New Cities and Concepts of Value: Planning, Building and Responding to New Urban Realities

Reflection and analysis of themes emerging from Cityquest - KAEC Forum 2015
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This report was written by Adam Cutts, Researcher at the New Cities Foundation as part of the Cityquest – KAEC Forum initiative and published in March 2016. The opinions expressed and arguments employed herein are the Foundation’s.

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Please cite this publication as:

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New cities are a reality in the urban future of many nations – particularly in the Global South – and represent some of the boldest responses to meeting the growing social and economic needs of burgeoning urban populations. For many, they represent increased potential for addressing pressing societal and economic issues, from meeting soaring demand for housing to boosting economic development and expanding and modernizing infrastructure. Learning from the past - and learning from each other - is crucial for new city builders of today.

This knowledge sharing is what drives Cityquest - KAEC Forum, a unique and unprecedented global gathering of the leading builders, designers, and partners of the world’s most important new city projects. The Forum was first launched in 2013, as an initiative of King Abdullah Economic City (KAEC) in partnership with, and organized by, the New Cities Foundation. It is now a vitally important cross-sector conversation generating insights and strategies to best respond to the many challenges facing contemporary new cities.

The partnership behind Cityquest – KAEC Forum is founded upon a common belief in the enormous possibilities of new, innovative models of urbanization. KAEC is laying a path towards a new model for urban development, and leading social and economic progress in the Kingdom of Saudi Arabia. The ambition and scale of this project parallels other important new cities around the world, and speaks directly to the immense potential they hold. The New Cities Foundation’s mission is to shape a better urban future for all, generating and scaling new ways of solving challenges in cities today through events, practical research, and initiatives that promote urban innovation.

On 8-10 December 2015, the third edition of the Cityquest – KAEC Forum brought together 250 participants from 25 countries, including senior executives and top decision-makers from the world’s foremost real estate, construction, technology, consulting, architecture, and telecommunications firms, as well as mayors, thinkers, and researchers from top global universities. Eighteen new city projects participated in the 2015 Forum, the highest number to date. Participating projects were: Alamein New City (Egypt), Cyberjaya (Malaysia), Economic City of Egypt (Egypt), Gujarat International Finance Tec City (India), Iskandar Malaysia (Malaysia), Jazan Economic City (Saudi Arabia), Kabul New City (Afghanistan), King Abdullah Economic City (Saudi Arabia), Konza Technology City (Kenya), Lavasa (India), Masdar (Abu Dhabi), Mohammed VI Green City (Morocco), Rawabi (Palestine), Sejong (South Korea), Songdo (South Korea), Sri City (India), Tatu City (Kenya), and Yachay Knowledge City (Ecuador).

The participants in the Cityquest – KAEC Forum were unanimous in their desire to create people-centric cities and incorporating the newest lessons in urbanism. This report aims to lay out the challenges facing new cities, and provide the insights and ideas that can best help them meet their ambitious goals.

John Rossant
Chairman
New Cities Foundation
Building value in new cities was the main focus of the 2015 Forum and is an important topic on the role of contemporary new cities within wider urban systems. This report provides analysis and recommendations on key themes emerging from the 2015 Forum. Its chief objective is to bridge the many angles that can be used to approach the idea of value, and to encourage the design and development of quality urban environments that increase the value proposition for all stakeholders involved in new urban realities: citizens, developers, and municipal, regional and national governments.

Physical Value in New Cities

The first section of the report explores the physical value that new cities produce through infrastructure, the built environment, and technology. The foremost challenge facing new cities is to formulate creative approaches to financing quality infrastructure and services that will be critical to their success. This approach must include ways to understand and capture the full value produced by infrastructure as a return on their investment. Strategies for new city development should consider:

Adapting to Context

- By responding to local needs and their cultural context, infrastructure can contribute to wider goals, including building a sense of ownership and pride, as well as developing the identity of a new city.

Creating and Capturing Added Value

- Understanding ‘smart’ infrastructure and value chains: Introducing a layer of technology to achieve new levels of service delivery, efficiency, and coordination can add value to a city’s network.

- Opening up city data: Engagement at the device and application level, for example, can spark third-party development of innovative city-based services using open data created by smart infrastructure.

Avoiding a Technology Lock-in

- Considering rapid technological change and the ‘slowness’ of the urban fabric: New cities must plan with flexibility in mind to enable each layer of a smart-city value chain to move naturally at their different rates within the urban environment.

Understanding Social Value of Infrastructure

- Understanding infrastructure’s added social value and spillover effects: Without representing associated spillover values in infrastructure projects, new cities risk undervaluing new development and major infrastructure to their investors or public sector partners.

- Conceptualizing models for shared ownership: Crowdsourcing and taxation models to manage...
infrastructure may better ensure wider value is created that may be lost if it is optimized purely for commercial gain.

**Value for Business in New Cities**

The second section of the report examines strategies to support indirect outcomes and value in new cities. It includes recommendations for producing places that are valuable to businesses and people. Simply providing sites for linkages and businesses to set up in a new city is not enough. Ensuring that innovation and investment will follow is a complex task and should include strategies to attain the following objectives:

**Attracting Entrepreneurs**

Key ways new cities can reduce frictions and promote the ecosystems that today’s start-ups and entrepreneurs require include:

- Developing a robust educational system: A strong talent base is essential to fostering ‘indigenous’ start-ups locally and attracting emerging international ones looking to recruit top talent;
- Promoting ease of doing business through reduction of set-up costs and a regulatory environment friendly to entrepreneurs and investors;
- Reducing the costs of risk-taking and increasing the acceptance of failure: bankruptcy laws, regulations allowing for starting, closing, and re-starting companies, and even the education system’s approach to failure all contribute to a welcoming environment for entrepreneurs.

**Creating Value for Business**

Global competition pits new cities against urban centers that have the advantage of an established population and city life. New cities can consider various strategies that take advantage of their ‘newness’ and can be implemented from the get-go:

- Catering the built environment to the needs of contemporary research facilities, businesses, the workforce, and families is a great opportunity for competitive advantage.
- Leaving bland office parks behind and committing to real mixed-use planning better reflects contemporary preferences for vibrant environments. While building micro-spaces might not secure the highest rents, they are integral to the pulse of a city and help create the ecosystems that businesses need to thrive.

**Placemaking and Local Identity**

If inhabitants are to drive the growth and innovation of their new cities, it is of paramount importance that the cities they live in are designed with their needs and wellbeing in mind. Large-scale, purely market-driven housing and development decisions create homogenization, uniformity, and the placelessness that ironically reduces the value of a place. To actively confront this challenge and avoid repeating the mistakes of recent decades, discussions at the Forum highlighted ways to encourage vibrant placemaking, including:

- Providing high pedestrian connectivity at the street level and throughout public space;
- Flexible bylaws allowing for temporary commercial and non-commercial
uses, such as street fairs, pop up sales, markets, etc.;
• Developing a rich retail ecosystem, leaving room for small independent retail and restaurants that provide employment, various level of affordability, and expand the number of residents invested in the city;
• Including small scale public spaces from plazas and micro-parks, to street-side seating areas;
• Integrating local elements, from architectural styles, to building materials and traditions.

