

# Progress on the Affordable Housing Initiative in KSA, The Journey to Home Ownership

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## Abstract:

The Housing Initiative in the Kingdom of Saudi Arabia faced several barriers towards progress in the past Decade. Issues on the Demand and supply side resulted in an acute shortage of affordable housing units. On the demand side, the lack of a mortgage law and the subsequent difficulty with work-a-rounds to ensure compliance with Sharia, law delayed the creation of financial products for the eligible first-time buyers. However, this was resolved and currently there are several products to enhance the homeownership experience. On the supply side the white lands and the lack of interest by the private sector resulted in long waiting lists and loss of contribution to the GDP. This was dealt with through the white lands tax and PPP projects with the private sector. The debut of Roshn as a communities development company carries the hope of placemaking and the creation of sustainable neighborhoods around the Kingdom.

## Overview

The late King Abdullah announced in 2011 a SAR 250 billion (\$66.6bn) scheme to build 500,000 housing units over several years to help address a housing shortage among lower-income Saudis. It was part of \$93bn in government handouts ordered following the outbreak of the Arab Spring.

In March of 2011, it was estimated that Saudi Arabia needs 1.65 million new homes by 2015 to meet growing demand. To meet this demand the private and public developers will need to build about 275,000 units a year through 2015 for a total of 1.65 million homes over six years.

The Ministry of Housing was established the same year. Shuwaish Al Duwaih was appointed as the Minister of housing. Funding was through the Real Estate Development Fund (REDF) that was established in 1974 to provide funding and financing for real estate and cooperates with governmental institutions to support and increase real estate activity and the country's economy.

In 2013, to speed up the construction of the promised 500,000 new homes, the late King Abdullah ordered a shake-up of the usual land-granting procedures. The land issue was a subject of great debate. Generations of Saudis have petitioned the King for land, and they were gifted large plots in urbanized areas of the Kingdom. However, such lands were never developed and on average constitute about 30% of the developable land area in major urban centers. Owners of those plots had no intention of developing them but rather to use them as a tradeable asset. Land was traded and as such its price rose to such an extent that developments on that land could not



The Late King Abdullah bin Abdulaziz



HRH King Salman bin Abdulaziz



HRH Crown Prince Mohammad bin Salman

be economically viable. With the housing program vying for land, the government had to resolve the issue of what is known as the white lands.

A royal order was issued instructing the ministry of municipal and rural affairs to hand over lands to the ministry of housing with immediate effect, which in turn was told to build the necessary infrastructure for housing. This land will then be distributed to citizens, based on eligibility. Citizens could then build homes on this land with loans granted by the housing ministry.

However due to excessive red tape and shortage of land, the disbursement of funds and construction of homes stalled.

In 2014 the mortgage law was passed. However, the Loan to Value Ratio was 70% which prevented many first-time buyers from being able to afford the down payment.

HRH King Salman bin Abdulaziz ascends to the throne following the passing away of King Abdullah bin Abdulaziz in 2015. In a shakeup that took place in March of 2015, Shuwaish Al Duwaihi was removed from his post as Minister of Housing. In July of 2015, Majid Al Hogail was appointed Minister of Housing.



HE Majid Al Hogail

In 2015, it was announced that the REDF will be turned into a bank, offering mortgages for existing homes and for the development of new homes.

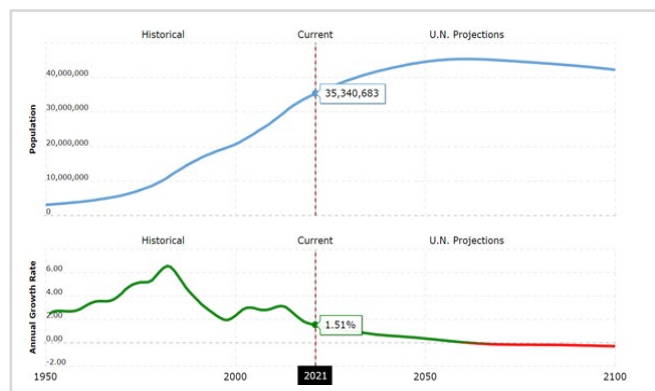
On April 20, 2016, Vision 2030 was announced with sweeping reforms and an ambitious program to achieve 70% home ownership by 2030.



The Ministry of Housing Sakani program was launched in 2017 aimed at providing mortgage loans, land plots and residential units as allotted to beneficiaries. In what follows we will assess the fast-paced developments that followed in detail.

