

Smart cities, chances for a new model from the Gulf States?

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Smart City as a construct is being increasingly used in envisioning urban futures across the world. The term Smart City includes both hardware and software – infrastructure and systems planning and comes with the implicit assumption that technology provides better services. The most popular are e-services as Blockchain, Wi-Fi networks, CCTV cameras/securitization, automation in mobility, and other facilities, all requiring a widespread usage of all sorts of sensors. In a way, the smart city risks erasing the very essence of what cities are meant to be, for they make us lose sight of the same thing which once defined them—its citizens. It might happen whenever it's forgotten that smart “city”, by definition, must be human-centered because, in the end, it is for humans, the people, the end-users, that sensors and technology have a reason to be and to serve smart cities and any digital urbanism.

As human-centered, the technological development of smart cities can't progress without considering a significant re-shaping in urban and community-oriented models. Among these concepts are mobility and green infrastructures, environmental solutions and energy saving, economic development and social inclusion, quality of life, and culture and heritage, and much more. The concept can't be attached to any city, consisting of a systemic approach to urbanism and its inhabitants, as an integrated and comprehensive ecosystem. It's in this ecosystem that the most advanced technology can beneficially work. Agenda 2030, SDGs, and the New Urban Agenda (NUA) principles are also part of it, as the worldwide shared target for future cities.

Several countries in the Gulf region have launched their Agenda 2030 with national development plans and strategies. Primary goals are to reduce their dependence on oil, diversify the economy, promote sustainable development; investments in the field are reaching hundreds of billions of USD. Also, all GCC Countries have launched smart city initiatives under different names as sustainable cities, Industrial Zones, Economic Zones, etc. These mega-urban projects are meant to attract and consuming considerable investments in the coming decades, aiming to create multifunctional new cities where people will live and work. E-governance and Big Data are not an issue for the region, having a history of high internet penetration and digitalization of government services. Dubai in the UAE has made the “Smart City” an essential component of its urban development strategy with a budgeted \$8 billion plan operated from the “Smart Dubai Office” as well as the “Office of Smart City”. These are managing 545 smart initiatives and services across eight government entities and two smart districts. Some of these seem to come straight from science fiction novels: Dubai, together with Abu Dhabi, is considered among the highest cities in the world in terms of surveillance through CCTV cameras, only surpassed by China, with comprehensive surveillance and tracking system of visitors from the moment of arrival at its airport (UN-ROAS, 2015/2018).

The issue comes from the physical world. The sweltering climate, the colossal scale, and its related long completion times are complex realities these projects must face to not remain as “cathedrals in the desert”. MASDAR city, announced as the first zero-carbon eco-city worldwide is still under construction and uninhabited from its launch in 2008, promising energy management, renewable energy, water and waste management, and innovative transportation technologies. Electricity is provided by a Concentrating Solar Power (CSP) plant, one of the largest worldwide and the largest in the Middle East Region. NEOM, on the other hand, has been more recently launched and is working on last-generation of technologies, like hydrogen, however for the moment, just physically conceptualized as “The Line”, a cabled regional multilayered infrastructure serving the different urban districts. Considering NEOM being as extensive as the country of Belgium, this concept needs a more comprehensive and site-specific contextualization to achieve the status of a smart city.

The question is: are these titanic efforts still enough to funding an iconic city of the future? A worldwide model of a human-centered ecosystem targeting quality of life by making smart use of technology?

The New Urban Agenda is targeting “a city for all, in terms of equal use and enjoyment, promoting integration and ensuring it for both present and future generations, without discrimination of any kind. Cities and human settlements that are just, safe, healthy, accessible, affordable, resilient and sustainable” (UN-NUA, 2016).

GCC Countries are all moving toward more strategic sustainable infrastructure, activating green parks and public spaces. Riyadh, in particular, following the success of the awarded Wadi Hanifah project, is implementing the Green Riyadh, an extensive North-South green corridor through the city and culminating in the King Salman Park, destined to be the biggest park worldwide. Similarly, vast gardens enhance the quality of the urban space in the UAE, Bahrain, and Qatar while often hosting important cultural institutions and museums, such as climate-related initiatives like energy efficiency and renewable energy targets and projects. Public transportation is increasing all over the region through gigantic projects and investments in centers for renewable energy.

So, where is the trick?

Urbanism is always site-specific and must take advantage of existing assets and repurpose them for various infrastructure needs. What is missing (and indeed not only in the GCC Countries) is a comprehensive approach to sustainable development. Moreover, solutions are borrowed from external models and don't always match local needs and costumes, further disconnecting the people from nature and their roots. The so-called “Dubai model” of massive infrastructures and extravagant exclusive buildings, completely de-contextualized, has shown, everywhere applied, its counterpart of dystopic communities, more and more based on private transport to connect from one district to the other and a crescent urban sprawl.

Due to their high capacity of investment and the natural trend toward innovation, GCC countries have all that requires becoming leaders in smart urbanism, reclaiming their heritage and unique approach to the environment. Extreme environmental conditions historically challenged Arab populations in creating urban settlements and living conditions in a sandy, rocky desert. Embracing these roots and the principles behind the traditional cities would finally enhance the chance of actually achieving human and smart cities while nurturing the sense of belonging transversally across generations. Such a strategy is in line with the NUA in enhancing the quality of the urban environment. It supports a resource-effective establishment of the longer-term national visions making local human resources and governments as the key stakeholders in its implementation, pursuing specific and measurable outcomes. Green infrastructures, as an example, can reinterpret the traditional role of the oases in regulating ambient temperatures, reduce storm-water runoff, and afford recreational opportunities through multifunctional green spaces that are strategically planned and managed to provide a range of ecological, social, and economic benefits.

That way, the region will not be copying the usual smart city concept but re-inventing its heritage and culture in resilient settlements designed to respond to extreme climate and living conditions. Analyzing the traditional Arab settlements, it's easy to discover that they were all smart, in the circular economy of resources to serve the collective and individual needs, creating a social, economic and environmentally sustainable model. We hope that the learning from the past will be framed in the development of site-specific smart cities in the GCC region instead of reproducing outsourced models. We have an urgent call to action for the next generations to experience cities and public spaces safely and resiliently.

What if, rediscovering the smartness of the past and upgrading it through innovation, we can make the collective consciousness of desertic living the main ingredients for the future smart cities of Gulf Countries?

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References

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