master Plan on Accelerating and Expanding Economic Development in Indonesia (MP3EI) is the government's blueprint for developing the country's infrastructure and promoting economic growth through inter-regional connectivity. The MP3EI document, released in 2011, was formulated outside the regular annual and five-year development planning schemes. Only the private sector and the government were involved in drawing up the document. It states that infrastructure development is necessary to fulfill Indonesia's ambition of attaining a per capita income between US$ 14,250 and US$ 15,500 and a GDP between US$ 4.0 and US$ 4.5 trillion by 2025. To this end, Indonesia will establish six economic corridors: Sumatera as the production center for natural resources and energy; Java as the industrial and service center; Kalimantan as the production center for mining and energy; Sulawesi (Celebes) as the agricultural and plantation center; Bali and Nusa Tenggara as the tourism hubs; and Papua and Maluku as the energy and food production centers. The master plan maps out Indonesia's infrastructure development agenda until 2025. Some 396 projects that spread across various regions are identified, which will require funding of approximately US$ 400 billion.[7]

The MP3EI policy is the outcome of a series of efforts initiated by the government in the past few years. It began with the formation of the Committee for the Acceleration of Infrastructure Development in Indonesia (KPPI) in 1998, followed by the organization of infrastructure summits in 2005, 2006, and 2009 to harness support for infrastructure financing. But these efforts have yet to produce the desired levels of funding from the public and private sectors.

Civil society has criticized the MP3EI document for its heavy reliance on extractive industries. The strategic value of each corridor is primarily derived from mining – an extractive process which will deplete natural resources, cause environmental degradation, and expand poverty due to land acquisition and displacement. Importantly, these corridors only focus on implementation of large infrastructure ventures rather than the small or appropriate-scale infrastructure needed for people living in remote areas, such as Banten, West Java, where children have to cross collapsed bridges to get to school. Despite these criticisms, the government has remained steadfast in its belief that MP3EI will be Indonesia's remedy to the barriers to economic development.

6. Keliat *et al.*, 2013.

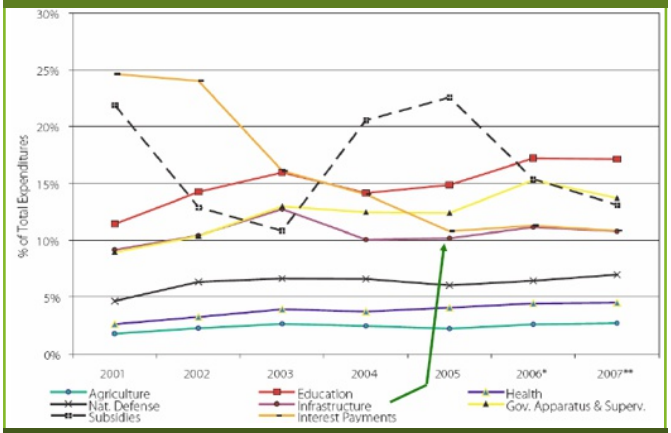
7. Coordinating Ministry for Economic Affairs. 2011. Republic of Indonesia Master Plan on Accelerating and Expanding Economic Development in Indonesia 2011–2025.

Picture 1 Children crossing a collapsed bridge to get to school in Banten, West Java

Source: Republika Online, 23 January 2012.

Unfortunately, the government lacks the funding to fulfill its ambitions to develop infrastructure as set out in MP3EI. As the data in Table 1 (below) indicates, average annual infrastructure spending only represents 10% of total government expenditure and 2% of GDP.

Table 1. Public expenditure trends for infrastructure development from 2001-2007



Source: Bappenas (Ministry of National Development Planning), 2011.

According to the government, one of the issues in infrastructure development is "viability gap funding" or the gap between available and required funding for economically viable projects. The government is only capable of providing 29.1% of total funding, or about US$ 213.3 billion, for the projects envisioned by the MP3EI plan. On the other hand, the private sector is expected to cover 51% of total financing. The government introduced the PPP scheme as a means to mobilize financing to address the huge "viability gap" of over 20% of the funding requirement for the MP3EI.

2.2 Private sector role in infrastructure development in Indonesia

The private sector's role in infrastructure development is not a new phenomenon. In 1998, when Indonesia was in the throes of an economic crisis, the country signed a Letter of Intent (LOI) with the International Monetary Fund (IMF)[8] as part of an effort to lift the nation out of the financial turmoil that erupted in East Asia in 1997. This agreement was the culmination of a series of measures undertaken by the government of Indonesia with support from international agencies, to push for the privatization of the public sector. The World Bank, for example, gave Indonesia loans to restructure its railway industry in the 1990s in order to attract private investors. It also pushed for changes in the model of railway management from a majority state-owned company to a limited liability company.[9]

The government has also involved foreign companies in the water utility sector in Jakarta. In 1997, its operations shifted from the state-owned PAM water company to two private operators, PT PAM Lyonnise Jaya (PT Palyja) and PT AETRA (previously owned by PT Thames PAM Jaya). This PPP was sealed through a 25-year concession contract. The agreement was based on a 1995 letter issued by then-President Suharto that appointed both private companies without an open or competitive tendering process.[10]

Indonesia first partnered with the private sector in 1974 for the construction of the Jakarta–Bogor–Ciawi (Jagorawi) toll road by a partnership with the state-owned enterprise, PT

8. LOI IMF Charter 15 states that the master plan for the restructuring and privatization of all state enterprises over the medium term has been adopted and publicly released. The master plan also provides for the review of the regulatory framework in the key privatized sectors. Except for a specified short list, the program calls for all 150 state enterprises to be divested over the next decade. Details of companies to be privatized during 1999–2001 are included in the plan, focusing on hotels, trading, construction, mining, and civil engineering firms, and fertilizer producers. In the meantime, enterprise efficiency would be improved through greater management autonomy, enhanced competition, hard budget constraints, and the phased elimination of preferential access to bank credit by end of March, 2000. Companies to be restructured during this period in preparation for later privatization include the state electricity corporation and the national airline (IMF, 1998).

9. See Nikmah *et al.* study, "World Bank Funded Project on Railway Efficiency in Indonesia", published by INFID in May 2008.

10. KRUHA," 2011. KRUHA is a civil society coalition in Indonesia that promotes the fulfillment of the right to clean water.

Jasa Marga. This collaboration was reinforced with a toll-road concession agreement in 1987 in which PT Jasa Marga was responsible for the management of the toll road. By 1997, at least 553 km of toll roads were constructed and operational in Indonesia. Of this total, 418 kilometers are now operated by PT Jasa Marga, while the remaining 135 kilometers are managed by the private sector.

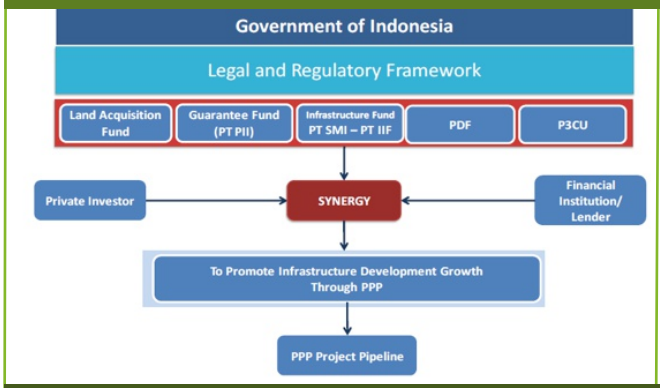
Indonesia's PPP scheme for infrastructure management has faced a barrage of criticism. Based on experience in railway and water-management schemes, private sector involvement does not necessarily mean improved public services.[11] Substandard services have denied people access to safe and affordable drinking water. This is also the case for the country's toll roads, which have declined in quality. Another criticism in an OECD[12] report is that most, if not all, PPPs in Indonesia are in the form of concessions, mostly using traditional procurement procedures. This applies to highway-construction projects in which the government appoints a public agency – PT Jasa Marga – as the toll-road operator without going through an open tendering process. PT Jasa Marga has been allowed to foster cooperation with private partners in managing toll roads in specific locations. The agency's appointment is another illustration of how infrastructure management projects are not won through an open bidding procedure but through direct appointments, often with strong political influence.

The private sector has also criticized PPP schemes, particularly the government's reluctance to provide risk guarantees for private investors involved in infrastructure development projects. When the provincial Jakarta government announced plans to build a monorail system in partnership with the private sector, an agreement could not be reached on who would bear the risks if revenues could not cover production costs due to overestimates of demand for services. The Jakarta administration later requested that the central government issue a letter of guarantee stating that the government would cover such risks. However, due to the absence of appropriate regulations, such a guarantee could not be provided. As a consequence, private investors were hesitant to enter the infrastructure business, particularly for high-risk projects such as rail and highway construction in the eastern part of Indonesia. Private investors are only interested in infrastructure projects with unquestionable economic value, such as those in the energy and toll-road sectors.

The government responded to these criticisms by developing a new partnership scheme that removes such obstacles. For example, it made sure that sector-specific laws and regulations eliminate the monopoly role of state-owned or state-controlled enterprises in the conduct of infrastructure activities. Although in some sectors a state-owned company will be the *de facto* partner in a PPP project, there is generally no requirement that private investors must partner with a state-owned company. The government also declared that competitive tendering is required for all PPP projects and, therefore, sole-source tender is no longer permitted.[13] Finally, the government formulated a guarantee scheme that provides assurance to private investors.

Based on lessons learned from previous PPP practices, the government designed the legal and regulatory framework for PPPs as illustrated below.

Table 2. Legal and Regulatory Framework of PPPs



Source: Bappenas, 2011.

11. KRUHA observed that many of Jakarta residents have no access to clean water. Those who have been PAM Jaya's customers since 1997 waited for 7 years before they were connected to clean water supply (Civil Society Petition Demanding for Termination of Clean Water Supply Concession Contract in Jakarta, 2011).

11. A concession system means that the state (or municipality or other public entity) delegates to the private sector the right to provide a service, yet retains some control over the sector by incorporating in a consession contract or license the terms and conditions – including the rights and obligations of the service provider – that will govern the infrastructure project or company (World Bank, 1995. p.1).

13. Republic of Indonesia. 2010. *Public–Private Partnership (PPP) – Investor's Guide.* p. 13.

The role of each institution is defined as follows:

- For land acquisition, funds for private sector purchases are reimbursed from the budget of the relevant ministry. For example, land acquisition for road infrastructure involves the Ministry of Public Works, railway infrastructure involves the Ministry of Transportation, oil and gas pipelines involve the Ministry of Energy and Mineral Resources and other relevant ministries. Funds, however, are reimbursable to the private partner only if the infrastructure project is proven to be financially viable.
- The Indonesian Infrastructure Guarantee Fund (IIGF) is a business entity established on December 30, 2009. IIGF is responsible for guaranteeing private sector risks under the PPP scheme. It acts as the guarantor for risks that may occur because of the government's actions or inactions, which may result in financial losses to the PPP infrastructure projects. This could include delays in the processing of permits and licenses, changes of rules and regulations, lack of tariff adjustment, failure to integrate the network/facilities and other risks that are borne by or allocated to the government in each PPP contract. The legal foundation for the establishment of IIGF is Government Regulation No. 35/2009 on Participating Interest of the Republic of Indonesia for Establishment of Infrastructure Guarantee Corporation. This regulation allows the Ministry of Finance to use fiscal funds to guarantee infrastructure projects.[14]
- PT Indonesia Infrastructure Finance (IIF) is a private enterprise funded by its founding shareholders, including US$ 55 million[15] from the government of Indonesia through PT SMI under the Ministry of Finance; US$ 36 million from the Asian Development Bank; US$ 36 million from the International Finance Corporation (IFC); and US$ 18 million from DEG-Deutsche Investitions-und Entwicklungsgesellschaft mbH. PT IIF subsequently obtained a loan from the World Bank of US$ 90 million and grant aid from the government of Australia for the establishment of PT IIF[16]. Funds from the government of Australia go through the Indonesian Infrastructure Initiative consultant that provides technical assistance to the government of Indonesia.
- The Project Development Fund (PDF) is administered by Bappenas along with PPP Central Unit (P3CU). Bappenas has prepared the list of projects incorporated into the PPP Book and must make them available to the public. The list provides an indication of the types of infrastructure development which the government will prioritize within a specified time period.

2.3 Risk guarantee scheme

There is no single definition of a PPP, but most mention participation by the public and private sectors in a contractual arrangement that addresses risk-sharing among parties.[17] There are primary risks related to: 1) land acquisition; 2) the level of demand; 3) construction and operations; and 4) government policy. Demand risk arises when there are unreliable forecasts of the need for a good or service. In such a case, the infrastructure design will result in oversupply. Construction and operating risk exist because the costs of building and maintenance generally differ from projections. Policy risk arises from actions by different government agencies which may (often unintentionally) affect the profits of the concession. For example, the government could push tariffs for services below the level needed for full cost recovery. Based on such unforeseen problems, guarantees are necessary to make PPPs viable.

The government has identified the potential risks of Indonesian PPP projects and designed ways to offset them:

- Land Acquisition Fund. This revolving fund enables the government to purchase land in advance of the project; it may be reimbursed by the private partner at a later date.
- Guarantees. According to Dudi Rulliadi,[18] IIGF is the heart of Indonesia's PPP scheme. The entire

14. IIGF, 2013.
15. All figures are presented in dollar equivalents.
16. Using currency with 1 US$ equivalent to IDR (Indonesian Currency) 11.000.
17. See Engel *et al.*, 2008.
18. Dudi Rulliadi. 2013. *Guarantee Fund in Indonesian Public-Private Partnership (PPP): International Design As Domestic Innovation.*

scheme is laid out in the Presidential Regulation concerning "Government in Cooperation with Business Entities for the Provision of Infrastructure".[19] As a new institution, IIGF has regulations providing legal certainty of compensation and government guarantees to private partners. Formally established as a State-owned Enterprise (SOE), the IIGF is staffed by private professionals (not civil servants) and operates with dual mandates: to provide financial guarantees to private investors and to act as a fiscal risk manager. In its role as a guarantor, IIGF guarantees the financial obligations of government contracting agencies in PPP contracts with private investors. In the event of an agency's default, IIGF as the guarantor will pay a certain amount of compensation to the private counter-party.[20] Rulliadi further stresses that IIGF is an independent institution modeled according to the World Bank's definition of a guarantee fund, that is, a fund with "liquid assets that can be rapidly mobilized in the event that a contingent liability is realized." The fund would have its own balance sheet, be removed from the annual budget cycle, and benefit from independent governance. The government of Indonesia cited this definition when establishing the IIGF.

Only one project has currently been provided with a guarantee from IIGF, namely the CJPP, with a 2000 megawatt (MW) capacity and valued at US$ 4 billion. According to Sintya Roesly (quoted by Wibowo, 2012):[21]

> "The structure of a guarantee is a co-guarantee structure between IIGF and the government of Indonesia with a burden-sharing concept, whereby IIGF will provide the guarantee under the first loss basis on the agreed amount and the government of Indonesia will cover the remaining amount. However, the government of Indonesia will not provide back-up for the IIGF amount except in the case of IIGF insolvency which is caused by the government of Indonesia's action/inaction. The guarantee agreement was supported by two resource agreements; the first was concluded by Perusahaan Listrik Negara (PLN, the State-owned Electricity Company) and IIGF and the second agreement was between PLN and government of Indonesia."

Wibowo contended that this has occurred because Finance Ministerial Regulation No. 260/2010 stipulates that:

> "The provision of an infrastructure guarantee through IIGF will be optimized in order to mitigate the fiscal risk to the state budget. There are two steps available to achieve this plan. First IIGF is to cooperate with a multilateral financial institution or any party which has similar objectives, and second, the government has to commit to gradually and sufficiently strengthening the capital structure of IIGF. Currently, IIGF already has a stand-by facility financed by approximately US$ 480 million from the World Bank."[22]

The adoption of a two-step approach reflects the government's cautious stance: the awarding of a guarantee is a sensitive issue. Partnership contracts that provide guarantees through the fiscal budget should be entered into in a transparent manner to ensure that the public is informed about the nature of the obligations of the state and the firms which serve the public.

3. Pilot PPPs project in Indonesia under IIGF Scheme: Central Java Coal-Fired Power Plant (CJPP)

3.1 Public response at CJPP project development site

According to the PPP Infrastructure Projects Plan in Indonesia as well as the MP3EI document, there are 58 potential projects totaling US$ 51.2 billion, of which 12 projects have already been tendered. There are 18 toll-road projects ready for bidding. Power-generation projects are mostly coal-fired power plants; IIGF has provided guarantees for a construction-ready project, CJPP, which is projected to produce 2000 MW of power for Java and Bali.

19. Presidential regulation No. 67/2005 was later renewed by Presidential Regulation No. 13/2010 and Presidential Regulation No. 56/2011.
20. Rulliadi, 2013.
21. Imam Pandu Wibowo. 2012. *Government Guarantee in Public Private Partnership: The Features of Indonesia Infrastructure Guarantee Fund. Phd Thesis.*
22. *Ibid.*, p.35.

CJPP is the first PPP project in Indonesia under the IIGF scheme. Located in Central Java, the power plant is to be constructed on coastal land endowed with abundant offshore fish resources. Worth US$ 4 billion, the project was won by PT Bhimasena Power Indonesia on behalf of a consortium of companies consisting of Japan-Power, ADARO (national coal producer), and ITOCHU (Japan). CJPP will use coal to produce high pressure steam to generate electricity. The partnership mechanism with the government will use the BOT (build, operate, and transfer) approach with a concession period of 25 years. IIGF guarantees CJPP that the state-owned power utility company, PLN, is obligated to purchase the electricity produced for a 25 year period with such payments guaranteed by the government and IIGF.[23]

Construction of the CJPP project was planned for 2012 and was expected to be operational by 2017. To date, however, construction has yet to commence due to obstacles in land acquisition. Out of 214 hectares of land required for the project, 15% or 33 hectares remain to be acquired.[24] But the delayed construction of CJPP is not simply an issue of land acquisition. It also involves economic, social, and environmental concerns. KIARA (2013), a civil society organization supporting communities near the CJPP site, made the following observations:

> "There are currently 10,961 traditional fishermen in Batang Tengah who object to plans for the installation of a 2,000 MW capacity steam power plant as it would be disruptive to their lives. Traditional fishing communities from Demak, Pati, Jepara, Kendal, Semarang, Tawang, Wonoboyo, Surabaya, Gresik, Pemalang, Gebang and Indramayu also rely heavily on the Batang coastal area as their main source of livelihood. Apart from the fisherfolk, the lives of at least 7,000 farmers spread across 6 villages - Ponowareng, Karanggeneng, Wonokerso, Ujungnegoro, Sengon (East Roban) and Kedung Segog (West Roban) will similarly be disrupted by the construction plan. Not only will it displace populations in the 6 villages, but it also carries the risk of upsetting the local economy and environmental sustainability of 12 other villages in proximity to the project location, namely the villages of Juragan, Sumur, Sendang, Wonokerto, Bakalan, Seprih, Tulis, Karang Talon, Simbang Desa, Jeragah Payang, Simbar Jati, and Gedong Segog."

