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Baseline Study on the Human Rights Impacts and Implications of Mega-Infrastructure Investment

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Purpose of this Baseline Study

The Sustainable Development Goals (SDGs), adopted by UN Member States as part of the 2030 Agenda for Sustainable Development, embody a set of globally agreed priorities of vital importance to all countries, including sustainable industrialization, as well as quality, reliable, sustainable and resilient infrastructure. Infrastructure financing needs for the SDGs have been estimated at USD 90 trillion between now and the year 2030. However, as countries hasten to fulfill the SDGs by developing infrastructure – in some cases involving multiple mega-infrastructure projects as part of massive regional infrastructure plans – a key question arises: are they fully aware of the enormity of the challenges and the potential for serious adverse human rights impacts?

There is a large literature on the societal benefits and costs of infrastructure, including the financial, economic, governance and sustainability dimensions. Studies on public-private partnerships (PPPs) are also proliferating. PPPs are sometimes portrayed as a panacea to close the global infrastructure deficit, and at other times a dangerous tool that incentivizes secret public accounting practices. However, the human rights implications of infrastructure investment have not yet been adequately studied.

All countries have ratified one or more of the nine core UN human rights treaties, along with core ILO conventions, which are relevant to infrastructure policy-making, investment, and the management of the environmental, social and governance risks. Most countries have ratified several of these instruments, supplemented by domestic constitutional human rights protections and national laws. This legal framework, the accountability edifice around it, and the body of ethical principles that underpin it help us to understand the rights and responsibilities of the parties involved in infrastructure, to improve decision-making processes, and to promote more equitable and sustainable outcomes. This baseline study seeks to take a first step toward a comprehensive human rights analysis of infrastructure investment and policy-making by cataloguing the potential human rights consequences of infrastructure projects and plans.

The Challenges of Regional Infrastructure Plans

Regional infrastructure plans are intended to facilitate growth and economic integration; however, they face serious challenges. Many suffer from design flaws, reflecting outdated industrial models that connect extractive industries to power sources via thermal or hydropower plants and transmission lines, and to port facilities via roads, railways, and pipelines. The benefits of connectivity frequently elude the poor, vulnerable and marginalized communities. Important issues such as affordable access to energy, water, sanitation, and waste management are often relegated to the sidelines. Climate change mitigation and resilience of infrastructure are rarely given sufficient attention in the design of regional plans. In addition, and closely related to the fundamental design flaws of this kind, public consultation and participation in project selection and design has generally been weak if not absent. As a result, the plans lack democratic legitimacy, accountability, and may generate increased risks of social conflict. Violence against human rights defenders, environmental activists and union leaders who speak out on infrastructure projects continues to mount around the world.

While many different standard setting initiatives on sustainable infrastructure exist, no common set of environmental, social, governance standards is applied and enforced across all the projects in a regional plan. National laws in these areas are frequently weak. Multilateral development banks (MDBs) generally have reasonably robust public information and environmental and social safeguard policies and accountability mechanisms, but most of the increasingly important new providers of long-term finance (private equity, insurance, pension funds and sovereign wealth funds) do not. When MDBs are co-financing, they may seek to meet only the objectives of their safeguards rather than the substantive safeguards requirements.

The Role of the Human Rights Framework

Human rights are a globally agreed and universally applicable legal and ethical framework embodying and safeguarding essential freedoms and the minimum requirements of a dignified life. The human rights framework helps us to unpack the rights and responsibilities of the parties involved in infrastructure, from contracting authorities, financiers and investors, private operators, to different segments of the public, including the affected communities, service users, and taxpayers and public at large. The international human rights framework bolsters public information, participation and accountability, and provides a globally agreed and enforceable set of minimum standards governing the quality and inclusiveness of services. The human rights framework also forces us to distinguish between justifiable and unjustifiable negative impacts, thereby reducing the arbitrariness of decision-making and strengthening incentives for more inclusive and sustainable development. In these respects, the human rights framework can make a vital contribution to the design and implementation of infrastructure projects, and to investment decisions and policy-making.

Inequality is one of the most persistent human rights challenges of our era. One of the central purposes of international human rights law, and the accountability mechanisms built around it, is to fight discrimination and promote equality. Contrary to the idea of infrastructure as a means to sustainable development and fulfillment of human rights, too many mega-infrastructure projects seem to work in the opposite direction, leaving the vulnerable segments of the society under- or unserved, perpetuating exclusion and discrimination, and exacerbating inequalities between population groups. The human rights framework helps us to understand inequality as a function of conflicting power relations, with a focus on opportunities, outcomes, and disparities caused by discrimination. Human rights law also sets out procedural requirements that should be observed, such as transparency, accountability, and active, free and meaningful participation. Human rights law directs our attention to the root causes of exclusion and requires legislative and active budgetary, administrative and other measures to remove access barriers, with the ultimate aim of achieving substantive (de facto) equality.

The human rights framework affirms the state duty to respect, protect and fulfill human rights; explains the human rights norms applicable to infrastructure service delivery; and sets out the tangible rights of individuals, communities, consumers, taxpayers and the general population affected by infrastructure. States have the duty to fulfill human rights by dedicating “the maximum extent of available resources” towards the progressive realization of socio-economic rights. This obligation includes taking steps and using all appropriate means to fulfill human rights, including the adoption of legislative measures, while avoiding discrimination. Additional duties may include creating an inclusive national strategy;

conducting regulatory impact assessment that disaggregates among different stakeholder groups; establishing and ensuring active, free and meaningful participation without intimidation or coercion; engaging in public outreach and information dissemination; monitoring the effects of legislative and executive measures; and ensuring timely and effective redress when rights are violated.

Regional Economic Communities (RECs) are increasingly active in infrastructure planning and development. RECs do not have the same direct human rights obligations as states under international law, but they should nevertheless consciously and deliberately support states to respect, protect and fulfill human rights. International financial institutions and other subjects of international law should, at a minimum, respect internationally recognized human rights, and exercise due diligence to ensure that their actions do not cause or contribute to human rights violations. In addition, businesses have a responsibility to respect human rights, including putting in place due diligence processes through which human rights risks can effectively be identified, managed, reported on, and remediated.

To understand the complex interplay between mega-infrastructure projects and human rights, this baseline study classifies potential negative human rights impacts into three levels - micro-, meso- and macro-levels. This classification helps signal to decision makers the wide-ranging and multi-level human rights impacts that infrastructure projects can bring about, and that impacts may extend well beyond those typically covered in the MDB safeguard policies, which address mostly the micro-level impacts. It also underscores the fact that impacts that are not readily identified as human rights and those that may seem diffuse or abstract will often, in fact, have explicit human rights underpinnings and accountability consequences.

Not every land acquisition, resettlement, fee hike, or other negative human rights impact discussed below will necessarily constitute a human rights *violation*. The determination of a violation is a matter of expert judgment guided by evidence and applicable law and, depending on the facts and parties involved, may not be a straightforward matter even for courts or other bodies charged with this purpose. But where internationally recognized human rights are at stake, serious negative impacts cannot be dismissed as trade-offs for a greater good. Trade-offs between different interests are inevitable in policy-making. The human rights framework helps to inform and frame difficult trade-offs, ensuring that interests protected by an internationally recognized human right (or rights) are prioritized over other competing interests, that all voices are heard in the process, and that effective and accessible grievance redress mechanisms are in place where human rights are violated. The risk of a potential human rights violation should trigger strengthened due diligence by all relevant parties, taking into account all available country-specific/contextual and sector/project-relevant information and analysis from international and regional human rights bodies.

Micro-, Meso- and Macro-Level Human Rights Impacts

- At the **micro-level**, infrastructure projects can be associated with human rights impacts on communities, workers and the environment, during the planning, construction, operation and decommission phases. The most serious and irreversible human rights problems will often originate from project design and siting decisions taken at an early stage, involving acquisition of or access to project land, rights of way, and resources, resulting in denial of land and resource

tenure, relocation, forced eviction, and loss of adequate standard of living and livelihoods. In too many cases, loss of life has resulted. Flawed infrastructure planning may preclude access to affordable infrastructure for those who bear the direct burden of infrastructure construction. Although impacts likely will peak during construction and level off during operation, serious health, safety and security issues can persist for workers and communities, as well as threats to biodiversity, natural resources, the environment and the climate, all of which are prerequisites to fulfillment of human rights, such as the rights to life, food, water, health, adequate standards of living, jobs. Sexual violence spurred by labor influx for major construction projects is an increasingly well-documented problem, as is intimidation of and reprisals against human rights defenders, union workers, environmental activists and community leaders opposed to projects, and violence by national or private security forces. The majority of recorded deaths of environmental and human rights defenders in 2016 were women, who are often on the frontline in defending their land and families. Decommissioning of projects may generate serious negative human rights impacts if not properly planned with adequate financial provisioning.

- At the **meso-level**, the actions and omissions of public and private participants in infrastructure may undermine the human rights of users or consumers of infrastructure services. Access to and affordability of certain social services, including water, are explicitly protected by human rights law. Yet potential consumers of infrastructure services are often denied access through discriminatory user fee policies which fail to take account of consumers' relative ability to pay. Affordability problems can take the form of excessive connection and user fees, fixed fees that do not reflect actual usage of services, and frequent or excessive rate hikes. An inability to pay may lead to denial of services and even loss of dwellings, both of which may constitute human rights violations. Generally, the private sector lacks incentives to enhance affordability of services, and regulatory reforms to enable private sector participation can result in harm to poor and vulnerable individuals and communities.

  These problems with access and affordability underscore the important role of the public sector in protecting against negative impacts, particularly in relation to poor and vulnerable communities and those suffering discrimination. The most common policy measure to enhance access is to require the private operator to commit to universal service obligations, making it a legal requirement to provide services to all households. Temporary subsidies or other equity-enhancing policy measures may be necessary to maintain reasonable user fees. Where the public sector operates the infrastructure, user fees should not be used as a substitute for taxation.

  Discriminatory intent, and potentially discriminatory outcomes, can be exposed through appropriate risk assessment, cost benefit or other preliminary analysis that identifies the different needs of women, as well as the young, elderly, persons with disabilities, minorities, migrants, and poor, marginalized, or vulnerable groups. Active participation of users in project design and planning can also reveal their preferences and concerns, make for smoother project

implementation, and result in a higher quality project that delivers on its objectives. However, these important process steps are frequently neglected in practice.

- The actions and omissions of states and other duty-bearers can result in negative impacts at the **macro-level** and affect taxpayers and the general population in various ways:
    - The failure to prepare for projects through quality public consultation throughout the project cycle, and failure to carry out appropriate cost benefit analysis, feasibility studies and impact assessments, can result in poor decisions that cannot be reversed later, locking in negative impacts for people and the environment over many years.
    - Poor planning and poor fiscal and financial management of infrastructure projects can waste public resources and trigger fiscal burdens, over-indebtedness, austerity, and withdrawal of public services, which may impact negatively on human rights (particularly socio-economic rights) and exacerbate inequalities. Excessive liabilities incurred for PPPs, including off-balance sheet liability to subsidize private operators, can potentially lead to unsustainable debt and even macroeconomic crises.
    - States' human rights obligations and the right to regulate for public policy purposes and to protect the population in relation to investments can be compromised under multilateral, plurilateral and bilateral investment agreements, as well as project contracts providing for privately financed infrastructure. The investors' interests under these agreements are frequently privileged over the human rights of the populations of the state concerned, without adequate transparency, public discussion and participation or accountability.
    - Apart from macroeconomic impacts, large-scale infrastructure plans and projects can impact negatively on the population as a whole; for example, transport projects can be conduits for crime and illicit activities, or reinforce segregation on a national scale.
    - Infrastructure plans can also accelerate financialization of the sector and can bring about many of the negative human rights impacts described in this baseline study. Depending on the financial instrument, negative human rights impacts may not be traceable to specific source of finance. A potential infrastructure investment boom may further limit incentives for ESG due diligence.
    - Although GHG emissions from the transportation, energy (large thermal power projects), and ICT sectors are widely dispersed and mostly do not have immediate effects, significant levels of emissions from multiple installations will contribute to climate change and impose costs upon the economy and society as a whole. Many infrastructure assets will be operational for decades, and in the case of private sector participation, will be underpinned by long-term contracts that lock in technology, climate risk allocation, and methods to resolve disputes concerning climate loss. Adverse impacts from climate change will be felt most acutely by the poorest and the most marginalized or vulnerable population groups. Cumulative and transboundary

environmental impacts of multiple large-scale infrastructure projects can be serious and should be properly assessed.

- Procurement of infrastructure projects can trigger significant sustainability concerns in the supply chain (such as for infrastructure equipment and machinery, construction materials, and other inputs and the labor associated with them), which may adversely affect people and the environment where the supplying activities take place.

There are a number of procedural and substantive human rights that are of fundamental importance, at micro-, meso- and macro-levels. These include rights related to transparency, participation and accountability, and the right to freedom of thought, opinion, assembly, and association, the right to access information and participate in public affairs, and the right to a remedy. All too often infrastructure plans exclude people from the outset and fail to actively engage them throughout the life of the project. In addition, governments often ignore indigenous peoples' right to self-determination and fail to seek and obtain the free, prior and informed consent of the indigenous peoples for proposed projects. Weak transparency practices lead to weak accountability, which all too often results in lack of remedy for those whose rights are affected. Even where grievance mechanisms exist at project level or local or national levels (including through the formal court system), these typically respond to micro-level or project-related concerns, rather than meso- and macro-level impacts.

Aligning International Support and Guidance with Human Rights Requirements

International organizations, MDBs, states and private sector entities create and apply a wide range of soft law instruments, standards, and implementation guides and templates that are intended to help scale up infrastructure projects through standardization. They can also help improve the quality of infrastructure plans and projects. With the rush to fill the global infrastructure financing gap, these initiatives have multiplied. Yet, reaching consensus on the scope and content of particular standard-setting exercises has proven challenging. Moreover, the available tools and guidance materials are almost always silent on human rights, and a surprising number of them do not even mention sustainable development. Transparency initiatives are particularly needed in the infrastructure sector and could follow the example of the extractives sector. In order to better serve governments, private sector users and practitioners, the human rights, sustainable development, transparency and accountability gaps need to be filled, and the coordination and interoperability of standards and tools must be improved.

Concluding Remarks and Recommendations for Further Research and Action

It is unclear how much of the "Billions to Trillions" infrastructure agenda will eventually be realized, and whether or how quickly infrastructure investment will migrate to more sustainable pathways. But this much is clear: without sustainable infrastructure, the objectives of the Addis Ababa Action Agenda, the 2030 Agenda and the 2015 Paris Agreement on Climate Change, and many internationally recognized human rights, will not be realized.

It is far from clear that governments and key global economic and financial decision makers, including the G20, the MDBs, and other organizations that support the G20, have internalized the significance of the human rights challenges confronting the mega-infrastructure investment agenda. Without course

correction, there are real risks that regional infrastructure plans will head down the wrong economic, environmental and social tracks, at the expense of fundamental human rights and sustainable development objectives.

The international community should recognize that growth-oriented infrastructure policies and actions can cause, contribute to, or facilitate multi-level negative human rights impacts. The SDGs and human rights should proactively be embraced as guideposts in global economic and financial decision making. Although regional infrastructure plans are seeking funds from multiple sources with the help of MDBs, it is likely that additional private funding will only come in fits and starts. This means delays in implementation. There is still time for some regional plans to be reoriented toward human rights requirements and the objectives of inclusivity, resilience, and sustainable development, provided that there is the political will to do so.

The present study is preliminary in nature and does not attempt to articulate a definitive or comprehensive list of recommendations pertinent to all issues raised. Rather, drawing upon the research undertaken and consultation meetings in Berlin and Washington DC in early 2017, the paper suggests a relatively small number of possible priority areas that may benefit from further research, analysis and action, taking into account potential human rights implications:

1. Development of policy and institutional frameworks to improve transparency, participation, and accountability in infrastructure projects;

2. Mapping of regional master plans against other mapping of global hotspots of human rights challenges to create a “heat map” for use in investor due diligence;

3. Carrying out further research into the human rights opportunities and risks in the ICT sector;

4. Undertaking more in-depth and systematic analysis of the gender dimensions of the energy, transport, water and ICT sectors and identifying ways for decision makers to reflect gender considerations in project design and implementation;

5. Ensuring the use of cumulative impact assessment, strategic impact assessment, environmental, social and human rights impact assessment, and other analytical tools to address human rights issues in infrastructure projects at an early stage, and incorporating these environmental and social considerations in cost benefit analysis;

6. Carrying out further comparative analyses of PPP frameworks and laws, model contracts and contractual clauses, international investment agreements, and PPP standards and guidance documents, in order to strengthen the sustainability and human rights dimensions in infrastructure projects;

7. Undertaking additional research on the relationship between state duties to respect, protect and fulfill human rights, and states’ right to regulate in relation to investment protection and promotion; and

8. Development of universal sustainable infrastructure criteria, including in relation to project selection criteria to be used in upstream project siting and design decisions, with human rights considerations integrated.

Baseline Study on the Human Rights Impacts and Implications of Mega-Infrastructure Investment

Part I. Introduction

"*The 21st Century will not be a competition over territory but over connectivity*."[1]

Infrastructure serves as the backbone of our society and economy. Infrastructure should not be thought of as a single object, but rather, a sophisticated network linking multiple infrastructure assets and corridors to streamline the movement of goods, data and people, for commercial, economic and social benefit. In this sense, the idea of infrastructure connectivity is not new. Adam Smith is said to have called a well-connected system that enables smooth carriage of goods – roads, canals and navigable rivers – "the greatest of all improvements."[2] He also recognized that connectivity can be a great equalizer. It "put the remote parts of the country more nearly upon a level with those of the neighborhood of the town."[3]

Great cities and nations have a long history of connecting their physical spaces and public services. Connected cities and countries not only do better in good economic times, but they are generally better equipped to weather bad times as well.[4] The notion of infrastructure connectivity today takes this tradition to another level, exemplified in the infrastructure master plans that have emerged over the last two decades or so. This kind of connectivity differs from past infrastructure programs in terms of its geographical expanse, scale, and complexity, and its power to fundamentally alter economic, social and political organization. Of these plans, the regional master plans, such as China's Belt and Road Initiative (BRI), the Programme for Infrastructure Development in Africa (PIDA), and the Infrastructure in South America Initiative that is now part of the South American Council for Infrastructure and Planning (COSIPLAN-IIRSA), aspire to connect infrastructure within a region or across regions (see Annex 1 for the maps of the relevant regions depicting these plans). There are also sub-regional plans, such as the Master Plan on ASEAN Connectivity 2025. Some large national plans can be just as ambitious, such as the Masterplan for Acceleration and Expansion of Indonesia's Economic Development (MP3EI) with six economic corridors. India has five huge economic corridors, and the Mausam Project, called "India's answer to China's Maritime Silk Road," is currently in various stages of preparation and implementation.

These are massive and complex undertakings. Each regional master plan includes multiple mega-projects (technically giga- or even tera-projects, costing billions to trillions, respectively) such as linked

[1] Khanna 2016. A New Map for America. New York Times (15 April). Available from: https://www.nytimes.com/2016/04/17/opinion/sunday/a-new-map-for-america.html?_r=0
[2] Groff 2013. Regional Infrastructure connectivity: What, How and When? Available from: https://www.adb.org/news/op-ed/regional-infrastructure-connectivity-what-how-and-when-stephen-p-groff
[3] Ibid.
[4] Supra, 2.

highways, rail, and ports, with multiple power generation and transmission assets along the way to power production facilities. These are, or are likely to be, complemented by complex digital highway systems to support the information needs of commerce and cities, taking the idea of connectivity to a virtual dimension. While the plans typically focus on traditional economic infrastructure, there are also variations on the theme - there are green regional plans, such as the Africa Renewable Energy Initiative (AREI),[5] and plans that include "smart cities". The Master Plan on ASEAN Connectivity 2025[6] has components dealing explicitly with cultural exchange and people connectivity.

Not surprisingly, the plans come with staggering financial requirements. PIDA's estimated cost is $360 billion (up to 2040),[7] of which the priority projects between 2012 and 2020 alone will cost $68 billion,[8] while COSIPLAN-IIRSA's cost is over $198 billion.[9] And the BRI will easily outspend all others with a projected price tag of $4 billion.[10] Regional plans are typically matched with their own funding facility. For example, PIDA is backed by the Africa 50 Infrastructure Fund established by the African Development Bank (AfDB). The ASEAN Infrastructure Fund[11] supports the Master Plan on ASEAN Connectivity 2025, and several MDBs and the Brazilian Development Bank support projects in COSIPLAN-IIRSA. The European Fund for Strategic Investments[12] was launched to mobilize private financing for strategic investments in the European Union. Typically, the funding mechanisms have the support of one or more MDBs, as a strategic partner, trustee, executing agency or co-financing partner.