Value that Can’t Be Built

The third section of the report provides recommendations to new cities for developing the many intangible values associated with urban living, including:

Fostering Community

• Leaving open spaces for organic development so that communities can create uses to meet their own needs.
• Planning and building new cities at a walkable scale that is conducive to the kinds of exchanges that allow a community to develop.
• Nonprofit and grassroots organizations represent community interests in important ways. Considering how a city’s administration can support community-building activities led by residents can better foster mutual support.

Attracting Residents

• Allowing citizens to give feedback and adapting the new city’s brand accordingly can better foster ties between a new city and its residents, and ultimately reflect the city in a more meaningful way.
• New cities should consider tools for planning and policy that discourage mass ‘cookie cutter’ housing, and instead encourage adapting architecture to reflect personal choice and character.

Gaps in the discussion

The Forum revealed many insights, but also raised several questions and unexplored themes worthy of future consideration, including: climate change at a global level, city governance, security, and regulatory reform for new cities.

The unparalleled opportunities for experimentation and innovation in new cities cannot be overstated. New cities today also represent a renewed occasion for learning from past mistakes. They offer the chance to integrate best practices in planning, design and policy. As new cities race to build new nodes in the global urban system, they must build ahead of the curve, responding to the demand for livable, affordable, and entrepreneurial urban environments. Keeping pace with new urban realities around the world is no easy task. New cities offer a path to advancing models for development in more urgent timeframes. They also have the potential to become smarter, less wasteful, and more socially inclusive cities in the process. While building a new city represents an enormous challenge and faces many critics, the shared lessons and ongoing conversations which took place at Cityquest – KAEC Forum 2015 are an important step towards laying sound foundations for the development to come.
“In most existing cities the utilities and services are constrained with fast population growth and working around aging infrastructure. The value residents and business see in new cities is a better experience and improved service and utilities that better use technology to meet changing needs – especially in the developing world.”

Cityquest–KAEC Forum 2015
Several astounding facts on contemporary urbanization are fast becoming a critical and widely accepted part of the new urban realities we face. An unprecedented shift in the pace at which people are relying on cities for shelter, opportunity, and wellbeing is reshaping our idea of what tomorrow will look like and how we will get there. As we confront this demand by expanding existing urban areas, building entirely new cities can offer an alternative to the sprawl and hyper-density we see today.

Take, for instance, the projection that in India alone 250 million people will move to cities in the next 14 years\(^1\). This requires that the equivalent of the entire urban infrastructure of the United States be built by 2030 to keep pace. What role can recent advancements in technology and design play in addressing this challenge? Where do government and the private sector fit into our understanding of what we need from our cities? While no one solution best responds to the complex problems of urbanization, new cities undoubtedly offer unique opportunities and will play a significant role in our future.

Strategies for new city building have re-emerged in vastly different contexts around the world, yet share many similar goals. Unlike the new master-planned cities of the past, new cities in the 21st century are built at the intersection of economics, industry, and politics, and are characterized by the major involvement of the private sector. Contemporary new cities often represent a fresh start in the race for global competitiveness. They focus on innovation and entrepreneurial environments to foster growth and investment, combine efforts to leapfrog economies into the tertiary sector, or simply offer the promise of a better quality of life in response to crumbling infrastructure and congested cities. At the heart of these shared goals are the people for whom new cities are built and the businesses and opportunities that enrich their lives.

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\(^1\) MGI (2010)
Building value in new cities was the main focus of the 2015 Cityquest-KAEC Forum and is an important topic on the role of new cities within wider urban systems. All new cities must offer investors, businesses and, most importantly, inhabitants, the right value for the investment required, and a lifestyle and 'opportunity set' that keeps them attractive over the long term.

Emerging from the 2015 Forum, this report provides analysis and recommendations on key themes related to the goal of building value in new cities. Its main objective is to better understand and link together the different facets of value, and to encourage quality urban environments that deliver value for all.

This report considers three different aspects of value for new cities:

- The first part of the report explores the physical value of the infrastructure, built environment, and technology that new cities produce.
- The second section examines strategies for creating value for businesses, and how this process can be encouraged through design strategy, vision, and policy.
- The third section discusses the many intangible values recognized as some of the most attractive parts of urban living, such as community and identity of a city.
New Cities and Concepts of Value: Planning, Building, and Responding to New Urban Realities

Building Value: Key considerations on developing physical value in new cities

On current trajectories, the total number of people living in cities will soon double from three to six billion by 2045. This means there will be more urban areas built during the first four decades of the 21st century than in all of previous history combined. While existing urban areas will absorb much of this growth, new cities present a unique opportunity to tackle some of the vast infrastructure requirements generated by this rapid wave of urbanization.

New and creative approaches to the built structures that support economic production, trade, and our other daily needs are in high demand. The expense and risk involved in meeting this demand requires careful consideration of how the physical value of a city can be financed and maintained sustainably over the long term.

Infrastructure: A Means to Many Ends

Investment in infrastructure in new cities entails long-term commitments that have deep consequences for both users and developers. At its core, these investments set the foundation for economic and social development in any given city. Yet, we often take for granted basic infrastructures and the benefits they provide, and struggle to raise the funds they require.

The challenge for new cities today is to provide the quality infrastructure and services that are critical to their success in a financially sustainable manner. Devising creative approaches to financing them, including new ways of understanding and capturing the value they offer as a return on their investment, will be the key to success. Communicating the full social and economic value of infrastructure to investors, residents, and government is vital to accurately represent the full potential of new city projects.

- Additional challenges of infrastructure provision in new cities include: Compromising between quality and available resources, skills, and local materials,
- Sustainability and planning for long-term infrastructure operations and maintenance,
- Providing soft infrastructure, including cultural and recreational facilities and green space,
- Becoming competitive globally while remaining accessible locally.

The following themes in this section stem from the Cityquest KAEC Forum 2015 and provide ideas for tackling the forthcoming challenges.

Adapting to Context

One noteworthy point discussed during the Forum was the tendency of many new city projects to be developed close to older, larger cities. KAEC, for example, is 100km from Jeddah. Songdo is located within the greater Seoul-Incheon area, while Tatu and
Konza Techno City are also located close to a major center, Nairobi. New cities have an important role to play in their regions: developing synergies between old and new cities can make them more valuable to people and investors.

Building for local needs and considering surrounding economic activities is essential to imparting a sense of ownership among residents relocating to new cities, as well as ensuring the effectiveness of their infrastructure developments. The major infrastructure project revitalizing Victoria Harbor in Cape Town, South Africa, illustrates this point well. Thanks to its attention to local cultural and economic contexts, the project has enhanced port activity and trade routes, while increasing productivity and attracting new investments and commercial development.

