Watercolour 10
Naples, a Mediterranean City at Risk?

Chapter 10
Interconnected World Anthologies of Future Blue Cities

Abstract The European Union, the world's first maritime power, is the continent with the densest network of conscious cities. Many coastal cities have developed a myriad of innovative flagship actions which can inspire world cities. But the path to sustainable development will be long and arduous. This final chapter builds on messages from promising cities and pioneer networks for increasing the resilience of vulnerable coastal cities and their potential to grasp opportunities offered by the blue green growth.

Global strategic partnerships and alliances, such as the C40, the Asian Cities Climate Change Resilience Network and the 100 Resilient Cities, can greatly improve the capacity of coastal cities to withstand threats and seize opportunities for sustainable development. Promising emerging cities, such as Jakarta and Manila, can benefit from good cases and integrate no-regret multi-beneficial practices in their transformative agenda to become more resilient and thrive together with their citizens.

10.1 Towards Sustainable Cities: Messages from the European Rainbow

The European Union is first and foremost urban, a constellation of cities and urban agglomerations, shaped by legendary cultures and surrounded by majestic seas. The first maritime power of the planet includes the most polycentric urban network. London and Paris are the only global cities. Smaller world cities, like Amsterdam or Barcelona, try to enhance their human, social, economic, political and cultural assets. Vibrant urban conglomerations have been developed in many countries in symbiosis with the sea. The Randstad surrounding the Dutch "green heart", sixth-largest metropolitan area in Europe, is a noteworthy example of an urban region in balance with its water environment. Intangible bonds and networking are crucial for cities willing to build upon each other's experiences and achieve quantum leaps (Hall 2013).

Europe is a polycentric urban network of small and medium-sized cities boosting the dynamism of European regions. "Small large" cities are usually on a more human scale. Coastal medium-sized cities usually offer easier access to multiple

---

The author retains the copyright to all Watercolour illustrations.

physical and social resources, including the sea. Intermediate cities are often more open to the countryside and may act as an interface between larger cities and coastal regions. Medium-sized cities, on the orbit of metropolitan areas, face special opportunities and threats. Their geographic position may provide advantages of access to international links, but also disadvantages in developing autonomous identities and functions (Bellet et al. 1998).

European cities mobilised for sustainable development even before the 1992 Rio Summit. The wave of conferences on European Sustainable Cities and Towns (ESCT) brought progress in the move towards urban sustainability. The first conference (Aalborg, May 1994) focused on the discussion and signature of the "Charter of European Cities and Towns: Towards Sustainability", starting point for the European Campaign of Sustainable Cities and Towns. This generated a movement of conscious cities in Europe and an important pillar in the pantheon of world networks and movements (ICLEI 1995).

The Charter of European Cities and Towns Towards Sustainability, seen as the European version of Local Agenda 21, states that cities and towns should base their living standards on the carrying capacity of nature and advance towards social justice, prosperous economies and environmental improvements. Social equity is considered to be a precondition to the achievement of sustainability, as the inequitable distribution of wealth causes both unsustainable results and increases resistance to change. The Charter embraces an ecosystem approach to urban policies and declares the responsibility of cities for many global problems. Land use and transport models, production and consumption patterns, values, culture and leisure have myriads of consequences. Sustainable development cannot be achieved without governments, local communities and citizens rising to the purpose of transmitting their preserved urban capital to the next generations (ESCTC 1994).

Six years before the turn of the century, the ECSC Charter engaged with cities to improve their environmental condition and not export problems into the broader environment, including the marine environment, or the future. High priority has to be given to the reduction of greenhouse gas emissions, the enhancement of biodiversity and preservation of the ecosystems. Finally, the Charter advocated the development of urban sustainability indicators as yardsticks of progress and compasses for the way forward.

Coastal cities and their associations, especially in the Mediterranean Sea and the Baltic Sea, were among the first signatories of the charter in 1994 and the partners of the European campaign of sustainable cities and towns which also brought together important constellations of local authorities wishing to benefit from the collective momentum. The Association of Cities and Regions for Recycling, the Climate Alliance, the Council of European Municipalities and Regions, the Énergie-Cités, Eurocities, ICLEI, and the World Health Organisation Healthy Cities were among the partners. The campaign introduced the Sustainable City Award which recognised best practice and promoted noble emulation.

