



# Swiss Working Paper on Sustainable Cities/Infrastructure in the Post-2015 Agenda

---

07.10.2013

## 1. Analysis at global level

### 1.1. Most important trends

More than half of the global population live in cities and towns and it is expected that up to 70% will live in urban areas by 2050. Urban centres have become the dominant habitat for humankind, and will thus shape the future dynamics of human development, particularly in the developing world. Cities of emerging economies are expected to double from 2 to 4 billion people between 2000 and 2030, accompanied by a tripling of their physical footprint from 200'000 to 600'000 km<sup>2</sup>. Whereas the largest metropolitan areas have reached their growth peak, secondary cities are facing the greatest difficulties. Cities need to prepare to absorb the demographic growth. This places urbanization among the most significant global trends of the twenty-first century.

The link between urbanization and socio-economic development cannot be disputed. Cities make countries more prosperous. Highly urbanized countries have higher incomes, more stable economies, stronger institutions and are better able to withstand the volatility of the global economy than those with less urbanized populations. In both developed and developing countries, cities are the main platform for transformation.<sup>1</sup>

It is also in cities where development challenges and solutions meet. Cities are hubs of prosperity, where more than 80% of global economic activity is concentrated. Half of the world's GDP is produced within the confines of only 1.5% of its land surface – predominantly in cities. Urban areas are the main drivers of local and national economies. At the same time, cities have an enormous environmental footprint: occupying roughly 3% of the Earth's surface, they are responsible for about three quarters of the global resource consumption and for approximately 70% of global carbon emissions. Furthermore, almost one billion people or 33% of the urban population in developing countries live in slums. Inequitable and often life-threatening living conditions, if left unaddressed, are sources of social and political instability. Such conditions contribute to crime and violence, thus aggravating already existing vulnerabilities.

Cities now occupy the centre stage in global development. They have become a major driver of environmental trends and sustainability processes. The high concentration of assets and people, especially in coastal areas, has become an economic, environmental and social liability in terms of the huge and growing risks from natural hazards. Considering the crippling effect storm damages can have on a well services city centre like Manhattan (e.g. Hurricane Sandy in 2012), the vulnerability of poorer and less resilient cities to climate risks stands out as a major challenge. Therefore, global change will not gain enough momentum to make a difference without **"getting urbanization right"**.

### 1.2. Strengths and weaknesses in the sector during the MDG period

Most if not all Millennium Development Goals (MDG) relate directly to living conditions in cities and/or to services cities are providing to their residents as much as to those coming from rural areas where such services are not always available. An enormous potential for the prosperity of cities lies in their physical density, allowing economies of scale effects and proximity which facilitate the efficient generation and diffusion of knowledge and information. This in turn is a prerequisite for people and businesses to unfold their human and economic potential. The main point here is that cities play a central role in the creation of jobs which are vital to poverty reduction and to achieve the first MDG. Furthermore, due to their enormous environmental footprint, cities and the way they urbanize are highly relevant to MDG 7 on "Ensuring Environmental Sustainability".

---

<sup>1</sup> UN-Habitat, State of the World's Cities Report 2010/2011.

The relevance of urban development is not adequately reflected in the MDG framework. Against the background of population growth and massive urbanization, cities face huge challenges in providing services and the needed infrastructure in the fields of housing, transportation, water and energy provision, waste, recycling, waste water disposal, health and education, recreational areas and green spaces, good governance, safe livelihoods, etc. Furthermore, air pollution and noise compromise living conditions and economic development, particularly in the world's largest cities. In many countries, massive urbanization means hundreds of already near-bankrupt cities trying to cope in 20 years with the kind of problems London or New York only managed to address with difficulty in 150 years. It is obvious from the mere size of this challenge that urbanization in general and sustainable urban infrastructure in particular need to be given much more attention.

### 1.3. Challenges in the post-2015 period (opportunities and threats)

The obvious deficiencies associated with unreliable and insufficient infrastructure provision in cities put greater attention to local governments and city leaders, in particular to their capacities in properly planning and financing sustainable urban infrastructure services. Urbanization confronts city leaders with administrative, technical, social and financial challenges of an overwhelming scale.

The **main challenge** is to bridge the following gaps in urban development:

**Gap in urban land management and urban land markets:** Efficient land markets are essential for any city in order to allocate scarce land areas to where they are needed most, i.e. for the development of housing units, for the settlement of businesses or for infrastructure development, including green spaces and recreational areas. In a majority of cities in developing and middle-income countries, land markets and cadastral land registries are highly inefficient and unregulated. Most of the existing housing units worldwide are built outside of any legislative or regulatory framework, often resulting in unsustainable and hazardous forms of urban development. The deficiencies of urban land markets are characterized by illegal transfers, non-registration and non-compliance with urban planning rules and building standards and a high degree of corruption. As one of the main reasons for inefficient land markets, most municipalities in developing countries lack the institutions for an effective land valuation which constitutes the backbone of successful city development and planning.