The great thirst for infrastructure financing is now transforming the financing landscape. New multilateral financial players, such as the Asia Infrastructure Investment Bank (AIIB), with over 30% of its capital paid in by China, and the New Development Bank (NDB), established by Brazil, Russia, India, China and South Africa, now compete for opportunities to fund large "transformational" projects. Although the AIIB, now in its second year of operation, has been co-financing projects along with other MDBs, one of its purposes is to act as a financial resource for the BRI. The AIIB has an environmental and social policy framework[13] largely modelled on the World Bank safeguard policies. However, it is a comparatively loose framework with significant gaps from a human rights perspective. It is not yet clear exactly how the AIIB will apply this framework in practice, or how the traditional MDBs will react to the

[5] Available from: http://www.arei.org/. In spite of climate benefits that renewable energy projects bring, they are not free of negative environmental, social of human rights impacts. An effective environmental, social and human rights impact assessment process should not be waived or overlooked in renewable projects.
[6] Available from: http://asean.org/storage/2016/09/Master-Plan-on-ASEAN-Connectivity-20251.pdf
[7] African Development Bank. Financing PIDA Projects. Available from: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/PIDA%20brief%20financing.pdf
[8] PIDA 2014. PIDA Financial Structuring Plan. Available from: https://www.icafrica.org/fileadmin/documents/PIDA/PIDA-FIN-STCTRNG-PLAN-REPORT-ICA.pdf
[9] COSIPLAN Systema de Informacion de Proyectos 2016. Available from: http://www.iirsa.org/proyectos/inicio.aspx Also see COSIPLAN-IIRSA 2014. Work Plan 2014 COSIPLAN-IIRSA. Available from: http://www.iirsa.org/admin_iirsa_web/Uploads/Documents/cnr24_SCL14_avances_plan_2014_eng.pdf
[10] Staats 2017. The Risks of China's $4 Trillion 'Belt-and-Road' Plan (12 May). Available from: https://www.usip.org/blog/2017/05/risks-chinas-4-trillion-belt-and-road-plan
[11] Available from: https://www.adb.org/site/aif/main
[12] Available from: http://www.eib.org/efsi/
[13] Available from: https://www.aiib.org/en/policies-strategies/_download/environment-framework/20160226043633542.pdf

new development banks' approach to environmental and social issues. The World Bank's new Environmental and Social Framework (ESF) will permit "common approaches" (co-financing), providing only that the approach will achieve "objectives materially consistent" with the Bank's Environmental and Social Standards (ESSs), rather than compliance with the substantive requirements of the ESSs themselves. Many have warned of a "race to the bottom" in social and environmental safeguard standards.

In addition to providing capital, the MDBs play another pivotal role - they help improve project design and structure in order to attract private capital. Although the master plans are seeking all sources of finance, it is private sector financing that is hoped to make large-scale infrastructure investment feasible. Since traditional sources of project finance by international banks dried out following the 2008 financial crisis, attention has turned to new sources of long-term finance, such as private equity, hedge funds, insurance funds, pension funds, and sovereign wealth funds. In addition to traditional debt and equity financing, new financial instruments are being created to facilitate investment in infrastructure as an asset class. Debt instruments will be bundled and securitized, and equity investments will be made through pooled funds, including publicly traded funds, enabling investors to own a slice of an infrastructure asset for a hoped-for lucrative return on the investment.

The objectives of the regional, sub-regional and national master plans go beyond connecting physical infrastructure assets. A physical infrastructure corridor is also an economic corridor, a "corridor of growth" that facilitates trade and investment, and helps cities and countries integrate and prosper economically. Many of the larger master plans are trade facilitation or economic integration arrangements of the RECs. For instance, COSIPLAN-IIRSA is supported by the twelve-member South American Union of Nations (UNASUR), a regional organization loosely modelled on the European Union. This is also the case with PIDA, backed by the African Union and the African RECs. Countries today, more than ever, see connectivity as extending their physical borders.

Of course, economic justifications for the major infrastructure plans often conceal geostrategic and political motives. In some situations, the lure of enhanced physical and economic connectivity may be a prelude to regional integration. As an inducement, hard infrastructure proposals may be sweetened with diplomacy and soft aid. Some analysts call the BRI the "Chinese Marshall Plan."[14] However, China sees the BRI as much more: as an experiment in forging "win-win" economic, diplomatic and cultural relationships among countries, and a pathway toward alternative economic governance.[15] Experts also point out that China's BRI investments in ports, rails and road connections could have major military benefits.[16]

The societal benefits and costs of infrastructure have been widely documented, including with respect to the financial, economic, governance and sustainability dimensions, and in relation to public-private

[14] Grieger 2016. One Belt One Road: China's Regional Integration Initiative. Available from: http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/586608/EPRS_BRI(2016)586608_EN.pdf
[15] People's Daily. China's Belt and Road Initiative Contributes to Open, "Win-Win New World". President Xi Jinping (14 May, 2017). Available from: http://www.globalresearch.ca/chinas-belt-and-road-initiative-contributes-to-open-win-win-new-world-president-xi-jinping/5590301
[16] Supra 10.

partnerships (PPPs). However, operational, policy and evaluative work on infrastructure to date has rarely acknowledged or engaged with the many specific human rights implications of infrastructure projects and the mega-infrastructure investment agenda. It is often assumed incorrectly that human rights requirements can be satisfied "implicitly" through the application of "human rights principles" (such as participation, social assessment, accountability and so forth). But surrogate terminology cannot deal with all requirements, including the specific legal requirements under human rights law affecting due diligence, social and environmental assessment, investment, PPP laws and contractual provisions, and accountability requirements, as the discussion below illustrates.

In 2015, member countries of the United Nations unanimously adopted the 2030 Agenda for Sustainable Development (the 2030 Agenda).[17] The 2030 Agenda aims to realize the human rights of all, combat inequalities and discrimination, and "leave no one behind." It is explicitly grounded in the UN Charter, the Universal Declaration of Human Rights, international human rights treaties and other instruments, including the Declaration on the Right to Development, and emphasizes the responsibilities of all States to respect, protect and promote human rights and fundamental freedoms for all, without distinction of any kind. The SDGs embody internationally agreed ends of development, and the 2030 Agenda and SDGs contain a wide range of specific human rights commitments along with a baseline commitment to ensure that the Agenda is implemented consistently with existing international law (which includes human rights law).[18] The 17 Sustainable Development Goals (SDGs)[19] and the 169 targets offer a new, more wide-ranging and balanced paradigm for sustainable and equitable development that goes beyond the narrow set of economic and social issues addressed in the predecessor Millennium Development Goals (MDGs). Of particular relevance is Goal #9: "Build resilient infrastructure, promote sustainable industrialization and foster innovation" (see Box 1). Importantly, the SDGs lay out an integrated approach to sustainable development that emphasizes the interlinkages between the goals. Progress on one goal should not undermine the ability to make progress on other goals. For example, implementation of Goal #9 should not come at the expense of undermining Goal #10 on reducing inequality, and should not contravene existing international human rights agreements.

In anticipation of the adoption of the 2030 Agenda, 193 states participated in the United Nations Third International Conference on Financing for Development and agreed to the Addis Ababa Action Agenda (the Addis Agenda).[20] This is a forward-looking framework to finance sustainable development, including the SDGs. Under the Addis Agenda, sustainable and resilient infrastructure is a key thematic area, since investments in transport, energy, water and sanitation are pre-requisites for achieving the SDGs. Both traditional and new sources of financing, such as blended finance,[21] are necessary to help fill the infrastructure gap. The Addis Agenda explicitly states that "[p]rojects involving blended finance,

[17] Available from: http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

[18] See 2030 Agenda for Sustainable Development, UN Doc. A/RES/70/1 (Oct. 21, 2015), including Goals 5, 10 and 16. Para 10 states that the agenda is grounded in human rights and should be guided by existing international law, and paras 19 and 20 refer to the international human rights framework.

[19] Available from: http://www.un.org/sustainabledevelopment/sustainable-development-goals/

[20] Available from: http://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf

[21] Defined in the Addis Agenda as a combination of "concessional public finance with non-concessional private finance and expertise from the public and private sector".

including public private partnerships, should share risks and reward fairly, include clear accountability mechanisms and meet social and environmental standards."[22] As with the 2030 Agenda, the Addis Agenda is explicitly grounded in human rights, and contains a range of specific commitments in this regard, including encouraging MDB safeguard policies on human rights and gender and compliance with the UN Guiding Principles on Business and Human Rights (UNGPs)[23]. Recognizing the need to improve alignment and coordination among established and new infrastructure initiatives, the Addis Agenda called for the establishment of a global infrastructure forum (GFI), and designated the MDBs to lead it. To show their support for the Addis Agenda and the 2030 Agenda, seven MDBs announced their aim to transform development finance from "'Billions' in official development assistance to 'Trillions' in investments of all kinds: public and private, national and global, in both capital and capacity."[24] A year later, at the Chinese G20 Leaders' Summit, eleven MDBs, including the Islamic Development Bank and two new organizations, the AIIB and the NDB, issued a Joint Declaration to support infrastructure investment with a minimum of $350 billion between 2016 and 2018.[25]

Human rights are embodied in a globally agreed and universally applicable legal and ethical framework, which can make a vital contribution to the design and implementation of infrastructure projects, and to investment decisions and policy-making. The international human rights framework helps us unpack the rights and responsibilities of the parties involved in infrastructure, from contracting authorities, financiers and investors, private operators, to different segments of the public, including the affected communities, service users, and taxpayers and the population at large. It provides a globally agreed and enforceable set of minimum standards governing the quality and inclusiveness of services and helps to delineate the allocation of risk between infrastructure investors, States and communities, weighing individual human rights against other rights and interests protected in investment agreements, PPP national laws, and so forth. In this process, the human rights framework reduces the arbitrariness of decision-making and strengthens incentives for more inclusive and sustainable development.

[22] P.25.

[23] Addis Ababa Action Agenda, A/RES/69/313 (July 27, 2015), paras 1, 5, 6, 18, 37 (referring specifically to the UN Guiding Principles on Business and Human Rights, the UN Convention on the Rights of the Child and ILO labor standards), 41 (women's rights and gender equality), 75 (encouraging MDB safeguard policies on human rights and gender), 111 (human rights of migrants), 117 (indigenous peoples' cultural heritage) and 126 (encouraging data disaggregation in line with human rights instruments).

[24] African Development Bank, et al. 2015. From Billions to Trillions. Available from: http://siteresources.worldbank.org/DEVCOMMINT/Documentation/23659446/DC2015-0002(E)FinancingforDevelopment.pdf

[25] MDBs' Joint Declaration of Aspirations on Actions to Support Infrastructure Investment (2016). Available from: http://g20chn.org/English/Documents/Current/201608/P020160815360318908738.pdf

Box 1. The Targets under SDG# 9: "Build resilient infrastructure, promote sustainable industrialization and foster innovation"

- Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
- Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries
- Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets
- By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
- Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending
- Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States
- Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities
- Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

This baseline study seeks to take a first step toward a comprehensive human rights analysis of infrastructure by cataloguing the potential human rights consequences of infrastructure projects and plans. The analysis focuses on regional, sub-regional and national master plans in the energy, transport and water sectors (Annex 1 lists many of the regional, sub-regional and national master plans that have been launched mostly in the last two decades). Given the enormity of the plans and paucity of publicly disclosed information concerning their implementation, this study does not comprehensively detail the

actual impacts of the plans, but provides a suggested typology of impacts, based on known impacts from mega-infrastructure projects in the past, supplemented by available information about the plans. The study classifies and analyses impacts at three levels:

- **micro-level impacts**, which are potential impacts on people and the environment arising from the physical activities of implementing the plans;
- **meso-level impacts**, which are potential impacts on the consumers of infrastructure services arising from the operation of the relevant infrastructure assets; and
- **macro-level impacts**, which are impacts on the general population and society arising from government acts and omissions or broader financial, fiscal, macro-economic or other public policy implications of infrastructure plans or projects.

When describing potential impacts, this study, subject to availability of information, considers the differential impacts on women and other population groups who are discriminated against or may otherwise be in vulnerable situations. In addition, this study considers the potential public and private sources of financing that will be called upon to support the implementation of infrastructure plans, and the potential impacts, particularly the macro-level impacts, of financing.

Part II of the Baseline Study sets the scene for the human rights analysis by reviewing a number of overarching challenges that have arisen to date in relation to major infrastructure projects. It focuses on the political economy of infrastructure investment, challenges involved in managing private sector participation, and shortcomings concerning the design and process of carrying out infrastructure projects, accountability, governance, and the lack of coherent, harmonized global standards. Part III then introduces the three-level taxonomy of human rights impacts that infrastructure projects may generate (micro-, meso- and macro-levels), and provides an illustrative outline of the most salient risks emerging from practice to date, in the energy, transport and water sectors. Part IV of the study reviews and critiques a number of the more influential frameworks, guidance materials and tools for infrastructure development and financing to date, including with respect to PPPs. The study concludes by calling on states as well as the international community, development finance institutions, business entities and investors to embrace their respective responsibilities in relation to mega-infrastructure investment, and recommends a number of issues for further research, analysis and action.

Part II. Challenges of Infrastructure Master Plans

"If you want to be rich, you must first build roads." – A Chinese Proverb.[26]

"What kind of integration will it bring and who gets to define development?"[27]

[26] Mentioned in Brînză 2017. AIIB Goes Global. China Policy Institute (7 April). Available from: https://cpianalysis.org/2017/04/17/aiib-goes-global/

[27] See Box 2.

A. Mixed Evidence and Motivations for Infrastructure Projects

According to a recent McKinsey report,[28] the world needs to spend $3.3 trillion annually in new infrastructure to 2030 just to maintain the current economic growth trajectory. We are currently managing to invest only $2.5 trillion per year.[29] If this rate of underinvestment continues, there will be a $350 billion per year shortfall in spending.[30] If we were to add country commitments under the SDGs, the shortfall would triple to over $1.1 trillion a year.[31]

Spending on this scale is generally justified by referring to the expected economic benefits. For example, PIDA has been justified by its proponents on the basis of the estimated $172 billion cost to African business in lost growth annually from infrastructure deficits. The McKinsey report cited above suggests that infrastructure typically has a socio-economic rate of return of around 20 percent. Economic benefits come primarily from long-term gains in productivity through reduced travel time and costs, access to reliable electricity, broadband connectivity, and so on. And there may be short-term job benefits as well: it has been estimated that increasing infrastructure investment by one percentage point of GDP could generate an additional 3.4 million direct and indirect jobs in India, 1.5 million in the United States, 1.3 million in Brazil, and 700,000 in Indonesia.[32]

Yet the correlation between infrastructure and economic growth is not as direct or consistent as is often made out. Estache, Foster & Wodon (2002)[33] note that the interactions between infrastructure and growth, and, in particular, the effects of infrastructure on productivity, have not been settled conclusively. And a more recent study that combined an extensive literature review with a number of empirical studies concluded that new infrastructure in a mature economy does not necessarily boost output in the region in the short- to medium-term, and that there is a range of variables that influence the relationship.[34]

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[28] McKinsey Global Institute 2016. Bridging the Infrastructure Gap. Available from: http://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/bridging-global-infrastructure-gaps

[29] Ibid.

[30] Ibid.

[31] Ibid, p.7, quoting: UNCTAC 2014. World investment report 2014: Investing in the SDGs: An action plan. UNCTAD also states that in addition to the $1.1 trillion needed annually for economic infrastructure, some $1.4 trillion annually might be needed in developing regions to meet SDGs for climate change and adaptation, health, education, food security, and biodiversity.

[32] Ibid. However, private sector involvement in an infrastructure project could lead to short-term job losses for many, which may be offset over the long-term by job increases brought about by economic growth: Estache, Foster & Wodon 2002. Accounting for Poverty in Infrastructure Reform, Learning from Latin America's Experience. WBI.

[33] P.9.

[34] Fretz 2014. Infrastructure and Economic Growth. Available from: http://www1.unisg.ch/www/edis.nsf/SysLkpByIdentifier/4350/$FILE/dis4350.pdf

In the case of mega-infrastructure,[35] the link appears to be surprisingly weak. Researchers from the Oxford Said Business School[36] have argued that, far from being an engine of economic growth, the typical infrastructure investment fails to deliver a positive risk-adjusted return: "Investing in unproductive projects results initially in a boom, as long as construction is ongoing, followed by a bust, when forecasted benefits fail to materialize and projects therefore become a drag on the economy."[37] Reviewing China's experience, the researchers warned that rapid infrastructure investment could actually lead to financial and macroeconomic crisis and a contraction of the economy, which is the exact opposite of what mega-projects are claimed to do.

Mega-projects may entail other serious problems too, in terms of cost overruns, delays, and benefits shortfall. Bent Flyvbjerg of the Oxford Said Business School has pointed out[38] that nine out of ten mega-projects have cost overruns, that overruns of up to 50 percent in real terms are common, overruns over 50 percent are not uncommon, and that on average, 45 percent of dam projects are delayed. Delays result not only in cost overruns, but also in shortfalls in benefits, such as diminished demand in the order of 50% or more. Moreover, Flyvbjerg exposes the intimate ties between mega-projects and domestic political incentives, which tend to favor larger, more expensive projects.[39]

B. Managing Private Sector Participation

Private sector participation in infrastructure projects is intended to bring a range of benefits including technical expertise, efficiency and additional resources. However, it may also bring additional complications. In the 1980s and 1990s, the UK and the US, driven by neoliberal economic orthodoxy and contractionary fiscal policy, experimented with different models to leverage limited public funds through the involvement of the private sector. Many countries, including in Latin America, followed suit. The techniques used ranged from leasing, management contracts, PPPs, concessions to outright sale of infrastructure assets or privatization. In the UK, PPPs were pushed by a special unit, staffed mostly by executives from the private sector, and housed within the Treasury to act as a permanent center inside government for the promotion of PPPs.[40] To encourage private sector participation, governments frequently issued guarantees to private operators without disclosing the contingent liabilities incurred. PPPs often turned out to be more expensive than public financing, in large part because of the relatively low cost of borrowing of the public sector

[35] According to Flyvbjerg, the cost of a "mega-project" is in the order of millions, "giga-project" in the billions and "tera-project" in the trillions (see What You Should Know About Megaprojects, and Why: An Overview, Available from: https://arxiv.org/ftp/arxiv/papers/1409/1409.0003.pdf). However, for the purpose of this study, the words "very large" and "mega-projects" are used interchangeably to cover mega-, giga- and tera-projects. Smaller infrastructure projects do not necessarily equate to fewer or lesser impacts. However, this baseline study focuses on the larger mega-infrastructure projects, as well as the giga- and tera-level projects.
[36] Ansar et al. 2016. Does infrastructure investment lead to economic growth or economic fragility? Evidence from China. Available from: https://arxiv.org/ftp/arxiv/papers/1609/1609.00415.pdf
[37] Ibid, p.360.
[38] Supra 35.
[39] Supra 35.
[40] Powell 2016. PPPs and the SDGs: Don't believe the hype. Available from: http://www.world-psi.org/sites/default/files/ppps_and_the_sdgs-dont_believe_the_hype_psiru.pdf

compared with the private sector. In developing countries, the MDBs have often encouraged privatization and PPPs, often with poor results.[41]

The relationship between growth and private sector participation in infrastructure is also far less straightforward than is often claimed. On the one hand, private sector participation in the electricity and water sectors has been shown to improve efficiency and service delivery.[42] According to Estache, Foster & Wodon (2002), empirical evidence suggests a likely linkage between infrastructure and macroeconomic productivity, and private sector participation can result in net welfare benefits. However, private sector participation can also lead to losses and harms. For example, private operators often cut jobs to raise efficiency and profitability, and, surprisingly, only half of the consumers can expect benefits from privately operated infrastructure. At the microeconomic level, the experience from the water sector in Latin America in the 1990s suggests that private sector participation does not necessarily correlate with increased access to service or affordability, and that the benefits of infrastructure frequently do not reach the poor. A subsequent evaluation by the World Bank Group's Independent Evaluation Group (IEG), which reviewed 170 PPP projects financed by the Group between 2002 and 2012, found that pro-poor aspects, including accessibility, were not given sufficient attention, and service quality data was not adequately collected.[43] In fact, regulation that enables formal infrastructure (which is what attracts private sector investment) usually improves efficiency for the private operator, but can terminate informal usage of services by the poor with adverse social consequences. Without strong pro-poor policy guidance from the state, private sector participation cannot be counted on to produce equitable benefits for the public.

Nevertheless, private sector participation in infrastructure remains a priority for many countries, international organizations and sustainable development constituencies, driven by an expectation that this will provide countries with the means to achieve the SDGs. Private sector financing is the cornerstone of many regional plans. For example, 47% of the COSIPLAN-IIRSA investments have been reported as privately financed or structured as PPPs. It is also obvious from the 2014 PIDA Financial Structuring Plan[44] that private sector participation is the lynchpin of PIDA.

MDBs are now organizing themselves to mobilize more private financing than ever in infrastructure, and through PPPs in particular, using a "cascade approach:" According to the World Bank, "[i]f commercial financing is available, that is the preferred course. If it is absent, we try to address market failures. If those efforts are unsuccessful, we utilize risk instruments and our own matching capital to try to

[41] For example, see World Bank 2014. World Bank Group's Support to Public-Private Partnerships: Lessons from Experience in Client Countries, FY02-12. Available from: https://ieg.worldbankgroup.org/Data/Evaluation/files/ppp_eval_updated2.pdf. Also see Romero 2016. What lies beneath? A critical assessment of PPPs and their impact on sustainable development. Eurodad. Available from: http://eurodad.org/files/pdf/559e6c832c087.pdf

[42] For example, see Gassner et al. 2009. Does Private Sector Participation Improve Performance in Electricity and Water Distribution? World Bank, Washington, D.C.
Also: Marin 2009. Public-Private Partnerships for Urban Water Utilities: A Review of Experience in Developing Countries, World Bank/PPIAF, Washington, D.C

[43] Supra 41 (World Bank 2014).

[44] Available from: https://www.icafrica.org/fileadmin/documents/PIDA/PIDA-FIN-STCTRNG-PLAN-REPORT-ICA.pdf

encourage private investment. Finally, if absolutely necessary, then public and concessional financing will be used."[45] Managers must prove that they have exhausted all options of engaging the private sector before turning to public funding/public works as the very last resort. It is not clear whether the approach incorporates any other screening based on international standards, such as the UNGPs, Principles for Responsible Investment (PRI), climate targets, and so forth, though presumably MDB-financed projects would comply with environmental and social safeguards. The stated approach does not seem to take adequate account of the concerns expressed by many stakeholders that PPPs and other private sector options can be unduly complex, expensive, are not necessarily superior to the public sector option, and may even cause greater harm than the public section option.

