Policy Brief

Waterfront Revitalization in Port Cities: Risks and Opportunities for Emerging Economies

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This Policy Brief, part of the BRICS Policy Center Series on Urban Development, synthesizes key issues of waterfront revitalization through a cross-country comparison of projects in BRICS cities, aimed at extracting lessons and fostering informed appraisals of future opportunities for cooperation and debate.

Executive Summary

Emerging as global economic engines, BRICS cities have gained attention for the unique lessons they offer for seizing opportunities of urbanization, and for managing its risks and discontents. Ports continue to serve important roles in shaping this transition, supporting increasing trade volumes and export-oriented growth.

As maritime trade flows within and between ports change, the recognition of new values of the waterfront, including through tourism, have spurred projects to attract attention, investment, and people. Opportunities to improve quality of life and environment and enhance economic vitality have led to the revitalization of degraded and underutilized port regions, often through strategies that incorporate their rich historical and cultural heritage to create unique new public spaces.

BRICS Policy Center (BPC) is a joint initiative of the Municipal City and the Pontifical Catholic University of Rio de Janeiro, dedicated to producing knowledge, analyzing agendas, and strengthening cooperation and exchange between BRICS countries.

BRICS-Urbe is a BPC forum dedicated to monitoring public policies for urban development in major cities of the BRICS countries, fostering discussion and exchange, particularly at the municipal level, aimed at formulating innovative solutions to address common urban challenges.

Urban planners and policymakers pursuing such projects often reach for lessons from the revitalizations of degraded waterfronts of industrialized nations. Facing different challenges and trajectories, emerging economies in and beyond the BRICS have sought to innovate their approaches for interlinking socio-economic and environmental dimensions, pursuing alternative models for financing and management, and harnessing public-private partnerships.

This Policy Brief provides a comparative look at four of these projects in different phases of development, from a celebrated case in Cape Town, to more recent initiatives in Rio de Janeiro, Shanghai, and Mumbai. Drawing from existing assessments of what is perceived as successful in post-industrial contexts, case studies highlight similarly holistic approaches to waterfront revitalization in the context of broader city planning in port regions. Strengths and limitations are explored in terms of creative strategies for enhancing land use, accessibility and equity, quality of life, and sustainable urban ecologies, as well as alternatives models for management and financing. Key lessons provided can inform future study, debate, and cooperation for approaching port and waterfront (re)development, aimed at fostering the growth of vibrant, sustainable cities.

"Greening" BRICS Mega-Events: Cost-benefit of adapting port infrastructure

Attracting millions of visitors to their cities and countries, megaevents have offered opportunities to enhance global visibility and prestige of the BRICS. In some cases, these events can also offer lasting economic benefits and potential for sustainable urban renewal, including through port and waterfront development.

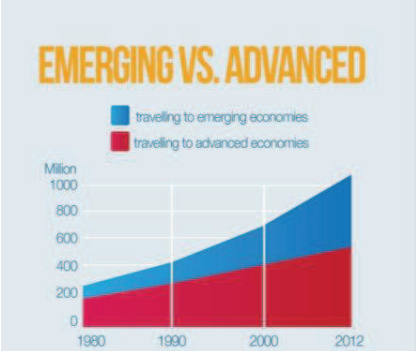
Efforts for "greening events" (incorporating social and environmental responsibility into decision-making) have gained force since the 1990s, including through requirements of the IOC and FIFA. Particularly in developing and emerging countries, where needed event infrastructure is often publicly financed, guaranteeing a positive cost-benefit ratio requires that investments be part of long-term infrastructure planning, aligning economic, social and environmental legacies of events with development objectives.

Port and waterfront revitalization, with other positive legacies of improved of urban infrastructure (mainly transport), can help create lasting jobs through induced economic effects in the construction, tourism, and leisure industries, as events improve sector capacities and city image. In particular, BRICS lessons for sustainability show the need for strong environmental waterfront land-use regulations, special programmes for enhancing social inclusivity/addressing inequality, and advocating for more flexible event governance and business models (e.g. FIFA and the IOC) to give host cities and countries greater leeway to address special development needs (Konrad-Adenauer-Stiftung, 2011).

1. Importance of Ports: Then and Now

Notwithstanding sweeping market transformations, 90% of global trade still depends on seaports. Remaining competitive in this environment constitutes an important priority for many developing and emerging economies, particularly those whose strategies for growth have been export-driven. As roles and functions of ports

shift and change, intensifying social and environmental pressures also require new approaches to port revitalization that integrate with broader urban sustainability strategies – to meet current needs, without comprising the ability of future generations to meet theirs. As the hosts of a growing number of international megaevents, many BRICS cities have also tried to harness port revitalization to encourage tourism over the long term, and to ensure its benefits are equitably distributed and sustainable. In many cases, such strategies have sought unique ways to incorporate cultural heritage.



Source: UN World Trade Organization

The origins of many of today's port cities can be traced back over one-hundred years to the pre-industrial and colonial past. Once serving as catalysts of city development, many ports suffered from decline and degradation from failures to adapt to changing market structures and demands.