While maintaining high standards and investor needs in infrastructure, it is vital to put users at the core of investment projects. Where possible, local materials, architectural styles, and existing natural forms or waterways should be accentuated. This can build a sense of familiarity and identity attractive to new residents, and strengthen public and political acceptance of new developments. New cities face a great challenge and opportunity for instilling identity through large-scale projects developed on a blank slate. Considering how the form and function of infrastructure can contribute to wider goals, such as the city’s character, can increase the overall development value in new cities.

Creating and Capturing Value

Advances in information and communication technology (ICT), including new forms of ownership and access to data, are radically changing the way cities meet the needs of their residents and businesses. Advocates of smart city technology demonstrate the potential in ICT and sensor embedded infrastructure to make the city work more efficiently and generate valuable data. Songdo, South Korea, and Gujarat International Finance Tec-City (GIFT) and Lavasa in India are examples of new cities using this approach. It is too early to assess the long-term return on investment in smart cities. Nonetheless, achieving new levels of service delivery, efficiency, and coordination across services were all shared desires of new cities present at the Forum.

The smart city value chain comprises several interconnected ICT layers: infrastructure, enablers, devices and applications, requiring coordination across multiple stakeholders. New cities can benefit from understanding this value chain and adapting it to local needs. Engagement at the device and application level, for example, can spark third-party development of innovative city-based services using open data (such as transit planning apps, car pooling services, or crowd-sourced municipal fault reporting). This innovation adds value to the city and contributes to the overall returns for early investors.

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2 Fox (1994)
3 Ericsson (2016)
Avoiding a Technology Lock-in

In contrast with built environments, technology changes rapidly. On both a cost and practical level, new cities must consider potential problems arising between technology and the built form. A leading expert in urban technology warns: “hardwiring urban services to fit a particular device or operating system is a recipe for frustration, not efficiency”⁴. New cities must consider this rapid change and the ‘slowness’ of the urban fabric in implementing smart city strategies. This can be more safely achieved by planning with flexibility to enable each layer of a smart city to adapt gradually at their different rates within the city. Designing and planning a city’s transportation network, for example, would require anticipating the city’s different levels of advancement at when integrating mobility-as-a-service platforms, car-sharing, electric and self-driving cars, and other transformative innovations.

Understanding Social Value and the Risks of Private Infrastructure Management

When managing risk for developing new infrastructure, economists have traditionally suggested focusing on the adequate supply of infrastructure services to its users. Recent studies, however, suggest that simply focusing on the supply-side by determining the number of infrastructure users may not adequately signal the greater social demand for the functions they support. Instead, a better understanding of the added social value and spillover effects of large projects can help better convey their full value to investors and planners alike.

Infrastructure projects are an input into a variety of productive activities, and the users engaging in these activities often generate social goods that spillover to benefit society as a whole⁵. While economists observe that the private sector uses profit incentives to reduce costs per user and manage resources efficiently, an emerging approach suggests that this misses other ‘efficiencies’ that can spark the downstream values most necessary to cities. The subsidy and cross-subsidy in the expansion of telephone networks in the 20th century is a good example of this. The network’s value grew as the number of users increased, and also through the increased social and economic activity it enabled. Without representing associated spillover values in infrastructure projects, new cities risk undervaluing new development and major infrastructure to their investors or public sector partners.

Understanding how this debate relates to decisions about smart-city data licensing, port activities, ICT infrastructure, and so on, can help new cities approach complex projects creatively. For example, research shows that managing infrastructure communally with multiple stakeholders may better catalyze experimentation with new uses⁶. Ultimately, taking an open, shared approach to infrastructure management may better capture all value, including social value, that may be lost if it is optimized purely from a commercial perspective.

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⁴ Dan Hill, associate director at Arup, Hill (2012)
⁵ Frischmann (2012)
Building Value: Key considerations on developing physical value in new cities

Financing and Affordability

The massive scale of privately developed and financed new cities is unprecedented. Conventional financing methods are ill-suited for managing the risk and long-term commitment needed for ambitious master-planned cities. Discussions at the Cityquest Forum revealed that no new city can overlook the need for some level of public sector support for the long-term success of a project. Additionally, new cities must explore all potential funding sources, and combine strategies for a multi-layered funding approach.

Risk and the Cost of Capital

Participants discussed various types of public-private partnerships (PPPs), including hybrid entities, new partnership frameworks, and special charters or policies to establish public sector support for new city projects. This is especially needed in regions currently lacking PPP frameworks. Balancing risk between the public and private sector by allocating the risk to parties that are best suited to bear it is the most obvious advantage in a PPP approach. Credit enhancement tools, such as credit guarantees, low-interest subordinated loans and other financing instruments for public sector support are mechanisms that new cities must explore and adapt to their local contexts.

Additionally, exploring alternative ways to rely on a city’s own sources to find sustained revenue will be vital to developing new city business models. Enhancing local taxing authority was discussed as an important way of capturing initial costs in new city infrastructure development. User-fees and Land Value Capture are other available models for monetizing the increase in property value as a result of infrastructure provision.

If new cities are to leverage their own sources of funding to cover operations and maintenance costs, the question becomes: how can private new city builders design governance frameworks that balance the interests of all stakeholders? How will the diverging priorities of investors, business, and everyday residents be managed? These are all uncharted waters for private-led, large-scale new cities.

Gaining Public Sector Support

While many new cities enjoy the backing of their state and national governments, others struggle to establish the political will for garnering their support. To gain government interest, one participant suggested that the public purpose of new cities must be promoted. Indeed, new cities must be recognized as public interest projects, as they generate employment, contribute to

“We have to always consider ‘affordability to whom?’ - People who are living in the city? People who are developing the city? People who are investing in the infrastructure of the city? It has to be a balance in the cost-benefit of the whole development.”

- 2015 Cityquest – KAEC Forum participant

7 Cityquest 2015 KAEC Forum – Session: Building Affordable Cities
8 Cityquest 2015 KAEC Forum – Strategic Working Group roundtable
planned urbanization, and develop all types of housing and infrastructure. They are an important and concrete response to the urban boom.

**Social Policy Concerns**

No new mega-urban project escapes the conflict between land development to maximize profits, and setting aside land for community spaces that provide no financial returns. This year’s discussion introduced several approaches to addressing social policy concerns in new cities.

Partnerships with NGOs and the non-profit sector may be a potential solution to environmental and social equity issues. Actively building relationships with organizations in regions surrounding new cities in their early phases can help engage groups that are traditionally only introduced after problems arise in a city. New cities should explore innovative financing tools such as social impact bonds that share risk and link private and nonprofit organizations together to address social policy issues.

Finally, though still in its infancy, crowdfunding is another growing resource for addressing issues excluded from private development priorities. Many cultural and social aspects of development are now being addressed by new platforms that involve ‘the crowd’ and user-sourced seed funding. The Luchtsingel pedestrian bridge in Rotterdam, Netherlands, is a good example of this emerging financing instrument. As the first crowdfunded public infrastructure project, over 8,000 people signed up to support the construction of a bridge between two disconnected neighborhoods. The project, in its first phase, has already seen much success and has contributed to the renewal and development of the surrounding area.