Environmental organizations, including Greenpeace (2013), have also expressed objections. In a press release concerning the Batang steam power plant, the NGO highlighted the fact that the power station will produce a staggering 10.8 million tons of carbon emissions each year.

Coal is the dirtiest fossil fuel, by far. Apart from being the main contributor of carbon emissions that causes climate change, coal combustion at the power plant will also release a host of toxic pollutants into the atmosphere. These noxious pollutants are harmful to human health, and as such will endanger communities living close to the power station. According to Greenpeace estimates, if construction plans for the large-scale Batang coal-fired power plant is to proceed, it will generate 10.8 million tons of carbon dioxide each year. The power station will also release other poisonous pollutants in huge amounts, among others 16,200 tons of SOx per year, 20,200 tons of NOx per year and 610 tons of PM 2.5 per year.[25]

"There are currently 10,961 traditional fishermen in Batang Tengah who object to plans for the installation of a 2,000 MW capacity steam power plant"

According to Greenpeace Indonesia, public resistance emerged after local communities observed the impact of the Cilacap steam power plant (another coal-fired power station constructed by Chinese investors, located near the CJPP site). Local residents found that promises made by the government for improvements in the local economy once the steam power plant was in operation were not fulfilled. Some local residents may have been hired to work at the power station, mainly during construction. Once the power plant was operational, local workers could only secure employment as cleaners or office boys, as the local population has low educational levels. The majority of employees at the

23. On its website, the IFC also emphasized that IIGF and the government, acting through the Ministry of Finance, are providing a guarantee to the project to cover payment defaults and potential for termination of payments under required buyout scenarios. The guarantee is supported by agreements to provide reimbursement by PLN for claims made under the guarantee (IFC, 2012).
24. Kompas, September 12, 2013.

25 NOx refers to nitrogen oxides; SOx to sulfur oxides; and PM to fine particulate matter.

power plant are brought directly from China. The Cilacap power station also pollutes the environment, forcing local fisherfolk to seek out alternative fishing areas. In addition, more local residents near the power plant are suffering from respiratory tract infections. These findings have prompted people to reject the CJPP.

When the government first launched the list of infrastructure projects, there were already concerns over potential conflicts arising from the acquisition of land, particularly agricultural land. There was a violation of human rights, when police arrested local leaders in October 2012 at the proposed Central Java site. Finally, there are many environmental issues arising from the infrastructure development process, as MP3EI is oriented towards large scale infrastructure projects.

3.2 Land and infrastructure development

Regardless of whether such projects are run by the government or the private sector, land-related disputes are unavoidable when infrastructure is being developed. According to the Consortium of Agrarian Reform (KPA):

> "In the past three years, agrarian conflict in Indonesia has shown an upward trend. In 2010, at least 106 agrarian related cases occurred in various regions across the country, which later rose dramatically to 163 cases in 2011, marked by the death of 22 farmers/residents. In 2012, KPA recorded a further increase to 198 agrarian disputes throughout Indonesia. More than 963,411 hectares of land were in dispute, involving 141,915 households. From 198 cases that took place in 2012, at least 90 of them occurred in the plantation sector (45%); 60 cases related to infrastructure development (30%); 21 cases in the mining sector (11%); 20 cases in the forestry sector (4%); 5 cases related to aquaculture/coastal farming (3%); and 2 cases in the marine sector and coastal areas (1%)."

Agrarian conflicts are likely to intensify as more infrastructure development projects set out in the MP3EI document are implemented using regulations that facilitate land conversions. Such regulations include Law No. 2/2012 on the Procurement of Land for Development of Public Interest and Presidential Regulation No. 71/2012 concerning Implementation of Land Procurement for Development of Public Interest. These policies allow the government to determine locations for infrastructure development. The public is only informed after decisions have been made. Public grievances can be resolved only through a court of law; meanwhile the development project is allowed to proceed. Despite widespread resistance from the public at the time of the law's passage, the policy is still being enforced.

In addition to policies that facilitate land conversion, the government has also prepared the following three land acquisition schemes:

1. Land capping. The government:
   - 1.1. Supported the increase of land price (land capping) for 28 toll road projects.
   - 1.2. Made an allocation for land capping of US$ 444.54 million from FY 2008 to FY 2013.
2. The government will finance the cost of land acquisition; the winning bidder is then obliged to compensate the government's land fund.
   - 2.2. The funding from the state budget is approximately US$ 209.09 million.
   - 2.2. In 2011 and 2012, additional budgetary funding was US$ 350 million and US$ 81 million, respectively.
3. The land acquisition fund supports several PPP projects that would otherwise be unviable.

The delay in the CJPP project illustrates one of many land conflicts. With the introduction of PPP policies, conflict is likely to escalate if the government fails to change its infrastructure development approach. This is crucial, as existing policies and schemes fail to take the views of affected people into account.

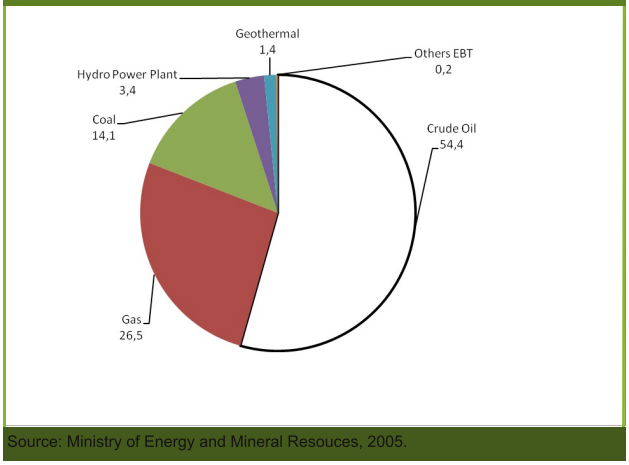
4. Renewable energy potential under PPP financing scheme

There appear to be few opportunities for PPPs to support renewable energy generation in the projects cited by three key documents: The National Blueprint for Energy Management 2005–2025, MP3EI with its list of infrastructure projects until 2025, and the list of projects currently being

reviewed by IIGF. Table 3 (below) presents the national energy targets by 2025, with a scenario where oil consumption is projected to decrease as a percent of the total energy mix, from 54.5% to 26.2%. Coal usage would increase from 14.1% to 32.7% and natural gas consumption would rise from 26.5% to 30.6%. Meanwhile, the use of non-fossil energy (renewable energy) in the total energy mix is expected to drop from 19.1 to 10.5%. Non-fossil energy includes hydroelectric power at 2.4%; geothermal at 3.8%; and others at 4.4%.

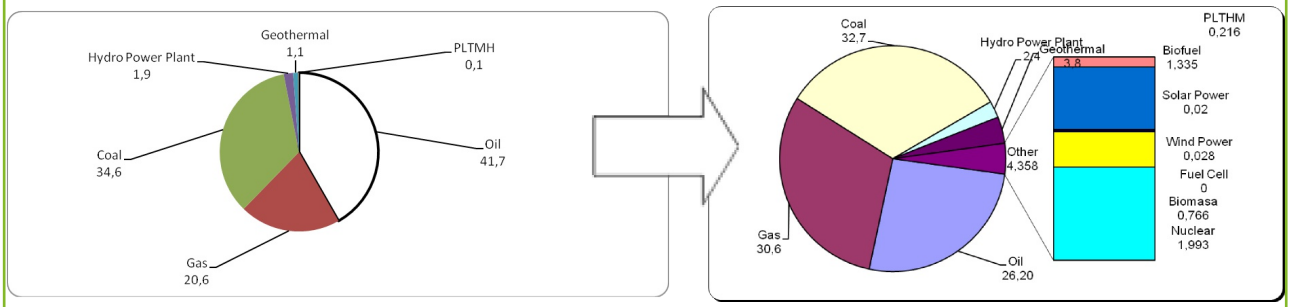
In other words, priority will be given to three energy sources – oil, coal, and natural gas. This indicates that the government will continue its dependence on fossil fuels rather than promoting the use of non-fossil energy sources, such as geothermal sources. The reliance on coal is especially evident in the PPP Book 2012, in which three of the four priority projects in the power generation sector are coal-fired power plants: South Sumatera – 9 Mine-mouth Coal-fired Power Plant, South Sumatera – 10 Mine-mouth Coal-fired Power Plant, and Jambi Coal-fired Power Plant. Another project is the Karama hydropower plant in West Sulawesi.

Table 3. Target of National Energy Mix 2025



Source: Ministry of Energy and Mineral Resouces, 2005.

National Energy in 2025 (Business-as-Usual Scenario) | Optimization of Energy Management | National Energy in 2025 (Optimization scenario)



Source: Ministry of Energy and Mineral Resouces, 2005.

Several initiatives to produce renewable energy, primarily geothermal, are hampered by regulations. The Geothermal Law No. 27/2003 defines geothermal exploration as "mining" when it occurs in forest conservation areas. Therefore, the government is proposing a new bill on geothermal energy which will refer to geothermal concessions as "geothermal utilization" rather than "mining". The bill will also regulate geothermal energy for direct and non-direct utilization in the areas of protected forests and forest production and conservation areas. According to the Ministry of Energy and Mineral Resources, there are currently 299 geothermal locations with a total potential of 26,617 MW, or 40% of the

total geothermal energy in the world. However, the development of geothermal energy will still represent only 1,341 MW, or 4.6% of the existing potential.[26]

Meanwhile, it is still not feasible to develop other renewable energy sources, such as wind and wave power, on a large-scale due to financial constraints. In the 1990s, Indonesia actually made attempts to develop these sources, but the economic crisis in 1997 brought these efforts to a halt.[27]

5. Key points and recommendations

5.1. Key points

5.1.1. The government of Indonesia has issued a series of policies on PPPs, mainly for infrastructure development; from the introduction of cross-sectoral laws that opened up the space for private participation, to presidential regulations and government regulations. These policies are accompanied by the establishment of relevant agencies, either directly under a ministry (such as the P3CU), or indirectly – such as the IIGF. In addition to establishing the IIGF to issue guarantees, the government also set aside resources from its fiscal budget for land acquisition. Infrastructure development of large-scale projects is not being readily accepted by the people, as demonstrated by the case of the CJPP. Resistance is due to the following factors:

First, the government has failed to engage the public in the infrastructure development planning process. Infrastructure development policies focus on state actors, the private sector and international financial institutions, such as the World Bank and Asian Development Bank, and disregard the crucial role that the public should play. The government is responsible for setting policies, establishing institutions, and making budget allocations, while the private sector functions as the operator of infrastructure projects, and international financial institutions provide loans (as well as equity and guarantees, in some instances) to IIFF and IIGF, among others. The World Bank, for example has lent US$ 29.6 million to the government of Indonesia for strengthening IIGF appraisal of infrastructure PPP projects requiring government guarantees. If the government is to ensure sustainable infrastructure projects, the public must be involved and their aspirations heard because they are most affected by the development process. For instance, the procedures that govern the Land Acquisition Fund are insufficiently transparent.

As a consequence, the people lack a sense of ownership of infrastructure projects. Instead, the public is often suspicious, seeing these projects as a means to serve the vested interests of large industries. The government already has a development planning mechanism that encourages public participation every five years or on annual basis, but the discussions are thematic and normative in nature rather than focusing on specific projects. The administration instructed the Ministry of National Development Planning to draw up a list of projects for the PPP Book, but the public is once again excluded from the process of identifying projects for implementation.

Second, there is a lack of transparency related to the risks borne by the state; such risks may materialize if the infrastructure project operates at a loss or if it supports the private partner's rate of return or share of profits. The public is unable to access such information, particularly for private participation in earlier projects, mainly for highway construction, drinking water supply, and transportation. Instead, the public must pay more for services each year as tariffs are raised, especially in the three aforementioned sectors, even when services rendered have not improved.

Third, public resistance to the construction of the CJPP raises doubts about the quality of IIGF's assessment of the social and environmental effects. There are two types of project assessment. Type I refers to projects prepared by the IIFF to operate along guidelines consistent with the World Bank's environment and social framework and IFC performance standards. Type II projects are not prepared by IIFF and require in-depth assessment of project design, implementation procedures, and supervisory requirements. The CJPP is a government initiative included in the list of projects in the Master Plan on Accelerating and Expanding Economic Development in Indonesia and it is categorized as type II, which requires supervision.

26. Kompas B, 22 October 2013.
27. See Flacke and Nikmah, *Is Indonesia's Debt to Norway Illegitimate?*, September 2009.

Fourth, the policy package for promoting PPPs has failed to support the development of renewable energy sources or deal with imbalances between regions. Of the four projects that were initiated, three are dependent on the use of coal; the other would generate hydroelectric power. The scheme also shows how infrastructure development tends to lean towards the construction of large-scale energy generation projects. Renewable energy is not yet a government priority. Its current priorities have yet to address the geographical imbalance noted by the research conducted jointly between UI and INFID, which found that for large-scale extractive industries, infrastructure development remains focused on the western part of Indonesia. Infrastructure disparities are evident when comparing the western areas with other regions or large- with small-scale industries.

5.1.2. Although the CJPP has at times been mentioned as the first PPP project, such public-private schemes have existed for several decades. The earliest PPP project was launched in the 1970s for the management of toll roads. The scheme was not considered a success by international bodies since it emphasized the role of SOEs instead of private firms. In addition, Indonesia did not rely on competitive tendering processes or provide private investors with a guarantee scheme. This has become the basis for the government, with support from international financial institutions, to issue a series of policies that promote PPPs and have SOEs play a minimal role, develop an open tendering mechanism, and establish a guarantee provider.

5.1.3. The establishment of IIGF is considered the centerpiece of PPPs in Indonesia. It was formed in 2009 to provide financial guarantees. The World Bank played a significant role in pushing for the establishment of IIGF through its loan scheme. Although IIGF is technically a SOE, the World Bank and the Indonesian government designed it to reduce the influence of the government, increase market confidence, and enable the market to control its performance. The existing regulatory and institutional framework is now using market-based mechanisms to manage infrastructure. The government, therefore, is currently promoting PPP practices that deepen the role of the private sector by reducing the role of the state.

5.2 Recommendations

Recommendations for advancing Indonesia's development agenda are:

5.2.1. Promote public participation in infrastructure development from planning and implementation to oversight. This process should be transparent. Infrastructure is a public good and, as such, the public should be a part of the development process. Involvement should begin during preliminary identification, siting and design. To date, the public is involved and informed only after a project has been identified and sited. It has never been part of the initial stages of the infrastructure project cycle. Public participation in infrastructure development planning is crucial because it affects the economic, social and cultural life of the people, either those benefiting from infrastructure development or those at risk of losing their land or livelihoods. Reforming the process is essential to building a sense of ownership and minimizing agrarian conflict. The government needs to integrate development planning into the infrastructure development process from local to national level. Public participation should also be transparent, making clear the financial burden borne by the government and showing the financial gains received by the private sector.

5.2.2. Facilitate public control of the IIGF. The institution should be placed under a ministry, preferably the Ministry of Finance. IIGF was established as a SOE. While it is linked to the government, it has independent management. Given that funds are to be sourced from the fiscal budget, IIGF should be under a ministry to facilitate public control through existing planning and budgeting mechanisms. The available institutional model impedes the public's ability to use political mechanisms to control IIGF performance. This can be addressed if the IIGF is under a ministry with duties and powers controlled by parliament.

5.2.3. Expand the government's role in providing public infrastructure, mainly for drinking water, transport, and physical infrastructure in under-developed areas. Based on Indonesia's experience in PPP schemes, private actors tend to invest in bankable infrastructure projects. There has

seldom been a private investor willing to underwrite small-scale infrastructure projects, particularly in under-developed areas. Also, one of Indonesia's major infrastructure problems is people's lack of access to potable water, public transport and physical infrastructure in under-developed regions. This is part of the government's unfinished work that needs to be completed. The absence of adequate basic infrastructure worsens poverty in under-developed areas. In light of this, the government needs to increase its commitment to developing the country's infrastructure, both in terms of budget and policy. It should not rely excessively on the private sector.