## Demographics of Saudi Arabia

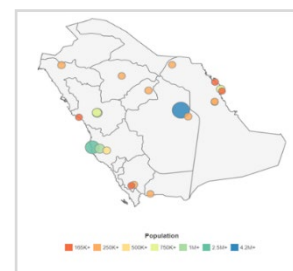
Saudi Arabia's current population is 34.81 million people and is projected to grow until 2060. Based on current projections, the population will reach its peak in 2060 at 45.35 million people and will begin to slowly decline after 2061. A significant percentage of the nation's inhabitants are immigrants seeking economic opportunity, making up 37% of the total Saudi population



Saudi Arabia's current population growth rate is 1.59%. The growth rate of Saudi Arabia's population is likely to decrease to 1.09 by the year 2030, and further fall to 0.277 during the next 30 years, by the year 2060.

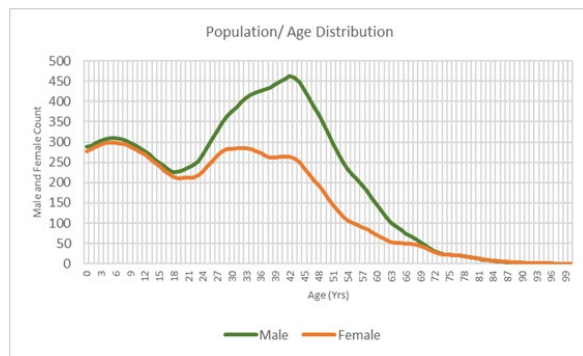
The fertility rate in Saudi Arabia is 2.274 births per woman, which is above the population replacement rate of 2.1 births per woman. The fertility rate, however, has been decreasing every year and will eventually contribute to Saudi Arabia's slowing and then stagnant population growth.

Eighty percent of Saudis live in ten major urban centers: Riyadh, Jeddah, Mecca, Medina, Hofuf, Ta'if, Khobar, Yanbu, Dhahran, Dammam. Some cities and oases have densities of more than 1,000 people per square kilometer (2,600/mile<sup>2</sup>). Saudi Arabia's population is characterized by rapid growth, far more men than women, and a large cohort of youths.

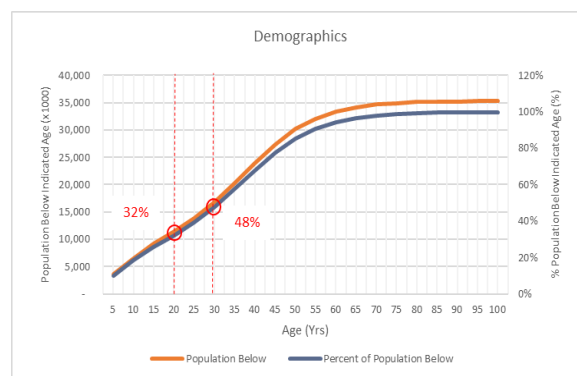


The sex ratio at the time of birth is 1.05 males per female. For the under-15 age group, this ratio is 1.05 males per female; for the 15-64 age group, it is 1.03 males per female; and for the 65+ age group, it is 1.03 males per female. For the total population, the mean ratio is 1.21 males per female.

The current median age in Saudi Arabia is 27.5 years of age with a full life expectancy of 75.5 years of age. This is likely influenced by the high performance of improved drinking water and sanitation facility access in the country, as well as a 4.7% GDP expenditure on the health care sector. This has given the country the physician density of 2.57 physicians per 1,000 Saudi Arabian individuals and 2.7 beds available per 1,000 residents.



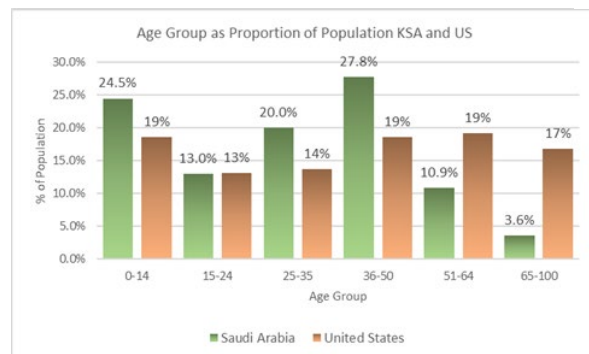
According to the CIA World Factbook the population of Saudi Arabia has a large young population ages 0–19 years and an increasing middle-age population ages 20–35 years. With a growing population reaching adulthood, global economists and the Saudi government have become concerned that there are more Saudis seeking jobs than are available. The nation has also seen a rise in its older population as life expectancy has risen throughout the last 40 years.