**Maintaining Affordable Housing**

Access to affordable housing is an ever-increasing challenge worldwide. While new cities must turn a profit to be viable, the suspicion that they will perpetuate growing socio-economic divisions was identified as a critical issue to address in their planning and construction. As the largest and fastest growing demographic of city residents, the poor must be a key constituent for any urban mega-project that has long-term economic, social and political stability as a goal.

Middle and low-income citizens, who are sensitive to housing market variations, contribute to the diversity that characterizes thriving cities and a broad workforce. Producing adequate affordable housing options for all socio-economic levels in a new city does not have any one solution, but must be approached with a flexible and inclusive master-plan.

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9 Social impact bonds (also known as pay-for-success contracts) create a risk-bearing financial arrangement between public, private, and nonprofit organizations. Investors enter into a contract with non-profits or foundations to address specific social concerns. If they are addressed, the state will repay the investors their principal, with a sliding scale of profit tied to degree of success. The state is willing to do this because preventing or reducing social issues such as homelessness saves the state money (Macomber, 2016; Rangan & Chase, 2015).

10 A narrow definition of affordability assumes that 30% of the income received by those who earn 80% of an area’s median income is spent on housing, with a focus on citizens who obtain housing with certain minimum standards (MGI, 2014).
New cities can address housing shortages by setting aside parcels and mixed-development sites for affordable housing. Mixed social groups in neighborhoods contribute to resilience and social capital\textsuperscript{11} and can provide broader value to new cities beyond direct return per square foot. Retaining land and the ability to add capacity in increments, as the demand for affordable housing in new cities requires it, is key to ensuring inclusivity over the long-term.

Above all, affordability is a moving target. Cities will always evolve, and while hard to foresee in new cities not yet built, neighborhood demographics and uses will shift. As population and average incomes change, affordability has relative as well as absolute meaning. Planning for this change is a prudent choice. Cities cannot afford to lock themselves into a master plan.

\textsuperscript{11} Blokland & Nast (2013), Livingston et al. (2013)
New cities aim to be centers of innovation and experimentation. As such, they can become hubs showcasing the strengths of their respective parts of the world. But by simply providing places for linkages and businesses to set up in a new city, will business and investment necessarily follow?

New cities are places where pioneering ideas, products, tools or even business models can be trialed in an urban environment. This creation of problem-solving opportunities is celebrated as a key value new cities have to offer businesses and entrepreneurs.

**Attracting Entrepreneurs**

New cities at this year’s Forum shared the desire to attract entrepreneurs and promote clusters of innovation. Cross-sector strategies to link academics, private R&D, and enterprise were debated in depth. The aim was to understand the best ways to attract and retain talent and capital, which today moves so readily around the globe. Cities can promote the ecosystems that entrepreneurs require in the following ways:

- Developing a robust educational system: a strong talent base is essential for emerging startups that aim to recruit top talent;
- Promoting ease of doing business through reduction of set-up costs and a regulatory environment friendly to entrepreneurs and investors;
- Reducing the costs of risk-taking and increasing the acceptance of failure: bankruptcy laws, regulations allowing for starting, closing, and re-starting companies, and even the education system’s approach to failure contribute to a welcoming environment for entrepreneurs;
- Fostering a quality of life that encourages entrepreneurs to stay and grow with the city;
- Offering incentives, such as free office space for small startups or access to top ICT infrastructure.

Yachay Knowledge City in Ecuador, and Mohammed VI Green City in Morocco, for example, place universities at the heart of their developments, and use partnerships with international universities to promote local centers for research and development. Sri City in India has established ‘single window approvals’ as another way to encourage business with simpler set-up procedures.

Participants at Cityquest challenged the idea that cities can pre-select the economic cluster that forms around entrepreneurs. One participant asserted that “a city cannot attract entrepreneurs, the entrepreneurs in a city attract entrepreneurs”, suggesting...
that the job of the city is to simply allow entrepreneurs to operate easily and do what they do best. From there, clusters form organically around leading businesses.

Encouraging transitions from academics to real world development and developing 'indigenous startups' is an important process for new cities to consider. Facilitating homegrown innovation can help retain university students beyond graduation and create employment through a network of small startups. While attracting large corporations and international investment remains an important goal, the role of small and medium sized business is becoming a key focus for contemporary new cities.

**Creating Value for Business**

Globalization, urbanization and rapid technological advancement has changed the way businesses operate. Developing the right combination of factors, both tangible (city features, facilities, amenities) and intangible (financial incentives, safety, beauty, identity), that can convince business that a city is right for them is an enormous challenge facing new cities.

While this competition pits new cities against older urban centers that have the advantage of an established population, the former can consider various strategies that take advantage of their 'newness'. The ability to integrate technologies from the earliest stages of development and cater the built environment to the needs of contemporary research facilities, businesses, the workforce, and families is a great competitive advantage.

Providing support to help businesses set up is another strong advantage new cities can offer. It is essential that they have a transparent business environment and that their regulation, procedures, and business incentives be straightforward and well-known. For example, the Economic Cities Authority in Saudi Arabia is a one-stop shop providing assistance to businesses on permitting processes in KAEC. This is a good demonstration of how government can partner with new cities to encourage easy set-up and operation for new investors.
“A successful city must offer investors security, infrastructure and efficiency, and should also put the needs of its citizens at the forefront of all its planning activities.”

Cities Alliance, 2007
Placemaking and Local Identity

Large-scale, purely market-driven housing and development decisions drive homogenization, uniformity, and the placelessness that ironically reduces the value of a place. Discussions at Cityquest 2015 stressed that new cities must instead focus on the human scale, highlighting local variety. Successful businesses need talent, and talent needs community, culture, and housing accessible at all levels within a city.

Leaving Bland Office Parks Behind

Bland and placeless office parks of the 1980s and 1990s are no longer a desired model for businesses to thrive. Strict zoning and use separation hamper vibrancy, decrease tenant satisfaction, and creative exchange\(^{12}\). New cities must consider the physical spaces as part of the business climate they provide. As one Cityquest participant put it: “How can we make sure that businesses in new cities have the right places to come together, to collaborate, to interact, and to innovate?” Vibrant urban places that are mixed offer opportunity for informal interactions and access to practical office space. Micro-spaces and mixing uses might not return the highest rents, but they are essential in creating the ecosystem and vibrancy today’s businesses need to thrive. How many business meetings now take place in cafes, public parks, building lobbies, or in unplanned encounters at bus stops or train stations?

Granularity

Urban designers and advocates of placemaking\(^{13}\) encourage small-scale granular interventions across neighborhoods. This can refer to materials used, sidewalk design, seating areas, landscaping, encouraging pop-ups or ephemeral installations, public markets, and other low-cost interventions. This level of planning can help avoid the failures of placeless developments to create communal spaces that help bind together a fine social fabric. It is important to involve smaller scale architects and designers to understand how they can help new cities.