References

• Engle, Eduardo, Ronald Fischer, Alexander Galetovic. 2008. *Public–Private Partnership: When and How.* Yale University.
• Flacke, Magnus, Khoirun Nikmah. 2009. I*s Indonesia's Debt to Norway Illegitimate?* SLUG.
• Ghani, Ashraft, Clare Lockhart, Michael Carnahan. 2005. *Closing the Sovereignty Gap: An Approach to State Building. Overseas Development Institute.* Working Paper 253.
• IMF. 1998. *Memorandum of Economic and Financial Policies.*
• International Finance Corporation. 2012. *Success Stories of PPPs: Central Java IPP.* IFC.
• Keliat, Makmur, Asra Virgianita, Fina Astriana (2013). *Development of Infrastructure in Indonesia and The Role of G20.* Jakarta: INFID.
• Coordinator Ministry of Economy. 2011. *Master Plan on Accelerating and Expanding Economic Development in Indonesia.* Jakarta: Coordinator. Ministry of Economy.
• KIARA. 2013. "Open Letter to CJPP – Batang". Jakarta: KIARA.
• Consortium of Agrarian Reform. 2012. *Year-End Report – Agrarian Justice for the People Unserved through Agrarian Reform.*
• Kompas. 2013. *Optimalization of Geothermal – Can be Explored in the Conservation Forest Area.* Jakarta: Kompas.
• Ministry of Finance. 2012. *Government Fiscal & Financial Support on Infrastructure Project.* Jakarta: Ministry of Finance.
• Ministry of National Development Planning. 2011. *Infrastructure Development Strategy in Indonesia.* Jakarta: Ministry of National Development Planning.
• Ministry of National Development Planning. 2012. *Public–Private Partnerships – Infrastructure Project Plan in Indonesia.* Jakarta: Ministry of National Development Planning.
• Nikmah, Valentina Sri Wijiyati. 2008. *Railway Efficiency Project.* Jakarta. INFID.
• OECD. 2012. *OECD Review of Regulatory Reform: INDONESIA – Public–Private Partnership governance: Policy, process and structure.* OECD.
• Republic of Indonesia. 2010. *Public–Private Partnership Investor's Guide.* Coordinating Ministry of Economic Affairs.
• Roelsy, Sinthya. 2012. *The Role of IIGF in Delivering Bankable PPP Projects in Indonesia.* IIGF.
• Rulliadi, Dudi. 2013. *Guarantee Fund in Indonesia Public–Private Partnership (PPP): International Design as Domestic Innovation.*
• World Bank. 1995. *Concession – The Way to Privatize Infrastructure Sector Monopolies. Public Policy for the Private Sector.*
• World Bank. 2012 A. *Implementation Completion and Results Report* (Loan Nos. IBRD-74940, IBRD-76070, IBRD-77850 and IBRD-79740).
• World Bank.2012 B. Project Appraisal Document on a Proposed Loan in the Amount of US$ 29.6 Million to the Republic of Indonesia for the Indonesia Infrastructure Guarantee Fund Project.
• Wibowo, Imam Pandu. 2012. *Government Guarantee in Public–Private Partnership: The Features of Indonesia Infrastructure Guarantee Fund.*

Internet Sources

• Greenpeace. 2013. CJPP Batang will produce 10.9 million ton of carbon each year, press release on 3 April 2013. Accessed through http://www.greenpeace.org/seasia/id/press/releases/PLTU-Batang-Akan-Lepaskan-108-Juta-Ton-Karbon-Per-Tahun/ on 18 October 2013.
• Indonesian Infrastructure Guarantee Fund. 2013. Company Background. Accessed through http://www.iigf.co.id/Website/AboutIIGF.aspx?rowid=11 on 22 October 2013.
• Kompas. 2013 A. Jepang Ready to Finance CJPP Batang. Accessed through http://bisniskeuangan.kompas.com/read/2013/09/12/1321476/Jepang.Siap.Danai.Pembangunan.PLTU.Batang on 16 October 2013.
• Kompas. 2013 B. Optimalkan Panas Bumi – Dapat Dikembangkan di Kawasan Hutan Lindung [Optimizing Geothermal Energy – Potential for Development in Protected Forests]. Accessed through http://print.kompas.com/KOMPAS_ART00000000000000000002759654 on 22 October 2013.
• KRUHA. 2011. Petisi Masyarakat Sipil Menuntut Penghentian Kontrak Konsesi Layanan Air Bersih Jakarta [Civil Society Petition Demanding for Termination of Clean Water Supply Concession Contract in Jakarta]. Accessed through http://www.kruha.org/page/id/dinamic_detil/18/182/Get_Involved/STOP_PRIVATISASI_AIR_JAKARTA.html on 21 November 2013.
• PT SMI.2013. Role of PT SMI – Synergy in Public Private Partnership. Accessed through http://www.ptsmi.co.id/content/role-of-pt-smi/ on 22 October 2013.

Implications of Turkey's Coal Projects for Society, the Environment and Democracy

Fidanka Bacheva McGrath and Daniel Popov

Summary

In 1994, Bernard Lewis called Turkey "the only Muslim democracy";[1] more recently, the World Bank called it "an example from which other countries in the region can learn".[2] Using its strategic position at the crossroads of Europe, the Middle East, the Caucasus, the Caspian, the Mediterranean and North Africa, Turkey has come to play the role of a powerful regional leader. Its democratic credentials came under attack in the summer of 2013, however, when the environmentalist protest at Gezi Park in Istanbul turned into a countrywide protest against the government,[3] which is accused of growing authoritarianism and denial of civil rights of freedom of speech, peaceful assembly and peaceful protest.

In Turkey, democracy is increasingly seen as participatory decision-making on issues that affect daily life without constraining electoral processes, e.g., voting at election times.[4] The European Commission noted in its 2013 Progress Report "[t]here is a growing and active civil society in Turkey. The Gezi Park protest in Istanbul and related protests across Turkey in May and June 2013 reflected the emergence of vibrant, active citizenry."[5] The increased visibility and influence of the civil society movement promises that the democratization process in Turkey will intensify and the participation of citizens in strategic discussions on issues, such as energy, will strengthen.

This paper focuses in particular on the development of coal mining and power generation and their effects on society, the environment and democracy in Turkey. The paper presents three case studies, highlighting the financial aspects of projects and the governance and public participation issues related to them. The paper concludes that the current surge in developing the coal sector in Turkey is dictated by development and policy inertia, which by default favors a business-as-usual approach that could lock the country into fossil fuel technology for generations.

The paper discusses Turkey's energy strategy and argues that the priority – namely, to expand coal-fired power production in order to enhance energy security and decrease dependence on oil and gas imports – is illogical, since new coal power capacity will cause increased dependence on coal imports. Thus, it will effectively increase dependence on imported energy and intensify energy insecurity in the long run. The other government priority – enhancing security of supply by expanding power production from renewables – would not be compatible with coal expansion, and therefore is not ambitious enough. Examples in the European Union have demonstrated that transforming the

1. Lewis, B., 1994, "Why Turkey is the Only Muslim Democracy", *Middle East Quarterly*, March 1994, pp. 41-49, URL: http://www.meforum.org/216/why-turkey-is-the-only-muslim-democracy.
2. World Bank, *Turkey Overview*, URL: http://www.worldbank.org/en/country/turkey/overview.
3. Bechev, D., *Turkey's democratisation package: a stage, not the final destination*, European Council of Foreign Relations, URL: http://www.ecfr.eu/blog/entry/turkeys_democratisation_package_a_stage_not_the_final_destination.
4. Yaninc, B., 15 Oct 2013, "Gezi protesters brought Turkey closer to the EU", *Hurruyet*, URL: http://www.hurriyetdailynews.com/gezi-protesters-brought-turkey-closer-to-the-eu.aspx?pageID=449&nID=56227&NewsCatID=412.
5. *Op. cit.*, EC, Turkey. 2013 Progress Report.

energy sector to accommodate larger renewable energy capacity requires smart grids and flexible power generation units (for example, plants running on natural gas or biomass that can easily be switched on and off), which works against inflexible coal and nuclear units.

It is crucial that Turkey should not miss the opportunity to take a more sustainable path and bring greater benefits to society in the long term. In the mainstream energy security debate, responding to increasing domestic demand and closing the energy capacity gap is a challenge that gives priority to conventional sources. However, it is a great opportunity for transforming and modernizing the country's energy system by promoting the role of clean energy and enhancing efforts to conserve energy.

1. Political background

During the last decade, Turkey has experienced rapid economic development, with foreign investment flooding in, consumer credit exploding and privatization of Turkish companies by foreign buyers. In May 2013, Turkey proudly repaid the final US$ 421 million installment of its debt to the International Monetary Fund (IMF) after decades of bailout deals. But in 2013,[6] the remarkable rate of economic growth slowed down, as emerging economies have become victims of developed countries' monetary policies, especially "quantitative easing" by the USA, which entails the Federal Reserve pumping US$ 85 billion a month into its banking system.[7]

Turkey is a member of the G20 and will become its president in 2015; in that role, it will host the tenth G20 Leaders' Summit that year.[8] As the next G20 president, Turkey is in the G20's 2014 troika with the current president (Australia) and the former president (Russia). In the run up to its G20 summit, however, Turkey had faced important local elections in March and June; presidential elections in August 2014, as well as parliamentary elections yet to comein 2015. Despite the weakening of the Turkish economy and the fact that in mid-2013, support for the government hit its lowest point since the 2011 elections,[9] the ruling Justice and Development Party (AKP) gained a victory in the local elections. Nevertheless, Prime Minister Recep Erdogan is still under conflicting pressures to improve economic performance and to appease those with environmental and social concerns related to grandiose infrastructure plans and projects.

"It is crucial that Turkey should not miss the opportunity to take a more sustainable path and bring greater benefits to society"

Furthermore, in 2013, the European Union (EU) and Turkey renewed their accession negotiations and, accordingly, there was a substantial increase in the amount of European public money (from EU funds or EU financial institutions) entering Turkey to be used mainly for the harmonization of Turkish legislation with the EU's, for capacity building and for infrastructure projects. Attempts by the Turkish government to advance EU membership negotiations and build a positive international image were overshadowed[10] by the crackdown on media freedom[11] and the brutal confrontations in June 2013 in Gezi Park (and beyond) between police and protesters of urban redevelopment and infrastructure projects.

Despite the progress in many thematic areas during the EU accession negotiations, there have been increasing concerns about the social and environmental sustainability of energy and climate change mitigation policies and related projects. Public participation in decision-making has been limited not only for climate and energy policies, but also large-scale infrastructure and energy projects.

The lack of dialogue on decisions about energy investments raises concerns about the Turkish democratic model and

6. Parkinson, J. and Peker, E., *The Wallstreet Journal*, 06/09/13, "Turkey's Once-Golden Economy Buffeted from All Sides", URL: http://online.wsj.com/article/SB10001424127887324886704579052871861015240.html.
7. Khor, M., The Star, Malaysia, 09 Sept 13, "Turmoil in emerging economies", re-published by the Third World Network Info Service on Finance and Development on 10/09/13.
8. Turkish Ministry of Foreign Affairs, G20, URL: http://www.mfa.gov.tr/g-20-en.en.mfa.
9. Onur Ant, 17 July 2013, "Erdogan Facing Elections Can't Count on Basic Aid", Bloomberg, URL: http://www.bloomberg.com/news/2013-07-16/erdogan-facing-elections-can-t-count-on-basci-aid-turkey-credit.html.
10. European Parliament, 13 June 2013, Resolution on the situation in Turkey (2013/2664(RSP))
11. *The Observer*, 04/08/13, "Turkey's lack of democracy is storing up problems. Prime Minister Erdogan has much to boast about, but the vision of hope is fading fast", URL: http://www.theguardian.com/commentisfree/2013/aug/04/turkey-democracy-free-press-journalism.

on-going administrative reform. As stated by the European Commission (EC)'s 2012 progress report, "The increased ministerial powers introduced in August 2011 over the independent regulatory authorities remained, and in at least one instance — in relation to the Energy Directive — run counter to EU legislation."[12] The report also comments on the limited progress made on "access to justice" and points to "an increasing tendency" to draft and adopt legislation without the necessary public participation. This is unfortunate, because having positioned itself as a regional leader,[13] Turkey has the rare opportunity to follow a climate and environmentally friendly sustainable development path and set an example for the countries in its sphere of influence.

2. Dominant models for infrastructure development

Since 2009, Turkey has experienced a boom in the construction of coal-fired power plants in response to growing energy demand,[14] increasing gas prices and the availability of indigenous coal reserves. Over the last decade, Turkey is second only to China in terms of the rate of increased demand for natural gas and electricity. Indeed, the International Energy Agency (lEA) estimated that Turkey will likely see the fastest medium to long term growth in energy demand among the IEA's member countries.[15]

According to the World Resources Institute, Turkey plans 50 coal-fired power plants with a total installed capacity of 37,000 MW.[16] This will rank Turkey first among OECD countries investing in newly installed coal capacity and fourth globally, behind only China, India and Russia.[17] Some projections suggest up to 86 new coal plant projects, when accounting for those that are in the process of permitting and those that have so far failed the application process.

There has been a great deal of revision of the regulatory system that has affected permitting procedures and the quality of environmental impact assessments (EIAs). Environmental groups believe that a number of changes to the procedures introduced by the government represent a serious weakening of regulatory mechanisms. The result is a growing number of legal complaints. It is common for EIAs to be thrown out in courts; for example, a court injunction in August 2013 not only cancelled the EIAs of 17 thermal power plants, but also required the Energy Market Regulatory Authority (EPDK) to consider a full review of all EIAs for power plants. This situation presents a major risk to project finance and a major risk to the environment, because EIA reports are widely viewed as insufficiently robust.

2.1. What specific projects are proposed?

An April 2013 fact-finding mission to Turkey by CEE Bankwatch Network and Greenpeace Middle East revealed the following:

- The absence of adequate EIAs for either the planned coal power plants or the cumulative impacts of facilities, which would serve mines, transport infrastructure such as roads and ports, and transmission lines, among other things.
- Lack of strategic environmental assessment in the Turkish energy strategy and related plans and programs on the national or regional level.
- Disregard for public concerns and limited access to information about the environmental, social and economic impacts of the proposed coal projects on local and national economies.
- Lack of a strategy on the part of international financial institutions for addressing the challenges of the Turkish energy mix.
- Limited discussion at the policy or project level about energy alternatives such as solar installations, integrated energy efficiency measures or small scale renewable energy.

12. European Commission, 2012, *Turkey Progress Report*, URL: http://ec.europa.eu/enlargement/pdf/key_documents/2012/package/tr_rapport_2012_en.pdf.
13. European Commission, 2013, *Turkey Progress Report*, URL: http://ec.europa.eu/enlargement/pdf/key.../2013/package/tr_rapport_2013.pdf.
14. O'Byrne, D., 16 June 2011, "Turkish power: coal or gas", *Financial Times* blog: https://www.google.com/#q=FT+blog+Turkey+energy+demand
15. Turkey's Ministry of Foreign Affairs, URL: http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa.
16. World Resources Institute, 2012, Working Paper. *Global Coal Risk Assessment: Data Analysis and Market Research*, URL: http://pdf.wri.org/global_coal_risk_assessment.pdf.
17. International Energy Agency, 2012, *Medium-Term Coal Market Report: Coal demand among OECD countries in Europe is projected to increase on average by a mere 0.4% per year during the outlook period (from 2012 to 2017), with the bulk of this increase from growth in coal demand in Turkey.*

This chapter builds on the "Black Clouds Looming" report[18] from that mission, which presents two case studies from the Black Sea region visited by CEE Bankwatch. Additionally, this chapter includes a case study[19] of a project from the Aegean region of Izmir, which expects a decision on financing from the European Bank for Reconstruction and Development (EBRD) in 2014.

Case study 1: Amasra coal plants

The city of Amasra is located on the Black Sea coast and is one of the most popular seaside destinations near Ankara. An ancient settlement still boasting a beautiful fortified city, in 2013 Amasra was added to the tentative list of UNESCO's World Heritage sites. The region is also rich in natural heritage, with the Küre Mountains National Park, which is one Europe's 100 forest hotspots most in need of protection, only ten kilometers from Amasra.[20] The park hosts the most intact examples of Black Sea moist karst (i.e., irregular limestone) forest ecosystems in the world.

For many years, Amasra has been proposed as the location of a massive coal-fired power plant. In 1999, the first proposal for a 150 MW thermal power plant was rejected. In 2005, the project was revived by Turkey's Hattat Holding when it obtained permission to explore for coal reserves in Amasra and near-by Bartin. In 2007, three mineshafts were opened, two of which were greenfield developments, and Hema Energji, Hattat's energy firm, applied for a permit to construct a new 1,320 MW coal-fired power plant in 2008. In 2010, Hema requested another permit for a second coal plant, bringing the total proposed coal-fired power capacity in Amasra to 2,640 MW.

Both of these plants are just three kilometers from Amasra, between the villages of Gömü and Tarlaagzı. Hattat Holding and its two subsidiaries, Hema and Batı Karadeniz Elektrik Üretim A.S18, signed a deal with the Chinese Datong Coal Mine Groups to operate the coalmine. Meanwhile, in May 2013, Turkish media also reported a deal with China's Harbin Electric International worth US$ 2.4 billion for construction of coal thermal power plants in the Amasra area.

The plans for turning Amasra from a rich cultural and natural heritage site into an industrial site pose serious threats to the livelihoods of local communities and the development of the region as a tourism destination. The government's West Black Sea Development Agency recently published the first draft of its "2014–2023 West Black Sea Region Plan," which analyzes the region's potential for economic development and confirms the concerns that the proposed thermal power plants are the number one threat to Amasra.

The EIAs for the two power plants are not yet complete, as several plants are proposed by energy companies for the same location. Public meetings on the projects – rebranded as the Batı Karadeniz Entegre Power Plant and Hema Entegrated Power Plant – were planned for the summer of 2013, but were postponed indefinitely due to ongoing local protests.

Concerned citizens, with support from the mayors of both Amasra and Bartin and a local parliamentarian, organized the "Bartin Platform" - a coalition against coal power plant developments in the region.[21] The platform proposes an alternative development path based on tourism and fishing and has suggested that wind energy should be given priority, since Amasra is one of the two regions with the highest wind speeds.[22]

"Concerned citizens, with support from the mayors of both Amasra and Bartin and a local parliamentarian, organized the Bartin Platform"

The EIAs do not provide a clear analysis of impacts and risks on water resources in the Amasra region (coal deposits are located beneath the aquifer zone). One greenfield exploration, the Kavsaksuyu – Selen Su field, is located in the area

18. Stefanova, A. and Popov, D., 2013, *Black Clouds Looming. How Turkey's coal spree is threatening local economies on the Black Sea*, CEE Bankwatch Network.
19. The SOCAR Aegean Refinery case study was researched with the help of local stakeholders from the Aliaga Peninsula of Izmir Region.
20. Kure Mountains National Park web site: http://www.kdmp.gov.tr/alt_detay-en.asp?id=10.
21. For more arguments against the coal-fired power plant, see Bartin Platform (in Turkish), 36 reasons for not granting a coal plant permission in Amasra, URL: http://www.bartinplatformu.org/bizden-haberler/196-36-soru.
22. See this map by the Turkish State Meteorological Service (in Turkish), URL: http://www.mgm.gov.tr/FILES/arastirma/ruzgaratlasi/107_tra9mart.jpg.

of a water reservoir that serves drinking water to 100,000 people every day. Two other deposits pose significant threats to the balance between salt and fresh water in the coastal basin due to their proximity to the coast. The Amasra coastal zone is recognized as a fish reproduction area by the Turkish environmental authorities and is bound to be adversely affected, since the thermal plants' cooling systems will use sea water, a process which has yet to be assessed.

