The Solutions Lab

Scaling for Sustainable Infrastructure

Integrated Upstream Planning: Guidance for International Actors, Countries and Cities

Guidance Note

Table of Contents

Introduction

Before the onset of the novel coronavirus and COVID-19, the world already faced converging global crises in climate change, biodiversity loss, and socioeconomic inequality that demonstrated a profound need for improvements in current infrastructure planning and development. This pandemic and resulting global economic recession only further magnify the need for more integrated, upstream, and inclusive planning approaches that build social-ecological resilience. The zoonotic emergence of the virus brightly spotlights the deforestation and habitat fragmentation drivers of the biodiversity crisis[1], while the economic recession and associated declining carbon emissions demonstrate just how much progress still needs to be made to achieve the goals of the Paris Agreement. Even a projected decrease in emissions in 2020 isn't enough to limit warming to 1.5 degrees C.[2] The pandemic has also starkly highlighted existing economic inequalities, with higher death and infection rates in lower income, minority populations around the world due to exposure to co-morbidities like poor air quality and reduced access to critical infrastructure like medical services, alongside disproportionate employment in "essential" sectors that don't allow for telecommuting.

And yet, the current moment presents an enormous opportunity to leapfrog into the resilient, sustainable development of the future: more than 75% of the infrastructure expected to be built by 2050 is not yet in existence today (and 60-70% anticipated in low- and medium-income countries). Sustainable infrastructure is a powerful solution at the heart of multiple global agreements aiming to address these crises—the Paris Agreement, Convention on Biodiversity, and Sustainable Development Goals (SDGs), among others—and is now even more important as governments spend trillions of dollars in economic stimulus at levels not seen since the Great Depression.

FIGURE 1. THE INFRASTRUCTURE LIFECYCLE FROM NATIONAL, REGIONAL, OR MUNICIPAL STRATEGIC PLANNING AND PRIORITIZATION THAT OCCURS "UPSTREAM" OF ANY SINGLE PROJECT (HIGHLIGHTED IN THIS FIGURE), TO THE DETAILED DESIGN, FINANCE, CONSTRUCTION, AND ULTIMATELY DECOMMISSIONING OF INDIVIDUAL PROJECTS "DOWNSTREAM".[3]

[1] Bloomfield, McIntosh & Lambin, 2020.

[2] Evans, 2020.

[3] Figure developed by The Solutions Lab. This is only intended as an example; many sectors define the steps in the process differently.

True progress on these ambitious goals is, however, impossible if sustainability is only addressed one project at a time. Major efforts are needed "upstream" to spatially and strategically plan across sectors and with diverse stakeholder participation to prioritize investments that best balance potential trade-offs among economic viability, resilience, ecosystems and biodiversity, social equity, and service delivery (Figure 1 above). Recent analyses show how critical such planning efforts are to not only reduce costs but also avoid worst case future climate change scenarios, with potential savings as high as 40% (from 8% to 4.5% of GDP) to meet the infrastructure-related SDGs in low- and medium-income countries.[4]

> **Upstream Planning**: Government-led processes to determine land use plans at the national, sub-national, or municipal scale, including for specific or large-scale infrastructure investments, based on national government strategic development visions and sub-national, multi-stakeholder group determined priorities.
>
> **Integrated Planning**: Multi-sectoral, inclusive, multi-disciplinary, and stakeholder-based processes to determine priorities for investments that balance environmental, social, and economic aspects of sustainability across the entire lifecycle of infrastructure systems in the provision of essential services.[5]

What Are the Main Barriers to Integrated Upstream Planning?