In many cities, sustainability became an innovative, creative and pro-active process gradually embedded in the institutional culture and practices, and the subject of a structured, and meaningful dialogue with citizens and other stakeholders. The second conference on European Sustainable Cities and Towns (which took

place in Lisbon in 1996) urged cities to move from charter to action (ICLEI 1997), whereas the third conference (in Hanover in 2000) marked a leap to the new millennium with the Mayors convention declaring local sustainability as their highest political priority. The Charter of European Cities and Towns celebrated 10 years of interconnected efforts for Sustainable Development with the "Aalborg+10" Conference in 2004. This fourth conference was marked by discussions of the Aalborg Commitments, conceived to assist cities and towns in engaging with sustainability. The Aalborg Commitments provided an instrument to help local governments to shape robust policies and set clear qualitative and quantitative targets to implement the urban sustainability principles of the Charter.

And the move from words into deeds continued. The coastal city of Dunkirk hosted the sixth conference of the European sustainable cities in 2010, which concluded with two political declarations. The Local Sustainability Declaration advocates for the transition to a sustainable, green and inclusive economy. It demands the strategic prioritisation of investments and a more efficient and ecosystem-based management to enhance citizens' quality of life. European cities that signed the declaration insisted that change can be made only with the support of national and international governments and institutions. The second political declaration was the Call on Climate Action which asked for more ambitious reduction targets to achieve a meaningful longer-term climate agreement. This call also suggests that to achieve a low carbon, climate resilient and green economy in Europe, local and regional governments must be a fully integrated party in negotiations and decisions and work in concert with national governments and supranational bodies.

In the EU governance architecture, cities were long considered to be the level closest to citizens. In the 1990s, the European Commission started a series of actions to promote cooperation and exchanges among cities, notably on environmental issues. The European Urban Initiative tried to address problems and enhance opportunities in cities. "Urban I" (1994–1999) assisted 118 cities of the European Union to improve their living and working conditions, whereas "Urban II" (2000–2006) assisted 70 sensitive urban districts in undertaking socio-economic and environmental regeneration. The Urbact programme capitalised on the experiences of exchanges that were promoted between cities through thematic networks, and the dissemination of exemplary practices. The programme expanded its training of the elected representatives to address the challenges of future leadership (European Commission, Urbact II 2011).

European Union Member States and the Council of Ministers have also been active in urban affairs. National governments started cooperating on urban strategies in the 1990s. During the 2007 German presidency, ministers in charge of urban affairs signed the Leipzig Charter on the sustainable European city (Leipzig, May 2007), a statement of shared principles for urban development policy in Europe. The charter recognised European cities as organic parts of a common heritage. Reinforcement of distressed areas, youth employment and sustainable architecture and planning were presented as key objectives. Recommendations addressed all aspects of urban policy, including sustainable infrastructures, energy efficiency, innovation, education and training, culture and heritage (Council of Ministers 2007).

They apply to all sizes of cities, coastal or not, but have always to be adapted to local circumstances.

The EU territorial agenda provided a springboard for European governments to promote a polycentric cooperation between cities and create new forms of partnerships between the cities and the countryside, to cement regional clusters for increasing competitiveness to promote the trans-European management of risks, such as the effects of climate change and sea level rise, and to strengthen ecological and cultural resources. In 2008, a Declaration of the ministers in charge of Urban Development (Marseille, November 2008) brought forward the main challenges for cities, including environment and climate change, competitiveness, social cohesion and citizenship. It recognised that cities are key actors for reducing emissions, waste and risks (Council of Ministers 2008).

Exchanges between responsible cities and regions, and open to citizens, Europe and the world, have greatly intensified since the start of the millennium. Since 2003, the open days of the European week of the regions and cities, organised by the European Commission and the Committee of the Regions, bring together in Brussels every October thousands of participants of all regions of Europe. In 2014, the twelfth edition brought a wave of events throughout Europe. Sharing ideas and insights on a wide range of issues, from boosting innovation to employment generation, and addressing short, medium and long-term societal challenges, were at the heart of the debates. Platforms for exchanges with public and private investors serve as laboratories of ideas and actions.