**Gap in urban capacity:** Local governments face important administrative, technical, social and financial challenges in order to manage their growing cities. Decentralization processes often transfer new administrative and jurisdictional duties to local governments, whereas the decentralization of budgets lags behind. In most cases, cities lack the necessary capacities and resources (in terms of both human resources and financing) to ensure a coherent and coordinated city management.

**Gap in urban knowledge:** The gap in urban knowledge significantly obstructs city development and poverty alleviation measures. While many policy decisions are made at the local level, most statistical information is only collected at the national level. As a result, there is today more reliable statistical information on the island-nation of Fiji (population of 860'000) than there is for the megacities of Delhi, Shanghai or Sao Paulo which each have populations far in excess of 10 million. Lack of information is apparent in all sectors, ranging from unavailable land registries, unknown energy consumption patterns to missing greenhouse gas emissions inventories. City stakeholders can often only roughly estimate who lives in their city, where and under what circumstances they live, what their job and income is and what they produce and consume. In order to adequately plan city development, policymakers need access to such information, diagnostic tools and benchmarking datasets.

**Gap in urban planning:** Some municipalities have some form of a strategy on how their city should grow. These strategies can range from vaguely formulated development goals to elaborated, highly complex position and strategy papers. However, they rarely take a long-term and integrated perspective on city development, leading to short-term policies tackling only the most urgent challenges. Furthermore, the physical arrangement of the various types of spaces and infrastructure within a city has a direct influence on urban safety patterns.

**Gap in sustainable urban infrastructure financing:** To a large extent, the debate about how to manage urbanization centres around the massive lack in the provision of basic infrastructure services in cities worldwide. Since traditional public sector funding sources such as municipal taxes, fiscal transfers, user charges and lease of land are by far insufficient to bridge the urban infrastructure gap, one of the key challenges is to find new, additional sources of funding, for example by an intensified collaboration with the private sector. Alternative financing sources for urban infrastructure projects provide - inter alia - the capital markets, private institutional investors, bi- and multilateral agencies and export credit agencies. To further engage with potential investors, it is critical for cities to proactively engage in improving the technical and financial structuring of the projects to strengthen their confidence in the project's viability. In that regard, capacity building measures to support city administrations are of vital importance.

The problems and challenges cities face are at the same time a **huge opportunity for change**. Cities are the places where new ideas crystallize, technological and artistic innovation happen, and creative solutions to problems emerge. Cities represent a framework to deal pragmatically and efficiently with regional and global challenges. They play a crucial role in the realization of a global development agenda for the fight against poverty. As countries develop, urban settlements account for a larger share of national income and a disproportionate amount of revenue for governments. The mode of urban development as a whole has a major bearing on global development in general. **"Cities are where the battle for sustainable development will be won or lost".<sup>2</sup>**

#### **1.4. How is sustainable urban infrastructure related to sustainability?**

How countries and cities manage their urban development, particularly with regard to the respective urban infrastructure investment decisions, will frame the future of our cities and nations for decades to come. Urban infrastructure has a direct impact on economic development, climate change, preservation of the natural environment and on the social well-being of any country's population. For too long, urbanization has been viewed as unmanageable, as happening too fast, as something to be resisted. Now, it must be understood that urbanization is not only inevitable, but first of all an extremely powerful force in support of economic growth and poverty reduction. Cities must be seen as part of the solution rather than the problem.

**Against this background, "Sustainable Cities / Infrastructure" has to be reflected in the Post-2015 agenda. In particular, this could be achieved through a standalone Sustainable Development Goal (see proposal below).**

## **2. Analysis and activities at Swiss level**

### **2.1. Swiss particularities**

With regard to sustainable urban development, Switzerland has always been doing very well in terms of transport (inter- and intra-city connections), thus linking people, jobs and markets very efficiently. Furthermore, due to the economic development over the last century and the strong decentralization of duties and finance, urban infrastructure services are on a comparatively high level. The downside however is that in a small, mountainous country with limited availability of habitable land, the potential for high-density housing has never been really exploited. As a consequence, urban sprawl is becoming an increasing - and costly - challenge.

### **2.2. Swiss contributions to sustainable urban infrastructure**

Swiss cities have top ratings in international surveys regarding city performance, for example in the quality of living index or regarding environmental performance. To a large degree, this performance stems from the strong capacities of Swiss municipalities, ranging from administrative (e.g. land management) and financial (e.g. budget management) know-how to technical (e.g. public transportation, waste management) expertise.