Furthermore, the EIAs for the coal plants lack mention or analysis of the effects of several facilities associated with power generation. For example, due to the low caloric value of the coal reserves (2,000–3,000 kcal), an enrichment facility is needed to bring the calorific value of coal to 6,000–7,000 kcal. This facility and its effects are not assessed in the EIA. Additionally, detailed information about the location of the tailings treatment facility and plans for disposal of ash waste are missing. Finally, there is little information about the plan for building a seaport in the village of Gömü next to the plant, which will be capable of docking large ships for import of coal.

Case study 2: Coal power complex at Çatalagzi

Çatalagzı in the province of Zonguldag is only forty kilometers from Amasra, so awareness in Amasra about coal impacts is high. The Çatalagzı Power Plant (CATES) is a coal mining and thermal power complex where, since 1948, the state electricity company has managed two 150 MW units. Since 2008, the private company ZETES (Zonguldak Eren Termik Santrali), owned by EREN (Eren Enerji Elektrik Üretim A.S.), has operated three units including one of 160 MW (ZETES-1) and two of 615 MW (ZETES-2). EREN contracted out the two latter units to China National Machinery and Equipment Import and Export Corporation (CMEC), which brought around 1,500 workers from China to Çatalagzı.[23] In total, the surrounding villages and environment is affected by 1,690 MW coal-fired facilities and another projected 1,220 MW.

"the EIAs for the coal plants lack mention or analysis of the effects of several facilities associated with power generation"

In 2009, EREN constructed a new coal port, the largest on the Black Sea, with enough capacity for 170,000 DWT (deadweight tons) ships. In 2012, the company applied for a license for two new 660 MW units (ZETES-3). Because of environmental problems with the current ZETES plants and the quality of the EIA report, the EIA permit for the two new units was appealed in court by a local initiative committee. In April 2013, the court put the project on hold. Instead of appealing the court decision, EREN submitted a request to the environmental authorities to increase the current power capacity of one plant, which is a simpler procedure than acquiring an EIA permit for two new blocks.

In 2003, before the new plants began operations, the concentration of heavy metals in the region was estimated at two to five times higher than the average in Europe for iron, cobalt or arsenic. Currently the power stations burn a total of 17,000 tonnes of coal per day, causing pollution that poses risks to human health. There is no ash landfill at the ZETES plants, although this was a precondition in the EIA in order to secure an electricity license. A visit by Bankwatch to the ash pond where ash and sludge reside before landfilling revealed these substances are not being collected, raising concerns about air pollution in the area. Flocks of sheep and herds of goats graze on the edges of the pond, raising questions about the management of the area and measures to limit contamination.

A study conducted by Hakan Kutoglu from Zonguldak's Bülent Ecevit University indicates an increase in the surface and soil temperature of Çatalagzı by four degrees. It has issued warnings about the potential consequences of the temperature rise on human health. The plant also committed to provide heating to households in Çatalagzı using the cooling water from the power plants. An April 2012 report from the Scientific and Technological Research Council of Turkey (TÜBITAK) shows that it is possible to heat 1.5 million households using cooling water from the ÇATES and EREN power complexes, preventing the emission of 5 million tonnes of carbon dioxide gas and 100,000 tonnes of sulfur dioxide.

23. Atli, A., 30 November 2010, Chinese workers liven up the Turkish coal town, URL:
http://www.sarkekspresi.com/?p=150.

A number of severe effects of the pollution on people's health and the environment have been identified over the years. Around 20 percent of children in the area are born with underdeveloped lungs; asthma and chronic obstructive pulmonary disease are widespread; cancer rates are steadily on the rise.[24] Incidents of cancer were the subject of a state study quoted in the EIA for ZETES 3, which concluded these were caused by "the frequent use of cigarettes" rather than by industrial pollution in the region. During public consultations on the EIA for the ZETES 3 plants, residents of Çatalagzı demanded health analyses and regular monitoring of emissions. Meanwhile, EREN has not fulfilled a commitment to launch a system through which the plant's flue gases can be monitored online by authorities.

Last but not least, coal mining has raised concerns about health and safety standards in mines and unfair labor conditions, as seen by recent miners' barricades.[25] For example, the Chinese company in charge of mining explorations, Datong, has hired Chinese workers at a wage of US$ 100 per month, well under the Turkish minimum wage of about US$ 400. In addition, due to poor safety precautions, accidents frequently occur during shaft construction, with the latest in June 2013 resulting in the death of one and the injury of two Chinese workers.[26]

"A number of severe effects of the pollution on people's health and the environment have been identified over the years"

Journalists have investigated the poor working conditions[27] and as a result, even former miners from local communities are disillusioned about the possibility of work in the mines or the power plant. Hema's coal mine should have begun extraction in 2010, but so far, no local coal has been produced and only 40 people from the village of Tarlaagzı, three kilometres from Amasra, are currently working for Hema.

A parliamentarian from Zonguldak, Harun Akin, has raised concerns about the employment of Chinese workers: "Importing workers from China at a time when there are a lot of unemployed in Çatalagzı is questionable. Bringing technical personnel from China is one thing, importing workers to take advantage of cheap labor is another."

Case study 3: SOCAR Aegean Refinery Project

The State Oil Company of the Azerbaijan Republic (SOCAR), purchased the Petkim petrochemical plant from the Turkish government in 2007. The plant is located in the Aliaga Peninsula of Izmir Region. On this peninsula, there are numerous highly polluting facilities, including the country's largest oil refinery, the Koc Group's Tupras. Before Tupras and Petkim were sold in privatization programs, they were a single facility. Together with consultants from the Jurong Petroleum facility in Singapore, SOCAR put together a plan to make this peninsula a complex of fossil fuel facilities.

According to official project information from the EBRD,[28] the developer, owner and operator of the Aegean Refinery is STAR Rafineri A.S., a joint stock company incorporated under Turkish law. The joint venture is now 81.5 percent owned by SOCAR TURKEY Enerji A.S. (a 100-percent subsidiary of SOCAR) and 18.5 percent owned by TURCAS Rafineri Yatirimlari A.S (a 99.6-percent subsidiary of Turcas Petrol A.S.). SOCAR is expected to transfer 40 percent of its shareholding in STAR to the State Oil Fund of the Republic of Azerbaijan (SOFAZ), which will provide equity funding through the Ministry of Economic Development of Azerbaijan; thus the Ministry of Economic Development will hold equity in the project on behalf of SOFAZ.

The project involves the construction of a greenfield refinery in Aliaga, as well as a "secret" 675 MW coal plant, which is associated with the refinery but has not been included in the environmental and social impact assessment

24. Today's Zaman, 13 Jan 2013, "Zonguldak's thermal plants blamed for rise in cancer cases", URL: http://www.todayszaman.com/news-303858-zonguldaks-thermal-plants-blamed-for-rise-in-cancer-cases.html.
25. Libcom.org, 26 Nov 2013, "300 Turkish miners barricade themselves underground", URL: http://libcom.org/blog/300-turkish-miners-barricade-themselves-underground-26112013.
26. News on Bartin.info (in Turkish), "Collapse in Amasra, 1 Dead, 2 Injured", URL: http://www.bartin.info/guncel/page/guncel/amasrada-gocuk-1-olu-2-yarali-h8904.html.
27. News (in Turkish) on Enerjitr.com, 26 Nov 2013, URL: http://enerjitr.com/cinin-tek-cocuk-magdurlari-zonguldakta-300-liraya-mahkumhttp://enerjitr.com/turk-bulamiyoruz-cinli-isciler-calissin.

28. *EBRD Project Summary Document*, URL: http://www.ebrd.com/english/pages/project/psd/2013/42605.shtml.

for the project.[29] Additionally, the project will block access to and possibly destroy a geothermal resource, for which a license was granted in 2009 to the Turkish renewable energy company Buhar Enerji.

In June 2010, the SOCAR Turkey Aliaga Refinery was granted a license for the same site and since August 2011, SOCAR has been undertaking heavy excavation works. Excavation is being carried out by a construction company owned by the Aliaga mayor's son. With local government leaders in a conflict of interest regarding the project, local activists face severe pressure. Nonetheless, the public opposes the project,[30] and an initial coal plant EIA meeting was canceled due to protests[31] and later "rescheduled" without informing the local community.

In 2013, the EBRD announced its intention to invest US$ 150 million, and a Board decision was expected in early 2014. In April 2014, however, the EBRD announced its withdrawal from the project.[32] With this project, the EBRD would have been setting an example in Turkey, as Turkish banks would have lent under any conditions, as long as the EBRD puts its name on the loan package. It is official that EP bank Unicredit is the lead financial arranger; it has disseminated the due diligence reports to other commercial banks and these reports do not include mention of the coal plant or the geothermal reservoir. After the withdrawal of the EBRD, SOCAR confirmed to have an agreement with a commercial bank to replace the loans.[33]

Currently a local non-governmental organization and Buhar Enerji, the renewable energy company that holds the license for the geothermal resource, have submitted complaints to the Project Complaints Mechanism of the EBRD.

29. ESIA document can be found on EBRD's, IFC's and SOCAR's web sites, URL: http://www.socar.com.tr/sites/default/files/esiaeng.pdf.
30. Change.org petition (in Turkish), URL: http://www.change.org/tr/kampanyalar/european-bank-for-reconstruction-and-development-ebrd-international-finance-corporation-ifc-unicredit-akbank-garanti-bankas%C4%B1-i%C5%9F-bankas%C4%B1-denizbank-ve-finansbank-alia%C4%9Fa-yar%C4%B1madas%C4%B1-nda-yeni-rafineri-ve-termik-santral-yat%C4%B1r%C4%B1mlar%C4%B1n%C4%B1-finanse-etmeyin.
31. News in Turkish incl. a video, URL: http://www.haberler.com/aliaga-termik-santrala-hayir-dedi-ced-toplantisi-5204355-haberi/.
32. See: http://abc.az/eng/news/80185.html
33. See: http://bankwatch.org/news-media/blog/case-secret-coal-plant-turkey-suggests-polluted-future-country

2.2. What are the risks of the dominant models for infrastructure development and proposed projects in Turkey?

A major objective of Turkey's energy strategy is to decrease its reliance on energy imports, predominantly of oil and gas from Russia, and to focus on developing domestic energy sources.[34] Plans to increase coal and renewables capacities do not necessarily lead to slowing down the development of gas infrastructure – both pipelines and power plants. With the current rush for coal power, Turkey is simultaneously planning to become a major transit country for natural gas, and licenses have been granted for 14,000 MW of new gas fired plants and another 15,000 MW are in the permit application process. If they are built, burning Turkey's lignite coal will be uneconomical.

Moreover, there is a real danger that the country will only enhance its overdependence on oil and gas imports and add a reliance on coal imports, since Turkish coal production is a) not likely to be sufficient to satisfy increased demand and b) not competitive with cheaper extraction of better quality coal in other countries. Therefore, declarations that local coal will increase energy security mainly serve political purposes to justify state support (in the form of subsidies) and counter local opposition.

Turkish coal reserves are not sufficient to supply the planned new coal capacities; a tripling of coal-fired power generation will therefore not triple domestic coal mining, but will increase reliance on coal imports. The Western Black Sea region visited by Bankwatch has the largest hard coal reserves in Turkey and produced around 2.8 million tonnes in 2010.[35] At the same time, expanding production capacity is difficult due to geological structures (very deep underground deposits which require labor intensive extraction). Coal production is therefore declining rather than expanding. Turkey currently imports ten times more hard coal than it produces, e.g., in 2010 it imported 26.9 million tonnes of hard coal for thermal power plants, steel production, industry and domestic heating purposes. Of this, 38.3

34. Pamir, N., 2010, "A view of the energy security in Turkey and in the EU from Turkish perspective," Heinrich Boll Stiftung. See also Kadras, S. 19 May 2010, *Turkey unleashes new energy strategy plan*, URL: http://www.eurodialogue.org/Turkey-Unleashes-New-Energy-Strategy-Plan
35. Eurocoal, Turkey, URL: http://www.euracoal.be/pages/layout1sp.php?idpage=475

percent came from Russia, 10.6 percent from Colombia, 9.0 percent from the USA, and 7.6 percent from South Africa.[36]

In fact, the future mega power plants on the Western Black Sea are expected to use imported coal. In Çatalagzı – in the heart of the coal-producing region – only the old coal-fired power plant uses local coal. The newly built plants rely on imported coal; the same is expected for the planned new facilities. Amasra project promoters claim their plant will use local coal – but at the same time, the project includes a mega port. New coal mining explorations have been ongoing for seven years, but there has been no production of hard coal, even though the contract stipulated that it would start in 2010. This raises questions about the technical feasibility of reaching these deposits.

So far one of the government's strongest arguments in support of this greenfield development has been the use of local reserves. Yet concerns about the viability of exploring local coal reserves and the ability of investors to tap incentives reserved for utilizing domestic sources to generate power, could call into question the economic sustainability of the project.

The production costs of local extraction in the Black Sea region are estimated at between US$ 80-150 per tonne, as the coal reserves are deep below sea level. Currently, the world price for coal averages US$ 60 per tonne. Clarity on the supply of coal is crucial in assessing the economic feasibility of separate projects, but the unpredictability of coal prices should not be underestimated. This underlines the risk Turkey takes by locking itself into a coal infrastructure which may prove too costly to run.

2.3. What are the alternatives, why and how should they be pursued?

It would be unfair to suggest that the government does not promote renewable energy. According to its Energy Strategy, Turkey has committed to a target of 30 percent renewable energy by 2023 (the centennial of the Republic). However, the renewable energy potential in the country is significantly higher and the incentives are not large enough. For example, the first licensing round for development of solar photovoltaics (PV) in June 2013 was capped at 600 MW, but attracted 500 applications with a total 8.9 GW (exceeding the cap by a factor of almost 15).[37] Interestingly the majority of investors that submitted applications were Turkish companies who have already made financing deals with major investors.[38]

The decision to cap solar investments is controversial since Turkey has the second largest solar thermal capacity in Europe.[39] In view of such potential, solar targets are negligible in the Turkish energy plans, with a 2023 target for installed capacity of solar power of only 3,000 MW (10 percent of the current installed capacity in Germany).

Additionally, producers of thermal solar boilers are emerging and supplying the domestic market.[40] These are small scale companies that do not benefit from state support, although investment for innovation and efficiency improvements could make them very competitive on local and international markets. There are also Chinese companies developing PV production in Turkey and taking advantage of easier licensing of products for export to Europe.[41]

Regarding other renewable energy sources, Turkey ranks number one in the world in wind energy growth. It currently uses just five percent of its projected potential in this area.[42] This reflects the fact that feed-in tariffs for renewables are below the rates in countries such as Germany and Greece. The development of hydropower energy in Turkey has

36. *Ibid.*

37. Neidlein, H. C. and Meza, E., 17 June 2013, "Almost 9 GW of projects submitted for licensing in Turkey", *PV Magazine*, URL: http://www.pv-magazine.com/news/details/beitrag/almost-9-gw-of-projects-submitted-for-licensing-in-turkey_100011739/#axzz2my9qiM4W.
38. *Ibid.* Foreign investor interest in this round was estimated to be fewer than 5% of the total applicants.
39. Globaltrade.net, URL: http://www.globaltrade.net/f/market-research/text/Turkey/Environmental-Technologies-Climate-Solar-Power-Market.html.
40. Ali-Oettinger, S., 26 June 2013, "Schmid sells three module lines to Turkey", URL: http://www.pv-magazine.com/news/details/beitrag/schmid-sells-three-module-lines-to-turkey_100011843/#axzz2my9qiM4.
41. X Hans-Christoph Neidlein, H.C., 23 May 2013, "China Sunergy opens PV module factory in Turkey", *PV Magazine*, URL: http://www.pv-magazine.com/news/details/beitrag/china-sunergy-opens-pv-module-factory-in-turkey_100011462/#axzz2my9qiM4W; Clover, I., 10 Oct 2013, "CSUN realizes first 'Made in Turkey' modules", URL: http://www.pv-magazine.com/news/details/beitrag/csun-realizes-first-made-in-turkey-modules_100013053/#axzz2my9qiM4W.
42. World Bank, 30 May 2013, "Wind, Water, and Steam – a Triple Win for Turkey's Energy Sector", URL: http://www.worldbank.org/en/news/feature/2013/05/30/wind-water-steam-a-triple-win-for-turkey-energy-sector.

meanwhile raised public concern about access to limited water resources, enclosure of the commons and severe environmental impacts.[43]

It appears that the development of renewable energy by the Turkish government is strategically limited instead of promoted. By failing to allow for a real transformation of the country's energy system, the current strategy gives preference to conventional power. This is not surprising, since Turkish authorities are well aware of the European Union (EU) experience that demonstrates the competition between conventional power and renewables. In Turkey's neighbor Bulgaria, for example, the explosive growth of renewable power has effectively challenged the role of coal and nuclear in the energy mix.[44] As a result, Bulgaria backtracked on its progressive renewables policy and cut feed-in tariffs, to the horror of investors in the sector, including international financial institutions (IFIs).

The EU experience shows that the transformation of the energy sector, with greater penetration of renewable power, requires phasing out fossil fuels and/or conversion of coal plants into gas or combined cycle plants. Since gas plants are much more flexible to switch on and off, depending on the need to balance the renewables supply into the grid, coal is in fact the fossil fuel most vulnerable to competition from renewables.

In light of the devastating impact of coal on human health and the environment, preferential treatment of coal is hardly justified. A recent study by the Health and Environment Alliance (HEAL) estimated that the annual health costs associated with coal power generation in 2009 in Turkey was EUR 6.6 billion.[45] Below, this paper discusses additional costs hidden in different kinds of state subsidies for coal. It appears that Turkey is protecting coal and other fossil fuel interests by attempting to limit renewables development.

Last but not least, in the area of energy efficiency, Turkey is striving to reduce its energy intensity[46] levels by 20 percent between 2011 and the end of its centennial year.[47] The country has received billions of dollars in investments from IFIs towards achieving this goal, either as direct loans to industry or via financial intermediaries' (FI) loans to small and medium enterprises (SMEs). The logistics of lending directly to big industry are easier and the effect of these investments is clearer; the results from FI credit lines are harder to establish (see below).

The Turkish government should rethink its approach, because stronger support for renewable energy and energy efficiency, and a conscious decision to move away from fossil fuels, can improve delivery of the policy objective of diversifying the energy sector and decreasing the country's dependence on imported energy. Moreover, the energy alternatives above can better serve local needs, with significantly fewer adverse impacts on the environment and local livelihoods.[48] They could provide affordable energy and create jobs more efficiently than developing coal power.