To promote research and innovation and address urban challenges, some Member States of the European Union joined forces as they had done in the Joint Programming Initiative "Urban Europe", an initiative of 15 European countries dedicated to making better use of public research opportunities across Europe. Research issues at various levels include urban scenarios and foresight activities for policy-oriented roadmaps and planning concepts, demonstration and pilot projects, monitoring and benchmarking. The initiative identified vital urgent issues to be addressed in order to create attractive, sustainable and economically viable urban areas in which European citizens and communities can thrive. Building on existing research and policy initiatives, Urban Europe brought together multiple and diverse strands of thought and action to implement a strategic research agenda. To make cities attractive places to live and work in a global village, governments agreed to enhance the advantages of their cities and help realise their potential for innovation and competitiveness (European Commission, VU University Amsterdam 2011). This initiative can inspire joint action by other integrated regions such as the Association of Southeast Asian Nations.

Global sustainability depends much on the multiplication of exemplary action and events at the urban/region level. Some inspiring models come from the annual European Green Capitals, launched in the EU towards the end of the first decade of the millennium. The candidate cities have presented a wealth of proposals for a year of green technological and social innovation. Twelve indicators help to benchmark the cities according to their contribution to GHG emissions, local transport and green areas, nature and biodiversity, quality of air and the acoustic environment, water consumption and waste management, waste water treatment, eco-innovation and

sustainable employment, environmental and energy performance. All candidates must prove that sustainability ethos is high on their agendas and leadership for sustainability is exercised at all levels. The award-winning cities must be committed to excellence in environmental performance, act as role models and inspire other cities in their uphill battle for sustainable development (EC 2013a).

The majority of cities which have already been crowned are coastal ones. They all aimed at igniting the debate and driving decisive action towards urban sustainability. Stockholm, first European Green Capital in 2010, was followed by Hamburg (Green Capital 2011), Vitoria Gasteiz (Green Capital 2012) and Nantes (Green Capital 2013), which honoured their respective years with great distinction. The 2014 award celebrated Copenhagen, a city with a record of consistently high environmental standards, profoundly engaged in pursuing ambitious green goals. The city opted for the most sustainability oriented actions in everyday life and all urban functions. Bristol took over the torch as the 2015 European Green Capital.

The combined Green Capitals present a rich record of ideas and actions towards urban sustainability. Stockholm has been the epitome of green urban growth efforts in the European Union, and became a world model (OECD 2013). Hamburg boosted environmental awareness and invested considerably in renewable energy and the creation of HafenCity. Vitoria-Gasteiz praised its semi-natural green area that had been partially reclaimed from degraded areas, surrounding the urban heart and bringing nature into the city. The city wishes to ensure that the entire population lives within 300 m of an open green space and implements many tangible measures to assist and increase biodiversity and ecosystems services. Nantes has developed a sustainable transport policy with a focus on public transport and optimal conditions for pedestrians and cyclists.

The Green Capital movement invited exemplary concepts and solutions for the future of European cities. Innovative partnerships with citizens, businesses, local universities and the civil society were also forged and provide lessons and insights. To enhance the exchange of ideas among European cities, Hamburg put on rails a "train of Ideas", an interactive exhibition on a moving train, with critical information about major projects such as the reintroduction of a tram system and the creation of low/zero carbon districts. "Ships of Ideas" could probably be interesting for coastal cities and their partners.

Next to the European Green Capitals, the European Green Leaf initiative focused on smaller cities with a population between 50,000 and 100,000 inhabitants. It is an award that recognises commitment to environmental improvement, with a particular accent on efforts that generate green growth and new jobs, while developing citizens' environmental awareness, culture and involvement. The initiative tries to identify cities able to act as a "green ambassador" and to encourage other cities to progress towards a better sustainability future. "Blue ambassador" schemes could also be interesting for coastal cities but also other cities engaging with the ocean.

Despite the many achievements, the journey of European cities towards sustainability is a long and challenging one. The European Environment—State and Outlook 2015 Report by the European Environment Agency, the largest integrated assessment of Europe's environment that includes data at global, regional and country levels, as well as cross country comparisons, has alerted us to the risks of

environmental deterioration and its impacts on human well-being and prosperity. The report concludes with recommendations to recalibrate policies in line with the 2050 vision of "living well within the limits of the planet".

The EU environment and climate policies have delivered considerable benefits for functioning of ecosystems and for the health and well-being of citizens in Europe, and also has created economic opportunities. The environment industry sector grew by more than 50 % between 2000 and 2011. The quality of drinking and bathing water has improved in recent decades and hazardous pollutants have been reduced. European greenhouse gas emissions have decreased by 19 % since 1990, despite a 45 % increase in economic output. Total resource use has declined by 19 % since 2007, less waste is being generated and recycling rates have improved (EEA 2015a).