From agriculture to industry-based economies, massive port complexes in Western industrialized economies were built separating ports from their surrounding cities, where inhabitants diversified their economic livelihoods away from the sea. Local management often tended towards more centralized administration. By contrast, developments of ports in emerging, non-Western economies stem from diverse and divergent histories, including the legacies of colonialism and trade imbalances. Faced with different challenges and opportunities, BRICS countries are positioned to offer valuable insights as the global transformation to the "third generation" of ports continues to unfold.

Since the end of the twentieth century, port models and functions have undergone drastic shifts. New demands require the management of large and complex volumes of information and logistics, powered by mobile communication systems, new technologies for handling, storing, and standardizing goods, and mass marketing and distribution systems of customized products. The growth of containerization, ship size, and transshipments, port specialization, dry and inland terminals, and new ways of controlling and outsourcing logistics, have all significantly shifted the functions, sizes, and interactions of different ports in maritime industries, and within their surrounding urban environments.

Some observe that these conditions contribute to growing imbalances between the local and the regional/global benefits of port development. While optimists contend that ports provide a range of comparative advantages for the cities where they are located, others point to the increasing

diffusion of port user benefits to non-local stakeholders, unaffected by local negative side effects, such as noise, traffic, congestion, pollution, and compromised aesthetics. Recent research of OECD members revealed that many port-cities tended to score lower on several economic indicators than the national average of the countries where they are located (OECD, 2010). With there are many economic factors driving this dynamic[i], it raises issues of significant social and environmental

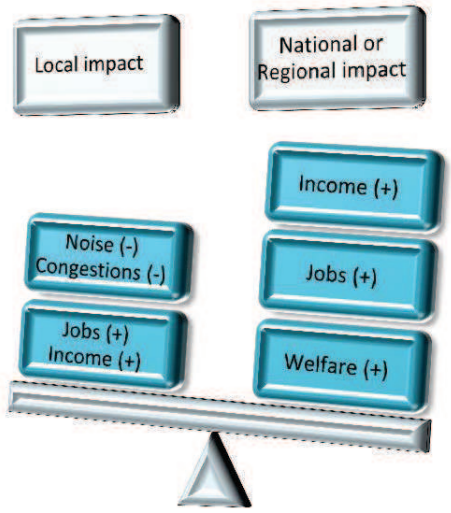
concern. These challenges observed in port-city relations are marked by significant regional variations which are not well understood.

Quality of Infrastructure

Country	Overall	Ports	Roads	Railroads	Air Transport	Electricity Supply
BRICS Countries						
Brazil	**3.4**	**2.6**	**2.7**	**7.7**	**3.0**	**4.9**
Russia	**3.5**	**3.7**	**2.3**	**4.2**	**3.8**	**4.3**
India	**3.8**	**4.0**	**3.5**	**4.4**	**4.7**	**3.2**
China	**4.3**	**4.4**	**4.4**	**4.6**	**4.5**	**5.2**
South Africa	**4.5**	**4.7**	**4.9**	**3.4**	**6.1**	**3.9**
OECD Examples						
Germany	**6.2**	**6.0**	**6.1**	**5.7**	**6.4**	**6.4**
Japan	**5.9**	**5.2**	**5.9**	**6.6**	**5.3**	**5.9**
South Korea	**5.8**	**5.5**	**5.8**	**5.6**	**5.9**	**6.0**
UK	**5.6**	**5.8**	**5.6**	**5.0**	**6.0**	**6.7**
USA	**5.6**	**5.6**	**5.7**	**4.8**	**5.8**	**6.0**

***Scale: 1=extremely underdeveloped, to 7=extensive and efficient by international standards; Source: World Economic Forum, Global Competitiveness Report 2012-13 (2011-12 weighted average)**

Ports and Economic Development "Global-Local Mismatch"



Source: C. Ferrari, OECD, 2011 http://www.oecd.org/regional/regional-policy/49456330.pdf

2. A New View of the Waterfront

Urban planners and managers around the world have brought to life new visions of the waterfront, demonstrating the potential of what their cities can become and provide. The most lauded success stories have involved broad, inclusive stakeholder participation, often incorporating of rich cultural heritage of port regions into new public spaces which enhance quality of life, environment, and economic opportunity, while promoting a new global image of the city and area to attract investment and people.

While waterfront properties are now seen as areas of high value, this was not always the case. Left abandoned and environmentally degraded as industries changed, many port regions became high-risk areas, flood prone and occupied by vulnerable populations subject to poor conditions of environmental and human health. Moreover, dysfunctional land uses around waterfronts, largely inaccessible to the broader public, have constituted missed opportunities to generate private and public revenue.[ii]

Since the 1990s, newly industrialized and emerging countries have demonstrated innovative approaches to reverse these negatives. Responding to concerns that urban renewals would benefit elite minorities at the expense of more pressing needs and the poor, many projects have demonstrated potential for more inclusive improvements, incorporating social, environmental, and economic dimensions, for example, through water supply, housing, employment, and tourism, and other city sectors and services. These involve coordinated, creative ways of reconciling and aligning broad spectrums of interests, based on city visions of inclusive, sustainable urban growth and renewal. The following examples, at different stages of planning and development, represent diverse strategies for achieving this vision in four BRICS countries. The concluding section highlights lessons and best practices.

