Health and wellbeing in sustainable urban development

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Related Sustainable Development Goals

- Goal 1: End poverty in all its forms everywhere
- Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3: Ensure healthy lives and promote well-being for all at all ages
- Goal 6: Ensure availability and sustainable management of water and sanitation for all
- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable
- Goal 12: Ensure sustainable consumption and production patterns
- Goal 13: Take urgent action to combat climate change and its impacts
- Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

Introduction

Human futures are urban futures. During the last decade, the number of people living in cities exceeded the number living in rural areas for the first time in human history (Ash et al 2008). For the foreseeable future, most human lives will be urban lives. Yet, if anything, these figures underestimate the influence of the global urban transition on humanity and the planet. While urban areas occupy just 3% of land surface, they are responsible for perhaps three-quarters of carbon emissions and natural resource utilization (UNEP 2012b).

Indeed, during the period encompassed by the Sustainable Development Goal (SDG) framework (2016-2030), the pace and scale of

Yet current discussions on sustainable urban development tend to center on economy and environment², rather than on the essential role of cities as human habitat. Cities are for people (Gehl 2010). The way urban settlements are planned, designed, developed and managed

urban development will continue. It is estimated that by 2050 about 2-3 billion more people need to be housed in cities by—more than a million every week (Birch and Wachter 2011)—with corresponding needs for infrastructure and services¹. It has also been estimated that nearly two-thirds of all urban extents in 2030 will have become urban since 2000 (Seto et al. 2012). It is therefore prescient that the UN Open Working Group chose to include a stand-alone goal on cities (Goal 11) among the set of 17 proposed SDGs.

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¹ These include housing, transport, food, water, energy, education, health care, waste management, emergency services and social support.

² Or equivalently, on inclusive growth, poverty reduction, remediation of inequalities, resilience-building, climate change mitigation, etc.

with affect human health, wellbeing, safety, security and opportunity (McMichael 2000).

This is important because cities can be made more sustainable from economic or environmental perspectives—and certainly these are critical objectives—without necessarily safeguarding human health and wellbeing.

An instructive case study is that of the electric automobile, which is likely to be an element of strategies to reduce greenhouse gas emissions (GGEs) and thus ameliorate climate change. Yet a switch from fossil-fuel powered motor cars to electric motor cars would do nothing to increase active transport and reduce the sedentarism that—with poor nutritional habits—sits at the heart of global epidemics of obesity and related non-communicable diseases (Woodcock et al. 2009). It would also not change the allocation of space in cities, neither by reducing the amount of land for roads and parking for personal vehicles, which may sit unused for up to 95% of the time, nor by promoting better siting of resources and residences. It would reduce neither congestion nor stress associated with driving³, and it would not open up land for public green space, which has proven health and environmental benefits (Dannenberg et al 2011). While in most cases public transit is the sustainable urban transport option, a paradigm that does not have a central focus on human health and wellbeing may fail to recognize the critical systemic relationships involved and thus the opportunities for identification of strategies that generate cobenefits.

³ In the US, congestion is estimated to account for losses equivalent to 0.7% of GDP. In Lima, Peru, this figure is as high as 10% (GER Transport 2011).

A health-specific goal (Goal 3) is included in the current proposed SDG framework, and indeed such a goal is essential. However, the compartmentalization of objectives required for straightforward collection of internationally-comparable data and monitoring of progress risks reinforcing siloed structures that can overlook systems linkages and lead to development failure.

It is increasingly acknowledged in the scientific community that understanding such linkages is critical to effectively addressing complex realworld problems, not only in urban health (Diez-Roux 2011; Bai et al. 2012), but in governance (Capon et al. 2009), politics (Jervis 1997), climate change (Proust et al. 2012) and other areas.

On this basis, it is imperative that goals, targets and indicators be selected in such a way as to facilitate these understandings. Recognizing the intense negotiations that have gone into producing a global, yet still at times fragile, consensus on the list of proposed SDGs, we do not propose a divisive revision along these lines, Rather, we argue that the broadly-supported proposal for a list of supplementary objectives—the so-called "dashboard" of goals, targets and indicators from which a set of aims and markers relevant in the national context could be selected—should be as far as possible structured along these lines.

Goals, targets and indicators should be multidimensional and information-rich, applying to more than one problem where possible—the more such linkages are recognized in planning, the better the likelihood that they will generate usable data. In particular, they should be geared towards inclusion in systems models and flexible enough to fit research and practice in multiple sectors, and they should aim to realize co-benefits—benefits accruing from a policy beyond the intended benefit, often or usually in other sectors.

Urban transport again provides a relevant example. An indicator such as the proportion of population living within 5km of public transport running at least every 20 minutes is perhaps easier to measure, but captures far less useful information than mode share (or, more conservatively, the proportion of trips made using active transport), which speaks to actual utilization and attendant health, economic and environmental outcomes. Even where such indicators will be difficult or impossible to capture in some settings, the SDG framework provides an opportunity for dashboard goals to aspirational, thus promoting development of better reporting systems and data which are critical to effective solutions.