Best practices in placemaking and granular interventions include:

- Providing high pedestrian connectivity at the street level and throughout public space,
- Flexible bylaws allowing for temporary uses, such as street fairs, pop-up sales, markets, etc.,
- Developing a rich retail ecosystem, including small independent retail and restaurants that provide employment and expand the number of residents invested in the city,
- Including small scale public spaces from plazas and micro-parks, to street side seating areas,
- Integrating local elements, from architectural styles to building materials, which enhance residents’ emotional attachment and

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\(^{12}\) Rabianski et al. (2009), Wilson (2013)

\(^{13}\) Placemaking is generally understood as the creation of vibrant pedestrian-friendly areas with a mix of complementary land uses with the intention of creating public spaces that strengthen the relationship between people and cities (Schutz & Kline, 2004).
commitment to a city, and contribute to ecological and social sustainability.

**Activating Streets**

Activating streets refers to orienting building facades and commercial activities towards the street to encourage more interaction with the public. Both the physical design and regulatory environment in a city can improve public safety. Providing safe, attractive pedestrian and cycling spaces that are not marginalized by car infrastructure encourages residents to spend more time in the streets and lead healthy, sustainable lifestyles.

**The Value of Variety**

Encouraging the growth of universities that provide a young and dynamic population can create varied businesses. Several new cities present at Cityquest 2015, including Masdar in the United Arab Emirates, Yachay Knowledge City in Ecuador, and Mohammed VI Green City in Morocco include university campuses and subsidized student residencies as main points of attraction and as feeders into local business. They thus hope to foster a diverse social fabric associated with successful, vibrant cities. Actively including a variety of residents, such as artists, writers, trades workers and so on, can stimulate and support business innovation in the wider economy.14

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14 Bakhshi & McVittie (2008)
Cities create tangible values through real-estate valuation, trade, and employment creation, to name a few. On the other hand, cities are also complex places valued for their cultural exchanges, platforms of individual opportunity, and fulfillment. These values cannot be left out when building new cities.

**Fostering Community and Sense of Ownership**

Cityquest participants agreed that community is not found in the buildings, roads, plans, or infrastructure. Rather, it emerges in the interaction of these elements with the people that inhabit them. Allowing residents to create new uses for space in the city is key to fostering strong communities.

The phasing of new cities can have a great deal to do with fostering community from the outset. Planning and building at a scale where the built environment is compact and walkable is essential for the kinds of exchanges that allow community to emerge\(^\text{15}\). While sophisticated renderings capture the vision that a new city aspires to achieve, low-density and sparse phasing in new cities could ultimately hinder these goals by neglecting to nurture the village-feeling that many love about ‘world-class’ neighborhoods in cities of all sizes.

The tension between the local and the global in new cities becomes clear in the challenge they face to create a sense of ownership for residents in such newly developed environments. While beginning as top-down initiatives, new cities must consider ways to pass control back to the people so they feel empowered to develop a local identity. One of the most important words emerging in the Forum was ‘Songdonian’, a name and sense of identity that the community in Songdo has created for itself.

New cities should also consider the role of the non-profit sector in imparting a sense of identity. Grassroots organizations represent community interests in important ways. Considering how a city’s administration can support resident-led community-building activities can better foster mutual support.

**Branding New Cities and Attracting Residents**

Cityquest 2015 challenged participants to consider the importance of branding their city as a way of anchoring their identity. While discussions at the Forum acknowledged that branding creates an image of the city that people are supposed to identify with, they also highlighted the importance of adapting the brand identity to the city’s growing community. As cities grow, their residents inevitably shape their city’s identity and must play a role in its brand evolution.

\(^{15}\) Raman (2010), Katz, Scully, & Bressi (1994)
In our extremely connected world, brands are increasingly being influenced and co-created by consumers and target audiences. This influence of an audience, through online communication, social media outlets and large personal networks, can have a powerful effect on a brand’s success. Allowing citizens to give feedback and adapting the new city’s brand accordingly can better foster ties between a new city and its residents, and ultimately reflect the city in a more meaningful way.

Additionally, building cities in a way that encourages appropriation can help communities feel ownership through the freedom to personalize their environment. New cities should consider tools for planning and policy that discourage mass ‘cookie cutter’ housing, and instead encourage adapting architecture to reflect personal choice and character.

Building new cities, while an enormous task, is only half the battle. The creativity and energy required to populate them and communicate their value cannot be overestimated. The intangible values and unique opportunity new cities offer must reach a critical mass for such huge projects to gain momentum and achieve success.
Value exists at many levels and is perceived differently by stakeholders from various perspectives. The two days of discussion and exchange at Cityquest – KAEC Forum 2015 revealed key insights into the major challenges and opportunities facing contemporary new city projects. The Forum also raised several questions and unexplored themes worthy of future consideration within the community of new city builders.

Gaps in the discussion

Climate change
At a global level, how can climate change-related challenges be considered in the planning and development of new cities? While all participating new city projects mentioned sustainability as a priority, this complex topic requires more nuanced discussion for achieving long-term goals in new cities, such as:

- Strategies for holistic, proactive responses to climate change: impact mitigation for construction, reducing harm to the environment, regenerative development practices, sustainable access to water, and preventing soil erosion, among others.
- Long-term resilience planning, including proactive responses to projected impacts of changing climate systems, temperatures, and weather patterns.
- Considering the tools and metrics used to measure sustainability: including sustainability experts in a dialogue on measuring green initiatives can contribute to more meaningful guidelines.
- The role of policy and regulation in ensuring a new city’s sustainability goals and values are maintained.

Governance
Because there is little precedence for privately run cities, a discussion on city governance becomes important as the population in new cities grows without the traditional structure of mayors or city councils.

- How will systems of accountability work within corporate governance models? How will new cities interact with their residents, what avenues of communication they can use, and what level of influence will residents have in their development and operations?
- How can privately governed new cities manage the conflicting needs and interests of their residents and investors? Formulating new models of governance will be essential to developing equitable new cities.

Security
As several new cities are developed outside of existing jurisdictions, and within privately managed land areas, discussions have yet to include the topic of security and policing of new city developments.

- In the wake of increasing global conflict and terrorism, new cities must contemplate strategies for
maintaining safety and security during their construction phases as well as during everyday operations.

- Protecting and representing residents’ property and interests, general public safety and policing, as well as legal liabilities for the safety and security within a city’s limits are all important aspects of the responsibility of new cities which require further exploration.

**Regulatory Reform**

The public sector increasingly recognizes the importance of the private sector in accommodating burgeoning urban populations. Yet there has been little dialogue around how a legal framework for this mutual support may look.

- What extent of control and profit sharing are privately developed new cities prepared to concede in exchange for stronger levels of public sector support?
- Many governments are unfamiliar with private development projects at a city scale. Developing a common language around new city projects that is understood across sectors is essential for productive communications.