Contrary to the often accepted conventional wisdom that more comprehensive participatory planning is both costlier and time consuming for major infrastructure investments, a growing body of evidence demonstrates its cost-savings, especially in the context of the increasing and often unanticipated costs of damage due to new climate extremes and resulting hazards.[6,7,8] Yet very few national or sub-national governments regularly carry out such planning due to a variety of political economy and technical implementation challenges, including:

1) Limited awareness across all stakeholder groups (civil society, private sector, government) of the importance of integrated upstream planning in saving costs, improving service delivery, and ultimately achieving multiple factors of long-term sustainability;
2) Weak political will due to perceptions of such planning as overly long, costly and technically difficult processes; and preferences for shorter time horizon developments likely to be completed during political cycles;
3) Limited funding for upstream strategic planning due to already-constrained, sector-siloed or project-specific budgets and foreign exchange and currency risks that decrease incentives for it;
4) Insufficient sector-specific data at the necessary spatial scale and time horizon; and lacking data sharing across ministries and departments or mechanisms, platforms, or incentives to do so.
5) Institutional structures and processes poorly designed or capacitated to manage integrated cross-sectoral planning, including either insufficient or conflicting and overlapping mandates to manage integrated planning processes across ministries, departments or sectors.

[4] Rozenberg & Fray, 2019.

[5] UN Environment Programme, 2019.

[6] Rozenberg & Fray, 2019.

[7] Watkins, Mueller, Ramirez, Serebrisky & Georgoulias, 2017.

[8] Hallegate, Rentschler & Rozenberg, 2019.

How to Ensure Integrated Upstream Planning in Practice?

Many of these barriers are stubborn challenges that have limited more effective sustainable development governance for decades. Nonetheless, several good practices for overcoming them have emerged in a variety of planning contexts around the world. Each of the following example solutions demonstrates an essential criterion for the evidence-based, integrated multi-sectoral planning required to facilitate sustainability at the project level.

1. Forward-looking national strategic vision and planning framework

Effective integrated upstream planning can only occur with a clear vision of sustainable development set by the national government with buy-in from key stakeholders. The admittedly multifaceted and sometimes conflicting goals of poverty reduction, sustainable development, biodiversity conservation, and climate change mitigation and adaptation need to be addressed simultaneously and systematically. The two below examples demonstrate a clear understanding of the importance of such a vision aimed at multiple, equally important objectives: social equity, biodiversity conservation and ecosystem services, climate resilience, and long-term economic growth.

Green Economy and Natural Capital Planning in Mozambique

Following decades of political instability, Mozambique seized a unique opportunity to set a sustainable development trajectory with the launch of a Green Economy Framework at Rio+20 in Brazil in 2012 and subsequent official action plan in 2013. Its stated goal was for the country to become "…an inclusive middle-income country by 2030, based on protection, restoration and rational use of natural capital and ecosystem services to guarantee development that is sustainable, inclusive and efficient, within planetary limits." Mozambique then established an inter-ministerial Natural Capital Program in 2017 that sought to map and define the country's essential natural capital across five service areas of water, coasts, forests, energy, and soils as the core of a 5-year development plan. The country is now in the process of completing its national spatial territorial development plan, including the integration of these natural capital areas. Subsequent downscaling to sub-national and municipal planning is the next challenge in a country still facing public and private capacity limitations from decades of instability, but these strategies and frameworks are nonetheless powerful tools for enabling integrated upstream planning.[9]

Decentralized Planning in Ghana

The decentralised development planning system in Ghana operates through the National Development Planning Commission (NDPC), ministries and sector agencies, the regional coordinating councils (RCCs) and the District Assemblies (DAs). The new decentralised development planning system established in 2014 is built on the principle that the development planning process is an integrative, comprehensive, participatory, decentralised, problem solving and continuous task. The focal point of all the administrative arrangements within the new decentralised development planning system is the DAs as decentralised decision-making units. The National Plan is rolled forward every 5 years and is integrated with the objectives of the African Union 2063 plan. Each of the RCCs and DAs is then required to create its own new plan every 5 years once the new National Plan is in place. And they are given 6 months to complete it.[10]

2. Policy, institutional, and regulatory reforms and capacity building

Policy and regulatory reforms combined with human capacity building are essential for most countries to successfully implement integrated upstream planning. This is especially important

[9] Bartlett, 2019.