C. Flawed Design and Process

Many of the plans reflect an outdated and potentially destructive model of industrialization based on liberalized markets and borders, export specialization and natural resource extraction. This "extract and export" model is exemplified in PIDA, where transport corridors, pipelines and port facilities are designed to facilitate exports of oil, metals and minerals. In practice, what the plan does is to maintain a resource-based economic model that remains dependent on high commodity prices. In the case of COSIPLAN-IIRSA, over 50% of its budget is said to be dedicated to highways (the remaining 25% to railways, bridges, seaports, and waterways; and 15 percent to energy projects, mostly hydroelectric dams).[46] This has prompted some to accuse COSIPLAN-IIRSA of taking the continent back to the beginning of the last century, when the region survived on shipping away its natural resources, while offering nothing to promote domestic industries, alleviate poverty[47] or encourage a shift to a lower carbon economy.

Hildyard (2016) observes that, for all the talk of providing poorer people with access to clean water or electricity, the planned (or already initiated) programs are primarily directed at economic purposes.[48] Although PIDA's focus is meant to include the water sector, the plans send contradictory messages. While the 2012 PIDA financing plan by ECOSOC and the African Union Commission[49] included nine transboundary water projects, PIDA's 2014 Financial Structuring Plan[50] is almost completely silent on water and sanitation projects and does not allocate any funds to them. Instead, its top five "showcase projects," presumably those considered to be more ready for private financing, are one highway, one transmission line, one gas pipeline and two hydropower projects. Only one of the two hydro projects mentioned access to electricity. COSIPALN-IIRSA promoters stressed the development benefits from

[45] Remarks of the World Bank Group Senior Vice President Mahmoud Mohieldin at the CEO Summit - Sustainability Leadership Conference 2017. Available from: http://www.worldbank.org/en/news/speech/2017/03/15/remarks-wbg-svp-mahmoud-mohieldin-at-ceo-summit-sustainability-leadership-conference-2017.
[46] Friedman-Rudovsky 2012. The Bully from Brazil, Foreign Policy (20 July). Available from: http://foreignpolicy.com/2012/07/20/the-bully-from-brazil/
[47] Ibid.
[48] P. 61.
[49] ECOSOC and African Union Commission 2012. Financing of the Programme for Infrastructure Development in Africa. Available from: http://www.g20dwg.org/documents/pdf/view/26/
[50]Available from: https://www.icafrica.org/fileadmin/documents/PIDA/PIDA-FIN-STCTRNG-PLAN-REPORT-ICA.pdf

economic integration, but critics have posed the questions: what kind of integration will it bring and who gets to define development?[51]

Box 2. How Do the Regional Plans and Projects Get Developed? The Case of COSIPLAN-IIRSA

The history of COSIPLAN-IIRSA, one of the older regional plans established in 2000, with its foundational ideas going back as far as the 1970s, provides valuable insights into the dynamics of the life of such plans and possibly lessons for newer plans. Back in 2000, the twelve-nation Union of the South American States (UNASUR) established IIRSA through a multilateral agreement. CSOs that watched the IIRSA formation process attest to the fact that there was no public consultation at the inception of the plan ("as the plan's purpose was economic integration, and not connectivity of people and social development").

In the early phase, the Corporación Andina de Fomento (CAF - Development Bank of Latin America), the Inter-American Development Bank (IDB) and the River Plate Basin Financial Development Fund (Fonplata) formed the Technical Coordination Committee (CCT), providing technical and financial support to IIRSA activities. The IIRSA National Coordinator in each country was responsible for following up on the priority projects in the Agenda and coordinating with CCT. It is reported that in an early planning period between 2003 and 2004, all participating countries nominated desired projects (some countries were accused of dressing up old projects that never materialized and throwing them in the mix of IIRSA projects), and they eventually compiled an "Implementation Agenda based on Consensus 2005-2010." Notwithstanding these mechanisms for consensus building and coordination responsibilities at the IIRSA and national levels, it also appears that Brazil, with its strong capacity for strategic planning and abundant liquidity at the time through its national development bank, BNDES, took the effective lead in the early planning process. There is anecdotal evidence that other countries refrained from objecting to projects favored and prioritized by Brazil for fear of reprisals.

More than ten years after the launch, IIRSA was only 12% complete, with 60% of the projects still underway. And the end of the high commodity prices and the passing of the Brazilian "magic moment" meant that IIRSA had to be subjected to reforms. In 2011, the IIRSA initiative was incorporated into the South American Council for Infrastructure and Planning (COSIPLAN) - the political and strategic forum for planning and implementing the integration of South American states - as its Technical Forum. COSIPLAN is composed of the Ministers of the infrastructure / planning of the UNASURE Member States. Its presidential function is provided by the president of UNASUR. The COSIPLAN Project Portfolio now has 581 integration projects, distributed throughout the South American territory, and organized into 47 Project Groups and 9 Integration and Development Hubs.

Today, the decision-making power of COSIPLAN – IIRSA has been transferred from technocrats to domestic politicians to enhance accountability. The countries appear to share decision-making power more evenly after Brazil stepped down from its dominant role. COSIPLAN-IIRSA provides various checks and balances, but without any overriding powers to compel countries to take actions against their will.

Source: COSIPLAN-IIRSA; DAR (http://www.dar.org.pe/); Friedman-Rudovsky 2012. The Bully from Brazil (see note 46); and PIDA Financial Structuring Plan (see note 8).

[51] Supra 46.

Indonesia's national plan, MP3EI, reveals a similar flaw – it contains only minor water component. One mention of a water project is found in a plan for a resort and residential town, whereas multiple water projects are planned for the thermal power stations, presumably to supply cooling water.[52] There are no specific water components for the benefit of those without access to clean drinking water and sanitation facilities. According to WHO and UNICEF data, of Indonesia's population of 240 million, over 40 million people lack access to an "improved water source" and more than 110 million lack access to "improved sanitation."[53]

The master plans do not explicitly provide for studies and analysis to inform and improve project design and implementation. No strategic impact assessment is called for at a plan level. It appears that MDBs, when they are involved, usually shoulder the responsibility to conduct environmental and social impact assessments (ESIAs) pursuant to their safeguard policies. However, the quality of such assessments varies significantly, and the social aspects of such assessments frequently fall short of the environmental aspects, thereby opening up potentially crucial human rights gaps. Several ESIAs may have to be pieced together to cover an entire corridor, leaving coverage gaps and an inadequate basis to assess cumulative impacts. The quality of consultation around ESIAs is often poor. Even if such assessments are carried out, it is not clear whether and how the master plans incorporate the findings into project design and implementation. For example, the section in the 2014 PIDA Financial Structuring Plan describing the "showcase projects" raises a number of serious environmental and social issues, without explaining whether projects should move forward despite the findings and how the identified problems would be dealt with.[54]

Furthermore, the master plans reveal serious deficits in democratic processes, including abridgements of the rights to freedom of opinion, expression, assembly and association. The right to freedom of information is an internationally recognized human right.[55] Freedom of information laws exist in around 100 countries, and the World Bank identified at least eleven jurisdictions with a disclosure framework for PPPs.[56] Notwithstanding these guarantees, it appears that populations have remained largely ignorant about the planning and project selection processes. Governments appear to nominate whatever projects they wish to see implemented under master plans, including white elephant projects, unfettered by public opinion. China's BRI raises questions about the non-transparent way in which projects in the initiative are identified, designed, approved and implemented; for example, there is no official map of the Initiative or explanation about how the different projects fit together.[57] While the views of the general population seem to have little influence on the planners, investors' preferences and

[52] MP3EI power point presentation by the Indonesian Government (private source).
[53] WHO and UNCEF 2015. Joint Monitoring Programme for Water Supply and Sanitation: Indonesia data 2015. Available from: https://www.wssinfo.org/
[54] See Chapter 5.
[55] Article 19 of the International Covenant on Civil and Political Rights; Article 17 of the Convention on the Rights of the Child; Article 13 of the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families; and Article 21 of the Convention on the Rights of Persons with Disabilities.
[56] World Bank 2015. A Framework for Disclosure in Public-Private Partnerships. Available from: http://pubdocs.worldbank.org/en/773541448296707678/Disclosure-in-PPPs-Framework.pdf
[57] Supra 10.

priority projects, on the other hand, are likely to be taken seriously. (See the description of the decision-making process of COSIPLAN-IIRSA, Box 2).

Perhaps most alarmingly of all, governments are showing increasingly authoritarian tendencies towards those standing in the way of infrastructure projects. Civil society space is under increasing threat world-wide, through curbs on peaceful assembly, clampdowns on non-governmental organizations, attacks on independent media, state censorship, draconian anti-terror laws, state-sponsored vilification, surveillance, arbitrary detention, torture and disappearances. In some countries, such as in Mexico and Pakistan, punitive laws and special law enforcement agencies have been created specifically to protect investors' interests.[58] Regional infrastructure plans are not only forfeiting public trust, but, in many instances, they are causing or contributing to potentially serious and irremediable human rights violations. According to Front Line Defenders, more than 1,000 individuals in 25 countries were murdered, harassed, imprisoned, or intimidated while fighting for their community's rights in 2016. Of the 281 recorded deaths in these countries, half were attempting to defend their homes and land. Women, who are often the first to defend their homes and families, suffered disproportionately.[59]

D. Weak Accountability Mechanisms

Accountability in the public governance of infrastructure means responsibility for the relevant government agencies to account to each other, as well as to those they govern. The principle of accountability, which is grounded in human rights,[60] requires that responsibilities are clearly specified, duty-bearers are answerable for their actions and omissions, and that effective redress mechanisms be available and accessible to those who most need them. In the context of the regional plans, the leaders of the RECs that support the respective regional plans should be accountable toward member countries and their populations. (See the experience of COSIPLAN-IIRSA in Box 2.)

It is theoretically possible to establish a single accountability mechanism for a regional plan; however, a more likely scenario would be a patchwork of new and existing mechanisms at the national and local levels. Accountability mechanisms at all levels should comply with due process and human rights requirements and should not be compromised in the quest for quick implementation of projects. National human rights institutions may provide a feasible and effective venue for bringing complaints against the government or the private sector, as may ombuds offices. Complaints mechanisms are increasingly available in connection with procurement processes, though they are intended to benefit business entities.

[58] Al Hussein 2017. Human rights trampled in push to build infrastructure. Miami Herald (7 March). Available from: http://www.miamiherald.com/opinion/op-ed/article136884218.html

[59] Totaro & Ponsford 2017. Politics of Death: Body count mounts in worldwide wars over land. Thomson Reuters (19 June). Available from: https://www.reuters.com/article/us-landrights-violence-activists-idUSKBN19B02H

[60] See OHCHR/CESR 2012. Who Will be Accountable? Human Rights and the Post-2015 Development Agenda. Available from: http://www.ohchr.org/Documents/Publications/WhoWillBeAccountable.pdf

In addition to these mechanisms, project-level grievance mechanisms should also be established by private sector entities pursuant to the UNGPs;[61] for example, construction companies may operate simple complaints mechanisms. If an MDB, a bilateral financial institution or an OECD export credit agency is providing financing or support (and if the aggrieved party knows about their involvement), accountability mechanisms of these organizations can be accessed.[62] But these are not enough - other judicial, quasi-judicial, political and administrative mechanisms are necessary to address the human rights concerns of infrastructure users, taxpayers and other affected individuals, particularly those who are poor, marginalized or vulnerable.

E. Governance Challenges and Lack of Strong, Harmonized Global Standards

The governance of cross-border infrastructure projects is seriously impaired by a lack of harmonized policies, laws, standards and rules, which leads to each country applying its own laws or importing different standards. The result is a patchy, inconsistent and unpredictable regulatory landscape. The G20's Global Infrastructure Connectivity Alliance[63] has prioritized the need to harmonize rules on logistics, trade facilitation, trucking, power trading and dispatch and telecommunications connectivity.

Lack of harmonization among countries participating in a plan also means individual national environmental, labor and social laws could be applied to different segments of regional and sub-regional plans, leading to potentially different project standards, or worse, to no standards at all. An MDB or another international or regional body involved can impose or suggest a common set of safeguards or sustainability standards; however, the safeguard and access to information policies of MDBs are of varying scope and strength, and specific human rights protections are often weak or absent. They cover mostly project footprint issues at the level of affected workers and communities and the environment, and do not address other complex infrastructure-related impacts at the level of users of infrastructure, or in relation to the population at large. The safeguards also do not directly apply to the early phases of an infrastructure project cycle, such as the project selection and design phases.

Moreover, no MDB has the capacity to finance an entire regional plan, and MDBs are not likely to stay involved in a project from start to finish. In many cases, their only long-term involvement may be limited to a strategic advisory role without direct financial leverage. If a plan moves forward without the involvement of an MDB with robust safeguard and access to information policies, it will be difficult for another MDB to later retrofit the plan with more robust standards. While many international banks now use the Equator Principles for environmental and social risk management purposes, these banks are now less active in project finance in infrastructure. In their place, long-term private investors have been courted to invest in this sector, but, at present, few have the capacity to apply the Equator Principles appropriately. The Equator Principles, in any case, are based upon the IFC Performance Standards, which

[61] http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf . See the Principles under III. Access to Remedy. Also see the OHCHR Accountability and Remedy Project (ARP). Available from: http://www.ohchr.org/EN/Issues/Business/Pages/OHCHRstudyondomesticlawremedies.aspx

[62] For example, the World Bank's Inspection Panel, IFC's Compliance, Advisory and Ombudsman, or the Independent Complaints Mechanism shared by some European bilaterals. The OECD National Contact Points may also hear complaints about the OECD Guidelines on Multinational Enterprises.

[63] Available from: http://www.g20.utoronto.ca/2016/global-infrastructure-connectivity-alliance.pdf

call for human rights due diligence only in exceptional circumstances, rather than as a routine component of risk management and reporting systems.

To respond to these practical problems, the World Trade Organization (WTO) has proposed a single legal regime for infrastructure plans and corridors to accelerate the movement of goods across borders, effectively nullifying the relevance and role of local laws and courts.[64] It is also possible, at least in theory, to create such a legal enclave through consistent provisions in inter-governmental (state-to-state) agreements and host state agreements (state-to-investors), though complete consistency is difficult to achieve in practice, as the patchwork of agreements regulating the implementation of the Southern Gas Corridor Pipeline project illustrates (see Box 3 below). In all cases, the question of enforcement remains.

Box 3. The Southern Gas Corridor Pipeline

The Southern Gas Corridor Pipeline consists of three connected pipeline segments originating in Azerbaijan and terminating in Italy, with a total length of 3500 km and an estimated project cost of up to $48 billion. When completed, it will be the one of the longest cross-border pipelines in the world, involving six transit countries and ten companies.

The legal regime and standards applicable to the project are set out in a complex web of legal agreements. Various states have taken up different responsibility, in agreements with other states (inter-governmental agreements or IGAs), and with investors (host-government agreements or HGAs).

The Energy Charger (www.encharter.org) provides principles for cross-border cooperation in the energy industry in Eurasia. Model Agreements for IGAs and HGAs have been published, in order to help regulate horizontal (state-to-state) and vertical (investor-to-state) relationships, respectively, in connection with cross-border oil and gas pipeline transactions. The Charter envisages IGAs and HGAs working in tandem: while the IGAs help states coordinate and harmonize standards, the HGAs spell out the standards in detail. The reality of this project, however, does not conform to this vision.

The HGAs designate different legal regimes for the project, from the HGA itself (Azerbaijan and Georgia ratified the HGAs), various international and national laws, and EU laws, depending on the segment of the pipeline. The agreements also set out different international standards. For example, in the case of environmental and social standards, the agreements designate one or more of the applicable EU directives and World Bank, IFC, and European Bank for Reconstruction and Development (EBRD) standards. For the longest segment of the pipeline running through Turkey, the environmental and social standard setting and implementation responsibility is delegated to the investors.

[64] Hildyard 2016. Box 5.3 (p.79).

Box 3 Continued

The fact that the applicable standards are not predictable and consistent throughout is problematic, as is the uncertainty about states' willingness to take a proactive approach to the enforcement of standards when the standard setting and implementation responsibilities are delegated to the private sector.

The most significant variation relates to country responsibility for the acquisition of land and compensation for resettlement. Whereas Azerbaijan is responsible for managing land-related issues, in the case of the segment running through Turkey through Italy, the responsibility rests with the investors, contrary to the provision of the Model HGAs under the Energy Charter. Such an arrangement may create confusion and lack of trust, especially in weak governance environments. For example, the Albania resettlement being implemented by investors seems to create confusion and possible waiver of rights, fueling resentment in communities.

Source: The Energy Charter: www.encharter.org; Intergovernmental Agreements and Host Government Agreements on Oil and Gas Pipelines -A Comparison: Available at: http://www.energycharter.org/fileadmin/DocumentsMedia/Legal/Agreements_on_Oil_and_Gas_Pipelines.pdf; The Southern Gas Corridor Pipeline: legal and regulatory developments in major gas transit projects. Mustafayev 2016. Journal of World Energy Law and Business 2016, 9, 370-387. Available at: https://academic.oup.com/jwelb/article-abstract/9/5/370/2222450/The-Southern-Gas-Corridor-legal-and-regulatory?redirectedFrom=fulltext; CEE BankWatch (https://bankwatch.org/our-work/projects/southern-gas-corridor-euro-caspian-mega-pipeline); and Counter-Balance (http://www.counter-balance.org/wp-content/uploads/2017/02/The-TAP-project_identified-non-compliance-with-the-Equator-Principles.pdf)

Part III. The Human Rights Impacts of Mega-Infrastructure

"It is time to re-imagine infrastructure as if people and the environment mattered."
Zeid Ra'ad Al Hussein, U.N. High Commissioner for Human Rights[65]

Having explored some of the main overarching challenges confronting the design and implementation of mega-infrastructure projects to date, the present section of the study focuses more closely on human rights impacts. The benefits of infrastructure investment (in economic, social or human rights terms), are clear and obvious in theory, and are critical to the achievement of the SDGs. However, the principal purpose of this paper is to identify and illustrate the potentially negative human rights consequences of infrastructure investment, which constitutes a large analytical gap in the literature.

[65] Supra 58.

The discussion below begins by outlining the applicable international legal framework and sources and contours of states' and other relevant actors' responsibilities under international human rights law. It then introduces a three-level taxonomy for the analysis of human rights impacts of mega-infrastructure projects – micro-, meso- and macro- levels – and outlines, illustratively, the kinds of negative impacts that have occurred in the energy, transport and water sectors so far, and which should be more effectively anticipated and integrated within policy-making and investment decisions in the future.

A. Relevance of International Human Rights Framework

Inequality is one of the most persistent human rights challenges of our era. During the last few years, inequality has repeatedly been emphasized as one of the top priorities of world leaders at the World Economic Forum (WEF) in Davos, Switzerland.[66] Reflecting these concerns, the phrases "inclusive growth" and "inclusive world economy" appear liberally in G20 communiqués to signal that world leaders are not just seeking any kind of economic growth, but a certain quality of growth. The 2015 Turkish G20 communiqué observed: "Rising inequalities in many countries may pose risks to social cohesion and the wellbeing of our citizens and can also have negative economic impact and hinder our objective to lift growth."[67] However, when one examines the G20's policy proposals, it seems clear that exclusion and inequality are considered to be predominantly economic problems suited to economic solutions. In order to address inequality, the Turkish G20 proposed job creation and training for women and youth, improving the state of small and medium sized enterprises, and delivering more aid to developing countries. In the latest G20 Action Plan on the 2030 Agenda, Reduced Inequalities (Goal #10) is one of the three G20 priority areas. The G20 proposes to further this Goal with more infrastructure investment and economic growth. While acknowledging that the quality of growth matters, the G20's policy recommendations highlight economic growth, first and foremost, which, after all, is the G20's Holy Grail.

But ignoring the non-economic dimensions of inequality is self-defeating. Inequalities within countries create a drag on the very growth that the G20 covets.[68] Moreover, inequality in income and wealth threatens the realization of all other human rights.[69] One of the central purposes of international human rights law, and the accountability mechanisms built around it, is to fight discrimination and promote equality. The human rights framework helps us to understand inequality as a function of conflicting power relations, with a focus on opportunities, outcomes, and disparities caused by discrimination.

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[66] Elliott 2017. World's eight richest people have same wealth as poorest 50% (15 January). Available from: https://www.theguardian.com/global-development/2017/jan/16/worlds-eight-richest-people-have-same-wealth-as-poorest-50

[67] G20 Leaders' Communiqué, Antalya Summit, 2015. Available from: http://g20.org.tr/g20-leaders-commenced-the-antalya-summit/

[68] Ostry, Berg, and Tsangarides 2014. Redistribution, Inequality and Growth. Available from: http://www.imf.org/external/pubs/ft/sdn/2014/sdn1402.pdf

[69] Balakrishnan and Heintz 2015. How inequality threatens all human rights. Available from: https://www.opendemocracy.net/openglobalrights/radhika-balakrishnan-james-heintz/how-inequality-threatens-all-human-rights

Human rights law also sets out procedural requirements that should be observed, such as transparency, accountability, and active, free and meaningful participation. Human rights law directs our attention to the root causes of exclusion and requires legislative and active budgetary, administrative and other measures to remove access barriers, with the ultimate aim of achieving substantive (de facto) equality.[70]

The human rights framework establishes enforceable norms applicable to infrastructure service delivery and affirms the tangible, everyday rights of individuals, communities, consumers, taxpayers and the general population affected by infrastructure. Under international human rights law, states have the duty to respect, protect and fulfil human rights. The state duty to *respect* human rights means that states must refrain from interfering with or curtailing the enjoyment of human rights. The state duty to *protect* human rights requires states to protect individuals and groups against human rights abuses committed by others, including private sector actors and financers. The obligation to *fulfil* human rights requires states to take positive action to facilitate the enjoyment of human rights.[71] As indicated earlier, all states are party to one or more (and frequently several) of the core UN human rights treaties as well as instruments of the International Labour Organization (ILO), which are embedded in the great majority of state constitutions and national law, though there are often gaps between national and international protections. In some jurisdictions, human rights obligations in ratified international treaties may become incorporated directly into the domestic legal system as superior law with no further action and may even override earlier conflicting national law.