However, Europe's natural capital is still being degraded by socio-economic activities such as agriculture, fisheries, transport, industry, tourism and urban sprawl. Air and noise pollution continue to cause serious health impacts, particularly in urban areas. In 2011, about 430,000 premature deaths in the EU were attributed to fine particulate matter (PM2.5). Exposure to environmental noise is estimated to contribute to at least 10,000 premature deaths each year. Perhaps the most difficult challenges for European environmental governance arise from the fact that environmental drivers, trends and impacts are increasingly subject to global processes and complex systems. A variety of long-term megatrends affect Europe's environment, consumption patterns and living standards (EEA 2015b).

Land degradation and climate change remain major concerns, threatening the flows of environmental goods and services that underpin Europe's economic output and well-being. A high proportion of protected species (60 %) and habitat types (77 %) are considered to be in unfavourable conservation status, and Europe is not on track to meet its overall target of halting biodiversity loss by 2020, despite success in relation to specific targets. Fresh water quality has improved over recent years. However, around half of Europe's freshwater bodies are unlikely to attain "good ecological status" in 2015. Marine and coastal biodiversity is of particular concern. Across all of Europe's regional seas, marine biodiversity is in poor condition, with only 7 % of marine species assessed as "favourable conservation status". Seafloor damage, pollution, invasive alien species and acidification are particularly threatening. Overfishing has decreased in the Atlantic and Baltic, but the Mediterranean shows a more negative picture, with 91 % of assessed stocks overfished in 2014 (EEA 2015a).

The way to sustainable development is long and arduous. The level of ambition of existing environmental policy may be inadequate to achieve Europe's long-term environmental goals. Projected greenhouse gas emissions reductions are currently insufficient to bring the EU onto a pathway towards its 2050 target of reducing emissions by 80–95 %. Recalibrating existing policy approaches can make an essential contribution to such transitions. In the environment and climate policy domain, four established and complementary approaches could enhance progress to long-term transitions if considered together and implemented coherently: Mitigation, Adaptation/Resilience, Precaution/Prevention, and Restoration.

With the "EU Cities Adapt" and "Mayors Adapt" Initiative, European cities signalled the world that adaptation to climate change is no longer a matter of policy option. Even if GHG emissions are radically curbed, natural ecosystems have already been perturbed and may take centuries to recover. The journey to resilience is a journey to responsibility (EC 2013b; ICLEI 2013).

10.2 The Journey to Urban Responsibility: A Bird's Eye View on Never-To-Regret Actions

Asia is particularly at risk of apocalyptic disasters and has major cities in vulnerable areas which are insufficiently prepared to face extreme natural disaster and violent shocks. Inadequate citizen education and awareness, congested infrastructure, poverty and deficient public services and chronic tensions are aggravating their conditions. Coastal Asian cities located on deltas or along eroded coastlines, under typhoon belts and on earthquake-prone zones, have to prepare to address the additional pressures associated with climate change and extreme events. Emerging Asian megacities under explosive urbanisation, such as Jakarta and Manila, have been pointed out as having a great potential as emerging cities (Kearney 2014) and should in urgently try to overcome their vulnerabilities.

Strategically positioned in the Indonesian archipelago, Jakarta, the capital and only megacity of Indonesia, is ranked by A.T. Kearney at the top of emerging cities. Located on the Northwest coast of Java, Jakarta is an economic, cultural and political hub, the most populous city in Southeast Asia and one of the fast growing cities in Asia. A global monitor of metropolitan areas highlights that in a 2011 ranking according to economic growth, Jakarta occupied the 17th place among the world's 200 largest cities, a jump from a 2007 ranking of 171th place. Jakarta has grown more rapidly than Kuala Lumpur, Beijing and Bangkok (Brookings 2012).

The history of Jakarta in a nutshell encapsulates the evolution of many emerging cities. Jakarta is located at the mouth of the Ciliwung River on Jakarta Bay. Established in the fourth century, it became a strategic and thriving trading port for the Kingdom of Sunda within the sphere of influence of Srivijaya maritime empire. The first European fleet involved four Portuguese ships from Malacca, which arrived in 1513 looking for spices. Dutch ships landed in 1596 and, once victory over the English was consolidated in 1619, the capital of the Dutch East Indies was renamed Batavia, which still brings to life the city's historic roots. The city became the capital of Indonesia after World War II and was renamed Jakarta.