[10] Botchie, 2000.

given the heavily sector-siloed nature of infrastructure planning in many countries; and even robust planning institutions are newly challenged by the cross-cutting nature of climate extremes and their impacts, requiring innovation and investment.

Procurement Requirements / Reforms

One example of breaking down the typical sector silos is through changes to procurement regulations to incentivize multi-sector collaboration in the UK. The Kings College London Centre of Construction Law, the Association of Consultant Architects and the Association for Consultancy and Engineering collaborated to develop a suite of project partnering contracts (The PPC Suite) to streamline multi-party collaboration around single large projects, resulting in significant cost savings. The UK government is currently using the approach in multiple infrastructure investments[11]:

> "PPC2000 integrates the design, supply and construction processes, from inception to completion (…) by setting up a practical and clear basis for all the key players to work together, according to agreed timetables, from early design right through to commissioning and handover."

Institutional structure and capacity building

The goals and objectives identified through the strategic upstream planning process can only be realised with the presence of a strong enabling environment in the country. To help governments assess the strengths and gaps in the capacity of their enabling environment to plan, deliver and manage their infrastructure systems, UNOPS has developed the Capacity Assessment Tool for Infrastructure for Infrastructure (CAT-I). Assessments have been completed in countries around the world (including Nepal, Serbia, Kenya and Brazil) to develop capacity building action plans and, in the process, break down sectoral silos, and strengthen policy, regulatory and institutional reforms at different scales.[12]

3. Innovative financial models to fund integrated upstream planning

Innovative new funding concepts that move away from individual projects to diversified portfolios that provide different kinds of return to different classes of investors (e.g. development banks take more risk than private, institutional capital) are one potential solution to insufficient funding upstream. A blend of green, social and municipal bonds with different interest rates attached as part of a 'master fund', for example, can finance integrated upstream planning that reduces risks for a portfolio of public-private-partnership investments in infrastructure projects.[13]

Devolution of fund management for integrated programming

To directly incentivize larger scale master and sub-national planning for infrastructure investments, including prioritizations of large green spaces in and around cities, the Inter-American Development Bank (IDB) created the Procidades project in 2006. Rather than directly manage the procurement process at its headquarters in DC, IDB allocated $500 million to the Brazil regional office to support a broad program of subnational investment allocated to existing regional and municipal priorities, resulting in stronger environmental and social outcomes.[14]

---

[11] Project Partners Contracts and Alliance Forms From the ACA, 2020.

[12] UN Office for Project Services, 2020.

[13] The Ecological Sequestration Trust, 2014.

[14] Redwood, 2014.

Urban transport planning through fuel taxes

In India, the National Urban Transport Policy launched in 2016 suggested the development of a Unified Metropolitan Transport Authority (UMTA) to manage a new Urban Transport Fund (UTF) in all cities over 1 million people to funnel petrol and diesel taxes, betterment charges on urban land owners (particularly next to mass transit corridors and stations), and employment taxes from employers to "facilitate coordinated planning and implementation of urban transport programmes and manage integrated urban transport systems." The national Ministry of Urban Development is currently working with a consultant to help such cities establish UMTAs and UTFs.[15]

Revolving and Blended Master Funds for Integrated Planning

Innovative new funding concepts that move away from individual projects to diversified portfolios that provide different kinds of return to different classes of investors (e.g. development banks take more risk than private, institutional capital) are one potential solution to insufficient funding upstream. A revolving fund mechanism, for example, can be set up in which the value that integrated systems planning brings can be recycled into further capacity building and scaling, through the use of a small 2% levy on the resulting project investments to pay for the planning service. These funds can also be used for cadastre roll out where land ownership is not yet established.