Although there is no such thing as a "right to economic infrastructure" *per se,* as outlined further below, there are many internationally recognised human rights that may be implicated in infrastructure projects and investment. Human rights inform the processes as well as outcomes of development. States should create the conditions for active, free and meaningful participation and consultation processes, based on comprehensive and proactive public disclosure of all information, subject only to clearly defined exceptions linked to specific potential harms arising from a legitimate interest. The right to participate, free from intimidation, coercion or reprisals, should be built upon respect for the rights to freedom of opinion and expression, including the right to hold opinions without interference and to seek, receive and impart information and ideas, and the freedoms of association and assembly. Infrastructure projects should respect the rights of population groups that may be marginalised or experience discrimination or require special measures of support or protection, which may include women, indigenous peoples, politically marginalized groups, migrants, persons with disabilities and ethnic minorities. The impacts of infrastructure projects and investment should be analysed in

[70] This does not necessarily mean perfect equality of outcomes, but rather, that outcomes (in addition to opportunities) between population groups should be reduced over time. "Substantive equality" means judging opportunities and outcomes *substantively*, ensuring that appropriate laws, policies and public investments are instituted to identify and address the underlying causes of discrimination, exclusion and inter-generational inequalities. "Formal equality", by contrast, refers to the need to treat alike those who are similarly situated. Applying "formal" equality to those who are unequally situated can have perverse and unjust effects. The idea of "substantive equality", which is codified in international human rights law, complements and corrects "formal equality," in this sense.

[71] United Nations Human Rights Office of the High Commissioner. International Human Rights Law. Available from: http://www.ohchr.org/EN/ProfessionalInterest/Pages/InternationalLaw.aspx

connection with all potentially relevant human rights, including the rights to health; housing; water and sanitation; freedom of movement; the right to work and just and favorable conditions of work; freedom of association and the right to form trade unions; and other relevant rights as appropriate. Any resettlement should be carried out in accordance with the right to adequate housing and related standards. The right to an effective remedy for any violations is a cross-cutting requirement.

Human rights law also has implications for the state in the management of its fiscal and financial affairs. Under Article 2 of the International Covenant on Economic, Social, and Cultural Rights (ICESCR) (and social rights generally, including article 4 of the Convention on the Rights of the Child), states have the obligation to dedicate "maximum extent of available resources" towards the progressive realization of socio-economic rights. States have the obligation "to take steps," which should be deliberate, concrete and targeted as clearly as possible, and use "all appropriate means, including particularly the adoption of legislative measures" towards meeting the obligations recognized in the ICESCR and other relevant conventions.[72] States have obligations to "respect and ensure" civil and political rights (CPR) under Article 2 of the International Covenant on Civil and Political Rights. While resources are required to respect and ensure many aspects of CPR, the lack of resources does not excuse non-compliance. This is different for many (though not all) obligations under treaties dealing with socio-economic rights, where resource constraints are taken into account in assessing compliance.

The human rights obligations of states relevant to infrastructure plans and investment may include: legislating to ensure that rights are recognized in law and that third parties (including corporations) do not infringe those rights; allocating budgetary and other resources, including through taxation and re-prioritization of public spending necessary for the realization of particular rights; ensuring that services are available, accessible and affordable, without discrimination on the grounds prohibited under human rights treaties; establishing data collection and statistical systems, and collecting disaggregated data; institutionalizing human rights impact assessment and review processes of significant legislation and policy initiatives; awareness-raising, training and capacity building; information dissemination on the rights guaranteed by the relevant convention; meaningful consultation with affected stakeholders; establishment of judicial, quasi-judicial and administrative mechanisms to enforce human rights claims and provide effective remedies; among others.[73] Moreover, the obligations to monitor the realization of human rights and to devise strategies and programs for their promotion are not in any way eliminated

[72] ESCR-Net. The Nature of States Parties Obligations. CESCR General Comment 3 (1990). Available from: https://www.escr-net.org/resources/general-comment-3

[73] Committee on the Rights of the Child 2003. General Comment 5. Available from: https://www.unicef-irc.org/portfolios/general_comments/GC5_en.doc.html; also see General Comments of the Committee on the Rights of the Child and general measures of implementation of the Convention. Available from: https://www.unicef.org/rightsite/sowc/pdfs/panels/General%20Comments%20of%20the%20Committee%20on%20the%20Rights%20of%20the%20Child.pdf Also see: UNICEF 2007. Implementation Handbook for the Convention on the Rights of the Child. Available from: https://www.unicef.org/publications/files/Implementation_Handbook_for_the_Convention_on_the_Rights_of_the_Child_Part_1_of_3.pdf

as a result of resource constraints.[74] States must discharge their duties without discrimination.[75] These obligations help to define the scope of the state's responsibility (and right) to regulate investment for legitimate public policy purposes.

States are the primary duty bearer for human rights and they cannot abrogate this duty; they also cannot contract out of these obligations by delegating them to another party, such as the private sector.[76] However, other actors can have responsibilities to support the realization of human rights, or at least, avoid contributing to violations. RECs are increasingly active in infrastructure planning and development. RECs do not have the same direct human rights obligations as states under international law, but they should nevertheless consciously and deliberately support states to respect, protect and fulfill human rights. International financial institutions and other subjects of international law should, at a minimum, respect internationally recognized human rights, and exercise due diligence to ensure that their actions do not cause or contribute to human rights violations. In addition, businesses have the responsibility to respect human rights, which includes conducting due diligence to inquire about potential adverse human rights impacts from its operations and to manage them.

The UNGPs provide an authoritative global framework that explains how human rights apply to business. Endorsed by the Human Rights Council unanimously in 2011, the UNGPs have become the soft law norm and de facto global standard on the state's duty to protect people against human right abuses, including those by business; the business enterprise's responsibility to respect human rights; and the provision of judicial and non-judicial remedial measures. In terms of the state duty to protect, the UNGPs apply to a state's ownership or control of a company, such as state-owned enterprises, its contractual relationship with service providers, and its own commercial activities, including procurement. In addition, the duty includes a duty to ensure policy coherence across government departments and when acting as members of international organizations, including the MDBs, and to ensure that external agreements, including multilateral and bilateral investment treaties, are aligned with its human rights obligations.[77] Accordingly, the UNGPs lay a solid foundation to help public and private sector actors address a wide range of human rights challenges in the provision of infrastructure services, including through PPPs.

Although the primary purpose of this baseline study is to catalogue negative human rights impacts from infrastructure that must be identified and mitigated, it should not be forgotten that human rights can help improve the impact of investment in infrastructure and development. This is why the 2030 Agenda and Addis Ababa Action Agenda are strongly anchored in international human rights standards. The

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[75] Committee on Economic, Social and Cultural Rights 1990. General Comment No. 3: The nature of States parties' obligations (article 2, para. 1). Available from: http://www.ohchr.org/EN/Issues/Education/Training/Compilation/Pages/a)GeneralCommentNo3ThenatureofStatesParties'obligations(article2,para1)(1990).aspx

[76] UN 2011. Principles for Responsible Contracts. Available from: http://www.ohchr.org/Documents/Publications/Principles_ResponsibleContracts_HR_PUB_15_1_EN.pdf

[77] OHCHR 2014. Frequently Asked Questions about the Guiding Principles and Business and Human Rights. Available from: http://www.ohchr.org/Documents/Publications/FAQ_PrinciplesBussinessHR.pdf

2030 Agenda goes far beyond the MDGs and addresses issues related not only to economic, social and cultural rights but also to civil and political rights and the principle of equality. It also broadly reflects the principles in the 1986 UN Declaration on the Right to Development. The Agenda's stated intent to combat inequalities and discrimination is backed by a commitment for the follow-up and review processes for the SDGs to be based upon evidence and data "disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts".[78] Disaggregation of data is required under human rights law: it exposes instances of discrimination and exclusion and can inform the selection and design of infrastructure projects and plans to promote inclusion and non-discrimination, thereby enhancing development impact.

B. Three Levels of Human Rights Impacts

The normative framework described above provides authoritative reference points to identify and critically examine human rights impacts produced by economic actors involved in the governance and implementation of mega-infrastructure projects. While these impacts can be presented in various ways, such as impacts classified by the actor, by infrastructure sector, by specific human rights instruments, and so on, for the purpose of this study, potential negative human rights impacts will be classified into three levels: micro-, meso- and macro-levels.

The larger the infrastructure project, the more likely that all three levels of impacts will be triggered. Smaller infrastructure projects will likely generate impacts at micro- and meso-levels, and the macro-level impacts may appear at the level of municipalities rather than countries. Some impacts appear in multiple levels; for example, gender-related impacts can surface at all three levels (e.g., female workers and women in affected communities; women as consumers; and women as taxpayers). Process-related problems, weak accountability, and violations of rights to freedom of opinion, expression, association and assembly, already identified as particularly challenging in the context of mega-infrastructure plans, are relevant at all levels.

This three-tiered classification helps signal to decision makers the wide-ranging and multi-level human rights impacts that infrastructure projects can bring about, and that impacts may extend well beyond those typically covered in the MDB safeguard policies, which address mostly the micro-level impacts. It also underscores the fact that impacts that are not readily identified as human rights, and those that seem diffuse or abstract, will often, in fact, have explicit human rights underpinnings and accountability implications. However, as discussed earlier, not every land acquisition, resettlement, fee hike, or other negative human rights impacts discussed below will necessarily constitute a human rights violation. The human rights framework helps to inform and frame trade-offs involved in infrastructure investment, ensuring that interests protected by an internationally recognized human right (or rights) are prioritized over other competing interests, that all voices are heard in the process, that human rights criteria are explicitly incorporated within safeguard policies and risk management systems, and that effective and accessible grievance redress mechanisms are in place where human rights are violated. The risk of a potential human rights violation should trigger strengthened due diligence by all relevant parties, taking

[78] Target 17.18 in the 2030 Agenda.

into account all available country-specific/contextual, and sector/project-relevant information and analysis from international and regional human rights bodies.

C. Micro-level impacts

Micro-level impacts are the potential impacts from physical activities during the planning, construction, operations and decommissioning phases of mega-projects (the "footprint"). These impacts tend to be tangible, direct, and specific, affecting specific individuals, households, groups, and communities, and are often readily identifiable as human rights issues. They are also usually well recognized as environmental and social sustainability issues. Impacts on the environment, such as natural resources and ecosystem services that benefit humans relate to many human rights (e.g. right to food and water, health, and adequate standards of living). (Annex 4 displays a table of impacts for illustrative purposes).

1. Planning phase

The most common and significant human rights issues during this early phase arise from basic flaws in project planning and siting, land acquisition, resettlement plans, land grabs, failure to consult with affected populations and failure to seek the free, prior and informed consent of indigenous peoples.

a. Inappropriate project siting that disregards existing land use, including customary land and resource use, cultural sites, natural habitats of biodiversity, sites that provide ecological services, or other priorities, resulting in loss of land tenure, natural resources and ecosystem services, and land use prioritized by local communities. Frequently, national priorities (especially those derived from a country's international commitments) may not be known, valued or prioritized by local communities, and national governments may not recognize certain rights or attach sufficient value to community land use and cultural sites.[79]

b. Issues related to the process and modality of acquisition of a right-of-way or land, such as expropriation of land; land grabs; forced or premature sale of land under threats or intimidation; forced eviction and relocation (which could be on a very large scale; for example, relocation of slums in urban settings); loss of land tenure rights and losses due to lack of formal title (or lack of a cadastral system); loss of or loss of access to communal land; loss of cultural resources, natural resources, productive assets, and shelter; and adverse impacts of relocation on livelihoods and living standards. Compensation paid for loss of land, productive assets, and shelter may be insufficient to maintain existing livelihoods and adequate standards of living. These impacts may also affect the rights to work, health, education, and adequate housing, including shelter, access to water and sanitation, and locational advantages (such as distance to other family members, community services, work or school), among others.

[79] Lechner et al. 2017. A Socio-Ecological Approach to GIS Least-Cost Modelling for Regional Mining Infrastructure Planning: A Case Study from South-East Sulawesi, Indonesia. Available from: http://www.mdpi.com/2079-9276/6/1/7

c. Conflict with the right to self-determination. Free, prior and informed consent, as provided in the UN Declaration on the Rights of Indigenous People,[80] may not have been sought and obtained with respect to a proposed installation of infrastructure assets in indigenous peoples' ancestral land, or the acquisition of or restriction to access to such land. There are 370 million indigenous peoples around the world, 70% of whom live in Asia.[81] Besides land tenure issues, great injustice occurs when those who must bear the burden of infrastructure projects do not enjoy any of the benefits, such as those who must relocate in order to make way for a major energy project without gaining access to energy.

2. Construction Phase

Generally, the construction phase and physical installation of the infrastructure asset can generate the most wide-ranging environmental, social and human rights impacts, with potentially severe impacts on workers, communities, and the environment.

a. *Labor Issues*: Labor rights are codified in the ILO Declaration on Fundamental Principles and Rights at Work[82] and relevant ILO and UN conventions. The construction industry's negative impacts on construction workers may include impacts on wages, working conditions (including those covered by the four core labor standards), worker accommodation, retrenchment, and labor impacts in the construction supply chain. Hildyard (2016) reports that those who have been forced off their land to make way for a project have often ended up working for the construction company building the infrastructure in near-slavery conditions. Special Economic Zones (SEZs), often featured in national infrastructure programs, lure investors with the promise of low labor standards and lax enforcement, leaving SEZ workers exposed to lower levels of protection.

The influx of foreign labor may affect the ability of the local labor force and SMEs along the corridors or in the specific investment area to benefit from infrastructure projects. If enterprises investing overseas bring along their own workforce and procure their inputs from their home country, such actions may adversely affect the livelihoods of communities and those who operate SMEs along the corridor.

[80] Available from: http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf
[81] See: https://www.culturalsurvival.org/issues
[82] Available from: http://ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_467653.pdf

b. *Communities*: Health and safety impacts on communities during construction may include minor nuisances, such as noise or dust, or major issues, such as loss or damage to property, deterioration of environmental health or fatalities from construction accidents. Construction activities may attract many job seekers and service providers, which may create a boom town effect with potential for public disorder, threats to public health, safety and security, and gender violence (see Box 4). If the construction site requires protection by public or private security forces, the conduct of members of those forces can impact adversely on nearby communities. Community access to natural resources, such as water, forest and fishery resources, and cultural resources, could be temporarily or permanently restricted or lost due to project land acquisition or restriction, pollution, or overuse of resources.

Box 4: Human Rights Impacts during Construction

The Uganda Transport Sector Development Project involved rehabilitation and upgrade of the 66km Kamwenge-Fort Portal road. Although the project involved 400 national workers under the supervision of an overseas contractor, China Railways Seventh Group, the project's ESIA failed to properly assess the potential impacts of such a large labor force in the project area, or the capacity of the contractor or the national agency to deal with local conditions. Responding to complaints received in 2015, the World Bank's Inspection Panel found that the project involved "many cases of child sexual abuse and teenage pregnancies caused by road workers, an increased presence of sex workers, the spread of HIV/AIDS, sexual harassment of female employees, inadequate resettlement practices, inadequate road and occupational health and safety measures, and negative construction impacts." In 2016, the Bank's Executive Board approved an action plan to address the Panel's findings. Among other things, the Bank mobilized funding to provide redress to the abuse victims, and in the future will require contractor background checks and the use of environmental and social performance bonds. A new Guidance Note on management of labor influx will inform staff of the risks involved with large labor forces and labor camps (available at: http://ewebapps.worldbank.org/apps/ip/PanelCases/98-Guidance%20Note%20on%20Labor%20Influx-01December2016.pdf).

Source: World Bank staff and World Bank Inspection Panel: http://ewebapps.worldbank.org/apps/ip/Pages/ViewCase.aspx?CaseId=103

c. *Environment*: Air, water and soil pollution from construction can seriously affect the natural environment. A more comprehensive list of environmental impacts from the construction phase of infrastructure can be found in the World Bank Group's Environmental, Health and Safety (EHS) Guidelines (see Section IV. D. 1. c. below). However, there are gaps; for example, there are no guidelines on hydropower dams and the thermal power guidelines do not ban coal-fired plants.

3. Operations and Decommissioning

During the operations phase, the adverse impacts that typically peak during the construction phase give way to sustained impacts. These will often be comparatively moderate in nature and scope, but may include potentially serious impacts including with respect to the health and safety of workers and communities adjacent to the installations, and the degradation of the natural environment. Failure to maintain infrastructure may pose significant safety threats to the surrounding communities. Following the end of an installation's useful life, decommissioning of the project can also create environmental and social impacts pertaining to the safety of assets, project site rehabilitation, and loss of community livelihoods dependent on the project. These impacts will be exacerbated if the project lacks an adequate decommissioning plan and sufficient funding to address these issues.

a. *Communities*: Poorly designed railways, roads, tunnels and bridges without safety features could result in accidents and fatalities of pedestrians who may not be users of the installation themselves, or cannot afford to pay for usage, but still need to cross the facilities in question. Communities also face catastrophic risks from damage or collapse of poorly designed or maintained infrastructure assets, such as dams, tunnels, and bridges.

Box 5: Neglected Maintenance on Existing Infrastructure

In 2013, the US Federal Transit Administration estimated that there is an eighty-six-billion-dollar backlog in deferred maintenance on the nation's rail and bus lines. The American Society of Civil Engineers, which has given America's overall infrastructure a grade of D-plus, has said that the US would need to spend $3.6 trillion by 2020 to bring it up to acceptable levels. (Source: Surowiecki 2016. System Overload. New Yorker (11 April). Available from: http://www.newyorker.com/magazine/2016/04/18/inside-americas-infrastructure-problem)

Maintenance failure is in part a political issue: Governments tend to prefer building new infrastructure assets over maintaining existing ones. Maintenance is also a burden that tends to be placed on local rather than national governments, even though local governments may have less financial means to pay for maintenance. As a general rule, fixing existing infrastructure should be prioritized over building new facilities.

b. *Environment*: Ongoing pollution from installations, such as air, water and soil pollution, noise, and dust can affect the health, safety, and living standards of nearby residents. For example, air pollution from coal fired plants and coal ash can adversely affect the health of residents; moreover, the greenhouse gas emissions from such installations could contribute to climate change, and landscape management techniques could affect the resilience of the project area and communities nearby to climate change impacts (e.g., flooding, landslides, wild fires). These impacts affect the right to health and potentially even the right to life. Power plants that use cooling water could deprive the local community of drinking water, again impacting adversely on several socio-economic rights.

4. Issues Relevant Throughout the Life Cycle of Infrastructure

a. *Violations of rights to freedom of opinion, expression, association and assembly*: Violations of these rights can occur at any point of the infrastructure project. For example, governments or private sector operators could deploy security forces to protect installations, particularly those deemed to be sensitive or important to national security, during construction and operation. Governments or private operators can intimidate workers and community members, use force, including militarized force, at public gatherings and protests, or restrict or prohibit public protests against projects. Governments may use surveillance techniques against activists and disrupt their communications. Human rights defenders, union workers, environmental activists and community leaders, are facing increasing threats around the globe, as documented by the UN Special Rapporteur on Human Rights Defenders.[83] Women are disproportionately vulnerable.

b. *Access to information, consultation and participation*: Proactive information disclosure and consultation with affected stakeholders should occur at multiple stages throughout the life of an infrastructure project. However, in practice, workers and communities frequently do not have access to information or the opportunity to voice their preferences and concerns. PPP disclosure laws, where they exist, should in theory help workers and communities access information concerning anticipated impacts of infrastructure planning, construction and operation. However, many of these laws favor commercial stakeholders, such as those participating in project bidding, rather than individuals affected by projects. Disclosed information is frequently technical in nature and difficult for the public to understand. Failure to involve stakeholders in the project design and selection phase and throughout the project life cycle can create or prolong misalignment of development priorities at local, national and regional levels, and may cause or exacerbate social conflict.

   National disclosure requirements can be waived for a number of reasons, including national security concerns. Infrastructure sectors are frequently considered critical to national security and may be subject to laws that restrict unauthorized access, use, disclosure, or disruption of such assets.[84] (Such limitations may be permissible under international human rights law as long as the proposed restriction is objectively justifiable according to a specific interest protected under international law, proportionate to the threat perceived, and otherwise complies with applicable national legal procedures.) Disclosure requirements can also be waived under specific

[83] See the website of the UN Special Rapporteur on Human Rights Defenders, available from: http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/SRHRDefendersIndex.aspx

[84] The United States designed 16 critical infrastructure sectors whose assets, systems, and networks, whether physical or virtual, are considered so vital to the country that their incapacitation or destruction would have a debilitating effect on security, national economic security, or national public health or safety. The US intends to strengthen the security and resilience of its critical infrastructure against both physical and cyber threats. See https://www.dhs.gov/critical-infrastructure-sectors

circumstances, such as when proprietary information is included in unsolicited PPP bids. Waivers and limitations are often abused in practice.

When an MDB is involved, its disclosure policy may help communities and workers access project information and key contracts, though the policies are not consistent and unevenly applied.[85] Of the MDBs, only IFC has a specific disclosure policy in relation to infrastructure, though the provision is voluntary.[86] The Interim Policy of the Asian Infrastructure Investment Bank on Public Information is particularly weak, providing for broadly worded exceptions to disclosure without objective justifications of the kind found in many other MDBs' policies and in national laws.