Indonesia's founding president envisioned Jakarta as a great international city, and instigated most-ambitious, government-funded projects with nationalistic and modernist architecture. Flagship projects included a clover-leaf highway, monuments such as the National Monument, and a new parliament building. In 1965, Jakarta was the scene of an abortive coup attempt which precipitated a forceful anti-communist purge and the beginning of Suharto's New Order. In 1966, Jakarta was declared a "special capital city district", and gained a status approximately equivalent

to that of a state. The capital city was endowed with health and education services, equipped with transport infrastructure, encouraged in their culture and the arts, and invested in modernisation. Slum dwellers were moved to new development projects and control of migration to the city tried to reduce overcrowding and poverty. Foreign investment contributed to a real estate boom which changed the face of the capital.

The boom ended with the 1997–1998 East Asian Economic crises which placed Jakarta at the centre of violence, protest, and political tensions. However, the capital remained the focal point of democratic change in the dominant ASEAN economy. In 2007, Jakarta held its first ever direct elections to choose a governor. The city has a two-tier governance system and is divided into five cities, formerly municipalities, each headed by a mayor, and one regency headed by a regent.

Jakarta leads a country with more than 17,000 islands and a coastline of about 81,000 km and has historically been a most important trading port in the region. Its economy depends heavily on financial services. The main problems for sustainability include the extreme population growth, high levels of poverty, and inequitable distribution of wealth. This megacity is highly vulnerable to climate change and must reduce its greenhouse gas emissions. This is critical to prevent future climate impacts and ensure adequate adaptation action to withstand stress. Improved urban planning and infrastructure, such as water and waste services, and green infrastructures are multi-beneficial actions which not only minimise climate impacts but are long-term avenues to sustainable development. Green growth policies started to expand in the capital cities of the region (OECD 2015).

The topography of Jakarta is critical for vulnerability. The capital city includes areas with very diverse morphology. The Northern part is low-lying, just some meters above the average sea level and frequently floods, while the Southern part is hilly. The Ciliwung River is the most significant river and divides the city from West to East. In addition, about 12 other rivers drain the hilly southern part of the city into the sea. Central Jakarta is the capital's administrative, cultural and political heart. It has large parks, colonial buildings and landmarks such as the Jakarta Cathedral. West Jakarta has the highest concentration of small-scale industries, the Chinatown district and colonial landmarks. West Jakarta contains part of Jakarta Old Town, while South Jakarta, originally planned as a satellite city, hosts affluent residential areas. South Jakarta functions as Jakarta's ground water buffer, but the green belt areas are threatened by new housing developments. East Jakarta hosts several industrial sectors, while North Jakarta is bounded by the Java Sea and includes the Tanjung Priok Port. Thousand Islands, formerly a sub-district of North Jakarta, constitute a unique ecosystem of 105 small islands in Java Sea. Marine tourism, such as scuba diving and wind surfing, is the most important activity in this territory which has a high conservation value.

As two-thirds of Indonesia's territory consists of marine and inland waters with an abundance of natural resources, the development of aquaculture was promoted to encourage community-based rural economic activities and ensure food security. About 90 % of the country's total fish production is consumed domestically. Shrimp from both capture fisheries and aquaculture played an important role in exports.

The development of aquaculture according to sustainability principles and the FAO "Code of Conduct for Responsible Fisheries" should enhance the capability of communities in applying environment friendly technologies.

The creation of new green open spaces, improvement of waste management, education and awareness raising among the population, especially the more disadvantaged groups are key priorities. Conservation of mangroves should protect against coastal erosion and strong waves. Furthermore, adaptation action to address sea-level rise, extreme weather phenomena, and threats to ecosystems and biodiversity should be a high priority. Education and awareness should also be the first priority investment and this is also to be shared with the other dynamic emerging ASEAN megacity of Manila.

Manila, capital of the Philippines, was ranked second promising emerging city (Kearney 2014). Metropolitan Manila is the political, economic, social, educational, cultural and recreational hub of a vast archipelago of 7107 islands. Metro Manila is a confederation of 17 different cities and municipalities, creating around one third of the country's domestic product. Manila is an extreme city, marked by huge economic disparities. Reportedly, 97 % of the national GDP is controlled by 15 % of the population.