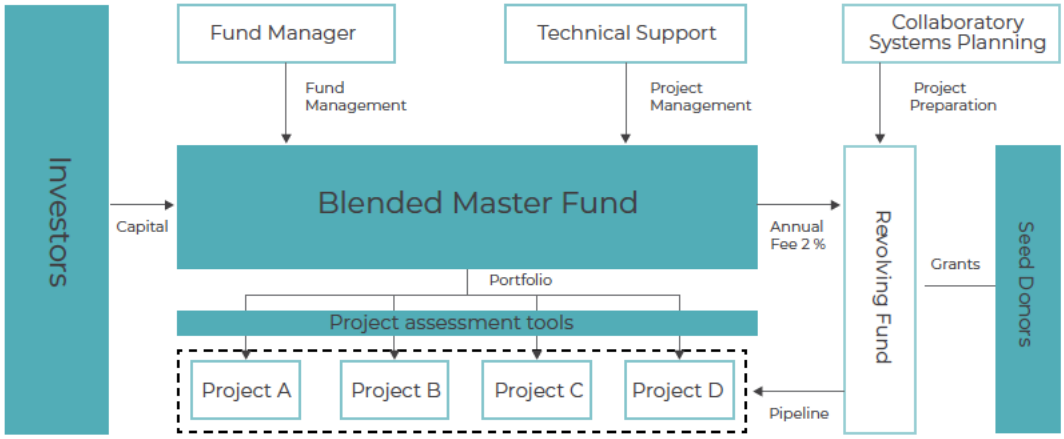

FIGURE 2. AN EXAMPLE OF HOW BLENDED MASTER FUNDS AND REVOLVING FUNDS CAN WORK TO SUPPORT UPSTREAM INTEGRATED PLANNING EFFORTS.[16]

Risk-based integrated systems planning at the regional scale, supported by a collaborative laboratory or 'collaboratory' and open data (see below), can enable a regional Master Fund to be established to support public-private-partnership investments in a portfolio of infrastructure projects to deliver global goals. This Fund could contain a blend of green, social and municipal bonds. Such a model was first proposed following a workshop with development finance experts in 2014.[17]

4. Evidence-based decision support through systems modelling

Rapidly evolving systems modelling technology and satellite data availability continue to break down barriers that would have previously prevented integrated, multi-sector modelling of complex, geographically large systems. While local data collection, access to data and new modelling tools do nonetheless continue to present challenges in many resource limited countries, it is increasingly cost-effective for any government to use such models to inform spatial and strategic

[15] Ministry of Urban Development India, n.d.

[16] For more information see Ecological Sequestration Trust, 2014.

[17] The Ecological Sequestration Trust, 2014.

development planning, especially when considering wider and longer term cost savings associated with faster approvals and lower resistance for resulting projects.

Infrastructure Systems Assessment Tools

Infrastructure systems assessment capabilities now exist to support cross-sectoral analysis and long-term strategic planning in developing countries. In Saint Lucia, for instance, a series of open-source analysis tools known as National Infrastructure Systems Model for International Contexts (NISMOD-Int) have been applied through a partnership between the Government of Saint Lucia (GoSL), UNOPS and the University of Oxford-led Infrastructure Transitions Research Consortium to support evidence-based infrastructure decision making.[18] Through extensive data collection, stakeholder consultation, cross-sectoral analysis and systems-based modelling, the components for long-term strategic infrastructure and adaptation planning have been developed and embedded within the governments planning processes through institutional change and capacity development to ensure the island's sustainable and resilient infrastructure development.

Natural capital and climate risk model integration to support regional planning

Spatially mapping and valuing important natural systems (natural capital) and the benefits they provide to people (ecosystem services) has grown in importance with the increasing ubiquity and ease of use of geospatial mapping tools and associated global satellite data. As these models continue to improve, including more recent innovations to evaluate services under different climate scenarios, they are becoming increasingly essential in guiding spatial land-use planning for governments around the world. The application of such assessments has so far been limited to largely conservation and natural resource management contexts and less so as formal components of integrated upstream spatial planning for infrastructure investments. These are, however, powerful analytical tools that can provide essential information in supporting the type of integrated upstream planning outlined in this brief (Figure 3 below).[19]