Box 6. "Back to Development – A Call for What Development Could be" by the International Accountability Project (IAP) (available at: bit.ly/whatdevelopmentcouldbe)

[In 2015,] IAP surveyed 800 participants affected by development projects in the infrastructure and extractive sectors in eight countries around the world. According to the survey:

- 94% said they have never been consulted about their development priorities for the country or region
- 88% said they were not consulted during the planning phase of the project
- 85% of those consulted about the project don't think their ideas or opinions were incorporated into project plans
- 82% said their development priorities were different from those of the governments
- 78% said they did not feel safe to ask questions and express their opinions about projects
- 65% believed that projects could have been modified to achieve the same goals while causing less harm
- 64% said they did not know where to find project information
- 14% believed projects would benefit the people of their countries as a whole
- 10% believed projects would benefit their communities
- In addition, participants consistently objected to the World Bank practice to consult the governments and corporations but not the communities

[85] For example, the Development Bank of Latin America or CAF does not have a disclosure policy. CAF actively supports infrastructure projects and plans in the region.

[86] See paragraph 53 of the IFC Sustainability Policy. Available from: http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/sustainability-policy/sustainability-policy

D. Meso-level impacts

Between micro-level and macro-level impacts are the human rights impacts on the users (and would-be users) of infrastructure services, arising from the operation of the relevant infrastructure assets. The impacts can be just as tangible and direct as the micro-level impacts, but they tend to be shared by a wider segment of the population. As with other levels, meso-level impacts will be felt most acutely by the more vulnerable segments of the society, including those living in poverty or experiencing direct, indirect or structural discrimination.

International human rights law explicitly sets out norms on the rights and obligations, including access and affordability, of many social services, such as housing, water, sanitation, health care, and education. ICESCR, as interpreted by the Committee on Economic, Social and Cultural Rights (CESCR), sets forth minimum service characteristics applicable to certain types of infrastructure.

In addition to international law, an increasing number of national constitutions mention consumer rights, and some explicitly designate consumer rights as human rights. For example, under the European Charter of Fundamental Rights, which entered into force in 2009, consumer protection is set out as a human right. This means that consumer protection is explicitly linked to human rights principles, such as non-discrimination, and disclosure of information.[87] These laws may further boost the future claims of users and consumers of infrastructure services.

1. Accessibility of Services

Ensuring the provision of basic social services, such as health, education, water and sanitation, are among the explicit obligations of states. The human rights to education and to the highest attainable standard of health are free-standing rights under the ICESCR and other instruments, whereas the rights to adequate housing, food and water and sanitation stem from the right to an adequate standard of living.

More than 780 million people around the world lack access to clean drinking water.[88] The CESCR has clarified[89] that the attributes of the right to water include availability, quality, accessibility (physical & economic (i.e., affordability[90]) accessibility) and non-discrimination. A similar conceptual structure

[87] Wachenfeld, Dowell-Jones and Aizawa. 2016. Human Rights and Sustainable Finance: Exploring the Relationship. Available from: http://unepinquiry.org/publication/human-rights/. A number of countries include consumer protection as a single protected value in their constitutions (e.g. Brazil, Lithuania, Serbia, Thailand) while others recognize particular consumer "rights" (e.g. Argentina, Portugal, Poland, Timor-Leste). See also: Devenney and Kenny 2012. European Consumer Protection. Chapter 17.

[88] http://www.unwater.org/water-cooperation-2013/water-cooperation/facts-and-figures/en/

[89] Economic and Social Council 2003. General Comment 5. Right to Water. Available from: http://www2.ohchr.org/english/issues/water/docs/CESCR_GC_15.pdf

[90] The UN Independent Expert on the issue of human rights obligations related to access to safe drinking water and sanitation offers the following human rights based definition of "affordability:" "Access to sanitation and water facilities and services must be accessible at a price that is affordable for all people. Paying for services, including construction, cleaning, emptying and maintenance of facilities, as well as treatment and disposal of faecal matter,

governs the Committee's interpretation of other socio-economic rights, including health[91] and education.[92] National constitutions and laws frequently reflect these requirements.

Implementation of the requirement to progressively achieve universal access can be a major challenge. Discrimination, whether overt or indirect, is often a key access barrier. For example, in the US in the 1960s, highway networks were constructed to transport commuters from suburbs to city centers, deliberately bypassing poor inner-city communities.

> "Planners frequently routed these highways through communities of color, and they not infrequently used infrastructure to reinforce boundaries between white and non-white communities. Communities of color paid the price for urban renewal and highway building in other ways, too. Scholars estimate that some four million people, two-thirds of them black or Hispanic, were displaced in the heyday of urban renewal. Communities adjacent to highways suffered environmental degradation, contributing to, among other things, strikingly higher asthma rates."[93]

Deficiencies in access to services have also occurred when the government authority or private sector operator excludes poorer households ("cherry-picking" or "cream-skimming") or entire neighborhoods ("red-lining") from service areas, given their inability to pay. These practices are overtly discriminatory and have detrimental impacts on the poor.

"Improved access seldom takes place in a policy vacuum:"[94] strong public sector presence, awareness and regulatory and enforcement action are necessary to guard against discrimination in access. The

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must not limit people's capacity to acquire other basic goods and services, including food, housing, health and education guaranteed by other human rights. Accordingly, affordability can be estimated by considering the financial means that have to be reserved for the fulfillment of other basic needs and purposes and the means that are available to pay for water and sanitation services. Charges for services can vary according to type of connection and household income as long as they are affordable. Only for those who are genuinely unable to pay for sanitation and water through their own means, the State is obliged to ensure the provision of services free of charge (e.g. through social tariffs or cross-subsidies). When water disconnections due to inability to pay are carried out, it must be ensured that individuals still have at least access to minimum essential levels of water. Likewise, when water-borne sanitation is used, water disconnections must not result in denying access to sanitation." Available from: http://www2.ohchr.org/english/issues/water/iexpert/docs/questionnaires2010/BDA_Germany_Implementing_the_right_to_water_Kenya_GTZ.pdf

[91] OHCHR and WHO. The Right to Health. Available from: http://www.ohchr.org/Documents/Publications/Factsheet31.pdf

[92] Committee on Economic, Social and Cultural Rights 1999. General Comment No. 13: The right to education (Article 13). Available from: http://www.ohchr.org/EN/Issues/Education/Training/Compilation/Pages/d)GeneralCommentNo13Therighttoeducation(article13)(1999).aspx

[93] Manson 2017. Would Trump's Infrastructure Plan Fix America's Cities? The Atlantic (7 January). Available from: https://www.theatlantic.com/politics/archive/2017/01/trump-infrastructure-cities/512432/

[94] Estache, Foster & Wodon 2002. Pp.31, 37.

most common policy measure to ensure that private operators commit to greater access is to specify a legally binding and enforceable universal service obligation.[95]

2. Affordability of Services

User fees and tariffs are intended to help cover the costs of new or refurbished infrastructure assets and increase service quality. However, in the case of private participation in infrastructure, user fees are also frequently applied to other purposes, thereby potentially exacerbating concerns about affordability of services by consumers, especially the poor.

Fees for usage of infrastructure services are not the only out of pocket expenses for the consumer. In Buenos Aires in the 1990s, first time users connecting to the new water and sewage services had to pay connection charges of between US$1,100 to $1,500 to cover the costs of connecting and network expansion. Many could not afford such exorbitant connection fees.[96]

Box 7: Financial burdens on users of privatized services

Following the 2008 financial crisis, many municipalities in the US were no longer able to operate and maintain infrastructure. They sold their infrastructure assets such as municipal water facilities to private equity. The new owners increased water rates to recoup the cost in new facilities and refurbishments, to a point where many users were no longer able to pay. A portion of the rates went to the operator as part of its guaranteed return on investment. In some cases, pledges to avoid fee increases were simply ignored from the outset. Failure to pay the hiked rates led to liens being placed on homes. If the liens were not paid off, homeowners lost their home to foreclosures.

Source: New York Times: https://www.nytimes.com/2016/12/24/business/dealbook/private-equity-water.html)

Electricity charges usually include generation charges, capacity charges (the cost incurred by the operator, generator and transmission owners in having the capacity ready to meet peak electricity demand), and the cost of capital. Fixed fees of these kinds have been doubling or even tripling in the US, due to concerns of electric utilities about diminishing returns from energy savings. These fees affect all users regardless of the actual usage of services, and affect the poor and smaller households disproportionately; perversely, these fees can discourage smaller households and savers from using less electricity.[97]

[95] Ibid.
[96] Estache, Foster & Wodon 2002. P. 16.
[97] Kuperszmid Lehrman 2016. The Fees that Raise Your Electric Bill Even When You Use Less Energy. Consumer Reports (7 March). Available from: http://www.consumerreports.org/consumer-protection/fees-that-raise-your-electric-bill-even-when-you-use-less-energy/

3. Privatization Failures

Human rights law does not oblige States to deliver services directly. Private sector participation in infrastructure can enhance the efficiency of service delivery and may even contribute to macroeconomic productivity gains. Yet, the private sector lacks incentives to enhance accessibility and affordability of services, and regulatory reforms to create the enabling environment for private sector participation can result in harm to the poor and others in vulnerable situations. States are required to establish a regulatory framework to ensure that private operators respect human rights and meet minimum service delivery obligations set out under international human rights law.

The series of experiments in opening up the water and sanitation services to the private sector in Latin America in the 1990s offers a cautionary tale in this regard. Following the example of the UK, which sold off all of its water assets to private companies in the 1980s, Latin America decided to make a break from its long-standing tradition of monopolies by state-owned enterprises in infrastructure services. Confronted with fiscal constraints and profound public dissatisfaction with poor services, countries introduced regulatory reforms and eventually attracted $290 billion (private and linked government) investments in infrastructure, representing almost half of global private investments in infrastructure during the 1990s.[98] Investments poured into energy, water and sanitation, and telecommunication projects via management contracts, concessions, build-operate-transfer (BOT) contracts, and privatization.

Many of the water projects from that era exposed problematic patterns of behavior by water companies, including the imposition of frequent or excessive rate hikes, failure to provide connections to many households, renegotiations, cancellations, litigation in PPP arrangements, and excessive profit taking. Overall, 76% of water deals in Latin America were renegotiated within 1.6 years, and over 30 disputes involving water projects existed at the end of 2003 in Argentina alone.[99] Expensive water connection charges and user fees, without any improvement in quality of service, infuriated consumers. The international media reported riots by Bolivian water users, which were violently put down.[100]

More recent water projects have not seemed to fare much better. Critics of private sector participation in the water sector claim that water projects have a failure rate up to five times greater than that of the transport, energy or telecommunications sectors.[101] Some municipalities are starting to repurchase water facilities previously sold to or run by the private sector. (See Box 8).

There are additional risks faced by low-income communities when the private sector operates infrastructure. In cases where slum dwellers and remote villages enjoy access to water or electricity from illegal sources, the legal reforms necessary to enable private sector participation will almost invariably attempt to stamp out such practices. Reforms may also involve the cessation of state subsidies to the poor for service use. These measures can potentially make the total outlay of user costs

[98] Estache, Foster & Wodon 2002.
[99] Allaoui 2014. Comment intégrer le contenu du droit humain à l'eau dans les accords PPP. Available from: http://www.waterlex.org/new/wp-content/uploads/2014/11/Droit-eau-PPP.pdf
[100] Ibid.
[101] Vidal 2015. Water privatization: a worldwide failure? The Guardian (20 January).

higher under the private sector scenario, with disproportionate adverse impacts on the poorest people, at least in the short term. Although surveys usually confirm the willingness of low-income communities to formalize service and their delivery relationship with the service provider, high user fees and other charges mean that they potentially have to choose between basic infrastructure services and other essential goods and services. Public policy interventions, including temporary subsidies, may be necessary to maintain reasonable user fees. If the public sector is operating the infrastructure, user fees should not be used as a substitute for taxation.

Box 8. "We Own It" Campaign: The Rise of Remunicipalization in Water

We Own It campaigns against privatization of trains, water and energy services, care work, council services, and the National Health Service in the UK. Through polling the public, it has shown that people want transparency and accountability in infrastructure and believe that the best way to achieve this is through public sector ownership of infrastructure. A similar We Own It movement in Canada has resulted in several municipalities taking back key infrastructure facilities. For example, the city council in Port Colborne, Ontario, passed a motion in March 2017, aimed at putting an end to the privatization of public services in the community.

According to The Guardian, quoting a report by the Transnational Institute (TNI), Public Services International Research Unit and the Multinational Observatory, "180 cities and communities in 35 countries, including Buenos Aires, Johannesburg, Paris, Accra, Berlin, La Paz, Maputo and Kuala Lumpur, have all 're-municipalised' their water systems in the past decade. More than 100 of the 'returnees' were in the US and France, 14 in Africa and 12 in Latin America. Those in developing countries tended to be bigger cities than those in richer countries." The same report indicates that municipalities increasingly share their experience with others in managing water infrastructure.

Such "remunicipalization" movements not only ensure public ownership of public infrastructure, but also affirm the state's (or the municipality's) right to regulate and uphold the rights of users and members of the public over the interests of private investors.

Source: https://weownit.org.uk/about-us; https://www.opendemocracy.net/ourkingdom/rachel-graham/we-own-it-new-campaign-against-uks-disastrous-privatisations; http://www.weownit.ca/port_colborne_says_no_to_privatization_of_public_services

Vidal 2015. Water privatization: a worldwide failure? The Guardian (January 20). Available from: https://www.theguardian.com/global-development/2015/jan/30/water-privatisation-worldwide-failure-lagos-world-bank

As infrastructure projects seek financing from non-traditional sources of financing, and as complex investments instruments that bundle assets are made available for investors who do not wish to directly own infrastructure assets, investors will increasingly become distant from the direct source of revenue

(user fees). This may further complicate accountability relationships and incentives for prudent investment in socially and environmentally sustainable infrastructure.

4. Addressing Discrimination and Meeting the Needs of Different Groups

Different groups of people have different needs and expectations about infrastructure services. Women, young people, elderly persons, persons with disabilities, indigenous peoples, and poor or marginalized communities may use infrastructure differently compared with "mainstream" customers. The World Bank[102] has noted that transportation designs often take into account men's commuting patterns (e.g., radial design that takes men straight into city centers) without regard to women's travel patterns, which tend to be more complex involving more stops than men, and are influenced by such factors as security risks and affordability. As a result, women's needs are often not served by public transportation.

Similarly, a range of gender issues in energy projects has been identified. The problems include the continuing dominance of men in decision making at all stages of energy projects, discrimination against women in connection with employment, the fact that compensation payments from energy projects usually get paid to the male heads of households, and the almost systematic failure of energy projects to identify, mitigate and monitor project impacts on women.[103]

Universal design is an important principle that benefits all users and not only those with disabilities, but is often ignored in infrastructure projects, and is not a visible part of plans. Retrofitting infrastructure projects for universal design is usually far more costly than incorporating it in project design from the outset. Potentially, discriminatory impacts of project design on different groups can be ascertained through appropriate consumer analysis, cost benefit analysis or other studies that disaggregate the different needs of different user groups. Participatory planning can also reveal the preferences and concerns of a range of population groups and ensure that the proposed infrastructure will be used and paid for by the intended user groups. Methodologies for disaggregation to support the human rights of different groups are readily available, but are not yet mainstreamed.

5. Inadequate Disclosure, Consultation and Accountability:

The World Bank Group's Independent Evaluation Group (IEG) reviewed 170 PPP projects financed by the Group over the past decade and found that consultation with stakeholders received too little attention (presumably attention of the World Bank staff, and in reference to all stakeholders, including users).[104]

[102] World Bank 2010. Mainstreaming Gender in Road Transport: Operational Guidance for World Bank Staff. Available from: http://siteresources.worldbank.org/INTTRANSPORT/Resources/336291-1227561426235/5611053-1229359963828/tp-28-Gender.pdf

[103] The Economic Community of West African States (ECOWAS) has a draft Directive that mandates gender assessments in energy infrastructure projects. It is in the process of being validated through stakeholder consultations. See https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/ECOWAS_Policy_for_Gender_Mainstreaming_in_Energy_Access.pdf

[104] World Bank 2014. World Bank Group's Support to Public-Private Partnerships: Lessons from Experience in Client Countries, FY02-12. Available from: https://ieg.worldbankgroup.org/Data/Evaluation/files/ppp_eval_updated2.pdf

Users of infrastructure services should have access to effective mechanisms for the resolution of complaints. User associations and consumer watchdog or ombudsman organizations can potentially be used for this purpose in new infrastructure projects and plans. Existing judicial, quasi-judicial, political and administrative mechanisms should also be explored. However, efforts must be made to reach out to all segments of the society, including to poor and marginalized groups, to ensure that they are aware of such services and that all access barriers are identified and addressed.

E. Macro-level impacts

This section describes potential human rights impacts that can be experienced by the population at large through acts or omissions of the state in relation to infrastructure projects, or from the broader implications of infrastructure projects or plans. Such economy-wide impacts tend to be diffuse, widespread and not specific, though they are likely to disproportionately affect vulnerable populations and those already subjected to discrimination. Most state acts or omissions in this category relate to fiscal management, public financial management or public governance issues, rather than human rights issues specifically, yet they can create serious adverse human rights impacts. Private actors, including those who finance infrastructure projects, can also share responsibility for these impacts.

1. Poor analytical, consultation and decision-making processes:

Of the numerous process shortcomings that arise in practice, perhaps the most egregious is the way in which technocrats and politicians select projects without adequate public consultation or democratic participation, discussed in Part II. Section C. above. Macro-level risks can be associated with, and to some extent caused by, deficiencies in information disclosure and public consultation, similar to those described in Part II. Section C. The diffuse causal accountability mechanisms and multiple actors involved can present additional challenges in this regard. Moreover, individuals who are not directly impacted by the micro- or meso-level infrastructure impacts discussed above but may otherwise be concerned about a planned or operational infrastructure project may find that no appropriate venue is available to raise grievances. This conspicuous accountability gap at the macro-level poses theoretical and operational challenges when we attempt to link human rights with macroeconomic, fiscal or financial issues arising from infrastructure.

As noted above, mega-projects are typically under-budgeted and over-optimistic in terms of expected financial, economic and socio-economic benefits. Flyvbjerg attributes this to the fact that, among other things, mega-projects are typically based on poor quality cost benefit analysis and environmental and social assessments with too many errors and biases ("garbage in, garbage out").[105] Such negligent processes cause decision makers to miss crucial opportunities to "right-size" or appropriately scale the infrastructure project to match realistic financial projections and the needs and priorities of the population.

Government authorities frequently fail to undertake cumulative / strategic impact assessments, and even where such assessments are undertaken, human rights information relevant to such assessments is not taken into account. Strategic assessments are intended to inform decision makers and stakeholders

[105] Supra 35.

about the higher-level economic, environmental and social impacts of their decisions, and are critical at the early stages of project planning. Cumulative impact assessment enhances the understanding of cumulative impacts of multiple existing and planned installations, and can work in cross-jurisdictional and multi-sectoral settings. These assessments can and should include human rights considerations.[106] Upfront information about a country's human rights track record, including treatment of human rights defenders,[107] gender-based violence or discrimination, the situation of indigenous peoples, quality of governance and, patterns of social conflict may usefully inform project siting and improve design and thus also contribute to improved project outcomes.

Government authorities frequently fail to carry out appropriate cost benefit analysis and fail to integrate socio-economic and human rights factors within that analysis. Cost benefit analysis informs public authorities about the financial and economic costs and benefits of a proposed infrastructure project, and will influence their decision on project design and its financing. Most authorities, however, do not take into account a full spectrum of socio-economic factors, let alone human rights factors, in the analysis. The prevailing methodology involves a utilitarian approach that makes it challenging for social and environmental issues and externalities to be costed and fully factored into such analyses. Nonetheless, including a full complement of socio-economic factors will enhance socio-economic rights of stakeholders and infrastructure users and provide the basis for better decision-making.

When developing regional or national infrastructure plans, decision-makers may ignore or fail to coordinate with existing infrastructure plans, Nationally Determined Contributions under the Paris Agreement, national Human Rights Action Plans, sustainable development plans, and SDG action plans and commitments. The latter plans are, by definition, generated in order to fulfill a country's international commitments, and often come into being through a national consultative process. When a regional infrastructure plan fails to take national priorities into account, the proposed projects under the plan may end up contradicting the participating countries' international commitments, particularly those related to human rights and sustainable development.

Numerous other process deficiencies may also arise in practice. For example, the creation of a "one stop shop" to simplify and speed up the permitting process can fail to properly sequence all regulatory approvals and licenses based on proper underlying assessments and studies, such as ESIAs and HRIAs. Environmental permits should only be granted after a proper ESIA, however frequently the sequencing is reversed or in some cases the ESIA is waived (see Box 10). Moreover, there is often a lack of fiscal transparency of off-balance sheet liability for PPP projects incurred by governments, and a lack of

[106] For example, see Sector-Wide Impact Assessment carried out by the Myanmar Center for Responsible Investment. Available from: http://www.myanmar-responsiblebusiness.org/news/swia/ Also see NomoGaia's human rights impact assessment tools, Available from: http://nomogaia.org/tools/ ; Human Rights Risk analysis tool by the Coalition for Human Rights in Development, Available from: http://rightsindevelopment.org/our-work/hrdd/

[107] Civicus publishes Enabling Environment National Assessment that assesses the legal, regulatory and policy environment for civil society. Its 2016 assessment reviewed 19 countries. Available from: http://www.civicus.org/index.php/eena-country

accountability for fiscal mismanagement. PPPs have often been used by cash-strapped governments as a financial mechanism to hide expenditures off the public balance sheet. In order to attract private investment, governments have frequently offered generous guarantees to the private sector partner without disclosing contingent liabilities. According to OECD data, governments' practice in this area still needs considerable improvement. Countries are strongly encouraged to release such information as part of their fiscal accounting and transparency practice, but there is no universally accepted accounting methodology for this purpose.[108]

2. Fiscal and financial impacts from poor management of infrastructure:

Adverse macroeconomic impacts can arise from a range of factors, including: poor management of public budgets, spending and accounting; poor project planning, management, or oversight; and poor judgment by public authorities and lack of negotiation skills with the private sector. Adverse macroeconomic impacts may include wasted public resources; unsustainable fiscal impacts on the economy and eventually on taxpayers; and adverse impacts on the population at large through austerity policies and reduced public spending and services. This may conflict with the state duty to dedicate maximum available resources to fulfill socio-economic rights, including funding social infrastructure projects in the health and education sectors. Mismanagement in the areas outlined above could also lead to or exacerbate inequalities.

