

Planet 2050  
**A thought piece about the global future from an urban (environmental)  
perspective**

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By 2030,<sup>1</sup> with average annual percent changes in urban shares hovering around 0.82-0.84 from 1990 to that date, the UN predicts that 4.9 billion people (almost 60% of the total global population) will be living in dense human settlements; 79 percent of which will be in cities of the now developing world (Asia -52%, Africa - 15%, Latin American and the Caribbean-12%) and the remainder with those of the developed world (Europe-11%, North America-7% and Asia and Oceania-3%). Given trends, about half of the population will live in small urban settlements (those smaller than 500,000) with approximately 10-15 percent of those that live in cities will reside in mega-cities (those larger than 10 million). By 2020, the total rural population will have reached its apex at approximately 3.4 billion residents and will (finally) begin to decline, but after 10 years, by 2030, the UN predicts that numbers of rural persons will still be as high as 3.29 billion.

While the urban population is expected to increase by 72%, urban land area may increase by 175%. Hence, urban land use is expected to increase from 2.8% (the size of Japan) in 2000 to approximately 8% of total global terrestrial area. The built up areas of cities with populations of 100,000 or more presently occupy a total of about 400,000 km<sup>2</sup>, half of it in developing countries. Given recent declines in urban densities, estimated at 1.7% annually in the developing world and 2.2% annually in the developed world, between 2000 and 2030, cities over 100,000 in the developing world will triple their built-up land area to 600,000 km<sup>2</sup> while during this same period cities of similar size in the developed world could increase their land area by 2.5 times and occupy 500,000 km<sup>2</sup>.

Given the size of the urban population, the extent of urban land area and the activities associated with urban lifestyles the challenges and opportunities that face the global urban population are many and diverse. For this observer, environmental challenge priorities include urban poverty and environmental hazards (including access to water and sanitation, indoor air pollution, etc), material resource and energy consumption (given predictions in the increase in the size of the middle class in developing countries from 400 million to 1.2 billion from 2000 to 2030 and with it the global motor vehicle population is expected to double, for example), cumulative local and regional impacts to soils, biodiversity, hydrology and the atmosphere, impacts from climate variability and issues of environmental equity.

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<sup>1</sup> I've used 2030 as the future date to discuss visions, only because of available of some predictive data. What is said is also applicable to a 2050 vision.

These threats have facilitated the elaboration of very scary future scenarios including prognostications of regional environmental wars, the formation of large megalopolitan regions around the world surrounded by vast environmental wastelands, massive (environmental) refugee migrations and a regionalized and fragmented world that is concerned with security and protection, pays little attention to common goods and accepts an increasingly polarized global quality of life.

Of course, these visions are not the only possible scenarios. Among other changes, a regulated globalization, the development of multi-level interlinked flexible political institutions, advanced energy saving and materials conserving technologies and changes in expectations and lifestyles can bring a globally connected society, where cities reduce their “footprints” through reductions in net consumption and emissions levels, urban mortality and morbidity penalties are erased, intra-urban differentials in environmental hazard exposure are reduced and local impacts to the environment are better managed. Activities within urban areas need not be so environmentally harmful in the future and cities do now and could continue to provide high quality of life.

Importantly, however, radical changes in social organization are needed to realize this desirable vision. Unfortunately, transformations of the degree necessary are not immediately on the horizon. Not only will these changes be difficult and complex, they will necessarily be different from region-to-region and locality-to-locality around the globe. While efficient technologies may be more universal in application (although this is also a debatably claim) socio-economic and socio-ecological structures are not. What will therefore work in New York City, may not work in Shanghai and what works in Durban may not work in Panama City. As hinted at briefly in the introductory paragraph, urbanization is occurring around the world in different respects at different degrees and under different development scenarios, so we should not expect any “silver bullet” solutions. Certainly, the responses that worked in the developed world are increasingly less appropriate for the developing world. Rather, successful adaptations in socio-ecological systems will be different across the planet.

And, perhaps more importantly, even given changes in organization, the above more optimistic scenario is far from inevitable. Indeed, if urban environmental history has taught us anything, it is to expect surprise through, among other processes, unintended consequences (i.e., some “solutions” will create future “problems”). Urban analysts have pointed out just how wrong our urban predictions were in 1980 for 2000. We shouldn’t expect to be that much better now. It is hard, if not difficult to predict what will happen in the future and therefore difficult to apply traditional, and die-hard, blueprint-planning strategies. No doubt, we will get things wrong.

To help us reach a desirable future, besides developing new advanced efficient technologies, we need a better understanding of current processes and new planning and management approaches. Consider that global, regional and local socio-ecological systems will be managed in the future to a greater degree than now, as the resilience of the biophysical sub-system is increasingly replaced by that of the socio-economic sub-system. As such, we need a better understanding of how our world works and the ability to better “navigate” environmental challenges. I use the word navigate rather than plan and manage, as it seems a more appropriate response, given my prediction that we may never avoid mistakes and that those mistakes may have greater costs. While I have yet to see this type of approach implemented, I can envision a reflection of it in flexible institutions that respond in a timely manner to policy mis-measures, surprises and general trends. Therefore, with emphasis on technological work and further research and education, the development of this adaptive capacity is something that we should prioritize now, particularly within our cities.

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