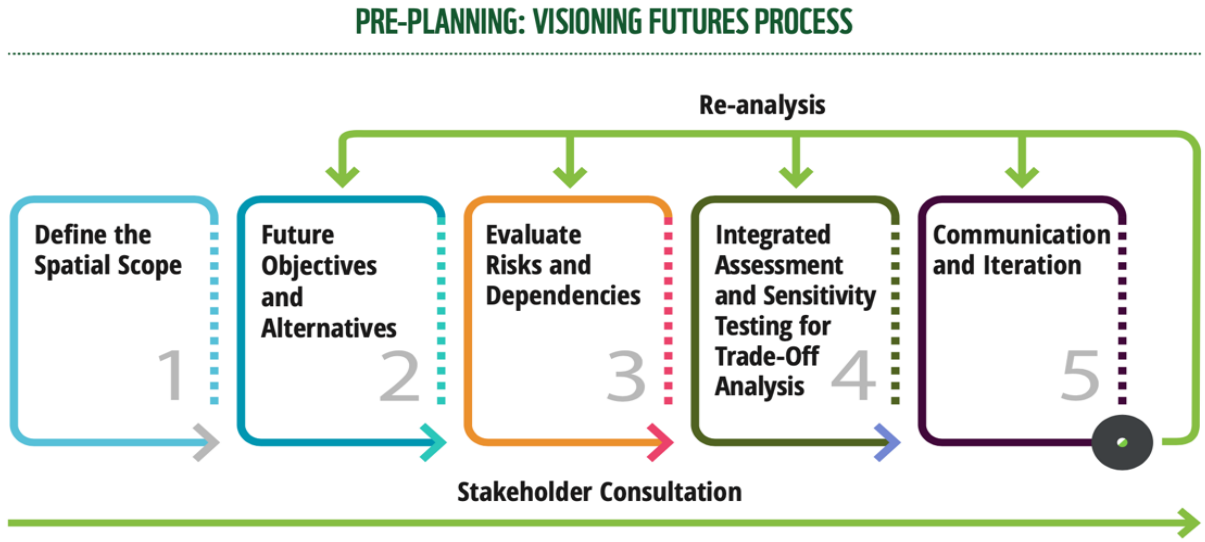

FIGURE 3. THE 'VISIONING FUTURES" APPROACH TO INTEGRATED UPSTREAM PLANNING OF INDIVIDUAL INFRASTRUCTURE PROJECTS, COMBINING ASSESSMENTS OF CLIMATE RISKS, ECOSYSTEM SERVICES, AND INFRASTRUCTURE NEEDS.[20]

[18] ITRC, n.d.

[19] Bartlett, 2019.

[20] Ibid.

Participatory Agent-based Modelling

Another innovative example of integrated systems modelling is a UKAID funded project where multiple organizations co-created an integrated city-region systems planning tool to help tackle major resilience challenges in the Greater Accra Metropolitan Area (GAMA). Project managers worked through a highly successful collaborative data-sharing approach where key actors in government, the private sector, local communities, and NGOs developed a multi-sector systems model to ultimately test scenarios for improved access to clean water and sanitation (SDG 6) by 2030 (see Figure 4 below).