Ideally, infrastructure projects should ensure value for money through achieving benefits in the most cost-effective way. Projects with private sector participation, such as PPPs, should theoretically be cheaper than the public sector option. However, this is not always the case with PPPs. For example, the public sector can borrow at half the cost of the private sector,[109] and in the case of European road projects, PPPs have reportedly been 24% more expensive than traditionally procured projects.[110] Transaction costs associated with PPPs, such as legal and other professional fees, can lead to massive sums if they are not carefully managed.

In the case of PPPs, the projects' benefits, risks and costs must be allocated appropriately and fairly between the public authority and private sector operator. The state must engage in a difficult balancing act: it must make private sector participation attractive by offering support, without making the PPPs more expensive than would be the case under the public option. Private sector inducements can be

[108] The IMF and the World Bank have created a PPP Fiscal Risk Framework Model (PFRAM) as a possible common methodology for accounting for public sector's contingent liabilities in PPPs. Available from: https://www.imf.org/external/np/fad/publicinvestment/pdf/PFRAMmanual.pdf. The International Public Sector Accounting Standards Board, Eurostat and the OECD also issued guidance. However, these initiatives are not coordinated.

[109] Romero 2016, citing the 2015 review by the UK's National Audit Office.

[110] Powell 2016 notes that the EIB, in a comparison of 227 new roads built in 15 European countries, 65 of which were PPPs, found that the "ex ante cost of a PPP road to be, on average, 24% more expensive than a traditionally procured road".

financial (subsidy, loans/equity, or guarantees) or nonfinancial (tax breaks, customs exemption, waiver of competition laws, ensuring security interest for lenders, etc.).[111]

Even if the parties manage to strike a fair and appropriate risk allocation at the outset of a PPP contract, the arrangement may not last long. According to one source, 55% of all PPPs end up being renegotiated, on average every 2 years. Of all PPPs renegotiated, 62% have led to an increase in tariffs; 59% have led to automatic pass-through of increased costs to tariffs; 69% have led to postponement and decrease in private sector obligations; and 31% have ended up decreasing concession fees paid to the government.[112] As a last resort, taxpayers invariably foot the bill when governments bail out failed private enterprises. These actions may conflict fundamentally and directly with the state's duty to dedicate the maximum extent of available resources toward the realization of socio-economic rights.

Public resources may be wasted in many other ways. McKinsey has shown that it is possible to provide infrastructure services at a 40 percent cost savings by imposing up-to-date project management processes and standards on construction companies, which are typically behind the curve in innovation.[113] The Construction Sector Transparency Initiative (CoST) estimates that 10% to 30% of the total value of global construction output may currently be lost through corruption, and a similar amount may be lost through mismanagement and inefficiency. According to CoST, "[t]his means that by 2030, unless measures are introduced that effectively improve this situation, close to $6 trillion could be lost annually through corruption, mismanagement and inefficiency."[114]

The various ways in which the state (mis)manages infrastructure projects and subsidizes the private sector may lead not only to a one-time exorbitant tax bill for taxpayers, but potentially also to macroeconomic crises. Government budgets can become overcommitted due to overzealous PPP programs and undisclosed contingent liabilities, creating serious debt sustainability issues. For example, the IMF notes that it did not include the liabilities of state-owned enterprises and public-private partnerships in its calculations of Portugal's public debt. As a result, Portugal's financing needs were underestimated when the country approached the IMF for emergency financial assistance in 2011.[115] It is widely feared that the BRI may impose unsustainable levels of debt on participating countries for many years to come.[116] Depending on the magnitude of financial liabilities, governments may be forced to take on additional public debt and may be more susceptible to external pressures to implement

[111] UN Economic Commission for Europe 2008. Guidebook on Promoting Good Governance in Public-Private Partnerships. Available from: http://www.unece.org/index.php?id=2147
[112] Queyranne 2014. Managing Fiscal Risks from Public-Private Partnerships (PPPs). Available from: https://www.imf.org/external/np/seminars/eng/2014/CMR/pdf/Queyranne_ENG.pdf
[113] Supra 28.
[114] Alexander 2016. Infrastructure investment and Public Private Partnerships. Available from: https://us.boell.org/2016/12/15/infrastructure-investment-and-public-private-partnerships
[115] Independent Evaluation Office of the International Monetary Fund 2016. The IMF and the Crises in Greece, Ireland, and Portugal: An Evaluation by the Independent Evaluation Office. P.22. Available from: http://www.ieo-imf.org/ieo/files/completedevaluations/EAC__REPORT%20v5.PDF
[116] Supra 10.

heavy-handed austerity measures. These actions can undermine economic growth, diminish public services and employment, and increase poverty and inequalities.

3. Compromising the right to regulate:

States protect investments through multilateral, plurilateral and bilateral investment treaties, foreign investment protection and promotion agreements, and other similar mechanisms. Regrettably, in many instances, the right and responsibility of states to regulate for legitimate public policy purposes has been curtailed or compromised by economic equilibrium or stabilization clauses,[117] thereby limiting the state's ability to respect, protect and fulfill human rights. Moreover, investor state dispute settlement provisions in investment agreements have often resulted in investors' interests being privileged over the state's legitimate regulatory interests to protect the general populations.

UNCTAD's 2015 Investment Policy Framework on Sustainable Development[118] clearly recognizes the host country's right to set regulations on entry and operational conditions for foreign direct investment, in the interest of public good or national security, and to minimize potential negative effects of such investment. Recent investment arbitrations have recognized the so-called "police powers" of the state, and right to regulate in the public interest.[119] These and related developments send a helpful signal to states and investors about the need for a more balanced approach that does not protect investors at the expense of human rights.

In the context of socio-economic rights, states' duty to fulfill human rights includes taking steps and using "all appropriate means including particularly the adoption of legislative measures."[120] The obligation to pass implementing legislation is complemented by other responsibilities, such as the need to develop a national strategy, to carry out regulatory impact assessments that reflect human rights considerations and capture differential impacts on different population groups, consult with stakeholders, disseminate information, put in place affirmative action programs as needed, ensure the provision of a universal "minimum core" of socio-economic rights including social protection measures, establish effective mechanisms of grievance redress, and monitor the implementation of legislative, budgetary and policy measures. Duties of these kinds should not be compromised by the state's undertakings towards investors.

4. Reinforcing inequalities:

Infrastructure programs, consciously or otherwise, have often reinforced existing patterns of discrimination and segregation, further marginalizing those who do not have access to infrastructure. For example, in the United States, certain federally funded infrastructure programs have reportedly contributed to "metropolitan fragmentation that facilitated white flight and class stratification", leaving concentrated minority populations in inner-city high rises. Later, when urban renewal projects brought

[117] Mouyal 2016. International Investment Law and the Right to Regulate. Routledge, London and New York.
[118] Available from: http://unctad.org/en/PublicationsLibrary/diaepcb2015d5_en.pdf
[119] Philip Morris Brands SARL and others v. Oriental Republic of Uruguay (ICSID Case No. ARG/10/7). Pp.81-88.
[120] Supra 72.

back the middle classes, the highway system reportedly connected downtown areas to outlying residential areas, "stitching together the affluent, white components of the fragmented metropolis."[121] If maintaining the status quo and keeping certain segments of the population segregated was an explicit or implicit objective of an infrastructure program, then no amount of social assessment and differentiated analysis of the population would have made any difference to the final outcome.

5. Risks from infrastructure as an asset class:

Over the last three decades, infrastructure financing has begun to be transformed by financialization, which can be defined as the "growing scale and profitability of the finance sector at the expense of the rest of the economy and the shrinking regulation of its rules and returns."[122] Even though private finance-ready infrastructure deals have yet to flow freely, some commentators have been speculating that we may be on the cusp of an "infrastructure-as-an asset class" boom.[123]

International banks have traditionally provided long-term financing for infrastructure projects. However, international banks have been retreating from the project finance market due to tighter financial regulation following the 2008 financial crisis and risk-aversion, and other sources of financing are beginning to fill the vacuum. The newer sources include insurance funds, pension funds and sovereign wealth funds, with an estimated $70 trillion of assets under management, collectively. The G20, the OECD and the MDBs are all focused on incentivizing institutional investors to invest in the infrastructure sector in order to fill the global funding gap. According to the World Bank, most of the pension funds around the world produce insufficient or negative returns,[124] and as a result, they are hungry for better returns to meet their obligations to pensioners. Since these new investors lack prior experience in investing directly in the infrastructure sector, the MDBs are positioning themselves to be helpful by carrying out due diligence, including ESG due diligence, and "derisking" projects for investors.

The environmental and social due diligence standards applicable to project finance, such as the Equator Principles (according to the Equator Principles website, the Principles cover 70% of international project finance debt in emerging markets), do not apply directly to these institutional investors. Even if the Principles were voluntarily applied, the alternative financiers typically lack capacity to carry out ESG due diligence. At the same time, neither the Equator Principles Financial Institutions nor these long-term investors have grievance mechanisms for their operations.

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[121] https://www.theatlantic.com/politics/archive/2017/01/trump-infrastructure-cities/512432/

[122] Wall Street And The Financialization Of The Economy, Forbes, February 4, 2015. Available from: https://www.forbes.com/sites/mikecollins/2015/02/04/wall-street-and-the-financialization-of-the-economy/#54d66c6b5783

[123] For a vivid and detailed account of an array of financial instruments available to profit from the global infrastructure boom, see Hildyard 2016, Chapter 4.

[124] Levy 2017. Catalyzing Private Investment in Infrastructure in Emerging Markets and Developing Economies. World Bank Group. Available from: http://brettonwoods.org/sites/default/files/documents/BWC%20-%20Catalyzing%20Private%20Investment%20in%20Infrastructure%20Presentation%20Joaquim%20Levy%20April%2019.pdf

In addition to direct investments, financial intermediaries now offer instruments that enable quick ownership in and transfer of a slice of bundled infrastructure assets. Examples include securitized debt and infrastructure funds, some of which are publicly traded with fund managers under great pressure to show high yields. Since many assets are bundled together, it is not always immediately clear which underlying assets are being financed. Each such infrastructure asset is likely to have a complicated ownership and financing structure. Hence, it becomes ever more challenging to carry out ESG due diligence or follow the money to impacts, compared with project finance that funds tangible physical assets. These assets may appeal to new investors who would like to venture into the infrastructure sector but do not wish to make direct investments in projects.

Financial instruments can affect human rights on multiple levels.[125] Although the human rights impacts of complicated financial engineering products are difficult to analyze, it is already clear that financialization can bring about many of the negative human rights impacts described in this baseline study. Depending on the structure of the financial product, some of the impacts will not be traced to particular sources of finance, and any commitment to manage ESG issues may be lost in the mix of assets. In a worst-case scenario, a potential infrastructure investment boom may render ESG due diligence merely "optional",[126] and possibly lead to redistribution of wealth from taxpayers to investors, further accelerating inequalities between population groups.[127]

6. Climate Change:

Climate change presents significant risks to infrastructure projects and to society. Climate change risks to projects[128] must be managed so that the infrastructure asset and its expected benefits will not be diminished or destroyed by extreme weather events and other well-documented meteorological, environmental and social impacts.

Although GHG emissions from the transportation, energy (large thermal power projects), and ICT[129] sectors are usually widely dispersed and do not have immediate localized effects, significant levels of emissions from installations will contribute to climate change and impose costs on the economy and

[125] Supra 87.
[126] Calliari 2015. The G20's principles on institutional investment: A Trojan horse for finance-driven infrastructure? Available from: https://us.boell.org/2015/11/05/g20s-principles-institutional-investment-trojan-horse-finance-driven-infrastructure
[127] Heinrich Boell Foundation. Infrastructure: for people or for profit? The crucial role of responsible and democratic governance. Available from: http://www.academia.edu/14854744/Infrastructure_for_people_or_for_profit_The_crucial_role_of_responsible_and_democratic_governance
[128] For further detail, see: World Bank 2016. Emerging Trends in Mainstreaming Climate Resilience in Large Scale, Multi-sector Infrastructure PPPs. Available from: https://library.pppknowledgelab.org/documents/2874/download
[129] Although the Internet, geographic information systems (GIS), smart phones, satellite imaging, remote sensing, and data analytics, powered by the ICT sector, are expected to help reduction of GHGs, the ICT sector itself has a significant GHG footprint. Data storage facilities consume significant amount of energy. As a result, GHG emissions are one of the top environmental impacts associated with the operation of certain ICT facilities. Source: http://www.parliament.uk/documents/post/postpn319.pdf

society as a whole, and adverse impacts will be felt most acutely by the poorest and the most marginalized or vulnerable population groups. The normative and functional linkages between climate change and human rights have been well studied.[130] WHO predicts that, between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year, from malnutrition, malaria, diarrhea and heat stress.[131] Older persons will be particularly vulnerable to increased morbidity and mortality from hypothermia and hyperthermia.[132] Regional plans should assess cumulative impacts, including the impacts of climate change on people and the environment, and establish climate mitigation and adaptation measures within the regional plan itself, rather than leaving it up to countries to address these issues in a disjointed manner.

Many infrastructure assets will be operational for decades, and in the case of private sector participation, will be underpinned by long-term contracts that lock in technology, climate risk allocation, and methods to resolve disputes concerning climate loss. It is critically important that infrastructure projects incorporate the best available project design and technology to minimize fossil fuel consumption and GHG emissions and adapt to climate change. Public authorities should not have to absorb losses from flooding and other extreme weather events, the occurrence of which is increasingly predictable. In addition, contracts should promote a flexible working relationship between the contracting authority and the private operator that facilitates the orderly and fair resolution of climate change disputes while ensuring availability of services to the public.

7. Cumulative and Transboundary Environmental Impacts:

The environmental impacts from siting, building and operating multiple mega-projects, especially in areas crowded with existing projects and planned future installations, may result in significant cumulative environmental impacts, such as increased pollution, accelerated natural resource extraction and destruction of biodiversity. Transboundary impacts may include greenhouse gases and other air borne pollutants and natural resource loss (fresh water, fishery stock) beyond national boundaries, as well as serious public health incidents involving multiple countries. Strong leadership, enforcement and collaboration by the relevant national governments will be necessary to tackle these impacts. Quality cumulative impact assessment is vital, as the COSIPLAN-IIRSA experience demonstrates (see Box 9).

While many countries lack the capacity and resources to carry out such assessments, most MDBs' environmental and social safeguard policies require cumulative impact assessment,[133] which should be activated upon the involvement of the MDB. Ideally, however, such assessments should take place further upstream in the project planning process in order to inform project design and implementation

[130] For example, see Carlarne, Gray, & Tarasofsky eds., 2015. Human Rights Principles and Climate Change. Oxford Handbook of International Climate Change Law. Available from: http://www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/HRClimateChangeIndex.aspx
[131] WHO 2016. Climate Change and Health Fact Sheet. Available from: http://www.who.int/mediacentre/factsheets/fs266/en/
[132] Samet 2009. Adapting to Climate Change – Public Health. Available from: http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-Rpt-Adaptation-Samet.pdf
[133] For example, the World Bank's Environmental and Social Framework, ESS1, paragraph 23; IFC Performance Standard 1, para. 8.

decisions. For this purpose, countries may have to at least initiate the process themselves prior to the MDB's involvement.

Box 9. ESIAs in COSIPLAN-IIRSA Projects

According to Derecho, Ambiente y Recursos Naturales (DAR) and other CSOs based in Latin America, no plan-wide provisioning for ESIAs was made during the design phase of IIRSA. But the MDBs involved (CAF and IADB) led the process of strategic environmental and social assessment (SESA) for four projects. The SESAs were not fully strategic and failed to look at cumulative impacts, with the result that mitigation plans ended up being pieced together and, moreover, were subsequently underfunded. Social impacts (such as impacts of projects on indigenous peoples' lives and culture) received less attention than environmental impacts. Variations in national legal requirements hampered efforts for consistent assessment across jurisdictions. For example, until recently, Peruvian legislation did not provide for SESAs, which led to project-specific local assessments. Although public meetings were held to explain the SESA process and project progress, and CSOs were invited as observers, the meetings typically involved the officials explaining the progress of the project without much meaningful exchange with the public.

Having observed several ESIAs of varying scope, and having analyzed past mistakes, the CSOs interviewed stated that plan-wide strategic or cumulative impacts assessment, or an assessment covering the cumulative impacts of an entire corridor or an appropriate cluster of projects, should be compulsory. While ESIAs should be everyone's responsibility, recognizing that states' capacity and resources for such studies may be limited, the CSOs concerned considered MDBs to be best suited to design and carry out these studies across jurisdictions.

Source: Interviews with DAR and others

8. Adverse impacts from procurement:

Procurement in infrastructure projects, whether by public or private actors, can give rise to significant sustainability risk factors. Infrastructure projects need equipment and machinery, including wind turbines and solar panels, and construction and building materials such as wood, sand,[134] concrete, asphalt, steel, and other inputs. The risk factors include environmental issues, child and forced labor, and human trafficking. Regardless of where procurement occurs, it will always have a global dimension; poor sustainability and human rights practices of suppliers can adversely affect workers and threaten communities and the environment anywhere in the world where the supplying activities take place.

9. Other potential adverse transboundary impacts:

[134] Global Witness 2010. Shifting Sand: How Singapore's demand for Cambodian sand threatens ecosystems and undermines good governance. Available from: https://www.globalwitness.org/en/archive/shifting-sand-how-singapores-demand-cambodian-sand-threatens-ecosystems-and-undermines-good/

Contrary to the idea of promoting smooth flow of goods, data and people for economic development, certain infrastructure plans or components could potentially restrict people's movement or facilitate illicit or illegal activities. For example, the Border Integration Guatemala Mexico project, which is supported by the Inter-American Development Bank, is categorized as a regional integration and cross-border cooperation project. While these projects aim to enhance the free flow of goods through borders, they may adversely affect the freedom of movement of conflict-affected population groups and their ability to seek asylum.[135] Enhanced movement of goods and people may mean an increase in illegal trafficking, including trafficking in counterfeit goods and human trafficking, organized crime, and terrorist activities.[136] Road projects may inadvertently spread diseases, such as HIV/AIDS, expose women and girls to sexual violence, and facilitate illegal migration,[137] and human trafficking.[138]

Part IV. Aligning International Support and Guidance with Human Rights Requirements

International organizations, MDBs, states and private sector entities create and apply a wide range of soft law instruments, standards, and implementation guides and templates that are intended to help scale up infrastructure projects through standardization. They can also help improve the quality of infrastructure plans and projects. With the rush to fill the global infrastructure financing gap, these initiatives have multiplied. Yet, reaching consensus on the scope and content of particular standard-setting exercises has proven challenging. Moreover, the available tools and guidance materials are almost always silent on human rights, and a surprising number of them do not even mention sustainable development. Transparency initiatives are particularly needed in the infrastructure sector, following the example of the extractives sector and others where advocacy on transparency and accountability has been comparatively strong. New actors in infrastructure financing should be encouraged to join such initiatives.

A. Model Laws

The rules governing international investments can be found in the large body of international investment treaties, concluded at bilateral, plurilateral and multilateral levels. Although not specific to infrastructure investments or PPPs per se, they constitute the top layer of the hierarchy of rules that apply to foreign direct investments in infrastructure projects. Underneath this body of law are several layers of rules relevant to infrastructure investment.

Several initiatives aim to standardize or guide the formulation of national laws in the infrastructure sector. Of these initiatives, the Legislative Guide on Privately-Financed Infrastructure Projects, and the

[135] Inter-American Development Bank. GU-L1086 Border Integration Guatemala Mexico. Available from: http://www.iadb.org/en/projects/project-description-title,1303.html?id=GU-L1086
[136] Supra 14.
[137] OECD and WTO 2010. Aid-for-Trade Case Study Mexico: The International Network of Mesoamerican Highways. Available from: https://www.oecd.org/aidfortrade/46981420.pdf
[138] Supra 102.

accompanying Legislative Recommendations and Model Legislative Provisions (the Legislative Guide), published by the UN Commission on International Trade Law (UNCITRAL),[139] is probably the best known. The Legislative Guide is not a standard or model available to states to reform their PPP laws; rather, it is a compendium of legal principles. While some principles are broad ("transparency, fairness and long-term sustainability of projects"), other "principles" detail process requirements, such as those applicable to procurement. After 15 years, UNCITRAL is currently preparing to revise the Legislative Guide.[140] This presents an opportunity for UNCITRAL to integrate human rights and sustainable development objectives and considerations. To the extent that countries choose to align their laws with the updated Legislative Guide, or agree to apply these provisions in regional plans, this could help to harmonize the regulatory framework for privately financed infrastructure and PPPs in regional plans and projects.

Meanwhile, at least 119 countries have PPP laws,[141] some of which are modelled on the UK's Private Finance Initiative, while others apparently have been motivated and shaped by the Economist Intelligence Unit's Infrascope[142] evaluation of country laws for PPP friendliness. Such laws may conflict with the Legislative Guide, even when updated.

In the area of concessions, EBRD has set out the core principles for a modern concession law.[143] It states: "By promoting clearness, fairness, stability, predictability and flexibility among their major objectives, the Core Principles aim to protect both investors and the public sector from unfair treatment and abuses." It makes several references to the UNCITRAL Legislative Guide. There are no references to sustainable development or human rights, even though all MDBs have a minimum obligation to respect the human rights obligations of their members, and a particular sub-set of human rights (those rights pertaining to the EBRD's objective of promoting rule of law and multi-party democracy) is included specifically in the latter bank's Articles of Agreement.