3. Financing Turkish energy infrastructure

In early 2013, Turkey introduced a number of rules to incentivize investment in new coal power plants with the questionable logic of justifying these "as a part of its energy diversifying efforts."[49] The government has granted developers favorable corporate income tax allowances through investment participation rates, exemptions from customs duties and VAT, and support for employers' contributions to insurance premiums. Investors that use domestic sources of coal to generate power have the right to benefit

43. Gibbons, F., 29 May 2011, *The Guardian*, "Turkey's Great Leap Forward risks cultural and environmental bankruptcy", URL: http://www.theguardian.com/world/2011/may/29/turkey-nuclear-hydro-power-development.
44. ICIS, 7 July 2013, "Bulgarian TSO may switch off nuclear unit to balance system", URL: http://www.icis.com/heren/articles/2013/06/07/9676690/power/edem/bulgarian-tso-may-switch-off-nuclear-unit-to-balance-system.html.
45. HEAL, 7 March 2013, The unpaid health bill. How coal power plants make us sick, for data on Turkey see URL: http://www.env-health.org/resources/press-releases/article/coal-s-health-bill-reaches-eur43.

46. Energy intensity is energy consumption of energy per unit of GDP.
47. *Op.cit.*, World Bank, 30 May 2013.
48. Renewable energy can have negative effects if implemented without strict sustainability criteria and standards. Adequate regulation is necessary to ensure that climate and biodiversity protection objectives will not clash, and that local communities' land use and access to resources will not be compromised.
49. Investment Support and Promotion Agency of Turkey, 31 May 2013, Turkey expands incentives for coal production, URL: www.invest.gov.tr/en-US/infocenter/news/Pages/310513-turkey-coal-production-incentives-expanded.aspx.

from Region-5-level[50] support instruments, the second most beneficial in the whole regime, regardless of the actual investment location.[51] Moreover, the government also helps by providing favorable terms for the allocation of state-owned land near domestic lignite production sites.

The Turkish financial sector is backing the contradictory objectives of the government to ostensibly decrease import dependency and to increase energy production, mainly through coal-fired power plants. Turkish banks have invested US$ 25 billion in the energy sector in the last five years.[52] According to finance sector projections, 50,000 MW of capacity is scheduled for installation in Turkey by 2023. While funding for 20,000 MW has been secured, financing for the remaining 30,000 MW has yet to be confirmed. The Turkish banking sector is confident that it can provide the finance and has identified domestic coal projects as one of its priorities.[53]

IFIs, including the World Bank, the European Investment Bank (EIB) and the EBRD, have supported Turkish energy developments, particularly as Turkey progresses the liberalization of its energy market. Nonetheless, the strategies developed by IFIs for Turkey fail to address the lack of competitiveness of renewable energy and energy efficiency measures because of high subsidies for coal power plants.

Both the EIB and the EBRD have backed sustainable energy and have invested to strengthen the competitiveness of the Turkish economy through support for financial institutions. Since 2009, the EIB has helped the Turkish financial sector with more than EUR 4 billion in credit lines, or roughly 44 percent of the bank's portfolio in the country. Key Turkish partners for both banks have been AkBank, DenizBank, FınansBank, GarantiBank, IsBank, VakıfBank and YapıkrediBank. The same Turkish banks are also key players in the development of future coal power plants. For example, IsBank and Garanti Bank are the main financiers of Eren's plans for the development of the ZETES 3 coal plant.

It is no easy task to identify the final beneficiaries of EIB and EBRD FI credit lines in Turkey, as such information is not publicly available. Neither bank's assessment of their main partner banks - in terms of their standards and capacity to deliver on policy objectives - is available. Both the EBRD and the EIB should be transparent about whether their loans to these FIs are indirectly supporting the construction of new coal power plants in Turkey.

4. Civil society movements, including social movements and organized resistance, related to energy infrastructure.

Turkish civil society is relatively active, with a strong grassroots base and environmental groups that are sensitive to social justice issues. With regards to the energy sector, civil society groups were until recently focused on nuclear and hydroelectric power. Strong opposition movements, reflecting wider public discourse, were mobilized by government plans to promote the Akkuyu Nuclear Power Plant in Mersin,[54] the infamous Ilisu dam, dozens of other big dams and hundreds of small hydropower projects.[55]

So far, the problems surrounding coal have been the focus of decentralized opposition, although it is becoming more centralized and more visible due to the government's push for coal power. This said, the public became more aware of coal issues that surfaced at a time of intensifying pressures on the environment from a variety of sectors - for example a boom in construction and transport infrastructure and transition in the agricultural/food production model. The

50. Region 5 and 6 (out of six regions altogether) are the least developed in Turkey and accordingly receive the most investment incentives. For more information, see the web site of the Investment Support and Promotion Agency of Turkey, Turkey's Investment Incentives System, URL: http://www.invest.gov.tr/en-US/investmentguide/investorsguide/Pages/Incentives.aspx.
51. Investment Support and Promotion Agency of Turkey, 09 April 2013, "Turkey's coal reserves to fire more power plants", URL: http://www.invest.gov.tr/en-US/infocenter/news/Pages/090413-turkey-coal-reserves-used-for-power-generation.aspx.
52. Erturk, E., 2013, "Banks expect coal plants to cut in?? natural gas in merit orders", CEEN Enerji, URL: http://www.ceenenerji.com/sayfa/complimentary-story-of-the-weekbanks-expect-coal-plants-to-cut-in-natural-gas-in-merit-orders-304/.
53. *Ibid.*
54. Okur, M. and A. Eren, R., 2011, "In Turkey, A 100-Mile Show Of Hands Against First Nuclear Plant", URL: http://www.worldcrunch.com/world-affairs/in-turkey-a-100-mile-show-of-hands-against-first-nuclear-plant/c1s2960/#.UqXZmH2Q5to; Celikkan, E., 29 July 2013, "Building of Turkey's first nuke plant faces delay risk", *Hurriyet*, URL: http://www.hurriyetdailynews.com/building-of-turkeys-first-nuke-plant-faces-delay-risk.aspx?pageID=238&nID=51565&NewsCatID=348.
55. For more information see news and overview on Turkey by International Rivers, URL: http://www.internationalrivers.org/campaigns/turkey.

public and the environmental and social justice movements may be too overwhelmed to focus on coal in the same way as they did on nuclear.

The civil society movement in Turkey has considerable experience in opposing projects that threaten human health, local livelihoods and the environment. When the Black Sea region was threatened by expansion of coal mining and electricity production, the Bartin Platform was organized to oppose new coal plants, with the support and participation of the mayors of both Amasra and Bartin and two regional members of parliament.

Despite strong local alliances over controversial projects, it has become increasingly clear that the movement should target policy making at national level. This would require an understanding of a wider set of issues and different types of collaboration to address more complex dilemmas. For example, the questions are no longer what is the alternative to nuclear, or what is the alternative to coal, or how can hydropower be sustainable? The issue is how to carry out a long term transition of the energy sector in order to remove state subsidies of conventional fuels, internalize hidden costs, decarbonize and provide jobs.

There is increasing public awareness about the limitations of Turkey's development model. The global financial and economic crisis has also fuelled the movement's belief that the current model not only ignores very high environmental and social costs, but is also inefficient and insensitive to the well-being of the population.

It was therefore not surprising that, in mid-2013, the protest against the government's infrastructure plans for Gezi Park in Istanbul morphed into a national pro-democracy movement against the Turkish government. The European Commission (EC) noted in its 2013 Progress Report "[t]here is a growing and active civil society in Turkey. The Gezi Park protest in Istanbul and related protests across Turkey from May-June reflected the emergence of vibrant, active citizenry."[56]

The prime minister challenged the Gezi movement to stand for elections, not to protest in the streets. Some have followed his advice and attempted to extract political dividends.[57] This limited interpretation of democracy, however, is no longer accepted in Turkey, because democracy is increasingly seen as participatory decision-making on issues that affect daily life - not only electoral politics.[58]

5. Turkey's energy and democracy

The increased visibility and influence of civil society groups as a result of the protests that began in Gezi Park in 2013 suggests that the democratization process in Turkey will intensify and the participation of citizens in strategic discussions on energy will strengthen.

In October 2013, the Erdogan government announced a "democratization package"[59] that was well behind the times.[60] The package proposed reforms on key questions, such as the equal rights of ethnic and religious minorities (Kurds, Alevi and Christians), which will have implications for the whole country, for example through education reform. Additionally, it lifted the ban on wearing headscarves by public servants and proposed an overhaul of the election system.[61] But the package failed to lift the many legal restrictions on freedom of speech, end police violence against demonstrators or bring justice for the victims of police abuses.[62]

56. *Op. cit.*, EC, Turkey. 2013 Progress Report.

57. Kazim, H., 15 Nov 2013, "Turkish Discontent: Gezi Protests Spawn New Party", *Der Spiegel*, URL: http://www.spiegel.de/international/europe/new-party-born-of-gezi-park-protest-faces-hurdles-to-power-in-turkey-a-933887.html.
58. Yaninc, B., 15 Oct 2013, "Gezi protesters brought Turkey closer to the EU", *Hurriyet*, URL: http://www.hurriyetdailynews.com/gezi-protesters-brought-turkey-closer-to-the-eu.aspx?pageID=449&nID=56227&NewsCatID=412
59. Nas, A., 14 Oct 2014, "Democratization in Turkey: the end of the First Republic?", *Open Democracy*, URL: ttp://www.opendemocracy.net/alparslan-nas/democratization-in-turkey-end-of-first-republic.
60. Shafak, E., 4 Oct 2013, "Ankara fails to deliver on democracy", *The Guardian*, URL: http://www.theguardian.com/commentisfree/2013/oct/04/ankara-fails-deliver-democracy.
61. Hayatsever, H., 30 Sept 2013, "Government takes steps on headscarf, Kurds, electoral system", URL: http://www.hurriyetdailynews.com/turkey-to-lift-ban-on-headscarf-introduce-kurdish-education-with-democracy-package-.aspx?pageID=238&nID=55393&NewsCatID=338.
62. Sinclair-Webb, E., 30 Sep 2013, "From Turkey, Mixed Signals on Reform", *Human Rights Watch*, URL: http://www.hrw.org/news/2013/09/30/dispatches-turkey-mixed-signals-reform. .

The package did not include proposals for implementing the European Charter of Local Self Government.[63] This would be a positive step for energy sector development by giving local communities and authorities a greater say in decisions about infrastructure projects that affect them. This conflicts with local and regional development strategies; it is not surprising, therefore, that the Turkish government is incapable of giving communities and regions the freedom to choose their development path in ways that can override national objectives of strategic importance (for example through tourism).

In political struggles, asserting the rights of communities can be a more powerful strategy than asserting the rights of individuals. But even in the most advanced democracies, the state usually reserves the power to rule on issues of national importance. For example, energy security, with its close link to national security, remains strictly in the domain of state policy. Nonetheless, local and national interests need to be balanced through more transparency and public participation, and Turkish authorities are expected to gradually further democratize their decision-making in line with best practices in the EU.

Turkey can also learn from its peers in the G20. In advanced liberal democracies and the emerging economic powers, there are important examples of alternative models of energy ownership and of progressive responses to the climate crisis.[64] Turkey could participate in this "premier forum" and then promote cutting-edge solutions to energy and climate dilemmas.

6. Turkey, the G20 and climate action

Turkey has not been actively involved in the UN-led climate negotiations and has not made any climate mitigation commitments for the first period under the Kyoto Protocol (2008–12). Therefore, it would be important if the G20 launched climate initiatives to which Turkey could be a party.

For example, Turkey joined G20's latest declaration in St. Petersburg, committing to:

- "rationalize and phase out inefficient fossil fuel subsidies that encourage wasteful consumption."
- "assess existing obstacles and identify opportunities to facilitate increased investment into more smart and low carbon energy infrastructure, particularly in clean and sustainable electricity infrastructure where feasible."
- "support the full implementation of the agreed outcomes under the United Nations Framework Convention on Climate Change (UNFCCC) and its ongoing negotiations."[65]

In Turkey, the energy subsidy reform agenda has been long pursued in the scope of energy-market reform, with emphasis on eliminating petroleum and electricity subsidies, both consumer and producer ones.[66] The IMF quotes Turkey as an example of success in eliminating inefficient subsidies and liberalizing energy prices, which had positive effects by improving the fiscal position of the government, reducing the inefficiencies in the petroleum and electricity sectors and meeting the preconditions for Turkey's EU membership.

But this raised the issue of whether Turkey is backtracking on its subsidies reform agenda by providing new financial incentives to mine and use coal. Additional questions, from a health and environment point of view, are how to internalize the social and environmental costs in projects' cost-benefit analyses that the public will have to pay.

The G20's role as a potential forum for advancing climate negotiations should not be overestimated. Reports have pointed out that efforts to reform fossil fuel subsidies have been undermined by the inability to agree on common terminology and to devise a transparent and uniform reporting mechanism.[67] Monitoring progress is problematic; G20

63. Albayrak. A., "Turkey's Long Awaited 'Democracy Package': The Rundown", *The Wall Street Journal*, URL: http://blogs.wsj.com/emergingeurope/2013/09/30/turkeys-long-awaited-democracy-package-the-rundown/. CE, Turquía. *Informe de Avances 2013.*
64. See for example Community Power: http://www.communitypower.eu/en/.
65. G20, September 2013, *St. Petersburg G20 Leader's Declaration.*
66. IMF, 28 Jan 2013, "Case studies on energy subsidy reform. Lessons and implications.", IMF.
67. IORI, 2013, "Mapping G20 Decisions Implementation. How G20 is delivering on the decisions made." Draft Report, International Organizations Research Institute of the National Research University Higher School of Economics (IORI HSE) and the G20 Research Group of the University of Toronto.

countries have reported subsidies much lower than those reported by third parties, namely the IEA, OECD, World Bank, IMF, UN and non-governmental organizations.[68] As a result, the IEA said that some G20 members still retain subsidies "that appear to be inefficient, encourage wasteful consumption and are regressive, but are not earmarked for phase out or better targeting."[69]

However, there is still some optimism that, in spite of the slow pace, there is political momentum for subsidy reform[70] as well as greater attention from civil society and high profile public figures, who are proposing practical steps to improve the reform's outcomes. Support is evident: 134 nations declared their backing for the removal of fossil fuel subsidies, and a group of non-G20 countries have formed the "Friends of Fossil Fuel Subsidy Reform", following the example of the G20.[71]

Within the G20, Turkey can learn from its peers. For example, in the period 2008–2009, more than 100 new coal projects were announced in the EU, presaging a "coal renaissance". Many of them have been cancelled, only a handful of them have broken ground and another dozen are stalled in permitting procedures, as assessments have revealed that the proposals are often economically, environmentally and socially unfit for purpose.

In 2013, China began to take steps to phase-out coal[72] after summer coal smoke suffocated several major Chinese cities.[73] High air pollution levels confined millions of people to their homes. As a result, the Chinese government announced a cap on coal consumption in three provinces, and Beijing and Shanghai are introducing coal phase out plans.

The Turkish government and public should not be blind to the "carbon leakage" threat that coal phase-out in the EU poses to its neighbors. For example, energy companies[74] that failed to implement their plans to build coal power plants in the EU[75] are targeting new markets such as Russia, Turkey and Brazil.[76] Similarly, the role of China as a promoter of new coal power in Turkey, at a time when it is starting to phase out coal at home, should be questioned. Last but not least, coal producers who are squeezed out of their traditional markets are also expected to aggressively promote their companies' interests in countries such as Turkey, where coal is "on the rise".

Conclusion

Turkey's government, headed by Prime Minister Recep Tayyip Erdogan, is under pressure from slowing economic growth and rising energy demand. It needs to make strategic decisions about the direction of development in the most important sector of the Turkish economy – the energy sector. Currently, Turkey's energy strategy gives priority to coal, despite the fact that sufficient domestic coal cannot be mined at competitive prices. The expected rise in coal imports will undermine the objectives of decreasing dependence on energy imports and of increasing energy security. At the same time, ambitions for renewable energy are curbed by caps that squander the country's incredible renewable energy potential.

The EC and other international partners acknowledge that the Turkish government has achieved significant progress on its democratization and modernization agenda. But the case studies in this chapter show that there is a long way to go on public participation over energy projects and that past experience with coal mining and power plants are negative. Coal is not seen as a modern solution, but one clashing with local and regional development priorities.

68. Koplow, D., June 2012, *Phasing out fossil fuel subsidies in the G20,* Oil Change & Earth Track.
69. IEA, 2011, *World Energy Outlook 2011.*
70. Bast, E. at al, June 2012, *Low Hanging Fruit: Fossil Fuel Subsidies, Climate Finance, and Sustainable Development,* Oil Change International for the Heinrich Böll Stiftung-North America.
71. *Ibid.* These countries are Costa Rica, Denmark, Ethiopia, Finland, New Zealand, Norway, Sweden and Switzerland.
72. Finamore, B., 29 May 2013, "Five-Part Strategy to Cap and Cut China's Coal Consumption", URL: http://www.huffingtonpost.com/barbara-a-finamore/a-five-part-strategy-to-c_b_3353230.html.
73. Reuters, 23 Jan 2013, "China to cap total energy use at 4 bln T coal equivalent by 2015", URL: http://www.reuters.com/article/2013/01/24/china-energy-cap-idUKL4N0AT0OS20130124.
74. Kakaya, D., 03 May 2013, "E.On looks to build new brown coal in Turkey", Greenpeace Turkey, URL: http://www.greenpeace.org.uk/newsdesk/energy/news/eon-moves-european-lignite.
75. Sourcewatch, last modified on 16 October 2013, Proposed coal plants in Europe, URL: http://www.sourcewatch.org/index.php/Proposed_coal_plants_in_Europe.
76. EON, Targeted Growth Outside Europe, URL: http://www.eon.com/en/about-us/strategy/strategic-priorities/outside-europe.html.

Decisions by the Turkish government and financiers on energy infrastructure will be better informed if they consult the public in a transparent manner, and in particular consult the communities whose health and livelihoods are at stake. The growth of the civil society movement in Turkey indicates that the democratization process will intensify and the participation of citizens in discussions on energy will increase.