Urban systems problems are almost inevitably multi-scale, so it is also imperative that multiscalar—critically, including urban-scale and intra-urban—monitoring and data collection feature prominently in the means of implementation. Without data at such scales, cities will be unable to realize the great opportunities they offer during the period of the SDG framework. It is notable that cities are as much a source of global 'goods' as global 'bads'. They are the almost exclusive home of innovation—93% of patents emerge from metropolitan areas (Rothwell 2012)—the primary source of global cultural outputs, and, not least, cities generate 80% of global economic production (UNEP 2012a).

We have noted that a focus on economy or environment risks excluding health and wellbeing from the benefits of sustainable development in cities. The converse is not true: a focus on health for current and future generations nearly always encompasses sustainable, inclusive and productive economic and environmental goals, particularly in cities, where economy, environment and wellbeing are fundamentally intertwined. An increased focus on health throughout the SDGs, embedded in a systems framework, and particularly in the context of urban dynamics, is to the benefit of sustainable development and of people around the world.

References

- Ash C. et al., 2008. Reimagining cities. *Science*, 319: 739.
- Bai, X. et al., 2012. Health and wellbeing in the changing urban environment: complex challenges, scientific responses, and the way forward. *Current Opinion in Environmental Sustainability*, 4(4), pp.465–472.
- Bambrick, H.J. et al., 2011. Climate change and health in the urban environment: adaptation opportunities in Australian cities. Asia-Pacific Journal of Public Health / Asia-Pacific Academic Consortium for Public Health, 23(2 Suppl), p.675–79.
- Birch, E.L., Wachter S.M., 2011. Global Urbanization. Philadelphia, PA: University of Pennsylvania Press.
- Capon, A.G., 2007. The way we live in our cities.

 The Medical Journal of Australia,
 187(11-12), pp.658–661.
- Capon, A.G., Synnott, E.S. & Holliday, S., 2009.
 Urbanism, climate change and health:
 systems approaches to governance.
 New South Wales Public Health Bulletin,
 20(1-2), pp.24–28.
- Dannenberg, A.L., Frumkin, H., Jackson, R.J., 2011. Making Healthy Places:

- Designing and building for health, wellbeing and sustainability. Washington DC: Island Press.
- Diez-Roux, A.V., 2011. Complex Systems
 Thinking and Current Impasses in
 Health Disparities Research. *American Journal of Public Health*, 101(9),
 pp.1627–1634.
- Gehl, J., 2010. *Cities for people*. Washington DC: Island Press.
- GER Transport, 2011. Towards a Green
 Economy: Pathways to Sustainable
 Development and Poverty Eradication,
 United Nations Environment
 Programme.
- Griggs, D. et al., 2013. Policy: Sustainable development goals for people and planet. *Nature*, 495(7441), pp.305–307.
- Haines, A. et al., 2012. From the Earth Summit to Rio+20: integration of health and sustainable development. *Lancet*, 379(9832), pp.2189–2197.
- Jervis, R., 1997. Complexity and the Analysis of Political and Social Life. *Political Science Quarterly*, 112(4), pp.569–593.
- McMichael, A.J., 2000. The urban environment and health in a world of increasing globalization: issues for developing countries. *Bulletin of the World Health Organization*, 78, pp.1117-1126.
- McMichael, A.J., Woodruff, R.E. & Hales, S., 2006. Climate change and human health: present and future risks. *The Lancet*, 367(9513), pp.859–869.
- Proust, K. et al., 2012. Human Health and Climate Change: Leverage Points for Adaptation in Urban Environments.

 International Journal of Environmental Research and Public Health, 9(6), pp.2134–2158.

- Rothwell, J., 2012. Global Innovation: The Metropolitan Edition. *The New Republic*. Available at: http://www.newrepublic.com/blog/the -avenue/101780/global-innovation-themetropolitan-edition [Accessed January 28, 2015].
- Satterthwaite, D., McGranahan, G. & Tacoli, C., 2010. Urbanization and its implications for food and farming. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365(1554), pp.2809–2820.
- Seto, K.C., Güneralp, B. & Hutyra, L.R., 2012. Global forecasts of urban expansion to 2030 and direct impacts on biodiversity and carbon pools. *Proceeding of the National Academy of Sciences*, 109(40), pp.16083–16088.
- UNEP, 2012a. Global Initiative for Resource
 Efficient Cities: Engine to Sustainability,
 Paris, France: United Nations
 Environment Programme. Available at:
 http://www.unep.org/pdf/GIREC_4pager.pdf [Accessed January 29, 2015].
- UNEP, 2012b. Sustainable, resource-efficient cities: making it happen!, Paris, France: United Nations Environment Programme. Available at: http://www.unep.org/urban_environment/PDFs/SustainableResourceEfficient Cities.pdf [Accessed January 29, 2015].
- United Nations Department of Economic and Social Affairs, Population Division, 2012.

 World Urbanization Prospects, the 2011 Revision, New York: United Nations.
- Woodcock, J. et al., 2009. Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport. *Lancet*, 374(9705), pp.1930–1943.