**Concluding Remarks**

Today’s cities can offer us access to new ways of life, new opportunities, and a viable solution to the needs of a growing population and environment in distress. Bold approaches have their place in answering to the pressing needs of this century of cities. While building a new city represents an enormous challenge and faces many critics, the shared lessons at Cityquest – KAEC Forum 2015 are an important step towards laying sound foundations for the development to come.

Whereas new cities of the past tried to prove political and social theories, contemporary new cities have entered a global competition to build value, attempting to create greater opportunities for citizens to prosper. If new cities’ inhabitants are to drive their growth and innovation, it is of paramount importance to design cities with their needs and wellbeing in mind.

New cities today represent a renewed occasion for learning from past mistakes and offer the chance to integrate best practices in planning, design and policy from their outset. As they race to build new nodes in the global urban system, they must build ahead of the curve, responding to the demand for livable, affordable, and entrepreneurial urban environments. It is no easy task keeping pace with the new urban realities emerging around the world. New cities, as bold experiments, offer a path to advancing models for development in more urgent timeframes, with the potential to create smarter, less wasteful, and more socially inclusive places to live, work and play in the process.
Appendix: New City Profiles
Alamein New City, Egypt

Alamein New City is a government-initiated new city project, supported with technical assistance from UN Habitat’s Achieving Sustainable Urban Development program, to build the first ‘green city’ on Egypt’s north coast. As part of Egypt’s strategy for planning new economically self-sustaining cities in the country, Alamein New City aims to foster the development of a desert area by the North Coast of Egypt. The conceptual plan for this new city aims to develop five main industries - tourism, regional trade, agriculture, logistics, and higher education to attract new investment, and create a new center for employment. As a reaction to the pressure of population growth and unplanned development in Cairo, Alamein New City seeks to address the housing deficit, and promote a healthy planned form of urbanization as a model for sustainable development of new cities across Egypt.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2015 - 2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>205 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>First phase 20,000 residents</td>
</tr>
<tr>
<td>Cost</td>
<td>Over $40 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>Partnership between the Egyptian government and private investors and developers.</td>
</tr>
</tbody>
</table>

Photo Credit © Alamein New City
Cyberjaya, Malaysia

Situated 40 kilometers from Kuala Lumpur, Cyberjaya was conceptualized as the flagship project of the ‘Multimedia Super Corridor’, a Special Economic Zone (SEZ) and the first ‘cybercity’ in Malaysia. It is a technology hub created to advance the country’s development in the multimedia and ICT sector. Cyberjaya has positioned itself as the nucleus of this hub to become a center of innovation for research and development in areas including smart cities, big data, biotechnology and other industries. By creating a welcoming ecosystem for multinational corporations, small to medium enterprises, and startups, as well as a center for higher education, Cyberjaya aims to transform itself into a global technology hub by 2020.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>1997 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>29 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>210,000</td>
</tr>
<tr>
<td>Cost</td>
<td>Over $4 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>A joint venture between the public sector and multiple local investors.</td>
</tr>
</tbody>
</table>
Economic City of Egypt (ECE), Egypt

Situated in Northern Egypt, the Economic City of Egypt is a planned new city development through public-private partnership to create a new center for major economic activities in Egypt, including tourism, industry, and commercial centers. Economic City of Egypt plans to develop a new seaport, as well as a transportation network and railway connection to the surrounding region, in order to service a new export hub and local industrial center. In response to the rapid growth and congestion of Cairo and other major urban centers, this project envisions a scalable, planned mixed-use development including major commercial and entertainment facilities to create a holistic new city environment. Plans for a university campus and partnerships with local and international educational institutions intend to contribute to developing Egypt’s R&D capabilities, labor force and economy.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>In planning stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>100 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>500,000</td>
</tr>
<tr>
<td>Cost</td>
<td>n/d</td>
</tr>
<tr>
<td>Financing</td>
<td>Public-private partnership</td>
</tr>
</tbody>
</table>
Gujarat International Finance Tec-City (GIFT), India

GIFT aims to become a global financial and IT services hub by offering global firms high quality infrastructure and facilities in Western India. Its development site is located 12 km from the Ahmedabad International Airport, between Gandhinagar and Ahmedabad, in the state of Gujarat. By developing local economic activity, it hopes to feed the economic drivers of the surrounding urban centers and provide half a million jobs directly, and another half a million indirectly. GIFTCL, a key investor, plans to develop, finance, and implement all infrastructure in and around GIFT on a turnkey basis to ensure that all services relating to connectivity, communication, technology, security, and quality of life are established and sustained.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2007 - 2027</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>3.59 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>500,000 residents, 500,000 working population</td>
</tr>
<tr>
<td>Cost</td>
<td>$11 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>The primary investors are Gujarat International Finance Tec-City Company Limited (GIFTCL), Infrastructure Leasing &amp; Financial Services, and Gujarat Urban Development Co. Ltd (GUDC).</td>
</tr>
</tbody>
</table>

Photo Credit © Gujarat International Finance Tec-City (GIFT)
Iskandar Malaysia, Malaysia

Launched in 2006, Iskandar Malaysia is the single largest special economic region ever to be developed in the region. Founded on principles of low carbon, green economy, green technologies and social integration, Iskandar Malaysia aims to serve as a potential template for urban development in emerging countries with burgeoning populations. Strategically located at the southernmost tip of Peninsular Malaysia, Iskandar Malaysia aims to become a strong and sustainable metropolis of international standing by 2025. Its location in the heart of Southeast Asia and adjacent to Singapore is well positioned to leverage on the fast growing economic powerhouses of India and China as well as the ASEAN region.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2006 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>2,217 km² (3 times the size of Singapore)</td>
</tr>
<tr>
<td>Intended population</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Cost</td>
<td>Over $100 billion invested 2006-2025</td>
</tr>
<tr>
<td>Financing</td>
<td>Local and foreign investors from several nations</td>
</tr>
</tbody>
</table>
Jazan Economic City, Saudi Arabia

Jazan Economic City (JEC), planned on the Red Sea coast of Saudi Arabia, overlooks an important route for maritime transport in the Red Sea connecting Europe, East Africa and Asia. It aims to leverage available raw materials in the southwest of the country and an abundant labor source to foster development of Saudi Arabia’s people and economy. Situated along the main Red Sea shipping route, JEC’s industrial strategy focuses on creating value chains through carefully selected sectors for export that will see a clustering of industries. Oil, steel, and titanium refining and production facilities will provide strong downstream opportunities in manufacturing and processing, including food processing and textiles. A local Technical and Vocational Training Corporation seeks to train and employ thousands of young Saudis during JEC’s development, contributing to local and national development goals.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2007 - 2031</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>108 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>150,000</td>
</tr>
<tr>
<td>Cost</td>
<td>Over $50 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>Local and international investors</td>
</tr>
</tbody>
</table>