The World Bank has a Framework for Disclosure in Public-Private Partnerships,[144] which acts as a guide for countries wishing to put in place PPP disclosure policy, laws and regulations. Model laws for specific sectors can also support and scale up sustainability in infrastructure projects. For example, the Energy

[139] UNCITRAL 2001. Available from: https://www.uncitral.org/pdf/english/texts/procurem/pfip/guide/pfip-e.pdf)
[140] Several commentaries to improve the Legislative Guide are available, including: Thomashausen 2014. Scope and challenges of preparing a Model PPP Law. Available from: http://uncitralrcap.org/wp-content/uploads/2015/11/7.-PPP_Sophie-Thomashausen_v2.pdf
[141] PPIAF has a collection of national PPP laws. Available from: https://ppp.worldbank.org/public-private-partnership/legislation-regulation/laws/ppp-and-concession-laws
[142] Available from: http://infrascope.eiu.com
[143] EBRD. Core Principles for a Modern Concessions Law. Available from: http://www.ebrd.com/cs/Satellite?c=Content&cid=1395238764510&pagename=EBRD%2FContent%2FContentLayout
[144] Supra 56.

Charter provides model intergovernmental and host state agreements governing oil and gas pipeline projects.[145]

Box 10. Infrastructure Laws overriding ESG Safeguards and human Rights

In many jurisdictions, laws enacted to facilitate the speedy implementation of infrastructure master plans may override safeguard systems and laws designed to protect non-commercial stakeholders and ensure fairness between the contracting authority and the private operator. The latter laws may include laws implementing countries' legal obligations under human rights and environmental agreements. Special Economic Zones (SEZ's) are emblematic of these challenges. There have been many efforts to bring laws applicable within SEZs up to the standard of national and international laws; however, problems of inconsistent labor standards and relaxed enforcement inside SEZs persist.

The Special Investment Region Act of the State of Guarajat, India, is another example. This Act gives significant powers to the state to acquire land for building smart cities like Dholera, a part of India's Delhi-Mumbai Corridor presently under construction. Section 24 of the Act gives the Regional Development Authority broad powers to deal with land and even evict people, bypassing the consent and compensation requirements of India's Land Acquisition Act. In another example, the US recently witnessed the revocation of an order for an environmental impact assessment that would have reviewed the impacts of the proposed Dakota Access Pipeline on the Standing Rock Sioux Tribe's land in the state of North Dakota.

Source: Farole and Akinci (ed.) 2011. Special Economic Zones. Progress, Emerging Challenges, and Future Directions. World Bank. Available at: https://openknowledge.worldbank.org/bitstream/handle/10986/2341/638440PUB0Exto00Box0361527B0PUBLIC0.pdf

India's Smart City Craze: big, green and doomed from the start? The Guardian, April 17, 2014. Available at: https://www.theguardian.com/cities/2014/apr/17/india-smart-city-dholera-flood-farmers-investors

Timeline: Howard 2017. History of the Dakota Access pipeline. Chicago Tribune (24 January) (events covered up to March 3, 2017). Available at: http://www.chicagotribune.com/news/nationworld/ct-dakota-access-pipeline-timeline-dapl-20161219-htmlstory.html

B. Model PPP Contractual Clauses

There is a range of international and national resources on model PPP contractual clauses intended for use by legislators, contracting authorities and private sector bidders. However, there is no universally accepted language for such agreements, and moreover, there are many inconsistencies within the various guidance materials on this subject, as well as within guidance on national PPP laws and relevant

[145] Energy Charter 2015. Energy Charter Model Agreements. Available from: http://www.energycharter.org/what-we-do/trade-and-transit/model-agreements/

provisions in international investment agreements. Initiatives to standardize PPP laws and contractual provisions may potentially be very helpful, and may facilitate cross-border projects.

Following extensive internal and external stakeholder consultations and public consultations, the World Bank updated an earlier 2015 report and published it as Guidance on PPP Contractual Provisions, 2017 edition.[146] According to the World Bank, matters that have been raised by civil society organizations in the course of the public consultation process include: how to allocate risk fairly between the private partner, lenders and the contracting authority; how public policy issues should be factored in PPP contractual provisions; which party should bear the cost of compliance after certain changes in law;[147] and the treatment and allocation of responsibility for the management of environmental and social risks. The World Bank has stated that the 2017 edition sought to address these and other issues arising during the stakeholder consultations and public consultations.

A number of CSOs have suggested that it would be premature to focus on PPP contractual provisions without first addressing the perverse accounting incentives of governments to hide contingent liabilities, which may make PPPs a dangerous tool.[148] A separate submission of CSOs and academics suggested that certain provisions understate the legitimate scope of State authority and right to regulate in the public interest, in areas such as public health, safety, human rights and environment.[149]

Another initiative by WaterLex suggests the incorporation of human rights references in water PPP contracts, such as references to the CESCR General Comment #15 on the right to water, various Human Rights Council Resolutions, the UNGPs, the OECD MNE Guidelines, and ISO standards and other international good practices. It is not clear whether a recitation of these documents would work in practice, as they are not necessarily intended to be written into contracts in their entirety and questions of specificity and enforceability may arise. At the national level, various resources for standardized PPP contracts are available, including sector specific models.[150]

C. PPP Guidance Documents

Government officials and practitioners have access to a huge range of PPP guidance documents promulgated by UN agencies, MDBs, RECs and others. A recent survey carried out under the auspices of the UN Department of Economic and Social Affairs analyzed the alignment of twelve of these guidance

[146] Available from: http://ppp.worldbank.org/public-private-partnership/library/guidance-on-ppp-contractual-provisions-2017-edition

[147] Shrybman and Sinclair 2015. A Standard Contract for PPPs the World Over: Recommended PPP Contractual Provisions Submitted to the G20. Available from: https://us.boell.org/sites/default/files/ppp-web_1.pdf

[148] Letter dated 27 February 2017 to the World Bank Group PPP Team. Available from: http://eurodad.org/files/pdf/1546710-trade-unions-and-campaigners-around-the-world-accuse-the-world-bank-of-encouraging-dangerous-hidden-debts-boycott-consultation-on-public-private-partnerships-ppps-.pdf

[149] Submission available from: http://us.boell.org/2017/06/30/submission-world-bank-group-and-summary-comments-draft-report-recommended-ppp-contractual

[150] These are available from the World Bank Group's Public-Private Partnership in Infrastructure Resource Center website: https://ppp.worldbank.org/public-private-partnership/standardized-agreements-bidding-documents-and-guidance-manuals#Guidelines

documents with the Addis Agenda and the 2030 Agenda.[151] The survey found that, overall, guidance materials were not closely aligned with the two Agendas and the interests of non-commercial stakeholders were not adequately addressed. The guidance documents were surprisingly silent on "sustainable development" and on the idea of "accessible," "affordable" and "resilient" infrastructure. Social and environmental standards were addressed in a patchy manner, and guidance on transparency and accountability often failed to address the interests of the public. Human rights and climate change priorities were virtually absent. Collectively, the guidance documents surveyed failed to signal that PPPs should aim to create public value and serve the public good. Users of these guidance materials should take note of these significant gaps and should refer to other resources to ensure that fundamental considerations relating to international human rights and environmental law and sustainability are taken into account.

D. Other Initiatives and Sources of Guidance

There is no comprehensive international sustainability standard system dedicated to infrastructure per se. General safeguard standards exist, as well as initiatives targeted to particular issues, but these are fragmented. It should be noted that the safeguard policies and performance standards of the MDBs address environmental and social (and to some extent human rights) issues at the micro-level, but were not designed to address meso- and macro- level impacts. In addition, these standards do not help with upstream project selection. There is a pressing need for a tailored infrastructure sustainability system that can address the multiple phases of infrastructure plans, programs and projects.

1. Public sector / Multinational Organizations' Initiatives

a. *Ise-Shima Principles for Promoting Quality Infrastructure Investment* were agreed by the G7 leaders at the Japanese G7 Summit in May 2016 – see Box 11. Principle 3 is explicit about environmental and social impacts though no details have been made available. The principles also do not mention key process issues vital for human rights, such as public consultation and participation, transparency and accountability.

Box 11: Ise-Shima Principles for Promoting Quality Infrastructure Investment

a. Principle 1: Ensuring effective governance, reliable operation and economic efficiency in view of life-cycle cost as well as safety and resilience against natural disaster, terrorism and cyber-attack risks

b. Principle 2: Ensuring job creation, capacity building and transfer of expertise and know-how for local communities

c. Principle 3: Addressing social and environmental impacts

[151] Aizawa 2017. A Scoping Study of PPP Guidelines. UNDESA Working Paper (forthcoming).

Box 11 Continued

d. Principle 4: Ensuring alignment with economic and development strategies including aspect of climate change and environment at the national and regional levels

e. Principle 5: Enhancing effective resource mobilization including through PPPs

Available from: http://www.mofa.go.jp/files/000160272.pdf

b. *World Bank/IFC Performance Standards/MDB Safeguard Policies*: The new Environmental and Social Framework (ESF) of the World Bank[152] will apply to new investment loans to the public sector starting in 2018. Although support for the realization of human rights expressed in the Universal Declaration of Human Rights is part of the World Bank's vision of sustainable development, and respect for Indigenous Peoples' human rights is a stated objective, the commitment in the Bank's existing safeguards (OP 4.01 and 4.36) to avoid financing projects which may contravene relevant international agreements has been deleted from the ESF. Moreover, insofar as co-financing is concerned, the ESF will permit "common approaches" providing only that the approach will achieve "objectives materially consistent" with the Bank's ESSs, rather than substantial compliance with the ESSs themselves.

IFC Performance Standards[153] apply to the private sector and are the basis of the Equator Principles. The Performance Standards are intended to be aligned with the UNGPs, and respect for human rights is a stated objective; however, human rights due diligence is limited only to exceptional "high risk" circumstances, which have not been defined. In addition, several human rights gaps remain.[154]

Other MDBs[155] have broadly equivalent policies. At the core of these safeguard policies is the requirement for an ESIA of appropriate scope, covering direct, indirect, and cumulative impacts,

[152] Available from: http://documents.worldbank.org/curated/en/383011492423734099/pdf/114278-REVISED-Environmental-and-Social-Framework-Web.pdf

[153] Available from: http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/performance+standards/environmental+and+social+performance+standards+and+guidance+notes

[154] For an analysis of the gaps between the IFC Performance Standards and the International Bill of Human Rights see: IFC 2012. The International Bill of Human Rights and IFC Sustainability Framework. Available from: http://www.ifc.org/wps/wcm/connect/dc3e948049800ad7ac6afe336b93d75f/IBHR_and_IFC_Policies%2BPS-DRAFT.pdf?MOD=AJPERES

[155] See for example the EBRD Environmental and Social Policy, and the EIB Statement of Environmental and Social Principles and Standards.

and extending to all linked projects (or "associated facilities" such as power plants and transmission lines or pipelines). The rigor and effectiveness of ESIAs and human rights due diligence and risk management procedures vary considerably across the various financing institutions. Furthermore, ESIAs are often carried out too late in the project process to make any meaningful impact on upstream project selection, siting and design decisions.

c. *EHS General Guidelines*:[156] The private sector applies the World Bank Group's EHS Guidelines as the de facto international industry standards. The General Guidelines cover air and water quality issues, occupational health and safety, community health and safety, and decommissioning activities generally applicable to all sectors. In addition, the following infrastructure sectors are specifically covered: Airlines; Airports; Crude Oil and Petroleum Product Terminals; Gas Distribution Systems; Health Care Facilities; Ports, Harbors and Terminals; Power (Electric Power Transmission and Distribution; Geothermal Power Generation; Thermal Power; and Wind Energy); Railways; Retail Petroleum Networks; Shipping'; Telecommunications; Toll Roads; Tourism and Hospitality Development; Waste Management Facilities; and Water and Sanitation. However, there is no guideline on hydropower projects, and coal power projects are not prohibited under these guidelines (in fact there is no outright ban on coal by the World Bank Group; coal projects can be financed as a last resort). Some of these Guidelines are a decade old and are in the process of being updated.

d. *The OECD Guidelines on Multinational Enterprises (MNE Guidelines) and Common Approaches*: Although not specific to infrastructure, the MNE Guidelines contain one of the more comprehensive sets of requirements for the responsible conduct of business, and include chapters on disclosure, human rights, employment and industrial relations, environment, combating bribery, and consumer interests, among others. The human rights chapter is explicitly aligned with the UNGPs. The OECD Common Approaches apply to export credits and guarantees given by the OECD export credit agencies and are aligned with the MNE Guidelines and the Equator Principles.

e. *Disclosure frameworks/policies*: Paragraph 53 of the IFC's Policy on Environmental and Social Sustainability encourages IFC's private sector clients or the host government to disclose categories of information relating to the final delivery of essential services under IFC-financed investments, such as household tariffs and tariff adjustment mechanisms, service standards, investment obligations, and the extent of government support. The IFC Policy does not require infrastructure contracts to be disclosed. While the EBRD does not have such a policy, its Environmental and Social Policy contains provisions dealing with the affordability of services. Disclosure policies of other MDBs do not address infrastructure directly. The AIIB's interim information policy is especially weak.

[156] Available from: http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/ehsguidelines

f. *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security*: These voluntary guidelines, initiated by the Food and Agricultural Organization of the United Nations (FAO), enjoy the support of many international organizations and CSOs. The voluntary guidelines are intended to promote secure tenure rights and equitable access to land, fisheries and forests as a means of eradicating hunger and poverty, thereby supporting sustainable development and enhancing environmental protection.[157] They provide helpful guidance in relation to the acquisition of and access to land in connection with infrastructure projects.

2. Other Voluntary Initiatives

a. *Sustainable Infrastructure*: A joint research project carried out by Mercer and the Inter-American Bank (IDB)[158] last year identified up to 30 separate initiatives driving investment in sustainable infrastructure. The identified initiatives are divided into those that influence policy, mobilize finance, and support implementation, and supported by UNESCAP, World Bank, EBRD, IDB, the International Association for Impact Assessment, World Wildlife Fund, McKinsey, the G20, Global Infrastructure Basel's SuRe standard,[159] and the Envision rating system by Harvard's Zofnass Program for Sustainable Infrastructure, among others. Several other initiatives relate to climate finance. There has been little coordination between these initiatives to date, beyond *ad hoc* informal exchanges.

b. *Financing initiatives for infrastructure*: In addition to MDB safeguard policies, which apply to the infrastructure projects they finance, the Equator Principles are widely used by international banks in infrastructure project finance outside the OECD countries. Climate Bonds Standard 2.0 is a tool to enable investors and governments to identify and prioritize climate and green bonds, ensuring that funds are directed to projects that deliver climate change solutions.[160] Various climate finance mechanisms, such as Green Climate Fund and Global Environmental Facility, cross-reference or rely on MDB safeguard policies to varying degrees.

c. *Voluntary transparency initiatives*: Examples include:

(i) Extractive Industry Transparency Initiative (EITI): Although this initiative applies to the extractives sector, it can be relevant to infrastructure sectors; for example, it can apply to infrastructure assets associated with mining that are shared with the host country.[161]

[157] Available from: http://www.fao.org/nr/tenure/voluntary-guidelines/en/
[158] Mercer 2016. Building a Bridge to Sustainable Infrastructure. Available from: https://www.mercer.com/our-thinking/building-a-bridge-to-sustainable-infrastructure.html
[159] Available from: http://www.gib-foundation.org/sure-standard/
[160] Available from: https://www.climatebonds.net/standards/standards-V2.0
[161] Available from: https://eiti.org/

(ii) Voluntary Principles on Security and Human Rights: The Voluntary Principles are also associated principally with the extractives sector, but may be relevant and useful in infrastructure sectors.[162]

(iii) Open Contracting Partnership. OPC promotes open contracting in several sectors, including infrastructure sectors.[163]

(iv) CoST: See Part IV. Section E. 2. above.

Part V. Concluding Remarks and Recommendations for Further Research and Action

"In all sections of society, there is growing agreement that the world is becoming more unequal, and that today's disparities and their likely trajectory are dangerous."[164]

It is unclear how much of the "Billions to Trillions" infrastructure agenda will eventually be realized, and whether or how quickly infrastructure investment will migrate to more sustainable pathways. But this much is clear: without sustainable infrastructure, the objectives of the Addis Ababa Action Agenda, the 2030 Agenda and the 2015 Paris Agreement on Climate Change, and many internationally recognized human rights, will not be realized.

It is far from clear that governments and key global economic and financial decision makers, including the G20, the MDBs, and other organizations that support the G20, have internalized the significance of the challenges confronting the mega-infrastructure investment agenda. Without course correction, there are real risks that regional infrastructure plans will head down the wrong economic, environmental and social tracks, to the cost of fundamental human rights and sustainable development objectives.

The international community should recognize that growth-oriented infrastructure policies and actions can cause, contribute to, or facilitate multi-level negative human rights impacts. The SDGs and human rights should be embraced more explicitly and systematically as guideposts in global economic and financial decision making. Although regional infrastructure plans are seeking funds from multiple sources with the help of MDBs, it is likely that additional private funding will only come in fits and starts. This means that implementation will likely be slow and sporadic. In theory, there is still time for most

[162] Available from: http://www.voluntaryprinciples.org/

[163] Available from: http://www.open-contracting.org/ The Open Contracting Data Standard (OCDS) enables disclosure of data and documents at all stages of the contracting process by defining a common data model. See how the OCDS is applied to Red Compartida, a Mexican initiative to open the telecommunications sector: https://datos.gob.mx/redcompartida/

[164] Beddoes 2012. For richer, for poorer. Economist (13 October). Available from: http://www.economist.com/node/21564414

regional plans to be reoriented toward human rights requirements and the objectives of inclusivity, resilience, and sustainable development, provided that there is the political will to do so.

The present study is preliminary in nature and does not attempt to articulate a definitive or comprehensive list of recommendations pertinent to all issues raised. Rather, drawing upon the research undertaken and consultation meetings in Berlin and Washington DC in early 2017, the following priority areas are suggested for further research, analysis and action, given their potential human rights implications:

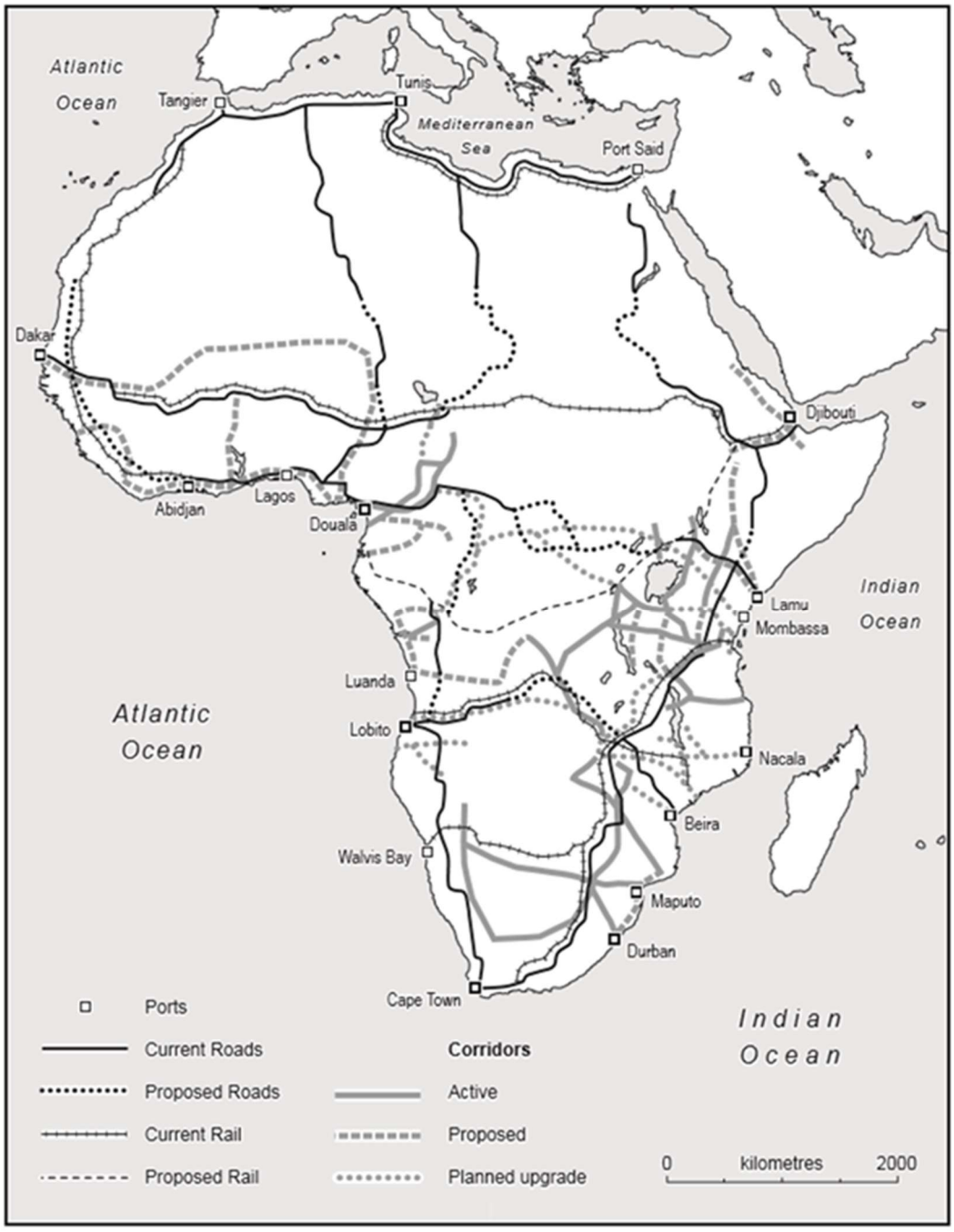
1. Development of policy and institutional frameworks to improve transparency, participation, and accountability in infrastructure projects;
2. Mapping of regional master plans against other mapping of global hotspots of human rights challenges to create a "heat map" for use in investor due diligence;
3. Carrying out further research into the human rights opportunities and risks in the ICT sector;
4. Undertaking more in-depth and systematic analysis of the gender dimensions of the energy, transport, water and ICT sectors and identifying ways for decision makers to reflect gender considerations in project design and implementation;
5. Ensuring the use of cumulative impact assessment, strategic impact assessment, environmental, social and human rights impact assessment, and other analytical tools to address human rights issues in infrastructure projects at an early stage, and incorporating these environmental and social considerations in cost benefit analysis;
6. Carrying out further comparative analyses of PPP frameworks and laws, model contracts and contractual clauses, international investment agreements, and PPP standards and guidance documents, in order to strengthen the sustainability and human rights dimensions in infrastructure projects;
7. Undertaking additional research on the relationship between state duties to respect, protect and fulfill human rights, and states' right to regulate in relation to investment protection and promotion; and
8. Development of universal sustainable infrastructure criteria, including in relation to project selection criteria to be used in upstream project siting and design decisions, with human rights considerations integrated.