Case 1: Cape Town: The V&A Waterfront

Cape Town was the first European settled city in South Africa, growing as a Dutch maritime outpost and an economic engine of the Cape Colony. The mining boom accelerated South

Africa's relatively early urbanization. Roughly half of the country lived in urban areas by 1960, with the mobility of black rural migrants controlled by a small white minority. The introduction of apartheid deepened the fragmentation of South Africa's cities, rendering negative social, economic and environmental consequences (such as low central population densities and poverty traps on the periphery), which post-1994 policies have sought to ameliorate.

With an estimated 3.74 million people in its metropolitan region (2011 Census), Cape Town today is known as one of the most multi-cultural cities in the world. Its changing global image, including as the host of megaevents like the 2010 FIFA World Cup, have attracted tourism, immigration, and investment, helping the City make needed improvements in urban infrastructure and services. The changing face and functions of Cape Town's harbor, now the most visited destination in the city, reflect both the challenges and opportunities for harnessing this strategy for the City's sustainable development agenda.

Returning to the Waterfront: Revitalizing the Port-City Nexus

The Port of Cape Town still services a busy world trade route as a full service operator of general cargo, handling high volume shipments of fruit and fish exports, repair and maintenance facilities used by large fishing fleets and oil and gas industries, boatbuilding activities, and a booming cruise liner market, all of which contribute significantly to local and regional economies. Supporting these activities, land reclamation, railway lines and freeway construction once distanced the city from the port. With harbor expansion and new shipping technology, the port's historic parts of the port, such as the original dock's offices, Cape Town's first power station, Victorian buildings, and warehouses, fell into disrepair and decay. The potential for revitalizing these areas was first recognized in 1984 by the then Mayor of Cape Town, Alderman Sol Kreiner, who organized a Waterfront Steering Committee, lobbying for greater city-waterfront integration. Ministers of Transport Affairs and Environmental Affairs and Tourism were engaged to reevaluate public uses of the harbor area. The resulting Burggraaf Committee Report in 1987 proposed transforming the Victoria and Alfred Basins (constructed in the late 19th and early 20th centuries) and their surrounding historic docklands into a mixed-use area focusing on retail, tourism, and residential development, while still maintaining the context and operations of the

adjacent harbor. With the full approval of the South African Cabinet, the Victoria and Alfred Waterfront (Pty) Ltd ("V&AW") was formed to redevelop the docklands, as a wholly-owned subsidiary by Transnet Ltd (the state-owned rail, port, and pipeline company). [iii]

Looking to projects in North America for inspiration, many thought the aims of urban conservation and waterfront redevelopment would prove too ambitious and costly in South Africa. In the absence of government or municipal subsidies, commercial viability has been vital to the project´s success.[iv] Extensive market research was undertaken, leading, by 1992, to the completion of the Victoria Wharf specialty retail and entertainment center, extended to accommodate attracted commercial developments, including restaurants, entertainment, and high-end shopping, and several prestigious hotels.

Restoring and reinventing former industrial and harbor facilities, projects also included the designation of over thirty national monuments, restoration of Victorian architecture, repurposing of old structures, such as the old Breakwater Prison, leased to and converted by the University of Cape Town into its new campus for its Graduate Business School. Entry points were opened to other cultural and historical landmarks, such as the Clock Time Ball Tower, the Maritime and other museums, art galleries, an amphitheatre, and the Nelson Mandela Gateway, leading boat trips to Robben Island, where Mandela and other political prisoners were held during apartheid. Located in a biodiversity hotspot, the waterfront has also developed natural attractions, including Two Oceans Aquarium, dive sites, harbor cruises, and a resident colony of Cape Fur seals. The V&AW also saw unprecedented residential expansion, and became the largest individual ratepayer in the City of Cape Town.

The V&AW Company acts as the project developer and property manager – overseeing tenanting, security, cleaning, maintenance, marketing and administration. Tenant leases ranged from monthly to 99-year lease periods, with the V&AW responsible for ensuring real value added with each investment. Retaining the property as a single unit under the control of one owner, guided by a constant vision and rejecting risky financial expediencies, was seen an element of success, preventing potential conflicts if the waterfront had been split up and sold to several owners. Drawing from its experience, the V&AW management has also provided consulting and development services to other waterfront projects around the world, including in Mauritius, England, Gabon, Nigeria, Spain, the Russian Federation, Greece, and Oman.

As the company managing the V&AW was initially under the umbrella of the same body that controlled the ports, the project's institutional structure contributed to another dimension of the

its success: the continuing mixed use of the vicinity as a working harbor. Important not only for the livelihoods it supports, these dimensions also contributed to maintain what is perceived as an authentic and historic nature of the space, avoiding a "theme park" style of waterfront development. It also helped foster cooperation (and avert conflict) between the waterfront and port, including through control of port traffic at their common entrance, and the maintenance of a shared operating base for tugs, pilot, and recreational boats, fishing, a dry dock, and accommodations for some small and medium cruise ships.