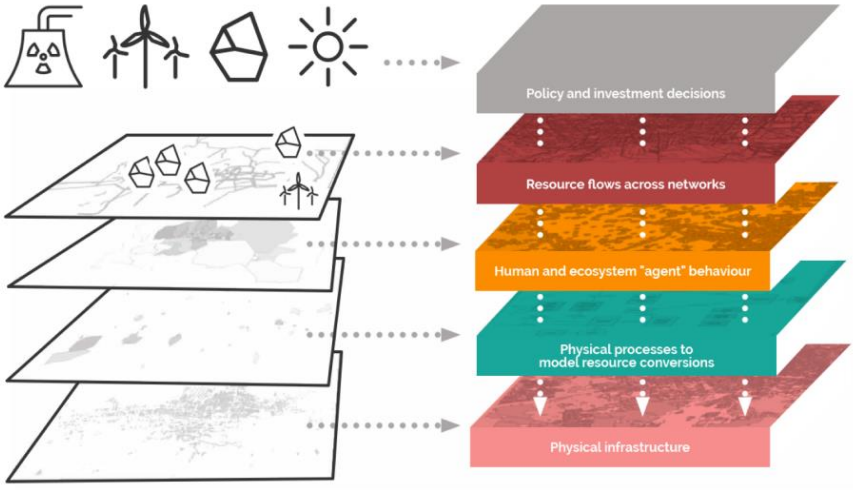

FIGURE 4. AN EXAMPLE OF THE AGENT-BASED MODELLING APPROACH USED TO EVALUATE WASH INVESTMENT SCENARIOS IN GHANA.[21]

A draft investment strategy was produced on how to achieve 100% access to water and sanitation, with the systems view favouring centralised water supply infrastructure and decentralised wastewater treatment and sanitation infrastructure. The project established a strong network of over 400 individuals from government, private academic and community sectors, which was built through in-country and remote support.[22]

5. Strong stakeholder engagement processes

Deliberate involvement of diverse coalitions of stakeholders, from multiple levels of government and the private sector to communities, indigenous populations, and other representatives of civil society is essential for any successful integrated upstream planning process. It not only avoids costs of potential expensive delays in future project implementation, [23] but is essential for determining and balancing development priorities amongst all groups.

Accra 'Collaboratory'

In 2016 Resilience Brokers delivered a series of activities designed to boost local stakeholders' integrated systems knowledge and build civic capacity for sustainable infrastructure planning in the city of Accra. Following an inaugural workshop where local community leaders were explicitly consulted to determine the preferred sustainable development focus, ultimately choosing access to water and sanitation (SDG 6) by 2030. A 50 person strong expert technical working group (the "collaboratory") was convened to lead a learning journey in integrated systems planning and decision-making to design systems-level solutions to water and sanitation challenges in the

[21] Figure developed by Resilience Brokers. For more information see Resilience Brokers, 2020.

[22] The Ecological Sequestration Trust, 2016.

[23] Watkins, Mueller, Ramirez, Serebrisky & Georgoulias, 2017.

GAMA. This created a suitable modelling environment for the team to run scenarios, ask questions about and design potential solutions to the key regional WASH challenges. The prototype resilience.io model created by the collaboratory developed investment scenarios based on data and assumptions on population, behaviours, service provision, risk and economics and short to medium term time horizons. An iterative, collaborative process led to three case studies being rigorously tested to understand, at a systems level, how best to achieve sustainable water and sanitation developments through sustainable infrastructure in the GAMA.

Recommendations for key international and domestic institutions

These examples for the 5 criteria outlined above demonstrate that solutions already exist to the challenges preventing more integrated upstream planning outlined at the outset. Many of them are, however, limited in scope and scale, with short term funding streams or as individual projects (that in some cases are no longer running). To truly scale-up these solutions and facilitate integrated upstream planning globally to ultimately drive investment toward sustainable infrastructure projects, influential and relevant international, national, sub-national and municipality scale institutions involved in planning should take the following actions:

International: MDBs, NGOs, Bilateral Aid Agencies

- Collaborate to **develop a universal high resolution digital model of the Earth** that includes links directly to, and shares data with, integrated systems modelling for people and ecology at national and sub-national/regional scales so that risk assessment for future scenarios for sustainable infrastructure designs and their impacts can be improved over time.
- **Allocate funding through existing multilateral platforms** explicitly targeted at developing countries to provide governments with resources dedicated to national and sub-national data-driven, integrated upstream infrastructure planning processes and capacity building for associate institutions.
- **Support the digitalization of infrastructure project preparation** to facilitate government access to best practices and technical assistance and improve data collection across the whole project lifecycle, including the use of systems modelling support tools (above) and most effectively target global goals in climate, biodiversity, SDGs, etc.