Swiss cities have recognized the need to adapt an integrated perspective on city growth, leading to a strengthening of interdepartmental collaboration. For example, more than 300 Swiss cities are improving the management and consumption of municipal energy within the "Energienstadt" initiative, which offers a methodology for local governments to reduce their energy footprint with policies tailored to the specific city.

About 213 Swiss municipalities are implementing sustainability processes of the Agenda 21 type. These municipalities are home to about 32 percent of the Swiss population.

In terms of academic research, a number of Swiss universities and research institutes have established a range of activities in urban development over the last couple of years. Examples are the Swiss Federal Institutes of Technology in Zurich (ETHZ) and Lausanne (EPFL) where special research groups dedicated to urban development are active, namely the cluster "Urban Planning" at the School of Architecture, Civil and Environmental Engineering at the EPFL or the "Chair of Spatial Development" and the Future Cities Laboratory at ETHZ, which constitutes an interdisciplinary research centre focusing on urban sustainability in a global context. Furthermore, the University of Lausanne offers studies in sustainable urban development, and the Institute for Spatial Development at the Hochschule für Technik Rapperswil undertakes projects in urban development in an international cooperation context.

<sup>2</sup> The Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda, page 17.

Numerous engineering and architectural offices show specific skills and know-how related to city management and urban development both in Switzerland and internationally, i.e. also in developing countries.

The **Federal Office for Spatial Development (ARE)**<sup>3</sup> fosters several activities aiming at sustainable cities: i) Strategic level ("Spatial Concept Switzerland", "Swiss Sustainable Development Strategy") and ii) specific projects ("Sustainable Neighbourhood Project", "Urban Areas Project", "Sustainable Urban Development", and "Adaptation to Climate Change in Swiss Cities"). All activities aim at promoting sustainable, resilient and inclusive cities in Switzerland, including maintaining the decentralized structure of the Swiss network of cities with the aim of securing the economic prosperity of all parts of the multicultural nation. The focus is on sustainable high-quality urbanity where city centres are valorized, in harmony with architectural, energetic requirements as well as with various aspects in the fields of society, integration, mobility, environment and different forms of housing estates.

The **Federal Office for the Environment (FOEN)**<sup>4</sup> is working closely with ARE on spatial planning in order to reduce the environmental burden to a minimum and to protect people, infrastructure and natural resources such as water, air, forests and landscapes. FOEN is working in different areas that have a direct or indirect connection with cities, by collaborating with Cantons in activities on risk-based planning of urban settlements or energetic building restoration.

The **State Secretariat for Economic Affairs (SECO)**<sup>5</sup> recognizes both the importance of good-quality urban infrastructure services and the need for new approaches to tackle the challenges of urban development. Integrated Urban Infrastructure Development has become a major strategic pillar of SECO's activities in the context of Switzerland's official international cooperation program. Activities financed and implemented under this strategic pillar are based on the gaps in urban development identified above. They particularly include partnerships with the World Bank, the Cities' Development Initiative for Asia, and the Inter American Development Bank.

### 3. Consolidated formulation of a Sustainable Development Goal (SDG) on "Sustainable Cities / Infrastructure"

The capacities of local governments in terms of urban development planning as much as infrastructure project preparation and financing play a paramount role in shifting urbanization on a sustainable trajectory. Based on the gaps in urban development identified above, a future Sustainable Development Goal on "Sustainability / Infrastructure" is outlined as follows:

Overarching goal		Sustainable, resilient and inclusive cities
Targets	Urban management	Institutions for the sustainable management of land valuation in a systematic and transparent way are established, equipped and staffed. Competitive, well regulated land markets are in place. Land use (including green spaces and recreational areas) and infrastructure policies in the relevant areas (e.g. energy, transportation, waste, urban safety) are well coordinated.
	Urban capacity	Cities dispose of sufficient administrative, financial and technical capacities to manage and finance their sustainable urban development.
	Urban knowledge	Cities dispose of the know-how, data and the analytical tools and equipment necessary to manage and finance their sustainable urban development.
	Urban planning	Cities dispose of an integrated city development strategy including a holistic approach to their sustainable urban development, particularly with regard to prioritizing and financing urban infrastructure investments. Cities build a healthy and safe living environment for all.
	Urban financing	Cities exploit their potential of financing sustainable infrastructure services (taxes, user fees, subsidies, municipal bonds, land valuation, etc.). Cities engage with private investors to finance sustainable infrastructure projects. Cities have access to external financing through capital markets, development finance institutions, etc.

<sup>3</sup> For more detailed information on ARE's activities, please refer to [www.are.admin.ch](http://www.are.admin.ch).