Concerns about preserving this character were raised in response to the sale of the V&AW to a largely Dubai- and London-based consortium in 2006. In 2011, South African property company Growthpoint and the Public Investment Corporation completed the acquisition of the V&A W for a record R9.7bn.

Challenges for a Global Success Story

Today, the V&AW project is celebrated as one of the most successful of its kind in Africa, and in the global South. It was also seen as a first step in a broader chain of other developments revitalizing the surrounding city (such as the Cape Town International Convention Centre, and a range of redevelopments in the adjacent Central Business District).

Broad participation and accessibility remain challenges. Confronting them has required addressing the traditionally unequal structure of participation which, during V&AW planning, consisted almost exclusively of white organizations and interests. While some observe that the waterfront has attracted an increasingly broad base of consumers, others also contest that it has grown as a "special space" for whites to escape an increasingly "Africanizing" Cape Town, limiting the diversity of user profiles[v]. Restoration and conservation efforts, seen as concentrating on 'white-built' maritime heritage have also been challenged, giving visibility to slaves, African dock workers and laborers, and other integral parts of the harbor's history.[vi]

In terms of economic impact, the V&AW has contributed significantly to employment generations (by some calculations, every job directly created at the waterfront has sustained an additional two elsewhere in the Western Cape).[vii] Questions have been raised about the

polarizing effects of jobs created (between high skilled and the low skilled and low paid). Others argue that the post-industrial economy has helped broaden employment to different skill levels, providing more opportunities for mobility.

(Re)constructing the image, heritage, and benefits of the waterfront have both reflected and stimulated important public debates in the City of Cape Town, in the context of efforts to reconcile a unified South African identity, and to reposition Cape Town as a sustainable, inclusive, and global city. The Five-Year Plan for Cape Town reflects how the port and waterfront can continue to serve as vehicles for achieving these goals.

Case 2: Rio de Janeiro: Porto Maravilha

Among the BRICS countries, Brazil was one of the fastest and earliest to expand its urban areas, most of which developed around ports. As an engine of the agricultural extractive economy during the colonial period, the Port Region in Rio de Janeiro was of great historical and strategic importance. It became the capital hub of the Portuguese colonial empire, serving as the main trading post between the colony and metropolis, and with other nations. It also harbored what became one of the largest slave markets in the world, leaving important landmarks of Brazil's African heritage. The hillsides and coves surrounding the port fostered rapid expansions of adjacent neighborhoods during the 18th and 19th centuries, producing a unique cultural landscape between the mountains, city and sea, recently recognized through the selection of Rio de Janeiro as a UNESCO World Heritage Site.

At the beginning of the 20th century, city plans sought to expand and modernize the pier of Rio de Janeiro's port to accommodate warehouses and growing industries. With economic shifts and shrinking port activities, the port region became heavily degraded. While richer residents flocked to the city's South Zone, remaining resident communities suffered the consequences of inadequate public services and infrastructure. While the need to preserve the area's wealth of heritage was formally recognized in 1987 through the declaration of a Cultural Environment Protection Area in three surrounding neighborhoods (Saúde, Gamboa and Santo Cristo), many of their historic gems fell into disrepair.

"The Future is Coming!" Porto Maravilha Urban Operation

In recent years, the City of Rio de Janeiro has sought to reposition itself as a leading example in sustainable urban development. As the future host of the 2014 World Cup and 2016 Olympic Games, the City has undertaken significant projects to harness and attract investments and tourism, improve services and infrastructure, and enhance aesthetics and residential quality of life. One of the leading examples harmonizing these dimensions is the Porto Maravilha Urban Operation.

With explicit aims to serve as an example of sustainable urban development and "productive social inclusion", the project seeks to revitalize the port region into a vibrant city center, blending modern and sustainable buildings with architectural heritage, mixing residential, cultural and commercial uses, and improving local quality of life through social and economic development, integration of environmental concerns, and enhancement of patrimony.

The project aims to improve conditions for work, housing, transportation, culture and leisure, accommodating growth in the resident population, from a current 28 thousand to an estimated 100 thousand by 2020. Encompassing a 5-million-square-meter area of the port and surrounding neighborhoods, the project includes the development of an advanced system of more efficient highways and tunnels (replacing the Perimetral Highway), the construction of two new museums, the establishment of underground infrastructure for public lighting, power distribution and telecommunications (without suspended wires or cables), large infrastructure networks of drinking water, sewage, drainage, and gas, the refurbishment of streets through higher urban standards, and the implantation of sidewalks, bike paths, and 15 thousand trees.

Special legal policy instruments enabled a project commitment of R$8 billion (roughly USD$4 billion) over 15 years without the use of public funds. This began with the acquisition of the port area by the City, declared as an area of special interest in 2009. A publicly traded entity called the Port Region Urban Development Company of Rio de Janeiro (Cdurp) was then created and granted concessionary power to orchestrate a triple function: as a granting authority, project manager, and development agency.