A large proportion of the population of Philippines lives on archipelagos and in low-lying river deltas, which are particularly susceptible to sea-level rise and flooding. The metropolis is a pulsating city offering a glimpse in the country's multifaceted culture and striking contrasts. In old parts of Manila, like the walled city and Chinatown, life continues like in the previous centuries. In the old port Sunda Kelape many of the scenes on the quayside have been unchanged for centuries. Glass and concrete towers co-exist side-by-side with Spanish colonial houses and neo-classical government buildings. Dragon arches, gold-domed mosques and elaborately-styled mansions define the enclaves of the Chinese, the Moslems, and the rich. Vibrant marketplaces are only steps away from peaceful parks and silent churches. Outside the rush of modern air-conditioned shopping centres, crowds bargain with sidewalk vendors.

In a typhoon-prone region and near exceptional global marine resources, Manila is a vulnerable megacity. The average elevation of metropolitan Manila is a mere 10 m. The Metro Manila is built on alluvial deposits of the Pasig River, Manila's primary waterway, which meanders through the metropolis before draining into Manila Bay. Building resilience and protecting marine resources are key priorities. Manila's protected harbour is also the main seaport for the Philippines and a major manufacturing centre, for chemicals, steel, textiles, clothing, and electronic goods. Manila's passenger and container ports bustle with the activities of local and international shipping lines. Cruise ships, as well as private vessels, also can find a berth in Manila Bay. Shipping and tourism have to develop the most sustainable way to provide lasting benefits (WWF 2009).

The Philippine archipelago has vast marine and inland resources, lakes, rivers, reservoirs and estuarine areas. The fisheries sector plays a vital role in the national economy. Aquaculture has a long history and involves many species and farming practices in diverse ecosystems. It contributes significantly to the country's food

security, employment and foreign exchange earnings. Farmed seaweeds by far remain the top export commodity. The Philippine aquaculture industry needs to embrace a global sustainability perspective to become part of a healthy local blue economy.

The no-regret options: ten essential engagements to both respond to urgencies and advance to sustainable development

All the above can help garner some advice for fundamental investments which will be beneficial, anyway, even if extreme events do not occur. Given the medium-term risks and uncertainties and the potential long-term benefits from sustainable development, it is important to concentrate investments on the most urgent and important actions.

Engage with All citizens and stakeholders

Education, awareness raising and citizen empowerment, well before extreme events occur, is essential. Action for resilience is still essentially disaster-driven. Emergency services often help repair damages, but proactive longer-term action can be far more beneficial.

Engage with the sea and the water

Coastal cities have to invest in the health of their marine resources. They should drive for sustainable fisheries and aquaculture, close their ports to illegally harvested seafood and take action for emission reduction, raise awareness on ocean acidification and strive to reduce marine litter.

Engage with blue green infrastructures

Responses to sea-level rise have to start with green infrastructure and wetland restoration. The enhancement of natural processes should become an essential part of flood planning. Urban retention areas and ocean parks have multiple benefits.

Engage with win-only energy options

Investments in energy efficiency and renewable energy sources can only be beneficial. Transforming marine waste into renewable energy and exploring ocean, tidal and offshore wind energy options are responsible choices for coastal cities.

Engage with inclusive resilience

Every city, in cooperation with all stakeholders, has to carefully evaluate its vulnerability, and the social tolerance to risks. The optimal adaptation levels should be co-decided. To foster their immunity and better withstand threats, coastal cities have to integrate threats and climate-related mitigation and adaptation in daily action.

Engage with Democracy and Trust

Democratic governance, active citizenship, leadership and accountability are of the highest importance. All cities have to reinforce institutional capacity and strive for the well-being of present and future citizens, in an increasingly multipolar interconnected world.

Engage with blue green inclusive growth

Sustainable development of all blue activities, from fisheries and shipping to cruise tourism is the fundamental precondition for the blue economy to thrive. Multiple-dividend innovations are essential for creating new assets, often out of liabilities, and capturing blue green synergies. Eco-responsible businesses have a key role in leading action.

Engage with integrated ecosystem-based policy and structural reform

Transformative agendas have to be integrated, strategic, holistic, transparent, multi-stakeholder, ecosystem-based. Urban coastal planning has to provide a framework for the optimisation of urban functions on land and the sea and address synergies and conflicts.

Engage with the world

Openness to the global world of ideas and actions is decisive. World partnerships and networks are a great source of peer-learning and a driver of change through sharing of knowledge and exchange. They also constitute an advocacy means at the global level.

Engage with complexity and uncertainty

Decision-making processes should incorporate futures thinking. Anticipatory democracy has to help build trust and a common vision for the desirable future, after discussion of all possible futures.