Turkey must not miss the opportunity to take a more sustainable energy path and provide more benefits to society in the long term. Responding to increasing domestic demand and closing the capacity gap is a challenge. But it is also a great opportunity for transforming and modernizing the Turkish energy system by promoting the role of clean energy and boosting efforts towards energy savings.

Energy Infrastructure Contestations in South Africa

Opposition to financing Eskom's Medupi and Transnet's Durban mega port grows

Patrick Bond

1. Introduction[1]

This chapter considers the controversial financing of the two largest mega projects in South Africa (SA), which look set to worsen fossil fuel dependence, socio-ecological degradation, and the country's "Resource Curse." The projects are a coal-fired plant known as "Medupi," constructed to provide power for the grid of the parastatal electricity corporation, Eskom, and the expansion of the country's minerals energy petroleum rail pipeline port complex by the parastatal transport corporation, Transnet. The latter project, focusing on the largest single site at Durban, is still in its early stages (2005–40), while Medupi's first generator is due for completion during 2015, following delays of more than three years.

The two cases are closely related because they will exacerbate SA's self-defeating reliance upon export-led minerals growth and manufactured imports. Although precise cost estimates are impossible at this stage, each project entails large infusions of local and foreign financing (Medupi around US$10 billion and Transnet's South Durban expansion as much as US$25 billion). Indeed, in both cases, notwithstanding a sharp and potentially dangerous increase in SA sovereign foreign debt – from US$25 billion in 1994 to US$135 billion in 2013 – the two main parastatal corporations' recourse to substantial external funding was considered appropriate by their managers and by the Treasury. In contrast, when contemplating the foreign debt in 2009, Rand Merchant Bank[2] predicted SA would soon hit a repayment squeeze.[3] The absolute value of foreign debt is likely to exceed US$140 billion by the time of the 20th anniversary of freedom in 2014.

The two projects have cemented the borrowers' relations with the World Bank and the Chinese Development Bank. Further funding for infrastructure is anticipated via the Brazil, Russia, India, China, and SA (BRICS) bloc when their "New Development Bank" (with an infrastructure mandate) is operational. The design of the Bank was negotiated at the BRICS Summit in Fortaleza, Brazil, in July 2014. In both cases, the financing arrangements are proving highly problematic. In Eskom's case, it obtained the World Bank's largest ever loan in spite of numerous eco-social, economic and governance shortcomings that led to diverse protests and an investigation by the Bank's Inspection Panel. Transnet's expansion of the existing South Durban harbor, as well as the construction of a new port, is hotly contested by local civil society. In both cases, the most important problem is longer-term and global, namely the effect on climate change. Only in the Transnet project is the government

1. This research was made possible only through activist-sourced knowledge, gained as a result of repeated contestations against both Eskom and Transnet by colleagues at the South Durban Community Environmental Alliance, groundwork and the Centre for Civil Society.

2. Rand Merchant Bank Financial Markets Research, "Monthly ZAR outlook", Johannesburg, March 5, 2009, p.2. What makes this debt worse is the interest rate; amongst SA's largest trading partners, only Greece's has been higher, according to the Department of Trade and Industry. One reason interest rates have been so high is to guard against capital flight, which periodically crashes the currency.

3. Patrick Bond, Elite Transition, London, Pluto Press, 2000; Connie Fields, The Bottom Line: Have You Heard from Johannesburg, Berkeley, Clarity Films, 2010, http://www.clarityfilms.org/joburg/.

beginning to recognize this threat, although not in terms of shipping-related emissions, but as a reflection of the port's vulnerability to major storms and sea level rise. Within SA, the BRICS, the G20 and the multilateral institutions, are controversies over the structures, processes and protections associated with development finance. For South Africa, this is a good opportunity to assess the country's priorities, twenty years after the country's first democratic election. Much can be learned at the two sites:

- Medupi power plant. In April 2010, the World Bank offered a US$3.75 billion multi-tranche credit to the SA government for its parastatal firm, Eskom. The main purpose was to construct the Medupi power plant, but one of the loan conditions required the government to increase Public-Private Partnerships in associated activities, including solar power generation. The project also includes a "fig leaf" renewable energy project (according to one of the Bank's external reviewers in 2010),[4] and Bank President Jim Yong Kim inaccurately claimed in 2012 that Medupi is a "clean coal" generator.[5] The impact on climate change is immense; Medupi is a 4764 MW power generating station (the world's third largest, once completed), and two more of the same magnitude will follow. The next plant, Kusile (4800 MW), is already under construction. Local communities, environmentalists (local and global) and workers have regularly contested Medupi. The Bank's Inspection Panel found six major shortcomings in a 2012 report, and further Bank investigations of Eskom in December 2013 also raised serious questions as to whether future tranches should continue.

- Transnet expansion. In March 2013, the Chinese government lent US$5 billion to Transnet mainly to extend rail infrastructure into the northern and eastern coalfields. This was for subsequent coal exports mainly to India and China, as well as for general financing support that will include the Durban harbor expansion, since such funding is essentially fungible. In addition to increasing the speed and magnitude of coal freight to the world's largest coal export terminal at Richards Bay, Transnet has been raising funds for an anticipated US$25 billion new port and petrochemical investment in Durban, including a brand new US$10 billion "Dig Out Port". This will complement the US$2.3 billion investment to double Transnet's Durban-Johannesburg oil pipeline capacity, due to be completed in 2014. Durban is also a site of offshore oil prospecting, not far from the point where Africa's largest refinery complex stands in hyper-toxic South Durban. There, near universal community opposition has emerged to Transnet's plans, including on grounds of climate damage. Transnet's Environmental Impact Assessment (EIA) consultants made a contentious statement in 2013 claiming larger ships in the new port will result in lower emissions per container carried. They failed to consider the alternative of not increasing shipping eight fold!

In both cases, local activists and a few journalists and academics have disputed the "clean" claim, although it remains to be seen whether the financiers take these broader problems into consideration. In one encouraging sign, the SA government's Department of Environmental Affairs decided in October 2013 that the Transnet EIA for the expansion of the old harbor's berths was unconvincing. (Post-Panamax ships carry more than 5,000 containers and are too big for the pre-expansion Panama Canal). The EIA was temporarily rejected in large parts because of Transnet's climate denialism, as well as the port expansion's impact on bird and fish life.

The two projects confirm the need for disclosure, transparency and participation. In both cases, there are substantial problems with the firms' bona fides, including Eskom's use

4. This was revealed by William Moomaw of Tufts University, an outside evaluator of the Medupi loan; http://ia600307.us.archive.org/7/items/PatrickBondWilliamMoomawDiscussClimateJusticeSouthAfricaAndThe/PatrickBond.wmv. In any case, Eskom's commitment to renewable energy and integrated demand management was erratic, as in early 2014 it simply halted crucial renewable energy subsidies: http://simbalism.co.za/index.php?page=press_Africa_and_Eskom&ownerid=press_Africa_and_Eskom.php&contentid=492.

5. Jim Yong Kim, "Press Conference with WBG President Jim Yong Kim, S. African Finance Minister Pravin Gordhan, and WB VP for Africa Makhtar Diop", September 6, 2013, Pretoria, World Bank, http://www.worldbank.org/en/news/speech/2012/09/06/press-conference-wbg-president-jim-yong-kim-safrican-finance-minister-pravin-gordhan-wb-vp-africa-makhtar-diop.

of a private intelligence firm against critics and Transnet's failure – along with the Durban municipality – either to provide necessary information about the port expansion (such as notifying stakeholders about its EIA problems) or to engage in meaningful participation.

The next two sections provide more detail on the financing of the Eskom/Medupi and Transnet/Durban fossil fuel and transport projects. The following section places these mega projects into the context of SA's "minerals energy complex". The concluding section notes the limitations of advocacy, given the power relationship that links the SA state and finance. But, as with the 1980s struggle against apartheid, the weak link in this relationship between state and capital could signal the vulnerability of Eskom and Transnet to international financial sanctions.

2. Eskom's mega power plant at Medupi

The most significant challenge to mega project development finance in SA began in February 2010, when the South Durban Community Environmental Alliance (SDCEA) and the NGOs groundWork and Earthlife Africa launched a multifaceted civil society campaign – unsuccessful in the short term – against the World Bank's largest ever loan. On April 8, 2010, after nearly two months of strenuous activist lobbying against more fossil fuel credits, the bank's board approved the US$3.75 billion loan to Eskom. Its main purpose was the construction of Medupi, a power station that will pump 25–30 megatonnes of CO_2 into the atmosphere annually, more than the collective output of 115 countries. That loan was a last minute request. In the period 2005–11, approximately EUR3.7 billion was lent to Eskom by 20 major banks,[6] but in 2009, liquidity shortages compelled Eskom to seek assistance from the World Bank. As a result, there was not much time for more than 200 organizations across the world to formulate a critique of the loan, in large part based on the threat to the world climate.[7] To establish a threat to an obscure World Bank loan so quickly, with the purpose of challenging the confidence at the Bank and in Pretoria, required clarity of message, an explicit demand (stop Medupi financing), and a rhetoric that would link various constituencies into a coalition. As always, the critical question is, who wins and who loses?

First, the source areas of the coal for Medupi are highly contaminated by mercury and acid mine drainage, putting air, land, vegetables, animals and people's health at great risk. Forty new coalmines will be opened in impoverished areas to provide inputs to Medupi and its successor, Kusile, as well as for export. This will create several thousand coal sector jobs (hence receiving endorsement from the National Union of Mineworkers), but it appears likely that many more jobs in agriculture and tourism will be lost as a result of the invasive mining activity and downstream degradation. Medupi itself will be built in a water scarce area where communities are already confronting extreme mining pollution. Even though an air-cooled supercritical model (Africa's first) was chosen, the cost of supplying additional water cooling amounted to hundreds of millions of dollars, given the long transport and pumping costs.[8] Environmentalists and local farmers complained about the destruction of the nearby Mokolo River, in spite of a legal requirement that "Mining cannot impede or divert the flow of water, or alter the bed, banks, course or characteristics of any watercourse."[9]

Once the coal is burned and electricity generated, the winners and losers become even more divergent. Medupi's main beneficiaries are the world's largest metals and mining corporations, especially BHP Billiton (Australia based) and Anglo American (London based), which already receive the world's cheapest electricity thanks to multi-decade deals. During the early 1990s, Eskom had a third too much capacity due to the long SA economic decline. Its solution was to attract huge aluminum smelters to mop up the excess power. The agreements were finally leaked by an opposition member of parliament in March 2010; BHP Billiton and Anglo were receiving electricity at less than US$0.02/kilowatt

6. BankTrack, urgewald, groundWork and Earthlife Africa, Bankrolling Climate Change, London, 2011, http://www.banktrack.org/show/pages/bankrolling_climate_change_report_on_banks_and_coal
7. groundWork (2009), The World Bank and Eskom, Pietermaritzburg, December, http://www.groundwork.org.za/Publications/Reports/SpecialReports/worldbankeskom09.pdf and http://www.earthlife.org.za/?p=858.
8. See: http://ia600307.us.archive.org/7/items/PatrickBondWilliamMoomawDiscussClimateJusticeSouthAfricaAndThe/PatrickBond.wmv.
9. Sipho Kings, 'Medupi mining puts river in deep trouble', Mail & Guardian, January 11, 2013, http://mg.co.za/article/2013-01-11-mining-puts-river-in-deep-trouble.

hour, whereas the overall corporate price was around US$0.05/kilowatt hour, still the cheapest available anywhere, and the consumer price was around US$0.10/kilowatt hour.

Affordability, commercialization and the privatization threat

Who lost, in terms of bearing the costs of Medupi? In terms of financing, the repayment of principal and interest required a 127 percent real price increase from 2008–12 for household electricity consumers (to nearly US$0.12/kilowatt hour).[10] The anticipated 2013–18 annual price rises declined to the 10–15 percent range, but these were still around twice the anticipated annual inflation rate of 6 percent. What is not known is the price elasticity of electricity, and how much less consumers will now use – and in turn, the adverse implications for public health, gender equity, micro entrepreneurship, education and many other issues associated with electricity access.[11]

Eskom remains committed to its 1998 White Paper mandate of imposing "cost reflective" pricing, i.e. carrying the smallest possible subsidies for ordinary retail consumers. Eskom's continual justification of the Special Pricing Agreements for BHP Billiton and Anglo is that the two huge firms warranted discounts based on economies of scale. For this reason, the claim that expanding electricity supply would be pro poor fails, since the vast bulk of inexpensive power is guaranteed to the multinational corporations. This reflects Eskom's "commercialization" – a step along the path to full-fledged privatization. Indeed, another controversial aspect of the loan was the bank's insistence on partial privatization: Eskom would offer private renewable energy generating capacity to independent power producers as a condition of the loan. Privatization and other forms of commercialization of SA state services have been a failure in every respect, not least because adding a profit incentive of typically 30 percent of capital drastically raises commodity prices.[12]

Corruption

Corruption was another feature that generated criticism of the World Bank by civil society and opposition political parties, and even the influential neoliberal Business Day newspaper.[13] Objectors opposed the loan because, contrary

"As always, the critical question is, who wins and who loses?"

to supposed anti-corruption policies, it directly funds the ANC via the party's in-house investment arm, Chancellor House. Possible kick backs and the direct involvement of a member of the ANC's finance committee led to an investigation by the country's Public Protector, who in 2010 reported conflicts of interest.[14] In 2013, the country's main construction companies confessed to widespread collusion on various state-funded projects. Many of the firms involved in Medupi's construction – including industry giant Murray & Roberts – were found guilty of collusion and fined US$140 million by the Competition Commission.[15]

Labor unrest

A wide variety of problems subsequently emerged in the actual construction of Medupi, continuing into early 2014. These include widespread labor unrest featuring periodic mass strikes and extremely militant protests. By September 2012, 17,000 workers were affected by wildcat strikes and sabotage of equipment at Medupi. In October 2012, 3,000 workers marched to Eskom's main office at Medupi. After a temporary settlement in early 2013, pay protests resumed, leaving 25 employees injured in one incident and triggering a strike of 1,100 workers. Construction was halted for ten weeks. In January 2014, unrest was sparked when workers suffered another lockout. According to Numsa's Stephen Nhlapo, "The workers are angry and other workers might join them. There might be a full blown strike. The way

10. SAPA, "Sweet deals use 5 percent of Eskom's power – Hogan", April 19, 2010.
11. The literature on multipliers is reviewed in Patrick Bond, Unsustainable South Africa, London, Merlin Press, 2002.
12. Patrick Bond, Elite Transition, Peitermaritzburg, University of KwaZulu-Natal Press, 2005.
13. Peter Bruce, "The thick end of the wedge", *Business Day*, April 19, 2010.
14. Ernest Mabuza, "Valli Moosa-Eskom 'Conflict of Interest'", *Business Day*, February 19, 2010.
15. Ironically, in February 2010, the World Bank had issued a major statement alongside its annual African Development Indicators, entitled "Quiet Corruption", in which it blamed African teachers and healthcare workers for moonlighting (a result of bank structural adjustment policies). World Bank, *Silent and Lethal: How Quiet Corruption undermines Africa's development efforts*, Washington, D.C., World Bank, 2010.

things are going, we are going to have big disturbances this year."[16]

Construction incompetence

The main internal crisis emerged because of the unsatisfactory quality of work by corporate contractors. In December 2012, for example, 9,000 welds were discovered to have been performed without heat treatment, contributing to a six-month delay. The Medupi software – the "brain" of the plant that ensures safety – failed repeatedly in 2012. Although originally scheduled for application in December 2012, by November 2013, the software was still not in working order.[17] Minister of Public Enterprises Malusi Gigaba declared that "heads will roll" if Medupi fell further behind.[18]

As a result, by March 2013, there were threats of a return to the "load shedding" (brownouts) that had previously made Eskom a national laughing stock. By November 2013, an emergency was declared with enforced cut backs of 10 percent on the largest consumers, and an emergency appeal was made to the Department of Environmental Affairs for air quality standards near other Eskom power plants to be relaxed.

Surveillance of critics

The combination of structural pressures associated with rising mining and smelting demand, the inability of major corporations to carry out the construction of Medupi, a sense of urgency that bordered on panic and rising class, community, and environmental struggles on the mines drove Eskom to desperate measures. In early 2013, a whistleblower revealed that Eskom had hired a private firm to spy on workers, community activists and environmentalists.

Criticism by the World Bank's inspection panel

There was also pressure on Eskom from an unexpected source: the World Bank itself. The bank's inspection panel assessed 11 of 15 complaints from Medupi area community groups. In May 2012, seven specific failures were identified and presented to the Board of Directors:

- EIAs were not "undertaken proportional to, among others, cumulative impacts" because of lax SA standards regarding the multi-decade effects of Medupi's pollution;
- "an inadequate assessment by management of capacity at provincial and local authority level", making municipal regulation of Medupi's air and water pollution impossible;
- Insufficient expertise for "preparation and implementation of projects that are highly risky or involve serious environmental and/or social concerns";
- "the operation of the power plant, including the technology for removal of sulphur dioxide from emissions, namely flue gas desulphurisation, will place an additional strain on water resources in an area that is already suffering from water scarcity", and Eskom "did not fully consider the impacts and risks of water supply alternatives" for local users;
- "considerable risks" regarding "air quality and health issues" because the bank itself failed to "provide adequate information on alternative sources of water for the plant";
- The emissions from the Medupi plant pose a health risk to local communities, adding to existing background levels of air pollutants; and
- Failure to factor in the "additional strain on public services and infrastructure in the municipality", which "is poorly equipped in terms of financial and human resources."[19]

After considering this tough critique, the bank's directors merely slapped its own officials and Eskom on the wrist. The biggest loan in the institution's history had become so politicized, apparently, that instead of stronger persuasion, such as withholding future tranches, the bank decided that "the outcome of the project relies heavily on a good working

16. Schalk Mouton and TJ Strydom, 'Darkness looms as Eskom takes more strain', Times, 9 January 2014.
17. Carol Paton, 'Medupi faces fresh glitches', Business Day, 15 November 2013.
18. Londiwe Buthelezi, 'Department denies part in Dames' decision to leave Eskom', The Mercury, 6 December 2013.
19. Tracy Hancock, "Inspection panel findings on impact of Medupi", Creamer's Engineering News, May 17, 2013, http://www.engineeringnews.co.za/article/inspection-panel-findings-on-community-impact-of-medupi-2013-05-17.

partnership between the World Bank and Eskom as well as the country's national and subnational authorities."[20]

As problems at Medupi continued, the inspection panel's insistence on more internal oversight of Medupi compelled staff to issue a report to the board in December 2013, which conceded that "the commissioning date will slip by another 4–5 months and is now anticipated for early 2015". A US$500 million rail line to move coal to the Majuba power plant was also delayed, requiring the state to "streamline the rest of the tendering processes", despite reports of major corruption.[21] Finally, the report revealed yet more ecological threats, including major new water requirements from the highly vulnerable Crocodile River that crosses the priceless Kruger Park game reserve, and desulphurization delays. Eskom filed a "draft application seeking exemption and postponement of Minimum Emission Standards for the Medupi power plant", asking for an additional four years to desulphur its emissions, something even World Bank staff refused to countenance.