Management of public services and revitalization works will be organized through public private partnerships, and a 15 year administrative concession to the Porto Novo Company,[viii] a consortium responsible for construction and maintenance of municipal public services in the port area. It also includes provisions to engage and benefit resident populations, stimulating private sector and government initiatives for improving housing, professional (re)training and local job creation (including in cultural industries), strengthening local small and micro entrepreneurs with SEBRAE[ix], and promoting initiatives for education and knowledge production.

Funds for the project are being raised primarily through the sale of "Certificates of Additional Construction Potential" (CEPACS)[x] -real estate titles whose prices vary based on both the size of potential construction, the location of the project, and its type of land use. Titling and tax benefits are structured to incentivize investment and mixed occupation, particularly through mixed-income residential construction, restoration of properties of historical, cultural or ecological interest, and activities involving education and entertainment. All real-estate projects are submitted to a stakeholders working group under the Municipal City Planning Department, ensuring consistency with legal and operational standards and sustainability regulations for green construction.[xi] Three percent of CEPAC funds raised will be invested in the preservation and promotion of architectural and cultural heritage (such as the creation of historical/cultural circuits of African heritage, churches and architecture, and support for local cultural organizations). Efforts to attract investments are still ongoing, as the initial slow take off prompted the City of Rio de Janeiro to sign off on three additional years of tax incentives for real estate ventures.

Current Challenges: Pier-Y, Rio-21st Century, and MP 595

The Porto Maravilha Project has generated positive attention. However, there is a perceived need to improve alignment and coordination with other planned infrastructure projects in the region to ensure its efforts are strengthened, not duplicated or contradicted.

This includes coordination with "Rio-21st Century", a public-private project whose second iteration was launched in 2012 to upgrade port infrastructure, terminals, and off-shore support

bases. As displacements of resident communities have been part of Rio-21st Century and other construction projects, the principles Porto Maravilha espouses for engaging the interests of local communities in the planning process, and through the construction of low-income housing, are seen as especially important. Cooperation with port authorities must also adapt to the transformation undertaken through the government's proposed Provisional Measure (MP 595), recently approved to open up pre-1993 public port terminal contracts to private tenders.[xii]

Other concerns have been voiced in opposition to plans of the new passenger pier of the Port of Rio de Janeiro ("Pier-Y"), designed by the Docks Company of Rio de Janeiro (CDRJ)[xiii], to expand its berthing capacity for up to six cruise vessels in preparations for the World Cup and Olympic Games. In addition to doubts about the cost and technical quality of the project, critics[xiv] argue that the project will disrupt the city's waterfront circulation, urban design, and (considering growing cruise ship sizes), obstruct the unique landscape of the Port Zone which Porto Maravilha has sought to enhance.

As these examples suggest, greater coordination and cooperation within and between these initiatives, and with authorities, shareholders, and stakeholders, can strengthen the Porto Maravilha initiative to ensure its unique approach is included as a Brazilian and international best practice in sustainable urban revitalization.

Case 3: Shanghai, Fuxing Island

Of all the BRICS countries, China was the last to begin its urban transition. Opening with economic success to foreign investment, trade, and capitalist enterprise, coastal cities like Shanghai became critical engines of this rapid growth and transition.
The importance of the port dates back to ancient China. With its strategic location facing the East China Sea to the east, the Hangzhou Bay to the South, and accessing three rivers (Yangtze, Huangpu, and Quiantang), the port was opened to foreign trade as a "treaty port" of the British following China's loss of the First Opium War. The introduction of Communist rule in 1949 drastically shrunk trade and industry, and infrastructure degraded. With economic reforms in the 1990s, the growth of Shanghai's port reaccelerated, in the context of broader government

decentralization and urban development. Now in China's most populous city, and a global financial center, Shanghai's port recently overtook Singapore as the busiest container port in the world, accompanying the development of the Shanghai International Shipping Center. The port's management has also shifted from the Shanghai Port Authority to the Shanghai International Port Company Limited, a publicly listed company, of which the Shanghai Municipal Government owns 44.23 percent.

With these rapid and drastic changes, and with the construction of a neighboring deep-water port in Yangshan, industrial areas related to outdated functions of the port of Shanghai were left underutilized, like the Island of Fuxing, replete with aging warehouses and maritime infrastructure. In the context of urban migration and expansion, booming real estate, and a system of political and economic incentives enhancing the role of local governments and developers in urban land conversions, urban planners began to re-envision how these old industrial spaces could be transformed, including through greener redevelopment strategies.

New Visions of Fuxing: An Island of Innovation

Plans are underway for the redevelopment of the Fuxing Island in the Yangpu District, previously a hub of the shipbuilding industry. One proposal, envisioning the transformation of the island into an eco-friendly, mixed-land use complex, appears to be making headway.