10.3   World Partnerships and Networks for Urban Resilience and Sustainability

World partnerships and alliances are a great driver and catalyst of progress. Sharing experience with other cities in the framework of structured world networks is highlighted as very beneficial by most partners. Vulnerable and poor cities have a special interest to learn from their peers, even if they always have to find their own way to resilience and sustainable development. Innovative initiatives originate from UN agencies and especially the UN-HABITAT, but also the C40 Cities Climate Leadership Group, ICLEI, the WBCSD and foundations such as the Rockefeller Foundation. Partnerships are extremely useful for bringing together evidence and also creating common tools and adaptable models and landscape solutions. This is particularly interesting for smaller and poorer cities and local governments which lack expertise and resources. Furthermore, the advocacy power of global networks and coalitions is of the highest importance.

Examples abound. For accounting and reporting city-wide greenhouse gas emissions, cities can use the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) presented during the COP 20 in Lima. It is a GHG Protocol standard for cities, developed jointly by the World Resources Institute, C40 Cities Climate Leadership Group and ICLEI. The GPC helps cities develop a comprehensive and robust greenhouse gas inventory, set reduction targets, and monitor their performance, ensure consistent and transparent measurement and reporting of greenhouse gas emissions according to internationally recognised greenhouse gas accounting and reporting principles, and gain insights through benchmarking and possible aggregation of comparable data (WRI et al. 2014).

In 2013, the Rockefeller Foundation launched the 100 Resilient Cities Centennial Challenge to stimulate 100 cities to better address the increasing shocks and stresses

of the twenty-first century, by adopting already known and shared methodologies and solutions. The initiative enables cities to evaluate their exposure and risks to threats, to develop a concerted integrated plan to address them, and to respond more proactively and effectively. It suggests that enhancing resilience is about making cities better, for both the short and long-term, for all and everyone (Rockfeller Foundation 2014).

The two first waves of cities were selected in 2013 and 2014. Each city was asked to present a clear and compelling description of its approaches and planning to decrease vulnerabilities and reinforce resilience. The selected cities demonstrated a dedicated commitment to building capacities to prepare for, withstand, and bounce back rapidly from shocks and stresses. The city resilience framework, developed by Arup, provides a lens and a common language for cities to understand their complexity and the drivers that contribute to their resilience. It assists cities to assess the extent of their strengths, identify critical weakness factors, and design actions to address their vulnerable areas of concern.

Other worthy of mention initiatives includes the "AsianCitiesAdapt" partnership, involving local governments in eight cities in India and the Philippines. The partnership carried out a cyclical adaptation management process, which integrated local adaptation needs into local government daily operations to address vulnerability. Scientists from the Indian Institute of Technology in Delhi and the Potsdam Institute for Climate Impact Research worked together and suggest that vulnerability assessment and resilience can be extremely important for development policies. There is no blueprint for adaptation; it is up to local stakeholders to incorporate the adaptation principles into their policies (ICLEI 2013; ICLEI et al. 2015).

The Asian Cities Climate Change Resilience Network (ACCCRN), launched in 2008, aims to catalyse attention, funding, and action on building climate change resilience for vulnerable communities. The network brings together over 20 small and medium-sized cities in India, Vietnam, Thailand, Bangladesh, the Philippines and Indonesia, and generates practical examples for climate change adaptation and mitigation, and building urban resilience in rapidly urbanising, low and middle income countries.

The vision statement of the network suggests that ACCCRN partners collaborate to build a robust knowledge basis of realistic and actionable know-how to build resilience, which will ultimately improve the lives of the poor. The ACCCRN programme, funded by the Rockefeller Foundation, incorporates knowledge and project management and network capacity building.

The CityLinks programme facilitates connections and relations to promote climate-related mitigation and adaptation as a component of all local planning and sectoral policies. Through CityLinks, US cities with effective mitigation and adaptation strategies are partnered with cities in developing and emerging countries to help adapt well-tested policies into local conditions. The initiative facilitates exchange visits that allow partners, for instance Fort Lauderdale and Durban, to address the impacts of climate change and shape strategies for adaptation. A pilot initiative promoted a city-to-city partnership of La Ceiba and Choloma in Honduras with Los Angeles, in order to strengthen violence prevention through environmental design.

Risk reduction is certainly an investment in the way of sustainable development. Some initiatives focus on risk governance and propose toolkits and handbooks for local government leaders striving to make cities more resilient The UNISDR handbook discusses the benefits of disaster resilience, the range of possible required actions and the ways to organise the tasks. It offers practical guidance to understand and take action on the "Ten Essentials for Making Cities Resilient" as set out in the global campaign "Making Cities Resilient: My City is Getting Ready!" (UNISDR 2012).