Conclusion

These are all critical problems for Medupi and its financiers. In a 2010 debate, the World Bank's chief Africa economist at the time, Shanta Devarajan, offered these rebuttals:

> "The benefits are the increased access to power for many people in the subregion; the costs include some of the points you mention, such as carbon emissions and the financing costs. Our analysis indicated that the benefits outweighed the costs. We included estimates of the shadow price of carbon (based on international estimates) and, of course, the financing costs in that analysis. If you accept the principle that decisions like these should be based on benefit cost analysis, then I would encourage you to examine our analysis and its assumptions (all of which are in the public domain), rather than simply list a series of concerns."[22]

The problem, of course, is that the "increased access to power for many people" ignores the increased cost and diminished affordability, and hence decreased access for poor people. At this stage, without any new power from Medupi and with much higher costs passed to Eskom customers and regional electricity purchasers, there is no data to show just how far the costs to vulnerable people and the environment outweigh the benefits. But there is little doubt they do, and will for future generations.

3. South Durban's Transnet port and petrochemical expansion

By 2040, an estimated US$25 billion in new port and petrochemical investments will expand what is already Sub-Saharan Africa's largest port, in South Durban, handling 20 million containers annually. This will represent an eightfold increase from 2.5 million containers in 2012. To this end, SA's National Development Plan named South Durban its second highest priority mega project.[23] Financing could be the most critical element, given that SDCEA has announced it will begin a "financial sanctions" campaign against Transnet if it follows through.

Using internal resources, Transnet was the main investor in the earliest project components: a US$20 million bridge (2006–10) and a US$2.4 billion oil pipeline (2007–14). The bulk of investment will occur in both petrochemical expansion (to double pipeline transport capacity) and a new "dig-out port" (estimated to cost US$10 billion), on which work will begin in 2016. Hence the 2014–16 period is the crucial window in which financing will be assembled. That funding will also pay for a dramatic increase in existing port capacity, so that 5,000+ container "post-Panamax" ships can be accommodated in the current harbor (stages 1–3). In 2016, the dig-out port at the old airport site will be excavated, with an anticipated first berthing in 2020 (stage 4). The final growth of the existing port will include an extensive dig out of the area currently under Transnet railroad siding property (stages 5–6). With liberalization of transport in the early 1990s and the move to road-based trucking, this land is mostly unused.

20. *Ibid.*
21. Nelly Shamase and Matuma Letsoalo, "Saving Cyril: Molewa accused of meddling", *Mail & Guardian*, November 9, 2012.
22. Shanta Davarajan and Patrick Bond, http://blogs.worldbank.org/africacan/patrick-v-shanta-round-2.
23. National Planning Commission, National Development Plan, Pretoria, 2012, http://www.info.gov.za/view/DownloadFileAction?id=172296.

Transnet's most critical challenge will be allocating US$30 billion for other mega-projects, especially given how many aspects of this project are being contested. In March 2013, at the time of the BRICS summit in Durban, SA, Transnet acquired the first tranche of financing for the Durban port expansion – a US$5 billion loan from the Chinese Development Bank – which apparently comes without conditions (the terms were not publicly disclosed). Subsequently, there were several bond offerings of several hundred million dollars, including on the London markets in November 2013, where Transnet paid an enormous premium of 9.5 percent on its Rand-denominated bonds. But the longer term threat is that the promised BRICS Bank will seek projects like this one, as exemplars of export-oriented infrastructure.

In July 2013, a high profile meeting of the Durban Transport Forum heard Transnet's port expansion director Marc Descoins update his team's planning: "The fatal flaws analysis yielded many risks but no show stoppers".[24] Descoins had not, at that time, factored in resident and labor opposition to the mega-project, its vast environmental implications or rising dismay at construction-driven "white elephants." Tracing several of the problems to the port petrochem expansion in South Durban sheds light on the connections between social and environmental grievances. It also highlights a growing economic debate about whether SA's vulnerability to the world economy could grow worse, unless mitigated.

The doubling of oil pipeline capacity

The first part of the port expansion, the Khangela Bridge, was intended to address rising frustration with the delays encountered moving freight from the existing port to the highway system. Originally announced as a US$7 million project, costs had ballooned by a factor of nearly three by the time the bridge was complete in 2010. One reason was rampant corruption involving three major construction companies.[25]

The second stage was Transnet's Durban-Johannesburg oil pipeline construction project, lasting from 2007–14. The mega project, known as the "new multi-product pipeline", cost US$2.34 billion, a dramatic increase, in part because the pipeline was diverted hundreds of kilometers away from the mostly white Durban suburbs to mostly black former KwaZulu Bantustan areas. There were many other cost increases, including apparent collusion on tendering by one of the main pipeline construction companies, Group Five Civil Engineering.[26]

In his own 2012 review of the cost overruns, without considering construction company collusion, Public Enterprises Minister Malusi Gigaba uncovered "systemic failings that compromised the intended outcomes". He admitted that his project managers "lacked sufficient capacity and depth of experience for the client overview of a mega-project of this complexity", especially related to "analysis of risks". Nor were EIAs or water and wetland permits "pursued with sufficient foresight and vigour".[27]

SDCEA offered several critiques of the pipeline, including the racially biased routing; inadequate public participation; dubious motivations for the pipeline; government's failure to prevent, detect or manage pipeline leaks; and climate change.[28] According to SDCEA, the race and class biases were crucial reasons to reject Transnet's re-routing strategy. The local ecology was already saturated with toxins, SDCEA alleged.[29]

Many of the same complaints surfaced again four years later in mid-2012, when the next stage of the port petrochem

24. *Creamer's Engineering News*, "Prefeasibility work starts on Durban Dig Out Port", July 5, 2013, http://www.engineeringnews.co.za/print-version/prefeasibility-work-starts-on-durban-dig-out-port-2013-07-05.
25. Colleen Dardagan, "Durban to nail tender riggers", *The Mercury*, June 26, 2013, http://www.iol.co.za/business/companies/durban-to-nail-tender-riggers-1.1538042.
26. Irma Venter, "Construction industry must deal with 'great anger' over collusion, says Upton", *Engineering News*, August 12, 2013, http://www.engineeringnews.co.za/article/construction-industry-must-deal-with-great-anger-over-collusion-says-upton-2013-08-12.
27. Malusi Gigaba, "Where the Transnet pipeline project went wrong", Statement by Public Enterprises Minister Malusi Gigaba, Pretoria, December 2, 2012.
28. South Durban Community Environmental Alliance, "Comments on the Transnet Multi Product Pipeline Proposal," Durban, July 7, 2008. SDCEA suggested: "Refurbishing the existing pipeline in an incremental manner (instead of doubling capacity), as maintenance is required, replacing the sections with a larger pipeline, using the existing route and servitudes, and installing additional pump stations, as and when required. Accelerating the upgrade of railways and public transport in Gauteng, so as to get more people and product off the roads to minimise transport-related congestion, fuel burning, emissions and associated health effects, by establishing urban transport networks to enable safe and affordable rail transport, linked to park and ride centres with connections to bus and taxi routes."
29. *Ibid.* On the climate, according to SDCEA,"the rise of CO_2 emissions that will be facilitated by the pipeline is immense, and is only referred to in the Draft Scoping Report as a potential legal problem, with no details provided."

complex reached fruition: the proposal for a new dig-out port and expansion of the old port. The most heartfelt of the critiques was against displacement because, for many Indian and African residents of South Durban, their earlier neighbors were forced to move into their neighborhoods during apartheid. This was part of the white government's racial displacement strategy. Now the same situation appeared imminent, this time for class reasons.

Displacement and trucking company attacks

SDCEA, the Wentworth Development Forum, Merebank Residents Association and the Clairwood Residents and Ratepayers Association are justifiably convinced that the port petrochem project will generate not just traffic chaos, but residential displacement on a substantial scale. From the north, the old harbor's expansion will displace residents by the thousands from the culturally rich, 150-year-old Indian and African community of Clairwood. That area's African shack dwellers and longtime Indian residents are already under threat from reckless trucking companies, who are beneficiaries of the rezoning, or failure to enforce existing zoning. Drivers killed 70 people in the course of 7,000 accidents in Durban in 2012 alone. The worst single case occurred in September 2013, when 23 people were killed by a runaway freight truck on the Field's Hill section of the alternative (non- tolled) highway from Johannesburg. That accident was revealing, for one of the world's three largest shipping companies, Evergreen, hired a local informal truck company that allegedly instructed its driver to avoid tolls to save US$4. Police cracked down after the accident and found several of the company's trucks operating under unsafe conditions.

"From the north, the old harbor's expansion will displace residents by the thousands from the culturally rich, 150-year-old Indian and African community of Clairwood"

Local ecological degradation

Opposition from local communities will intensify once the largest part of the port expansion begins in 2016. To dig 20 meters deep for 1.5 kilometers is dangerous, given how many toxic chemicals have come to rest there over the years. Soil, water and air pollution will exacerbate the five-year dust cover, under which the dig-out port's construction will suffocate Merebank and Wentworth, the mainly Indian and colored communities of South Durban. These neighborhoods are already coated with regular oil-related sulfur and soot showers from the oil refining complex, as witnessed by their world leading asthma rates.

In addition to damage to human health, BirdLife SA observed that, since Durban has one of just three estuarine

"That area's African shack dwellers and longtime Indian residents are already under threat from reckless trucking companies"

bays in SA, its ecosystem services value is vast: as a heat sink and carbon sink, for biodiversity, as a fish nursery, for waste disposal, and for storm protection. Moreover, the Bonn Convention's protections for bird migration should make estuaries and wetlands, such as South Durban's, immune from more cementing. In May 2013, Public Enterprises Minister Malusi Gigaba dismissed the worries over "frogs and chameleons".[30] In contrast, the ecological damage implied in this stage of Transnet's expansion was so extreme that the Department of Environmental Affairs rejected the first version of the EIA in October 2013, which described the impacts of the build out of two berths to accommodate super post-Panamax ships of 15,000 containers or more. One of the two reasons was Transnet's failure to do more than "monitor" the damage caused to the major sandbank in the middle of the estuarine bay, which hosts so many reproductive processes for fish and birdlife.[31] Transnet was due to re-submit its EIA statement in early 2014.

30. Lloyd Gedye, "South Durban's battle royal", *City Press*, April 28, 2013, http://www.citypress.co.za/news/south-durbans-battle-royal/.
31. Ishaam Abader, "Rejection of the Final Environmental Impact Assessment Report for the Proposed Deepening, Lengthening and Widening of Berths 203 to 205 at Pier 2, Container Terminal, Port of Durban, KwaZulu-Natal Province", Department of Environmental Affairs, Pretoria, October 2, 2013.

Global ecological implications and local climate adaptation

The second reason Transnet suffered an early rejection of its EIA was due to the most important environmental problem of all, climate change. The firm's consultants had not considered the impact of rising sea levels or extreme storms.[32] As oceans warm up, cyclones and hurricanes also intensify, with their effect exacerbated by sea level rise. "The volume of Arctic sea ice has been reduced by 75 percent in just 30 years," reported the world's most respected climate scientist, James Hansen of NASA, to the Cornell University Global Labor Institute in 2012: "There is a danger that the ice sheets will begin to collapse and we could get several meters of rising sea levels in one year."[33] Durban suffered an early indication in March 2007, when nearly a billion dollars' worth of coast infrastructure was destroyed. In August 2012, the same Durban port berths proposed for expansion in 2014 were severely damaged during heavy winds, which bumped a ship up against cranes, resulting in a fortnight-long closure less than a year after Durban hosted the UN climate summit.

What about the mitigation challenge associated with the port petrochem complex? According to the Academy of Science of SA's 2011 book about Durban, Towards a Low Carbon City, "The transport sector is pivotal to the transition to a low-carbon city... The top priority identified was the need to reduce the vehicle kilometers travelled in the road freight sector as this provided the greatest opportunity to simultaneously reduce emissions of Greenhouse Gases and traditional air pollutants."[34] The Transnet port petrochem complex will do the opposite, in part because for decades, Transnet sabotaged its own rail freight capacity, allowing road trucking to surge from 20 to 80 percent of container carriage. Yet, Transnet completely ignored such climate-related implications. Follow-up with officials in 2012 generated this reply: "The project will decrease the ship waiting and turnaround times, which will have a lower carbon impact". The consultants did not factor in the dynamic aspects of the shipping system, meaning that if there is an increase in efficiency by reducing the ships' offshore wait, the result is to speed up the system as a whole, thus increasing carbon impact.

Economic irrationalities

Ironically, financing for the port petrochem project may ultimately be threatened by the project's inefficiency and lack of economic feasibility. The argument in favor of the port is mainly that jobs will be created and SA will have world class infrastructure for export-led growth. But rising capital intensity at Transnet along with trade-related de-industrialization may result in fewer manufactured exports as well as net employment loss, which has been the norm since 1994, when democracy also ushered in economic liberalization after SA joined the World Trade Organisation. The project only makes sense if one is locked into national boundaries established in Berlin during the colonial "Scramble for Africa" of 1885, the point at which borders were determined by white men representing imperial interests.

As the region's main port rail link to the largest market, Gauteng – and from there to the rest of the subcontinent – Durban is facing stiff competition from Maputo in Mozambique for shipments to Johannesburg, because it is a much less mountainous journey. In addition, there is container handling competition from other ports along the coast attempting to set up regional freight hubs and export processing zones. As it stands, at US$1,080 per container, Durban's costs of processing freight are the highest in the world. Port advocates have been unable to explain how an

"The firm's consultants had not considered the impact of rising sea levels or extreme storms"

additional US$25 billion in investments (no doubt much more, since recent trends could triple original estimates) will cut operating and maintenance costs to competitive levels. Repaying the principle, interest on the capital and all the additional costs will force much higher container handling charges, leaving the prospect of another white elephant. In Durban, similar projects that were anticipated to earn profits – such as the airport, convention centre and

32. *Ibid.*
33. Cornell University, "We have a planetary emergency: Hansen, leading NASA climate scientist, urges unions to act", New York City, October 23, 2012, http://www.ilr.cornell.edu/news/GLIJamesHansen_102312.html.
34. Academy of Science of SA, Towards a Low Carbon City: Focus on Durban, Pretoria, 2011, http://www.assaf.org.za/2011/08/durban-on-a-pathway-towards-a-low-carbon-city/.

marine entertainment complex – have all needed annual multi-million dollar taxpayer bailouts.

Conclusion

A very different strategic investment project would recognize the urgent need to detox South Durban, reboot the local economy towards more labor intensive, low-polluting industry, and add much more public transport, renewable energy, organic agriculture not reliant upon pesticides, a "zero-waste" philosophy and a new ethos of consumption. South Durban activists and the national Million Climate Jobs campaign want society to adopt this approach, but they remain on a collision course with Transnet, its financiers, the Treasury and Presidential Infrastructure Coordinating Commission, as well as the municipality. Unlike the Medupi campaign from February to April 2010, there is far more time for mobilization of pressure to halt Transnet's access to external financing, and hence the project itself.

4. Conclusion

What is the future of SA's strategy of mega-project development, as it is based on fossil fuels and on extremely dubious approaches such as those we have just examined?[35] In October 2012, at a Presidential Infrastructure Investment Conference in Johannesburg, Deputy Public Works Minister Jeremy Cronin admitted what is patently obvious in the neo-colonial SA economy: "Too much of our development has been plantation to port, mine to port." Instead, we need "social infrastructure, such as water, hospitals, schools and housing, in order to prevent the kind of protests witnessed recently in the mining sector."[36] Cronin's influence as minister notwithstanding, this rhetoric is probably just a case of "talk-left, invest-right": in mega-projects like Medupi and South Durban's port sprawl, against the interests of people and planet, and on behalf of corporate profits. In these respects, there was more continuity than change from the pre- to post-1994 eras. For many years, such mega-projects have dominated corporate investment, and these have always entailed very generous state subsidies, usually associated with mining (Free State Goldfields), smelters (Alusaf, Columbus) airports and ports (Richards Bay, Saldanha, Coega), mega dams (Gariep, Lesotho), coal fired power plants and other energy projects (Mossgas, Sasol oil-from-coal) and special projects (sports stadia and the Gautrain).

This means that there remains a formidable lobby for fossil fuel-based infrastructure investment in SA, ranging from mining houses to the construction industry. The elite mandate is to "mine more and faster and ship what we mine cheaper and faster".[37] Behind this strategy is a long history of cheap energy supply for transnational capital made possible by the availability of large amounts of poor quality coal and an incestuous relationship between the coal mines, gold industry and Eskom. A history of state intervention in securing the energy needs of the mines, agriculture and industry established the principle of keeping electricity as cheap as possible for big capital.