Photo Credit © Jazan Economic City
Kabul New City, Afghanistan

The Afghan Government initiated the project for Kabul New City in 2006 as part of greater reconstruction efforts to solve several increasing urban socio-economic issues in the capital, Kabul. The new city is located in the Dehsabz and Barikab areas north of the existing city and is planned to be twice its size. This new city development seeks to address the unplanned urbanization, massive housing deficit, and poor access to services and healthy living conditions in Kabul by providing over 250,000 residential units and generating upwards of 500,000 jobs in the long term. Its master plan lays out quality infrastructure and public facilities through several PPP models, while housing and commercial development will be carried out by the private sector, following specific requirements for specific percentages of medium (25%) and low-income (25%) housing. Notably, the government retains a long-term share in all development, and has included the integration of agricultural development at different scales throughout the city. Kabul New City aims to attract private investment and drive sustainable economic growth, while creating opportunity for returning refugees, internally displaces persons, and the urban poor.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2006 - 2036</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>740 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Cost</td>
<td>$80 billion</td>
</tr>
</tbody>
</table>
King Abdullah Economic City, Saudi Arabia

Located on the coast of the Red Sea, 100 km north of Jeddah, King Abdullah Economic City (KAEC) is one of four new cities being created in Saudi Arabia to promote industrial expansion, diversify its economy from oil, and to provide housing and job opportunities for a young population, 65% of which are under the age of 30. Centered on a new port, the goal of KAEC is to become a global logistics and manufacturing hub. Through its ‘industrial valley’, KAEC seeks to develop sectors including logistics, fast moving consumer goods (FMCG), plastics, automotive, building materials, and pharmaceuticals.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2005 - 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>181 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Cost</td>
<td>Over $100 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>Emaar, The Economic City (EEC), and a Tadawul-listed real estate development and management company. When KAEC offered its first successful public offering in July 2006, EEC made history: more than half of the Saudi population bought stock in it. EEC is headed by Emaar Properties PJSC, and a number of high-profile investors from Saudi Arabia.</td>
</tr>
</tbody>
</table>
Konza Technology City (KTC), Kenya

Konza Technology City (KTC) is a state-led flagship project for the Kenyan national government’s ‘Vision 2030’ to transform Kenya into a newly industrializing, middle-income nation by fostering science, technology, and innovation. Konza Technology City, planned 60 kilometers south of Nairobi, is to be a sustainable technology hub and a major economic driver for the nation, with a vibrant mix of businesses, workers, residents, and urban amenities. KTC will develop world-class infrastructure, and facilitate research, education and business through Information Technology Enabled Services (ITES). The master plan for KTC, done by New York based SHoP Architects, aims to promote sustainable urban design, with a walkable, dense center that encourages high-value development and discourages sprawl. The central urban area will include integrated public transit, mixed

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2015-2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>20 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>200,000</td>
</tr>
<tr>
<td>Cost</td>
<td>$3 billion for the first phase; $8.5 billion estimated total.</td>
</tr>
<tr>
<td>Financing</td>
<td>Mainly publically financed, with public-private partnership to finance further implementation phases.</td>
</tr>
</tbody>
</table>

Photo Credit © Konza Technology City
Lavasa, India

Lavasa is a privately developed city located 50 kilometers west of India’s eighth largest metro area, Pune, and near the richest band of economic activity in the country—the Delhi-Mumbai Industrial Corridor. As India’s first post-independence planned hill city, Lavasa follows the principles of new urbanism to prioritize walkable and accessible neighborhoods with a sustainable focus. Seventy per cent of the land is designated as open space and natural landscape, and 80% of the population will live and work in 20% of the land. The city includes a variety of strategies, such as biodiversity conservation, integrated watershed management, and soil erosion prevention to encourage responsible environmental practices throughout its development. Lavasa seeks to become a replicable model that will serve as a template for the construction of other cities of this scale within India.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2004 - after 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>100 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>300,000</td>
</tr>
<tr>
<td>Cost</td>
<td>$1 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>Lavasa shareholders &amp; Indian Banks</td>
</tr>
</tbody>
</table>

Photo Credit © Lavasa
Masdar City, Abu Dhabi

Masdar is an ambitious urban development project aiming to become the world’s most sustainable urban developments, and hub of sustainable technologies and other knowledge-based industries. Overseen by Masdar, Abu Dhabi’s renewable energy company, Masdar City is an innovative low-carbon development, providing a “greenprint” for how the cities of the future could be designed and built where people live, work, learn and play. Innovation, knowledge and research and development activities in the city are led by the Masdar Institute of Science and Technology and many leading international companies experimenting in sustainable urban design. Designed by British architectural firm Foster + Partners, Masdar is built 17 kilometers from downtown Abu Dhabi. The urban design features a pedestrian-friendly layout, passive architecture for shading and reduced energy consumption. Masdar City’s Phase 1 development is 75% completed, with technology deployments such as a Solar PV plant, Concentrated Solar Power (CSP) and pilot projects including personal rapid transit (PRT) cars. Phase 2 will see further expansion focusing on the research and development cluster along with further sustainable residential development.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Founded in 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>6 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>40,000 residents, 50,000 workers</td>
</tr>
<tr>
<td>Cost</td>
<td>No information</td>
</tr>
<tr>
<td>Financing</td>
<td>No information</td>
</tr>
</tbody>
</table>
Mohammed VI Green City/ Ville-Verte Mohammed VI, Morocco

Ville-Verte Mohammed VI (VVM6) is a city-building venture led by the Office Chérifien des Phosphates (OCP), the world’s largest exporter of phosphate fertilizers. The city is located between Casablanca and Marrakesh, adjacent to Benguerir, an existing city of 80,000 people, which hosts OCP’s second largest operations. The heart of the city will be the University Mohammed VI Polytechnic (UM6P), surrounded by housing, commercial, and R&D development following LEED ND neighborhood sustainability specifications. The university has signed preliminary agreements with l’École des Mines de Paris, and seeks to create an R&D center around a hub of connected incubators and innovation centers with the goal of becoming a center for industrial and sustainable development leadership. The education and research fields are to both benefit from and help OCP’s core business of phosphate fertilizers, and allow more educated Moroccans to participate and expand this area, while the city’s commitment to sustainable development and greenspace provides a healthy urban environment to its residents.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2010 - 2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>10 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>90,000 - 120,000 workers</td>
</tr>
<tr>
<td>Cost</td>
<td>n/d</td>
</tr>
<tr>
<td>Financing</td>
<td>Office Chérifien des Phosphates (OCP) and private financing</td>
</tr>
</tbody>
</table>

Credit © Mohammed VI Green City
Rawabi, the first planned Palestinian city, is located 9km North of Ramallah. The largest private sector project in the history of Palestine, it is mainly borne by Palestinian multi-millionaire, Bashar Masri. Rawabi’s economic growth strategy is designed to generate sustainable employment opportunities in different sectors including ICT, media, entertainment, and services. As a new city in the region, it aims to provide an attractive new destination for Palestinians, by improving living standards and acting as a major catalyst of economic growth. It is planned to accommodate a variety of lifestyles and is designed for a multi-religious population. campus, and a central business district and hi-tech office park.