National planning ministries and departments

- **Update national integrated financing frameworks** that determine how national development and infrastructure strategies will be financed and implemented (considering all financial and non-financial means of implementation, e.g. public, private, domestic and international finance, technology and capacity building) to explicitly allocate funding to integrated upstream planning.
- **Create policies and capacity building programs** that incentivize sub-national and local scale risk-based integrated upstream planning to address urban-rural linkages and the health and resilience of people and the ecosystems that support them, while enabling smart choices to be made for sustainable infrastructure planning and delivery.
- **Create mechanisms to ensure diverse stakeholder engagement** in strategic and spatial planning processes for infrastructure solutions, including non-state actors (NGOs, the private sector) and local communities.
- **Create a data specification development plan** that includes data needs, collection strategies, specifications, handling, and brokerage for the full lifecycle of sustainable infrastructure investments; and has interoperability between different data sources. Match the data needs to those required for risk screening tools by funders; and support capacity building across different stakeholders around new data policies and data processing.

- **Update national building and infrastructure standards** in line with increasing climate risks and to enable new integrated systems solutions, including the potential for nature-based solutions, to be used.

State / regional planning departments

- **Adopt new integrated upstream planning tools** for cross-sector collaboration at regional (sub-national) and local scales so that landscape, urban, rural and infrastructure planners can apply integrated approaches that explicitly consider nature-based solutions and can evaluate and measure climate risks while connecting to project level sustainability and resilience standards.

Municipalities

- **Use systems models and data to implement performance-based procurement** for sustainable infrastructure so that public and private sector contracting parties are committed to delivering short- and long-term performance outcomes that match the sustainability and resilience needs of the community and the ecosystems that support them.
- **Strengthen planning functions within municipalities** by creating: multi-disciplinary teams with urban designers, planners, hydrogeologists, naturalists, architects, finance experts, and biodiversity experts to work together in a collaborative environment and engage in urban infrastructure planning and design; creating a centralized data platform to be used by these multidisciplinary teams; building capacity and increase funding for systems model application and development to support integrated upstream planning; and requiring that infrastructure investment funds flow through the multidisciplinary planning team to ensure investment decisions follow plans.

Appendix. Data and Key Components of Integrated Modelling Approaches

The following key capabilities are desirable for such a simulation model to adequately represent natural capital and ecosystem services, climate change impacts and future risks, and current and future infrastructure development needs[24]:

- A local climate simulator with spatially heterogeneous impacts and interactions with the hydrological cycle, linked to subsurface water flows, which can be coupled to global climate models;
- The simulation of the subsurface including geothermal heat energy, soil systems for ecosystems and agriculture, subsurface rock characteristics for construction planning, locally mined minerals, and aquifers and related water resource flows;
- Modelling of land use and associated infrastructure, including interdependencies, and the changes caused by economic, individual activity and public decisions;
- Physical resource and energy conversions across all sectors (extraction, manufacturing, retail, recycling, energy generation, transport, agriculture, food processing and so forth) and their interaction with flow networks (transport and energy);
- The simulation of transport and other flow networks (electricity, heat) with their portfolio of technologies and infrastructure possibilities;
- The simulation of potential consequences of a multitude of policy options with their effects on other systems including land use planning, economic instruments, legislative policies, and soft behavioural drivers;
- Human activities driving material conversions for the supply of goods and services, and the consumption thereof resulting in jobs and income, providing a spatial economic simulation including economic redistribution mechanisms like scarcity and rents;
- The simulation of ecosystems in the urban area and surrounding larger landscapes, their states and provided services, influenced by climate and environmental inflows and outflows from the city system and human activities, including proposed larger scale infrastructure investments;
- The wellbeing of the population in terms of health, security, economic status, leisure, access to amenities, and related happiness deriving from these factors;
- Simulation of human behavioural effects related to events and policy changes;
- The incorporation of technological change in terms of production efficiency and the substitution of key technologies, of great importance for private sector investment.