Produced through cooperation with Sasaki Associates (a US landscape architectural firm), Shui On Land (a Chinese developer), local stakeholders, and government officials, the plan seeks to transform the island into one of China's leading innovation districts, strengthening links with Fudan, Tongji, and other esteemed universities in the surrounding area, and incorporating principles of green growth. Seeking to attract a "creative class" to live and work on the island, mixed land uses include residential neighborhoods with research and development facilities (such as corporate campuses, business and training schools, incubator industries, and conference centers), as well provisions for recreation and leisure connected with the natural environment. Urban amenities (such as retail, restaurants, entertainment, museums, and theaters) will be integrated within the fabric of former warehouses, shipbuilding facilities, cranes and gantries, to retain an adapted industrial aesthetic while preserving parts of the island's

cultural history. The plan also includes expanding the island's central park and preserving it historical landmarks (such as the site of Chiang Kai-Shek's final residence before he left the mainland in 1949).

The sustainability strategy for the island involves: improving transit access, organizing open space to reduce energy demands, expanding parks for improved stormwater treatment, planning for green roofs and bio-filtration zones, utilizing native plants and soil microbes to remove surface pollutants and contaminated soils, and establishing guidelines for (re)using locally available and rapidly renewable materials. Health, wellness and lifestyle dimensions were also considered, for example, through plans to organize Fuxing as a walkable, car-free island, to build patient recovery facilities for mainland hospitals, and to restore the Fuxing Canal (between the island and mainland) for recreational use, through the installation of filters at both outlets to the Huangpu River to cleanse polluted waters.

The opening of a metro line on Fuxing Island in 2012 marked the beginning of these developments, with the broader aim of creating an appropriate mix of uses to develop a vibrant, world-class destination, create a public space for the city of Shanghai, and attract creative investment, businesses, and people. To develop this vision, planners engaged in broad stakeholder outreach, for example, with academic institutions, young professionals, industry experts, medical suppliers, private developers, and government. Their early participation improved understanding and incorporation of market demands, for instance, from university campuses requiring land to expand, or young entrepreneurs in search of business incubators. Planning also required understanding broader trends of waterfront development in Shanghai sweeping towards the North of the city.

A Future of Opportunity and Challenge

Following the trajectory of this development in the context of China's broader patterns of urban expansion, several challenges and opportunities can be mentioned. The transmission of publically appropriated land to commercial enterprises has become an increasingly critical part of the strategies of urban authorities for raising revenue. Increased land values have helped

finance the expansion of urban infrastructure. Development projects, including iconic architecture, have fuelled economic growth and the projection of new forms of city marketing, attracting both tourism and investment. Problems of efficiency, equity and environmental quality in the ways this land is secured and distributed, as well as the spaces conversion schemes open for both corruption and instability in property speculation, have all been highlighted as major issues of concern.

With rising prices contributing to critical shortages in affordable housing, especially for rural and unregistered migrants, these issues also raise questions about how poor and vulnerable populations can participate in and benefit from developments like Fuxing. Still in its initial stages, these forms of experimentation suggest a positive direction, which may be strengthened through broader processes of urban governance reform for sustainable cities in China.

Case 4: Mumbai Eastern Waterfront

In comparison to other BRICS countries, India's pace of urbanization has been slow, and particularly concentrated in a few large cities. Powerful resident associations have formed, improving participatory governance and demanding reforms, though often at the expense of migrants, slum dwellers, and the informally employed. While the government has directed investment to promote more balanced urbanization (spatially, economically, and demographically), urban renewal has still gravitated to larger cities, often offering limited benefits for those who cannot afford services. As India's fastest growing industries are not geared toward an expanding labor force, human capital absorption will demand more inclusive policies in larger cities, which may encounter resistance from urban elites.

In this context, vast expanses of underutilized land along Mumbai's coastline, 1,800 acres of which are controlled by the Mumbai Port Trust (MbPT), the city's largest land owner, could provide significant opportunities. The subject of public debates, new visions for using these lands have been proposed to accommodate more sustainable growth in this spatially and environmentally constrained city. A 2005 study conducted by Urban Design Research Institute (UDRI) and the Kamla Raheja Vidyanidhi Institute (KRVIA) suggested "reclaiming" the post-

industrial landscape of the waterfront property (only about half of which was being used by MbPT for port activities) for public use. Municipal corporations and strong civil society actors, such as Bombay First, a think tank of citizens and business communities, have also been important drivers as the Port Trust opened negotiations with the state government, as new proposals sought to create forums to guide authorities in converting and repurposing unused plots (many of which are under leases) to meet the city's needs, including through transportation and infrastructure, leisure, commerce, recreation, and housing. Students from Columbia University, JJ school of Architecture and the Tata Institute of Social Sciences, led by URBZ, a Mumbai-based organization dedicated to participatory urban planning, also organized an urban design studio and website to generate ideas and interest in the Mumbai's Eastern Waterfront. Residential infrastructure for low-income families has been raised as a particular priority, including by the state government, which claimed part of the docklands for re-housing over 100,000 people displaced by various city infrastructure projects.

These debates have also highlighted needed improvement in environmental regulation and conservation, generating ideas on how to preserve and involve attractions in the waterfront ecosystem, comprised of wetlands, mudflats, and mangroves, including diverse plant and bird species, and annual flamingo migrations. Their protection will require tighter control on port activities, such as the handling of hazardous material and traffic congestions. Some have suggested an outright relocation of port activities (particularly for those involving trade not directed to Mumbai), pointing to needs for additional compensatory measures, including for dockworkers. Under the central government's Shipping Ministry, the MbPT initially resisted redevelopments, claiming that land would be used by an expansion of the port, over 135 years old, occupying a large vicinity inaccessible to the public.