<sup>4</sup> For more detailed information on FOEN's activities, please refer to [www.foen.admin.ch](http://www.foen.admin.ch).

<sup>5</sup> For more detailed information on SECO's activities, please refer to [www.seco-cooperation.admin.ch](http://www.seco-cooperation.admin.ch).

## 4. Conclusion / compelling arguments for an SDG on "Sustainable Cities / Infrastructure" in the post-2015 development framework

Sustainable, resilient and inclusive cities are at the core of sustainable development. **If urbanization unfolds along unsustainable paths, global change will not gain enough momentum to make a difference on human development.** Due to the inevitability of urbanization, and due to the irreversibility of important urban infrastructure investment decisions, it is crucial to include "Sustainable Cities / Infrastructure" in the post-2015 UN Agenda on Sustainable Development. In particular, this could be achieved through a standalone Sustainable Development Goal.

The most important arguments include, but are not limited to the following:

- Development targets in the fields of climate change, water, energy, sanitation, migration, safe livelihoods, health, employment and economic development **cannot be reached without "getting urbanization right"**.
- A direct though very slowly unravelling consequence of urbanization in developing countries is that **poverty is urbanizing**. Whereas urban residents are concentrated in the largest cities, the urban poor are dispersed along a continuum of medium and small towns (see Global Monitoring Report 2013, page 86). According to UN Habitat, the world's total slum population is projected to multiply threefold from today's 1 billion to 3 billion in 2050.
- There should not be an **"urban - rural" divide**. By concentrating more attention and resources to the city-region level, national governments are not only connecting the nation to globalized business flows, but **providing trajectories of opportunity to peripheral rural areas**: *"Doing good to urban is the best you can do for rural"*<sup>6</sup>
- In its transformative dynamic, the process of urbanization is increasingly revealing its pervasive impact. **A new agenda cannot afford to ignore it**. More urgently, it brings to the fore the role of the sub-national level, in terms of actors, institutions and settings. The MDG experience calls for the need to anchor the new agenda at the local level, particularly within the framework of city development. All the elements of change including the MDG are embedded and influenced by the dynamics of urban development. The manner in which we shape and steer change in cities will have a major bearing in determining human destiny in the post-2015 period.
- In cities, development challenges and solutions meet. With the cities of emerging economies expected to double from 2 to 4 billion people between 2000 and 2030 -accompanied by a tripling of their physical footprint from 200'000 to 600'000 km<sup>2</sup> - the policies and investments that get this rapid urbanization right **hold the key to resilient, inclusive and sustainable development** not only of particular cities but of whole nations.
- The shift towards a dominantly urban world is not simply a demographic phenomenon characterized by an anticipated population movement. Rather it is a **transformative process** as well as a galvanizing momentum for many aspects of global development. It is also a dynamic which, if effectively steered and deployed, can potentially serve as a force for enabling the world to overcome some of the current and future challenges.
- **Cities are hubs of prosperity**, where more than 80% of global economic activity is concentrated. Their density facilitates the delivery of MDG-related public services such as infrastructure for water and sanitation, primary health care, and primary education. These are more costly to deliver when population density is low. Higher population densities in urban areas, particularly larger cities facilitate scale economies that reduce the unit costs of service delivery and enable an expansion in coverage to serve more residents, and with better quality.
- At the social level, unmanaged urbanization creates new problems. The **rise of the "new poor"** particularly in cities, as much as the rising inequality in many parts of the world will generate tension and even conflict whose locus will be in cities and towns. The issue of social inclusion will remain of prime concern as the infrastructure for global mobility improves but at the same time natural and human-made disasters increase. The political implications of immigration, particularly of the transnational variety, will have to be grappled with.

<sup>6</sup> Paul Collier, economist at Oxford University, at the Global Energy Basel Sustainable Infrastructure Summit, 22 January 2013, Basel.

*This document has been compiled on the basis of the following:*

- *Policy Paper SECO/WEIN on „Integrated Urban Infrastructure Development“;*
- *Global Monitoring Report 2013 of the World Bank and the IMF;*
- *“Thematic Think Piece“ of the UN System Task Team on the Post-2015 UN Development Agenda;*
- *Urbanization Review Flagship Report, World Bank, [www.urbanknowledge.org/ur](http://www.urbanknowledge.org/ur)*
- *All figures have been provided and/or verified by the Urban Development and Resilience Unit of the Sustainable Development Network at the World Bank.*

*Produced by SDC, ARE, FOEN and SECO, under the lead of SECO*

*Contact: SECO, Economic Cooperation and Development, Infrastructure Financing, David Kramer  
([david.kramer@seco.admin.ch](mailto:david.kramer@seco.admin.ch)).*