The population is divided among different age groups. The 0-14 age group contains the median amount of the population, comprising 24.5% of the total. The middle age group of 15-64 makes up the greatest share of the total population - about 70.9%. The 65+ age group comprises 3.6% of the total population.

### Population Age Distribution

KSA	USA
0-14 years: 24.5%	0-14 years: 18.6%
15-24 years: 13.0%	15-24 years: 13.1%
25-35 years: 20.0%	25-35 years: 13.7%
36-50 years: 27.8%	36-50 years: 18.6%
51-64 years: 10.9%	51-64 years: 19.2%
65 and above: 3.8%	65 and above: 16.8%



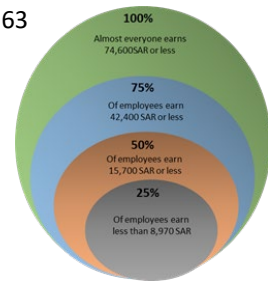
Comparing the KSA and USA populations it is evident that the KSA population is a younger population compared to the US population. Note the 51 and above population in KSA amounts to 14.7% of the total versus 36% in the US. Similarly, the 0-24 age group in KSA amounts to 37.5% versus 31.7% in the US. First time home buyers are a significant tranche of the population in the 20-35-year-old age group estimated at 30% of the total population.

### Salary distribution and commentary (Salaryexplorer.com, Statista)

Based on surveys and reported analysis published by Salaryexplorer.com and Statista, the average salary in Saudi Arabia is 259,950 SAR per year. The most typical earning is 101,276 SAR. All data are based on 1,264 salary surveys. Salaries are different between men and women. Men receive an average salary of 266,968 SAR. Women receive an average salary of 201,596 SAR.

The most paid careers are Properties & Real Estates with average income 662,963 SAR and Insurance with income 427,143 SAR.

Based on education, Doctorate degree holders received the highest salaries averaging 426,438 SAR. Master’s degree holders were second with an average salary of 301,837 SAR. For 20+ years of experience an average salary of 460,121 SAR was noted. For 16-20 years of experience the average salary was 361,553 SAR.



### Salary Range

Salaries in Saudi Arabia range from 4,230 SAR per month (minimum salary) to 74,600 SAR per month (maximum average salary, actual maximum is higher).

### Median Salary

The median salary is 15,700 SAR per month, which means that half (50%) of the population are earning less than 15,700 SAR while the other half are earning more than 15,700 SAR.

### Percentiles

Closely related to the median are two values: the 25th and the 75th percentiles. Reading from the salary distribution diagram, 25% of the population are earning less than 8,970 SAR while 75% of them are earning more than 8,970 SAR. Also from the diagram, 75% of the population are earning less than 42,400 SAR while 25% are earning more than 42,400 SAR.

Comparing the annual salary distribution in KSA, US, and UK (all in SAR):



KSA (SAR- No Income Tax)	USA (SAR-before Income Tax)	UK SAR-before Tax)
0-10% earn less than 67,800	0-10% earn less than 30,960	0-10% earn less than 72,079
0-25% earn less than 107,640	0-25% earn less than 82,800	0-25% earn less than 90,352
0-50% earn less than 188,400	0-50% earn less than 155,541	0-50% earn less than 126,900
0-75% earn less than 508,800	0-75% earn less than 270,000	0-75% earn less than 191,872
0-99% earn less than 895,200	0-99% earn less than 450,759	0-99% earn less than 888,300
Average Salary 259,950	Average Salary 225,064	Average Salary 199,743
Median Salary 188,400	Median Salary 155,541	Median Salary 162,796
Median Home Price 982,833*	Median Home Price 1,022,400	Median Home Price 1,288,400
Ministry Housing Price 380,000		
Price of affordable House at 2.5x Median Annual Salary 471,000	Price of affordable House at 2.5x Median Annual Salary 388,852	Price of affordable House at 2.5x Median Annual Salary 406,990
Home Ownership 60%**	Home Ownership 65.8%	Home Ownership 64.3%