Involving diverse and conflicting interests, some argue that future developments will require strengthening the agency of the Mumbai Metropolitan Region Development Authority, responsible for planning the project, to consult and reconcile diverse stakeholders- the MbPT, state government, municipal corporations, dock workers, urban planners, environmental groups, residents and civil society advocates- in the context of a more proactive agenda for sustainable city planning. Opportunities for international cooperation and experience sharing could provide fruitful insights as developments move forwards.

3. Lessons and Recommendations

These cases illustrate how planning, design and policy strategies in emerging economies have sought creative solutions (or neglected to address) the shared constraints and challenges associated with port and waterfront revitalization in the context of urban growth, such as labor and housing issues, complementary infrastructure development, financing, investment, and taxation schemes, environmental and land use regulations, tourism and megaevents, policies for social inclusion and protection, and stakeholder participation. Synthesizing these issues as areas for further debate, several key lessons and recommendations can be highlighted:

1. STRONG AND INCLUSIVE VISIONS are vital to guide and sustain projects over the long term.

Drawing from experience, some experts indicate that a realistic timeframe for successful waterfront (re)development projects can extend over two to three decades. Sustaining long-term and large-scale projects requires a strong, dynamic guiding vision, which can engage and maintain the participation of a range of stakeholders (political authorities and representatives, private investors, and local communities). Commitments are strengthened when projects are based on common interests and shared values of place.

"Reinforcing the power of place" in the global repositioning of cities enriches waterfront planning. [xv] Projects can reinvigorate the rich cultural, religious, historical and social ties of cities and communities to the sea. Reinforcing them involves incorporating tangible and intangible cultural heritage into planning and programming, and can also include the preservation or adaptive reuse of elements of the maritime and industrial past.

Inclusive stakeholder engagement is vital. This is particularly true when port reform and waterfront development result in the displacement of local resident communities and businesses, and the disruption of local livelihood strategies. Local interests must be understood early engagement in planning and design stages, allowing the incorporation of targeted employment sectors and affordable housing options to address local needs and demands.

2. INSTITUTIONS AND FINANCING MODELS, including public-private partnerships, must be adapted for successful implementation and long-term viability.

Adaptability to political change is critical. Uncertainty about shifting political leadership and bureaucratic institutions can jeopardize projects. The City of Rio de Janeiro's Porto Maravilha and Cape Town's V&AW, among other examples, have sought to avert this by creating autonomous and multi-sectorial entities for management and oversight of land, assets, financing, and development programming, fostering conditions for continuity and completion of the projects envisioned.

Financing projects amidst resource constraints requires creative and inclusive local management strategies. Large revenue losses for local municipal governments can result from missed opportunities at waterfronts, where land uses are incompatible or outdated. Feasibility studies to ensure commercial viability can ground self-sustaining financing mechanisms for projects, averting public expenditure. A balance must be sought to attract investment, and to equitably distribute its benefits.

Public-Private Partnerships can strengthen implementation, particularly in cases of financial, organizational, and human resource constraints of public institutions. The tremendous potential for raising waterfront real estate values can be highly attractive to private sector investors. City planners and managers can harness this participation, particularly for effective market analysis, land use assessment, financing, and operations, and in generating profits which can be allocated to finance distributive and compensatory benefits, and broader development objectives.

3. QUALITY OF LIFE AND ENVIRONMENT and ACCESSIBILITY are key to harness port and waterfront development as drivers of sustainable urban growth.

Planning for creative, mixed land use is a common dimension of successful waterfront revitalization and development, fostering long-term viability and enhancing quality of life. Many successful projects also maximize usage through a mix of facilities which operate in the daytime (offices, business and community centers, etc.), as well as in the evening (recreational, residential, retail, etc.)

Creation of special districts and areas of interest, with different and more flexible zoning codes, often administrated/financed by an independent agency with a public foundation and accountability, can facilitate revitalization projects, as well as the extension of basic services and legal recognition to informal settlements.

Addressing environmental issues, including de-pollution of water, the establishment and enforcement of sustainability regulations, disaster preparedness, basic sanitation infrastructure, and other conditions for healthy lifestyles are all important factors for successful sustainability planning. Policy tools can include *green design and certification* (through setting and upholding standards for energy efficiency and environmental performance), and the creation of *tax credits and incentives to promote sustainability*.

Strategies for green growth holistically address these issues by maximizing the growth potential of green economies, through approaches which sustainably harness, rather than deplete, the quality and quantity of natural assets of waterfront ecosystems. Generating innovation to achieve this vision requires actionable policy frameworks for sustainable development.

As public policies for port and waterfront development in major cities in and beyond BRICS countries seek to consolidate and employ best practices, particularly at the municipal level, sources of exchange and information will be vital for addressing common urban challenges, aimed at building more sustainable, vibrant global cities in the future.