Annex 1: Maps of Regional Infrastructure Plans

Belt and Road Initiative (Source: Reconnecting Asia)

Infrastructure Projects in Asia (Source: Reconnecting Asia)

Map of Africa, including PIDA Source: Manchester University Press



Map of South America (COSIPLAN-IIRSA) Source: Manchester University Press

Annex 2: List of Known Regional Master Plans

Regional Master Plans known to OHCHR	Implementation status, financing, etc.	Map	Key References
Asia Region			
Belt and Road Initiative (BRI) consists of the "Belt", an overland trading road, and the "Road", which is actually a maritime trading route. Six economic corridors (see the six corridors immediately belo plus the seventh addition) will run parallel to or link the "Belt" and the "Road". The Indochina Peninsula Corridor may intersect with the Greater Mekong Sub-region project by the ADB (see below). This massive initiative is expected to involve 65 countries and 4.4 billion people, enhancing connectivity in an area that generates 55% of global GDP.	In implementation. Sources of financing include the Silk Road Fund, China Development Bank, China EXIM Bank, Asian Infrastructure Investment Bank, and others.	Multiple maps including those by Reconnecting Asia project (see right); also Licensed Larceny Infrastructure, financial extraction and the Global South, Nicholas Hildyard (2016), Manchester University Press.	NRDC's vision and action: http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html One Belt, One Road (OBOR): China's regional integration initiative: http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI(2016)586608 Reconnecting Asia: https://reconnectingasia.csis.org/database/initiatives/one-belt-one-road/fb5c5a09-2dba-48b9-9c2d-4434511893c8/ Chinese infrastructure investment in ASEAN and beyond: http://www.inclusivedevelopment.net/wp-content/uploads/2016/08/

			Making-Inroads-China-Infrastructure-Finance.pdf
China-Pakistan Economic Corridor (CPEC) economic corridor between China and Pakistan. It is part of Pakistan's Vision 2025, and the most advanced portion of the BRI, serving as a litmus test for the BRI.		Interactive map: https://s3.amazonaws.com/uploads.knightlab.com/storymapjs/4010babc93078401bb9bab8303d75b83/china-pakistan-economic-corridor/index.html	Official website: http://cpec.gov.pk/infrastructure
Other known components of BRI include: • **New Eurasian Land Bridge** • **China-Central Asia-West Asia Corridor** • **Indochina Peninsula Corridor** • **Bangladesh-China-India-Myanmar Economic Corridor (BCIMEC)** • **China-Mongolia-Russia Corridor** • **India-Nepal-China Corridor**			
Turkmenistan-Afghanistan-Pakistan-India (TAPI) natural gas pipeline project "aims to export up to 33 billion cubic meters (bcm) of natural gas per year through a proposed approximately 1,800-kilometer (km) pipeline from Turkmenistan to Afghanistan, Pakistan and India". (ADB)	Financed by the ADB: https://www.adb.org/projects/44463-013/main		
Central Asia South Asia Electricity Transmission and Trade Project (CASA -1000) (hydro export from Kyrgyzstan and Tajikistan). Total project cost of $997 million	Financed by the World Bank: http://projects.worldbank.org/P145054?lang=en		
ADB programs on regional integration and cooperation contains programs in five geographic areas, including the Greater		Hildyard (2016) shows a map of the transport	ADB website: https://www.adb.org/them

Mekong Subregion, which includes a plan on the Indochina Peninsula Corridor. This corridor in turn contains at least 11 economic corridors.		corridors of the Greater Mekong subregion project	es/regional-cooperation/overview Hildyard (2016)
Master Plan on ASEAN Connectivity 2025 (adopted by the ten ASEAN heads of state in 2010)	Supported by the ASEAN Infrastructure Fund (AIF) with $485 million in equity. ADB provides co-financing with the AIF, up to $300 million: https://www.adb.org/site/aif/overview		Plan website: http://asean.org/storage/2016/09/Master-Plan-on-ASEAN-Connectivity-20251.pdf
ASEAN Plan for Energy Cooperation 2016-2025		Maps on the program site – see right	Plan website: http://www.aseanenergy.org/wp-content/uploads/2015/12/HighRes-APAEC-online-version-final.pdf
EU-China Connectivity Program	In planning?		http://ec.europa.eu/transport/sites/transport/files/themes/international/european_neighbourhood_policy/european_eastern_partnership/doc/tenth-eastern-partnership-transport-panel/eu-china_connectivity_platform_by_dg_move.pdf
The US version of a New Silk Road Initiative (NSRI)			https://www.state.gov/p/sca/ci/af/newsilkroad/
South Asia Regional Integration Program covers the one of the least economically integrated regions that includes Afghanistan,			http://www.worldbank.org/en/programs/south-asia-regional-integration

Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka, which constitute the South Asian Association for Regional Cooperation (SAARC), the regional intergovernmental organization and geopolitical union.			
India		Hildyard (2016) shows a map with all the corridors below except Mausam	
Delhi-Mumbai Industrial Corridor (DMIC) ("the largest single infrastructure project in the world"), consisting of freight lines; container ports; 23 manufacturing centres; six airports; two power plants; highways; 24 new smart cities.	In implementation. Expected to affect 180 million people (Hildyard 2016)		http://www.dmicdc.com/ Guardian article: https://www.theguardian.com/cities/2015/sep/15/indias-future-dmic-delhi-mumbai-industrial-corridor
Eastern/Western Dedicated Freight Corridors	The World Bank is financing the Eastern corridor: http://www.worldbank.org/en/news/press-release/2016/10/21/government-of-india-world-bank-sign-usd650-million-agreement-for-eastern-dedicated-freight-corridor-project		
Mausam Project is "India's answer to China's Maritime Silk Road"			http://www.indiaculture.nic.in/project-mausam
Other corridors are: • Amritsar-Kolkata Industrial Corridor • Bengaluru-Mumbai Economic Corridor • Chennai-Bengaluru Industrial Corridor			
Indonesia			
Masterplan for Acceleration and Expansion of Indonesia's Economic Development (MP3EI), a	In implementation.	Hildyard (2016) shows maps for all the corridors; also see	Plan website: http://www.indonesia-

15 year master plan that involves 22 sectors and 6 corridors: • Java Corridor • Kalimantan Corridor • Sumatra Corridor • Sulawasi Corridor • Bali-Nusa Tanggara • Papua-Maluku		detailed maps in the National Development Planning Agency's slides (2012)	investments.com/projects/government-development-plans/masterplan-for-acceleration-and-expansion-of-indonesias-economic-development-mp3ei/item306
Africa Region			
The Asia Africa Growth Corridor (2016) was first articulated in the joint declaration of the Indian and Japanese Prime Ministers as a way to promote people centric sustainable growth strategy to be established through consultation across Asia and Africa. The corridor envisages economic gain for Africa though its integration with India, South Asia, Southeast Asia, East Asia and Oceania.	The initial priority are development projects in health and pharmaceuticals, agriculture and agro-processing, disaster management and skill enhancement; however, many transport and trade facilitation projects are under planning.	Maps in the vision document (see right).	The vision document: https://www.tralac.org/news/article/11750-vision-document-for-the-asia-africa-growth-corridor-partnership-for-sustainable-and-innovative-development.html?utm_source=Daily++News&utm_campaign=8dc30c7c9d-Daily_News_20170614&utm_medium=email&utm_term=0_b86cd910ac-8dc30c7c9d-311109621
African Union's New Partnership for Africa (NEPAD) spatial development initiative (SDI) modelled on Maputo Development Corridor (see below)			Plan website: http://www.nepad.org/
Programme for Infrastructure Development in Africa (PIDA) is a continent-wide infrastructure master plan established by the African Union	Under implementation.	Interactive map on the PIDA site	Plan website: http://www.au-pida.org/

Commission, NEPAD Agency, African Development Bank, United Nations Economic Commission for Africa and Regional Economic Communities, to be completed by 2040 at a cost of $360 billion. It has prioritized 51 programs and projects to be implemented between 2012 and 2020 at the cost of $68 billion.	ECOSOC PIDA financing plan: http://www.g20dwg.org/documents/pdf/view/26/ PIDA Financial Structuring Plan: https://www.icafrica.org/fileadmin/documents/PIDA/PIDA-FIN-STCTRNG-PLAN-REPORT-ICA.pdf PIDA Progress Report 2016: http://www.nepad.org/resource/pida-progress-report-2016 Africa 50 Infrastructure Fund: https://www.africa50.com/about-us/		
In sub-Saharan Africa, over 30 development corridors have been identified. In southern Africa, 18 corridors have already been constructed or under construction	These corridors are said to be connected to significant mining projects. (Hildyard 2016)	Hildyard (2016) shows maps of development corridors in sub-Saharan Africa	
Great Equatorial Land Bridge Program plans to link the Indian Ocean with the Atlantic. • **Lamu Port-South Sudan-Ethiopia Transport Corridor (LAPSSET)** is part of this program	China won the tender and started the project in 2012 but possibly stalled due to security problems and lower commodity prices.		Plan website: http://www.lapsset.go.ke/
Africa Renewable Energy Initiative (AREI) is an Africa-owned and Africa-led initiative of the African Union. AREI aims to install at least 10 GW of new renewable energy generation capacity by 2020, and at least 300 GW by 2030.	AfDB acts as a trustee to manage and administer AREI resources. Currently funds are going to AfDB's pipeline projects.		Plan website: http://www.arei.org/ Guardian article December 2015: https://www.theguardian.com/global-

			development/2015/dec/07/africa-plans-renewable-energy-initiative-solar-hydro-cut-emissions?CMP=share_btn_link
Power Africa brings together technical and legal experts, the private sector, and governments from around the world to work in partnership to increase the number of people with access to power.	In implementation.		Plan website: https://www.usaid.gov/powerafrica
South Africa			
Maputo Development Corridor links Limpopo with its nearest deep water port in Maputo, via the Phalaborwa Spatial Development Initiative.	Completed.		Plan website: http://www.mcli.co.za/mcli-web/mdc/mdc.html
South America Region			
UNASUR's Committee of the South American Infrastructure and Planning Council, **COSIPLAN-IIRSA (2000):** • Total cost of $198 billion • Includes the twelve country Initiative for the Integration of Regional Infrastructure in South America (IIRSA) (2000) by UNASUR ○ Divides South America into ten Integration and Development Hubs	IDB was a strategic partner of IIRSA http://www.iadb.org/en/topics/regional-integration/iirsa/the-idb-a-strategic-partner-of-the-iirsa,1414.html but IIRSA is now part of the COSIPLAN The plan's single largest project is the Madeira–Mamoré–Beni–Madre de Dios hydroelectric and *hidrovia* (channelization) complex in the Amazon: https://www.internationalrivers.org/campaigns/initiative-	Hildyard (2016) shows a map of the ten integration and development hubs A map is also available in COSIPLAN's 2016 update: https://www.flipsnack.com/IIRSA/informe-de-actividades-2016-fdxiyc9md.html	

	for-the-integration-of-regional-infrastructure-in-south-america		
Mesoamerica Project (2008) promotes integration and development of ten participating countries, i.e., Mexico, Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia and the Dominican Republic.	Supported by IABD, CABEI, CAF, the Central American Integration System (SICA), Secretariat for Central American Economic Integration (SIECA) and the Economic Commission for Latin America and the Caribbean (ECLAC), among others.		Plan website: http://repositorio.cepal.org/bitstream/handle/11362/36306/FAL_273_Mesomaerica_en.pdf;jsessionid=CA6F26B8437E6CB23302C9F1C3BDF3B9?sequence=1 There are also a master plan to strengthen the first level of care for universal access to health and universal health coverage: http://www.proyectomesoamerica.org/joomla/images/Documentos/Proyectos/Salud/Master%20Plan%20First%20Level%20of%20Care.PDF and a master plan for the strengthening of road safety in Mesoamerican cities: http://www.proyectomesoamerica.org/joomla/images/Documentos/Proyectos/Salud/Master%20Plan%20for%20the%20Strenghtening%20of%20Road%20Safety%20in%20Mesoamerican%20Cities.pdf

Plan Puebla Panama (2001) is a major economic development plan that has been promoted by leaders of Mexico and all Central American countries. Its various mechanisms, if implemented, will provide significant support for the Central American Free Trade Agreement ("CAFTA"), which is expected to be implemented by all parties in 2006. (Stenzel 2006)		A map of the plan area and the planned highways available at: http://www.datacenter.org/reports/mesoamericaresists-eng.pdf	
Europe			
Juncker Plan (Investment Plan for Europe) (2014) aims at stimulating investments in infrastructure through public and private investments. The original €315 billion plan, now expanded to €500 billion (to 2020), is intended to respond to EU-wide need for better transport links, power grid connections, super-fast broadband networks, as well as school and hospital improvements. It has two windows: "infrastructure and innovation" and "SMEs and mid-caps".	The first three year plan (2015-2017) is under implementation. According to the FT: "444 projects have been approved and are set to trigger €170bn of investment, well over half the €315bn target. Nearly €70bn of this, representing 255 projects, has gone to small and medium-sized companies." However, implementation appears slow and the mix of projects include fossil fuels, motorways and airports despite Europe's climate change commitments. Funding sources include European Fund for Strategic Investments (EFSI), other EU funds and EIB. The plan expects to mobilize from the		FT article March 2017: https://www.ft.com/content/90712920-138b-11e7-b0c1-37e417ee6c76

	private sector €15 for every euro invested by the EU.		
TEN-T: European Connectivity Plan (2014) connects the continent between East and West, North and South through transportation.	The Connecting Europe Facility (CEF) is the funding instrument for the trans-European networks (TEN) in the fields of transport, energy and tele-communications sectors. https://ec.europa.eu/info/business-economy-euro/growth-and-investment/financing-investment/connecting-europe-facility-cef-financial-instruments_en	Map available on the website (see right).	Plan website: http://ec.europa.eu/transport/themes/infrastructure_en
SNAP-T: Southern Neighbors Advisory Programme for Transport (2013) is part of the European Neighbourhood Policy that covers 16 countries to the south and east of European Union. It has set aside 15.4 billion for activities in the Neighbourhood for 2014-2020.			http://www.euneighbours.eu/en/south/eu-in-action

Note 1: Some plans lack official websites and few official maps exist. This Annex presents most of the known official maps as well as others from research organizations, and select media coverage on plans. However, much more information on plans is available from the Internet.

Note 2: Overlaying other maps over the maps of regional plans will help illustrate issues specific to the regions:

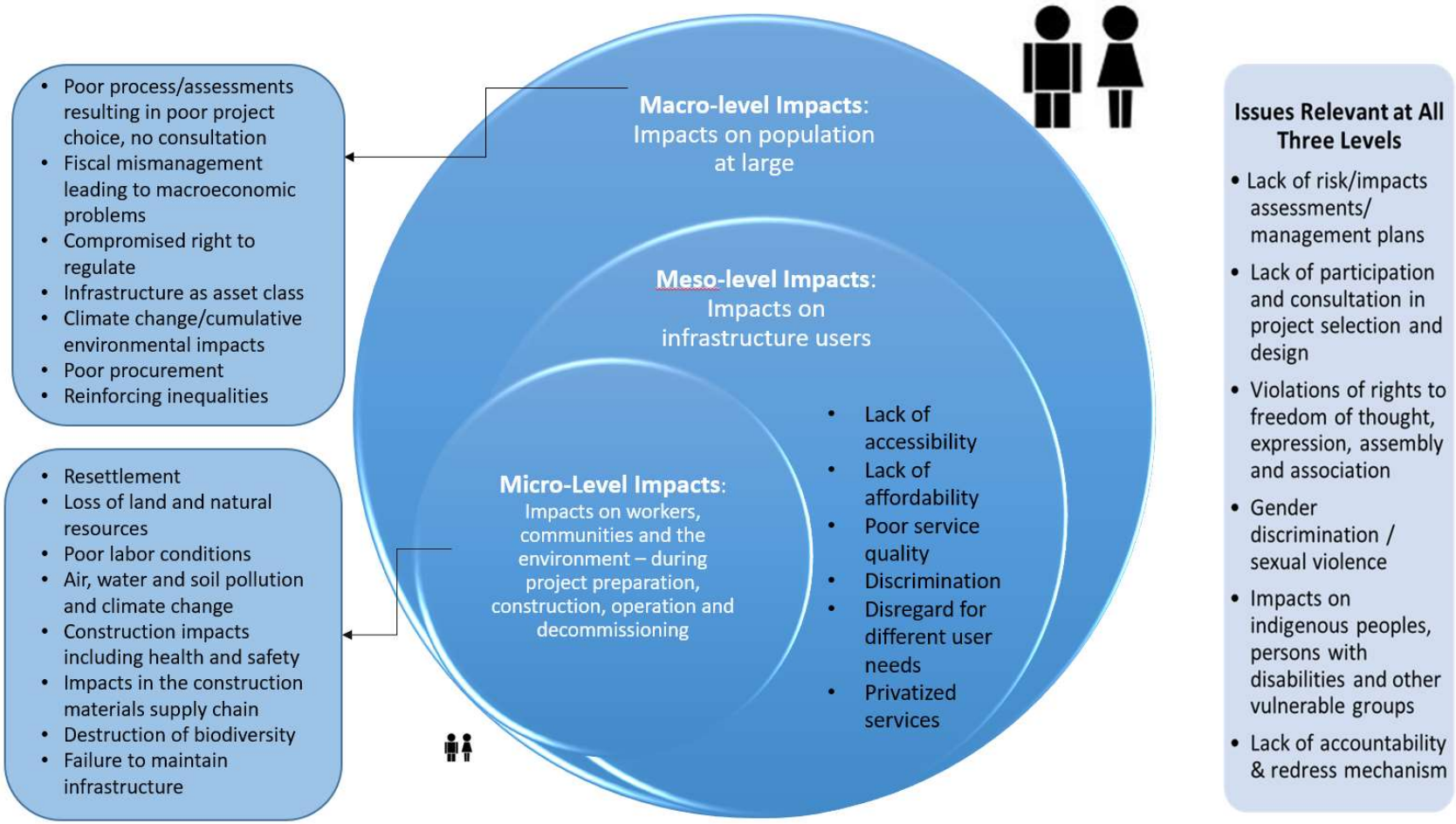
Reconnecting Asia website (https://reconnectingasia.csis.org/about/) notes: "Zooming in to the national and local level, there are many possibilities for more granular analysis. Using existing GIS datasets, we can see how infrastructure projects interact with their environments. For example, drawing from the Global Terrorism Database, one of our former researchers examined the China-Pakistan Economic Corridor's security environment. Using demographic data, we can evaluate the proximity of proposed routes to population centers. Usage data, whether from

traditional sources like toll data or through crowd-sourcing platforms like Waze, present opportunities to evaluate project performance. Climate data can help identify at-risk projects that must adapt to changing environmental conditions."

- Other mapping overlapping possibilities
    - Universal Periodic Review information
    - Conflict
    - Human Rights Defenders: https://monitor.civicus.org/
    - Indigenous peoples worldwide
    - Biodiversity / biodiversity hotspots / IUCN Protected Areas / national parks and protected areas, etc
- See also the Early Warning System (EWS), launched by the Center of International Environmental Law and International Accountability Project (IAP)(available at: http://www.ciel.org/issue/early-warning-system/). It is the first web-based tool to map and centralize information on development projects funded by international financial institutions worldwide which may give rise to significant human rights risks. Users can search by location, sector, or even specific rights that may be threatened.

Annex 3 Mega-Infrastructure and the Three Levels of Potential Human Rights Impacts

Note: This is not a comprehensive listing of all -three levels human rights impacts. See the Baseline Study for more information.



Annex 4 Potential Human Rights Impacts: Micro-Level

Note: This is not a comprehensive listing of all micro-level human rights impacts. See the Baseline Study for more information.

	Planning	Construction	Operation/Decommissioning
Workers	Retrenchment	Core labor standards; working conditions; labor supply chain / local labor issues	Core labor standards; working conditions; labor supply chain / local labor issues; closure issues
Communities	Land grabs; forced eviction; loss of resources, shelter and livelihoods	In addition to land and resources related issues (left): community health and safety issues; environmental health; in-migration/boomtown effects; loss of economic opportunities; use of security forces; construction materials supply chain	Safety of installations; ongoing pollution; use of security forces; impoverishment from loss of access to land and resource and livelihoods, and pollution; closure issues
Environment	Project siting on protected or sensitive areas	Air, water and soil pollution; construction materials supply chain; GHG emissions; local climate impacts; impacts on biodiversity and ecosystem services; cumulative impacts	Air, water and soil pollution; GHG emissions; local climate impacts; impacts on biodiversity, ecosystem services; closure issues

Issues relevant throughout: Harassment and violence against environmental and human rights defenders; lack of proper assessments/management; violations of rights to freedom of thought, expression, assembly and association; no disclosure and consultation / accountability & redress mechanism