Rawabi, Palestine

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2008 – undisclosed (First residents in 2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>6.3 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>40,000</td>
</tr>
<tr>
<td>Cost</td>
<td>Over $1.2 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>Private partnership between Bayti Real Estate Investment Company, Bashar Masri and Qatari Diar</td>
</tr>
</tbody>
</table>

Numerous Palestinian villages surround Rawabi, nine of which are immediately adjacent.
(source: http://www.rawabi.ps/maps.php)
Sejong City is the new planned administrative capital of South Korea, located 120 km to the south of Seoul and symbolically providing an extension towards the rest of the South Korean peninsula. Sejong will have the largest share of government offices outside Seoul - including the Prime Minister’s Office, Ministry of Construction and Transportation, and the Ministry of Strategy and Finance. It features a planned creative hub centered around R&D, incubation, and startup support facilities, a science park hub for tech corporations, and a campus hub for higher education centers and supporting commercial and recreational facilities. The city has been planned to have a low-carbon impact, with public transit as a large share of its transportation, as well as its use of green-space, and IT/smart technology for efficient utility provision. Sejong also aims to create a new hub in South Korea of tech corporations, universities, and research institutes to be a growth engine in the country’s knowledge economy.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2006 - 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>72 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>500,000</td>
</tr>
<tr>
<td>Cost</td>
<td>$21 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>Publicly financed</td>
</tr>
</tbody>
</table>

Credit © City of Sejong
New Cities and Concepts of Value: Planning, building, and responding to new urban realities

Songdo, South Korea

Songdo International Business District (Songdo IBD) is a 6 square km master-planned city-scale development and a testing ground for leading-edge technological infrastructure. Songdo IBD’s IT-enabled infrastructure provides solutions regarding transportation, security, facilities management and citizen services. All dimensions of life are integrated: buildings, utilities, transportation, education, health and government. Led by public-private partnership, Songdo is located 56 km from Seoul within the Incheon Free Economic Zone (IFEZ), and connected to Incheon International Airport by a 21 km bridge. One of the key draws of this new city is its strategic location in the Northeast Asia region, which means residents can reach one-third of the world’s population within 3.5 hours. Songdo IBD currently has over 2 million square meters of LEED certified buildings, making it one of the highest concentrations of certified green buildings in the world. It is home to many multinational organizations including the Secretariat of the Green Climate Fund.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2003 - 2020</th>
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<tbody>
<tr>
<td>Size</td>
<td>Songdo IBD: 6 km² (greater Songdo City 53 km²)</td>
</tr>
<tr>
<td>Intended population</td>
<td>35,000 residents currently, with an intended population of 75,000 (greater Songdo City currently is at 100,000 with an intended population of approximately 300,000)</td>
</tr>
<tr>
<td>Cost</td>
<td>$35 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>Joint venture between Incheon Metropolitan City, Gale International, and POSCO E&amp;C.</td>
</tr>
</tbody>
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Photo Credit © Songdo
Sri City, India

Sri City is located in Eastern India, 55 km north of Chennai on the Tamil Nadu – Andhra Pradesh state borders, taking advantage of the large workforce, talent pool, and well-developed industrial climate of both states. As a Special Economic Zone with high-quality infrastructure development, Sri City aims to develop a new manufacturing hub in the region, providing ready-built factories and offices, as well as quality housing options and public amenities for workers and families. Conceptualized as a work-learn-live-play environment, Sri City’s goal is to balance the needs of business and investors looking for export manufacturing and entry into the Indian market, while developing the social infrastructure and quality environment needed for local development. A solar power plant, and other sustainable initiatives in Sri City are part of a wider ambition for becoming a carbon-neutral industrial zone.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>2007 - onwards</th>
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<tbody>
<tr>
<td>Size</td>
<td>33 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>200,000</td>
</tr>
<tr>
<td>Cost</td>
<td>Over $2 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>Multiple private investors</td>
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Tatu City, Kenya

Tatu City is a new planned development conceptualized as a mixed-use environment for 100,000 residents and 30,000 commuting visitors. Plans include various commercial, industrial, social, and recreational facilities, as well as a variety of residential options, including forms of affordable housing. Planned adjacent to the city of Nairobi, Tatu City positions itself to provide much needed physical and technological infrastructure in the region to create a new node of development and economic activity in science, technology, and innovation. This new privately developed city seeks to cater to a growing middle class in Kenya, and address the country’s chronic housing shortage and increasing congestion in the capital. Underlying the vision for Tatu City is the aim to catalyze a shift in urban development in Kenya, away from its single-node model around downtown Nairobi, to a more decentralized urban system. Tatu City is the first private sector project recognized by “Kenya Vision 2030”, the country’s national blueprint for economic long-term development.

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<tr>
<th>Timeframe</th>
<th>2010 - 2030</th>
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<tbody>
<tr>
<td>Size</td>
<td>10 km²</td>
</tr>
<tr>
<td>Intended population</td>
<td>100,000</td>
</tr>
<tr>
<td>Cost</td>
<td>Over $2.5 billion - $3 billion</td>
</tr>
<tr>
<td>Financing</td>
<td>Rendeavour, urban land development corporation active across Africa.</td>
</tr>
</tbody>
</table>
Yachay Knowledge City, Ecuador

The mission of YACHAY E.P., a government-owned company, is to develop and manage a new ‘City of Knowledge’, in line with international standards and best practices. This new city integrates scientific, academic and economic activities in order to foster research, innovation, and the transfer of new applications of technology to help change Ecuador’s economy. Located at equidistance from the capital, Quito, the Colombian border, and the nearest port, Yachay is built on fertile land and is close to some of the world’s most bio-diverse lands. Currently, the first University of Experimental Technological Research is being set up and linked with public and private research institutes and Ecuador’s agricultural and agro-business community.

The master plan, done by the South Korean Incheon Economic Zone Authority, features four distinct zones for different related industries and research fields, all within a Free-Trade Zone. Yachay City aims to be an ecosystem of innovators, promoting entrepreneurship in fields including: life sciences, IT, nanotechnology, and energy. The city aims to introduce high quality infrastructure and environmentally-friendly city design for a welcoming environment for both domestic and international investors. The City’s plans focus on street-level quality of life, walkability, and placemaking as well as efforts to promote sustainable development and ecological building designs.

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<tr>
<th>Timeframe</th>
<th>2012 - 2035</th>
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<tbody>
<tr>
<td>Size</td>
<td>45 km²</td>
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<tr>
<td>Intended population</td>
<td>170,000</td>
</tr>
<tr>
<td>Cost</td>
<td>$1 billion for first five years of development</td>
</tr>
<tr>
<td>Financing</td>
<td>Public and private funding</td>
</tr>
</tbody>
</table>


Ericsson (2016), *Laying the Foundations for a Smart, Sustainable City*, Ericsson White Papers [online].


McKinsey Global Institute (MGI, 2014), *A blueprint for addressing the global affordable housing challenge* [online].