The ANC government did not change this arrangement, which helps to explain why, at recent climate summits, it has defended the status quo – namely, rising emissions. The new government as co-opted by the minerals energy complex as the old regime was.[38] David McDonald notes that SA has "the world's largest reserves of platinum group metals (87.7 percent of world totals), manganese (80 percent), chromium (72.4 percent), gold (40.1 percent) and aluminosilicates (34.4 percent)."[39] Eskom fostered a debilitating dependence on the (declining) mining industry, leaving the country, according to the University of Cape Town Energy for Development Research Centre, "the most vulnerable fossil fuel exporting country in the world" if global climate regulations are finally adopted,[40] in part because, when corrected for income and population size, SA emissions

35. Pretoria's other multi-billion-rand carbon-intensive investments in recent years include SA Airways plane purchases – and subsequent multi-billion-rand annual bailouts – along with sports stadia widely acknowledged as white elephants by even Danny Jordaan, local host of the Fifa World Cup in 2010. Meanwhile, renewable energy is being rolled out very slowly – with some high visibility townships getting a few solar geysers but the country's world-class sunshine, wind and tidal potential going to waste (providing less than 5 percent of the country's power). In contrast, Shell received permission in 2013 to drill and frack the Karoo's fragile ecosystems.
36. CityPress, 'Infrastructure roll out to cost R844 million', 19 October 2012, http://www.citypress.co.za/business/infrastructure-roll-out-to-cost-r844bn-20121019/.
37.Peter Bruce, 'Thick end of the wedge,' *Business Day*, 13 February 2012.
38. Ben Fine and Zav Rustomjee, *The Political Economy of South Africa: From Minerals-Energy Complex to Industrialization*, London, Christopher Hirst and Johannesburg, Wits Press, 2006.
39. David McDonald (Ed), Electric Capitalism, Cape Town, *Human Sciences Research Council Press*, 2008.
40. A. Spalding-Fecher, 'The Sustainable Energy Watch Indicators 2001,' Energy for Development Research Centre, University of Cape Town, Cape Town, 2000.

were higher than even the energy sector of the US, by a factor of twenty.[41]

In this context, SA often feels close to exploding, given the extreme dislocations and inequalities so well exemplified in the mega projects discussed above. The power relations that create these tensions are being strongly contested in workplaces and communities. The protests are always local, but they also reflect the durable national level power relations. During the post-apartheid era, most South Africans suffered from neoliberal policies imposed by the governments of Nelson Mandela (1994–99), Thabo Mbeki (1999–2008), Kgalema Motlanthe (2008–09), and Jacob Zuma (2009–present). The results included an immediate rise in income inequality, with the Gini coefficient soaring from below 0.6 in 1994 to 0.72 by 2006 (0.8 if welfare spending is excluded).[42] The official unemployment rate doubled from 16 percent in 1994 to around 32 percent by the early 2000s, and though the rate then fell, in 2009–10 another 1.3 million jobs were lost.[43] The longterm explanations for the unemployment crisis were increased imports in labor intensive sectors – mostly by ship through the Durban port (source of 60 percent of SA bound cargo) – and imported machines to exacerbate capital intensive production techniques.

In addition, ecological problems became far worse, according to the government's 2006 Environmental Outlook research report, which noted "a general decline in the state of the environment".[44] By 2012, SA's 'Environmental Performance Index' slipped to the 5th worst of 133 countries surveyed by Columbia and Yale University researchers.[45] For example, Gauteng, the country's main megalopolis, experienced water scarcity and water table pollution when the first two Lesotho mega-dams were built during the late 1990s with World Bank financing. There were not only destructive environmental consequences downriver, but the costly cross- catchment water transfer to Johannesburg raised water prices, thus deterring consumption by poor people in low- income townships.

> *"The protests are always local, but they also reflect the durable, national level power relations"*

One result was the world's highest profile legal case of Third World development corruption in Lesotho. Another result was the upsurge of social protest; Africa's main "water war" – between Soweto residents and their municipal water supplier, the Paris-based company Suez (whose construction subsidiary was one of the firms prosecuted for corruption in Lesotho) in the early 2000s – can be traced to higher water prices and a commercialized system. Suburban water consumption was 30 times greater each day than in low income townships. Rural (black) women still stand in line for hours at communal taps in the parched, former Bantustan areas. This case was an important precedent, because when it comes to electricity, Medupi's financing costs are having a similar impact on affordability for low income black South Africans.

And similar biases affect health and welfare when it comes to the distribution of electricity. While BHP Billiton gets the world's cheapest energy for its aluminum smelters, millions of poor people are regularly disconnected from or denied access to the grid due to extreme poverty. Because of dirty household energy, the passage is often rapid from HIV positive to full blown AIDS status via respiratory related opportunistic infections, including the raging TB epidemic. These add to the existing set of occupational health diseases inherited from the mining-energy complex. The government's failure to prevent mining pollution, toxic dumping and incineration led to a nascent but portentous group of mass tort (class action) lawsuits. The victims included asbestos and silicosis sufferers who worked in or lived close to the country's mines, who in 2013 achieved a landmark victory. Other legal avenues, and social activism, were pursued by residents who suffered persistent pollution in extremely toxic industrial sites. In these efforts, the environmental justice movement invariably fought both corporations and Pretoria, which from 1994 downplayed ecological crimes.

41. International Energy Agency, "CO2 Emissions from Fuel Combustion, 1971-1998," Paris, 2000; International Energy Agency, "Key World Energy Statistics from the IEA," Paris, 2000.
42. Hilary Joffe, "Growth has helped richest and poorest", *Business Day*, March 5, 2008.
43. Geeta Kingdon and John Knight, "Unemployment in South Africa", Paper presented at the "10 year review of the South African Economy conference", Stellenbosch University, October 28–29, 2005, http://www.csae.ox.ac.uk/resprogs/usam/default.html.
44. See: http://www.info.gov.za/speeches/2007/07062911151001.htm.
45. Environmental Performance Index, http://epi.yale.edu/.

With this level of degradation, it is no surprise that there is such intense labor, social and environmentalist resistance. The 2012 and 2013 World Economic Forum Global Competitiveness Report placed SA in the world leading position for adverse employee-employer relations out of the 144 countries surveyed.[46] Typically, police record 10,000 protests each year.[47]

Because attempts to change public policy have failed, thus far, one obvious new pressure point will be financing. What is at stake is whether common sense prevails over profits. That calculus has to be swung in the favor of the former, by reducing the latter, perhaps through the non-violent civil disobedience pioneered in Durban in 1913 by Mahatma Gandhi and adopted by international anti-apartheid activists. The most powerful weapon was financial sanctions. Whether the World Bank and international lenders – including China and the coming BRICS Bank – can be forced to stop new tranches for Medupi and new Transnet financing is a matter of organizing prowess.

If organizing does intensify, it is the financing weaknesses of the two parastatal corporations that might make the megaprojects more difficult to deliver, given SA's vulnerabilities and excessive foreign debt. But that will be a matter for struggle.

46. World Economic Forum, *Global Competitiveness Report 2012–2013*, Davos, September 2012,
http://www.weforum.org/reports/global-competitiveness-report-2012-2013
and same document for 2013–14.
47. SAPA, "Cops handled 12,399 protests", *IOL News* September 19, 2013.

About the Authors

Oscar Ugarteche

PhD in History and Philosophy from the University of Bergen, Norway; MSc in Sciences from the London University and Bachelor in Finance from the University of Fordham, New York. He is a researcher at the Institute of Economic Research at the National Autonomous University of Mexico, coordinator of the Latin American Economic Observatory (OBELA), founding member of the Latin American Network on Debt, Development and Rights (Latindadd) and President of ALAI.

José Antonio Ocampo

Director of the Economic and Political Development Concentration in the School of International and Public Affairs, Member of the Committee on Global Thought and co-President of the Initiative for Policy Dialogue at Columbia University. Prior to this, Ocampo served in a number of positions in the United Nations and the Government of Colombia, most notably as United Nations Under-Secretary General for Economic and Social Affairs; Executive Secretary of the Economic Commission for Latin America and the Caribbean (ECLAC); Minister of Finance and Public Credit, Chairman of the Board of the Central Bank of Colombia, and Minister of Agriculture and Rural Development.

Nancy Alexander

Director of the Economic Governance Program of the Heinrich Boell Foundation North America. The program focuses significantly on the Group of 20 (G20) – the Leaders of 19 countries, plus the European Union – which considers itself the "premier forum for global economic cooperation." The program works with global civil society and think tanks to transform the G20 in ways that democratize decision-making, create jobs, and promote sustainable and equitable development.

Carlos Alonso Bedoya

Lawyer, journalist, and adviser to the Latin American Network on Debt, Development and Rights (Latindadd). The network is composed of 17 organisations from 10 different Latin American countries, working on issues related to debt, financing for development and tax justice. Over more than 10 years, Latindadd has been conducting awareness-raising and advocacy activities, public policy monitoring, as well as providing proposals towards a fair economy at the service of the people.

Oriana Suárez

Coordinator of the Latin American Network on Debt, Development and Rights (Latindadd). The network is composed of 17 organisations from 10 different Latin American countries, working on issues related to debt, financing for development and tax justice. Over more than 10 years, Latindadd has been conducting awareness-raising and advocacy activities, public policy monitoring, as well as providing proposals towards a fair economy at the service of the people.

Aldo Caliari

Director of the Rethinking Bretton Woods Project of the Center of Concern, based in Washington D.C. He has a Master of International Policy and Practice degree from George Washington University, with a focus on economics and finance. He also holds a Master's degree from the Washington College of Law, American University, Washington, D.C., in International Legal Studies. He earned his first law degree in Argentina, at the Universidad Nacional de Tucuman Law School. Before graduating, he represented his University at the II Inter-American Human Rights Moot Court competition at the Washington College of Law, winning several awards. Since 2002, he has worked at the Center of Concern, where he works on an array of issues such as global economic governance, debt, international financial architecture, human rights in international economic policy and linkages between trade and finance policy.

César Gamboa

Lawyer and professor on environmental legislation, indigenous peoples' rights and sustainability in several universities in Peru. He is Executive Director of Derecho, Ambiente y Recursos Naturales (DAR), a Peruvian non-governmental organization that focuses on law, the environment and natural resources. DAR works with different networks at the global and regional level to promote good governance in the extractive and mining sector, as well as better environmental and social safeguard policies in the local, national and regional level.

Francisco Rivasplata

Works for DAR together with César Gamboa. DAR is a Peruvian non-governmental organization that focuses on law, the environment and natural resources. DAR works with different networks at the global and regional level to promote good governance in the extractive and mining sector, as well as better environmental and social safeguard policies in the local, national and regional level.

Celio Bermann

Professor at the Institute of Energy and Environment of the University of São Paulo (USP). He focuses on energy policy, energy planning, energy and society and energy sustainability.

Carlos Benavente Gómez

Economist, member of the Center of the Peasant's Rights (Cedecam) in Nicaragua. He is also the coordinator of Latindadd in Central America.

Molvina Zeballos

Sociologist with 25 years of experience in issues related to development, social policies and poverty. She is president of the Center for Development Studies and Promotion (DESCO), an NGO with experience in the promotion of social development and capacity building for excluded sectors of the population in Peru.

Angélica Canavire

Researcher at the Jubilee Foundation (Fundación Jubileo) in La Paz, Bolivia. The Foundation is a Catholic institution working on political, social and economic issues by conducting research and capacity building activities.

Germán Alarco Tosoni

Professor and researcher at the post-graduate School of the Universidad del Pacifico in Lima, Peru. He is an expert on macroeconomic analysis and economic development. He focuses on issues related to infrastructure, finance, energy, and income distribution. He was chairman of the national center for strategic planning of the Presidencia del Consejo de Ministros (CEPLAN). He served as Chief Executive Officer of Economic Affairs, Vice-Minister of Economics and adviser of the Ministry of Economics and Finance.

Jorge Coronado Marroquín

Sociologist with studies in Economics and Political Science. Member of the Comisión Nacional de Enlace (CNE), a group of social activists promoting the articulation of social movements in Costa Rica.

Juan Pablo Ozaeta

Social communicator and Historian from Guatemala. Founding member of the Collective of Rural Studies Ixim in Guatemala and consulant on free trade agreements and investment projects.

Jorge Marchini

Professor of the Department of Economics at the University of Buenos Aires, Argentina, since 1993. He is coordinator of the International Debt Observatory (IDO) for Latin America, a forum for exchanging knowledge, analysis and research on issues related to debt, and a founding member of the Leftist Economist of Argentina (EDI), among others.

Giancarlo Castiglione

Professor at the Universidad Nacional Mayor de San Marcos, Peru. He is director of Forum Solidaridad Peru (FSP), a civil society organisation dedicated to strengthening alliances North-South and South-South. FSP is member of Latindadd.

Justin Guay

Washington representative for the Sierra Club. He focuses on energy lending reform at International Financial Institutions and global efforts to transition energy systems beyond coal. Prior to Sierra Club, he lived and worked in Mumbai, where he collaborated with Indian NGOs and for-profit companies to develop a model of clean energy distribution in rural areas.

Stewart Craine

Chief Executive Officer and Technical Manager of Village Infrastructure and Engineering. Village Infrastructure's mission is to make solar energy affordable to everyone through long term energy loans.

Jigar Shah

Solar Pioneer. He is Chief Executive Director of Jigar Shah Consulting with a focus on key issues necessary to implement profitable solutions to climate change. He also served as Chief Executive Officer of the Carbon War Room, a non-profit organisation whose mission is to harness the power of entrepreneurs to unlock market-driven solutions to climate change.

Srinivas Krishnaswamy

Economist. He has over a decade of experience working on the issue of economic reforms, sustainable development and environment issues. He is Chief Executive Officer of Vasudha Foundation. Vasudha Foundation aims to promote environmentally friendly, socially just and sustainable models of development by focusing on alternative technologies and lifestyle solutions.

Sunita Dubey

Head of Programmes and Chief Executive Officer of Vasudha Foundation USA. She has been working on environmental governance, climate justice and energy access issues in India and South Africa for the past 16 years. She is currently also focusing on BASIC and BRICS countries, as well as emerging economies in the South. Vasudha Foundation aims to promote environmentally friendly, socially just and sustainable models of development by focusing on alternative technologies and lifestyle solutions.

Siti Khoirun Ni'mah

Works for the International NGO Forum on Indonesian Development (INFID), a network of Indonesian NGOs that brings together national organisations to promote poverty reduction.

Fidanja Bacheva McGrath

European Bank for Reconstruction and Development (EBRD) coordinator for CEE Bankwatch – an environmental watchdog NGO that campaigns across Central and Eastern Europe. CEE Bankwatch monitors the activities of international financial institutions which operate in the regional and promotes environmentally, socially and economically sustainable alternatives to their policies and projects.

Daniel Popov

CEE Bankwatch national coordinator in Bulgaria. CEE Bankwatch is an environmental watchdog NGO that campaigns across Central and Eastern Europe. CEE Bankwatch monitors the activities of international financial institutions which operate in the regional and promotes environmentally, socially and economically sustainable alternatives to their policies and projects.

Patrick Bond

Political economist and profesor at the University of KwaZulu-Natal School of Built Environment and Development Studies, Durban. He directs the Centre for Civil Society and is involved in research on economic justice, geopolitics, climate, energy and water. He serves as a visiting professor at Gyeongsang National University Institute of Social Sciences, South Korea. He is an advisory board member of several international journals and has published several books.

Infrastructure: for people or for profit?, published by the Heinrich Boell Foundation and Latindadd, brings together several articles on investment in infrastructure projects, including public-private partnerships (PPPs). Using both a theoretical and an empirical lens, the themes of the book revolve around the dilemmas of risk and profitability of those investments.

There is no unnecessary infrastructure because the decision to install such works is usually due to citizen demand. Some infrastructure projects facilitate exports, while others are aimed at the domestic market, but infrastructure geared to exports also facilitates the movement of vehicles that transport persons and integrates regions.

From the perspective of the public interest, the question is not only how one can ensure the private sector's rate of return, but how the risk borne by the state is to be covered, as it is the financier of last resort. This concern is made explicit in at least two of the articles and should be the center of public and academic analyses.

Oscar Ugarteche

This timely volume refers to one of the most important "rediscoveries" of recent years: the essential role of infrastructure in economic development, and in particular, its impact on productivity and the standard of living.

The articles in this volume contribute to an important debate as they reflect mounting concerns over this growth paradigm. While the debate applies across the board to all forms of infrastructure, the emphasis chosen in this book is on energy infrastructure. While it is representative of issues that arise in other sectors, the energy sector may best reflect some of the dilemmas posed.

The analyses and case studies in this publication are a necessary and timely appeal to reconsider the nature and direction of the infrastructure paradigm that is needed for this century. The authors remind us that it will be essential to have laws and regulations that implement principles of responsible investment in infrastructure (including in the areas of human rights, gender and environment). These laws and regulations should help realize the commitment to democratic, participatory and accountable governance.

José Antonio Ocampo

HEINRICH BÖLL FOUNDATION
NORTH AMERICA

LATINDADD
Latin American Network on Debt, Development and Rights

Infrastructure: for people or for profit?

The crucial role of responsible and democratic governance

Infrastructure: for people or for profit?, published by the Heinrich Boell Foundation and Latindadd, brings together several articles on investment in infrastructure projects, including public-private partnerships (PPPs). Using both a theoretical and an empirical lens, the themes of the book revolve around the dilemmas of risk and profitability of those investments.

There is no unnecessary infrastructure because the decision to install such works is usually due to citizen demand. Some infrastructure projects facilitate exports, while others are aimed at the domestic market, but infrastructure geared to exports also facilitates the movement of vehicles that transport persons and integrates regions.

From the perspective of the public interest, the question is not only how one can ensure the private sector's rate of return, but how the risk borne by the state is to be covered, as it is the financier of last resort. This concern is made explicit in at least two of the articles and should be the center of public and academic analyses.

Oscar Ugarteche

This timely volume refers to one of the most important "rediscoveries" of recent years: the essential role of infrastructure in economic development, and in particular, its impact on productivity and the standard of living.

The articles in this volume contribute to an important debate as they reflect mounting concerns over this growth paradigm. While the debate applies across the board to all forms of infrastructure, the emphasis chosen in this book is on energy infrastructure. While it is representative of issues that arise in other sectors, the energy sector may best reflect some of the dilemmas posed.

The analyses and case studies in this publication are a necessary and timely appeal to reconsider the nature and direction of the infrastructure paradigm that is needed for this century. The authors remind us that it will be essential to have laws and regulations that implement principles of responsible investment in infrastructure (including in the areas of human rights, gender and environment). These laws and regulations should help realize the commitment to democratic, participatory and accountable governance.

José Antonio Ocampo

HEINRICH BÖLL FOUNDATION
NORTH AMERICA

LATINDADD
Latin American Network on Debt, Development and Rights

Infrastructure: for people or for profit?

The crucial role of responsible and democratic governance

Infrastructure: for people or for profit?

The crucial role of responsible and democratic governance

HEINRICH BÖLL FOUNDATION
NORTH AMERICA

LATINDADD
Latin American Network on Debt, Development and Rights