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[i] For example: the artificial lowering of port land prices to attract companies for leasing and concession contracts, the internationalization of firm ownership and displacement of capital investment benefits, the use of fixed social capital (i.e. transport infrastructure) which comes free or subsidized from the local system by agents who come from and operate outside of it, and the spreading of taxes/duties collected beyond the local port systems (Ferrari, 2011).

[ii] For more on global themes of waterfront revitalization, access the World Bank's South Asia Urbanization Flagship Project Webinar, hosted Jan. 10, 2013: https://worldbankva.adobeconnect.com/_a833642795/p76g3oguabv/?launcher=false&fcsContent=true&pbMode=normal

[iii] The launch of the project in 1988/89 took place during a time of South Africa's economic recession and political isolation, over five years before its first democratically elected Government. With no financial institution willing to kick-start financing, the project only was able to get underway with initial funding tranches from the State-owned South African Transport Services.

Transnet Ltd. is the corporatized successor of the South African Transport Services company. The port division was renamed as Portnet, and later split in two, with a landlord division (known as Transnet National Port Authority) and a goods handling division, in charge of most commercial terminals (Transnet Port Operations). The South African government owns the majority of shares. Transnet operates, among others, Spoornet (the national rail carrier), South African Airways, Petronet (the national petroleum pipeline network) and Freight dynamics (a national road transport carrier).

[iv] Initial funding was (ZAR) 205 million. By 2007, ZAR 1 428 million had been invested in the project to date, with nearly ZAR 900 million thereof being invested by the Transnet Pension Funds and Transnet Ltd. Approximately ZAR 246 million had been private investment in commercial projects, and ZAR 282 million from private investment in residential projects.

[v] See Worden, N., & van Heyningen, E. (1996), "Signs of the times: Tourism and public history at Cape Town's Victoria and Alfred Waterfront. Cahiers d Éstudes Africaines", 36(1/2), p215–236.

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[vii] Compiled from independent studies of the job and income creation impacts of the V&A Waterfront from 1992, 1994, 1997, 2000, and 2004; 80% of permanent jobs created represented real regional (rather than displaced) economic growth, with two-thirds of jobs going to low-skilled, entry-level positions (such as waiters, salespersons, cleaners, laborers, and security personnel), with additional employment generated in construction and development (equivalent to a cumulative 15,850 annual jobs over 10 years, with more than 50% were in the lowest-skilled laborer category) (Ferreira & Visser, 2007).

[viii] Belonging to Construtora OAS Ltda., Construtora Norberto Odebrecht Brasil S.A., and Carioca Christiani-Nielsen Engenharia S.A. Responsibilities include: traffic control in the Operational Control Center, maintenance of road systems, public lighting, urban sanitation, and trash collection, as well as the conservation of green areas, public squares, streets, monuments and public facilities.

[ix] The Brazilian Agency for Support to Entrepreneurship and Small Business, through public-private partnerships, reduces tax burden and red tape to open markets and expand access to credit, technology, training and innovation for micro and small enterprises.

[x] CEPACS are purchased through the Porto Maravilha Real Estate Investment Fund (FII), created by the FGTS and managed by Caixa Econômica Federal, which bought the entire stock of Cepacs, to ensure the project´s financial stability. A part of the land is being sold by Porto Maravilha FII, another section will still be owned and sold privately or by public entities.

[xi] Such as parameters for spacing and distancing, use of solar heating, accessibility and use of bicycles, use of materials with environmental certification, economy of water consumption and recycling of rainwater and used water, green and/or reflective roofs equipped with solar water heating, and maximization of ventilation and natural lighting.

[xii] While the government argues the measure is essential for modernizing ports, promoting investment and ensuring export reliability, the MP 595 has provoked strong resistance from organized labor, including strikes of dock workers fearing the loss of jobs, benefits, and control over labor contracts under privatization. http://www.portogente.com.br/portosdobrasil/texto.php?txt=4187&cod=14

[xiii] A mixed company responsible for port management linked to the Ports Secretariat of the Presidency (SEP / PR), responsible for managing the maritime and inland ports of the Complex of Fluminense.

[xiv] Including the Board of Architecture and Urbanism of Rio (CAU / RJ), the Institute of Architects of Brazil (IAB), and the Municipal Council for the Protection of Cultural Heritage. According to an interview with João Pedro Backheuser, of Blac Arquitetura, and a co-author of an alternative plan for the Pier, the Institute of Historical and Artistic Heritage (Iphan) in Rio did not formally oppose the plan because it was outside of its jurisdictional area of protection, however, it did issue a report with critiques, including of its proximity to cultural landmarks and limited added value. http://www.iab.org.br/sites/default/files/p%C3%ADer%20em%20E%20-%20entrevista%20doica.jpg

[xv] See Richard Marshall's contributions in World Bank's Webinar "Urbanization Along the Waterfront." (Jan. 10, 2013, available at: https://worldbankva.adobeconnect.com/_a833642795/p76g3oguabv/?launcher=false&fcsContent=true&pbMode=normal