[24] The Ecological Sequestration Trust, 2013.

References

Bartlett, R., 2019. *Visioning Futures: Improving Infrastructure Planning to Harness Nature's Benefits in a Warming World*. Washington, DC: WWF.

Bloomfield, L.S.P., McIntosh, T.L. & Lambin, E.F., 2020. Habitat fragmentation, livelihood behaviors, and contact between people and nonhuman primates in Africa. *Landscape Ecology*, 35, pp. 985–1000.

Botchie, G., 2000. *Local Strategic Planning and Sustainable Rural Livelihoods. Rural Distract Planning in Ghana: A Case Study.* Legon: ISSER / London: IIED.

Evans, S., 2020. *Analysis: Coronavirus set to cause largest ever annual fall in CO2 emissions*. London: Carbon Brief.

Hallegate, S., Rentschler, J. & Rozenberg, J., 2019. *Lifelines: The Resilient Infrastructure Opportunity*. Washington, DC: World Bank.

ITRC, n.d. *NISMOD-International*. Oxford: ITRC.

Ministry of Urban Development India, n.d. *Operations Document for Urban Transport Fund (UFT).* New Delhi: MoUD.

Project Partners Contracts and Alliance Forms From the ACA, 2020. *The PPC Suite.* Tatsfield: Association of Consultant Architects.

Redwood, J., 2014. *Environmental and Social Management in Multi-Sectoral Urban Development Projects - A Good Practice Study of the IDB-Supported Procidades Program in Brazil*. Washington, DC: IDB.

Resilience Brokers, 2020. *Using systems thinking to unlock value and to improve climate resilience of places.* London: Resilience Brokers.

Rozenberg, J. & Fray, M. (Eds.), 2019. *Beyond the Gap: How Countries Can Afford the Infrastructure They Need while Protecting the Planet*. Washington, DC: World Bank.

The Ecological Sequestration Trust, 2013. *Review of Current Integrated Models for City-Regions*. London: The Ecological Sequestration Trust.

The Ecological Sequestration Trust, 2014. *Smart ways to mobilise more efficient and effective long-term investment in city regions*. London: The Ecological Sequestration Trust.

The Ecological Sequestration Trust, 2016. *Resilience.io – GAMA WASH use cases*. London: The Ecological Sequestration Trust.

UN Environment Programme, 2019. *Integrated Approaches to Sustainable Infrastructure*. Geneva: UNEP.

UN Office for Project Services, 2020. *Capacity Assessment Tool for Infrastructure (CAT-I)*. Copenhagen: UNOPS.

Watkins, G., Mueller, S.-U., Ramirez, M. C., Serebrisky, T. & Georgoulias, A., 2017. *Lessons from Four Decades of Infrastructure Project-Related Conflicts in Latin America and the Caribbean*. Washington, DC: IDB.

The Solutions Lab – A Dialogue Process jointly convened by the Global Solutions Initiative (GSI) as well as Emerging Markets Sustainability Dialogues and the Global Leadership Academy, the latter two commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

https://www.global-solutions-initiative.org
https://www.emsdialogues.org
https://we-do-change.org

Deutsche Gesellschaft für Internationale
Zusammenarbeit (GIZ) GmbH

Registered Offices
Bonn and Eschborn

Dag-Hammarskjöld-Weg 1 – 5
65780 Eschborn, Germany
T +49 6196 79-0
F +49 6196 79-11 15

E info@giz.de
I www.giz.de

Contact:

John Hauert
Emerging Markets Sustainability Dialogues
T +49 30 338424 410
E john.hauert@giz.de
I www.emsdialogues.org

Vanessa Bauer
Emerging Markets Sustainability Dialogues
T +49 6196 79-7424
E vanessa.bauer@giz.de
I www.emsdialogues.org