The UN-HABITAT launched the City Resilience Profiling Programme (CRPP) in 2013. CRPP aims to develop a comprehensive, integrated urban management and planning approach to monitor urban risk resilience, including climate change and multi-hazard catastrophic events. The programme aims to achieve an adaptable urban systems model, and indicators, profiles and standards to support cities in strengthening urban systems. The UN-HABITAT is testing and refining the Programme's guidelines and tools in ten partner cities, including Balangoda, in Sri Lanka, Barcelona, Beirut, Dagupan in the Philippines, Dar es Salaam, Lokoja in Nigeria, Portmore in Jamaica, Concepcion in Chile, Tehran and Wellington. Many more, coastal or non-coastal cities, will be able to benefit. History is in the making.

References

Bellet C et al (1998) Ciudades Intermedias. Urbanizacion y sostenibilidad, Milenio, Lleida

Brookings Institution (2012) Global metro monitor 2011. Volatility, growth and recovery. The Brookings Institution, Washington, DC

Council of Ministers (2007) Leipzig charter on sustainable European cities. Council of Ministers, Leipzig

Council of Ministers (2008) Déclaration finale des ministres en charge du développement urbain. Council of Ministers, Marseilles

European Commission (EC) (2013a) European Green Capital. Urban environmental good practice and benchmarking report. EC, Brussels

EC (2013b) EU adaptation strategy. EC, Brussels

EC, Urbact II (2011) Urbact projects results. EC/Urbact II, Brussels

EC, VU University Amsterdam (2011) Joint programming initiative on urban Europe. Global challenges and local responses in the urban century. EC/VU University Amsterdam, Amsterdam

European Environment Agency (EEA) (2015a) The European environment. State and outlook 2015. Synthesis report. EEA, Copenhagen

EEA (2015b) The European environment. Assessment of global megatrends. EEA, Copenhagen

European Sustainable Cities and Towns Campaign (ESCTC) (1994) Charter of European cities and towns: towards sustainability. ESCTC, Brussels

Hall P (2013) Good cities, better lives: how Europe discovered the lost art of urbanism. Routledge, London

International Council for Local Environmental Initiatives (ICLEI) (1995) Towards sustainable cities and towns. Report of the first European conference on sustainable cities and towns. Aalborg, May 1994. Freiburg

ICLEI (1997) From charter to action. Report of the second European conference on sustainable cities and towns. Lisbon, 1996. Freiburg

ICLEI (2013) Local governments championing adaptation to climate change. A primer for decision-makers in Asian cities. ICLEI, Freiburg

ICLEI, WMCCC, Bangkok Metropolitan Administration (2015) Resilient cities Asia-Pacific 2015. ICLEI/WMCCC/Bangkok Metropolitan Administration, Bangkok

Kearney AT (2014) Global cities index and emerging cities outlook. Global Cities, Present and Future

Organisation for Economic Co-operation and Development (OECD) (2013) Green growth in Stockholm, Sweden. OECD, Paris

OECD (2015) Green growth in Bangkok, Thailand. OECD, Paris

Rockfeller Foundation (The) (2014) Insights. An annual publication exploring emerging issues of consequence. Rockfeller Foundation (The), New York

United Nations International Strategy for Disaster Reduction (UNISDR) (2012) How to make cities more resilient. A handbook for local government leaders. UNISDR, Geneva

World Resources Institute (WRI) (2014) Global protocol on community-scale GHG emission inventories. An accounting and reporting standard for cities. World Resources Institute/C40/ICLEI, Washington, DC

WWF (2009) Mega-stress for mega-cities: a climate vulnerability ranking of major coastal cities in Asia

Selected Internet Links

www.ec.europa.eu/regional_policy/urban

www.cor.europa.eu

www.jpi-urbaneurope.eu

www.ec.europa.eu/energy/index_en.htm

www.oecd.org/greengrowth

www.epa.gov/jius

www.100resilientcities.org/resilience

http://unhabitat.org/initiatives-programmes/city-resilience-profiling-programme/

http://icma.org/en/cl/home

www.iclei.org

http://www.asian-cities-adapt.org

http://www.arup.com/Projects/Asian_Cities_Climate_Change_Resilience_Network.aspx