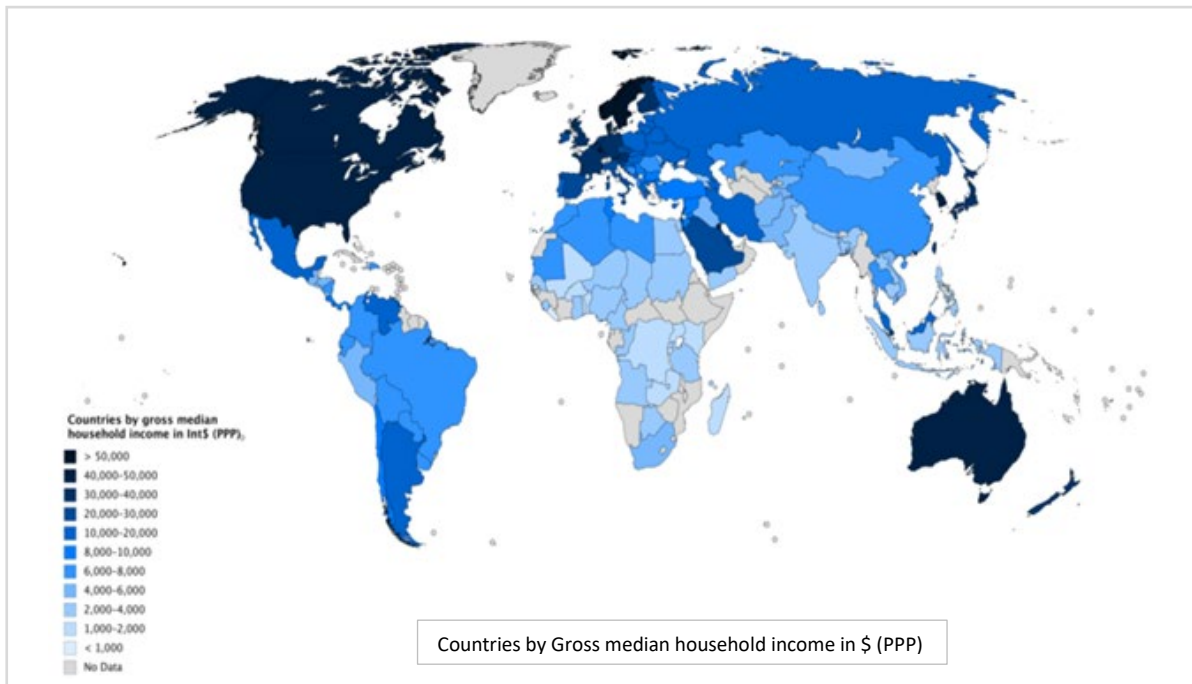
\* As reported by Knight Frank, “Saudi Arabia Market Value-2020” taking the average price in Riyadh, Jeddah, and Dammam

\*\*It is believed that this target has been exceeded

The table above demonstrates that the available inventory of housing in the Kingdom is affordable given the Government subsidy and the availability of Ministry of Housing grade product for low-income citizens, assuming that affordability is defined as a financial commitment of no more than a 30% of the monthly salary. In addition, affordability implies that the maximum purchase price should not exceed 2.5 times the total annual salary.

Note that home ownership in the US is currently at 65.8%. The after tax Median annual salary in the US, assuming a 28% tax bracket, is 111,989 SAR and therefore the price affordability at 2.5 x the annual salary is 279,972 SAR. Similarly in the UK the home ownership is currently at 64.3%. The after tax average annual salary in the UK, assuming a 28% tax bracket, is 114,717 SAR and therefore the price affordability at 2.5 x

the annual salary is 286,794 SAR. Given the salary levels and the financial facilities of the Sakani program, achieving the 70% ownership goal appears to be achievable.



## Housing Financing

The Real Estate Development Fund (REDF) was established in 1974 to provide funding and financing for real estate and cooperates with governmental institutions to support and increase real estate activity and the country's economy. In 2015 it was announced that the REDF will be turned into a bank offering mortgages for existing homes and those to be developed.

The Saudi Arabian Monetary authority (SAMA) is the entity responsible for regulating the banking industry as well as enacting Real Estate Mortgage and Financial laws in the Kingdom. The mortgage laws were passed in 2012 and a package of laws including the Enforcement Law, The Real Estate Finance Law, The Registered Real Estate Mortgage Law, The Finance Lease Law, and the Finance Companies Control Law were enacted in 2014.

The issue of Sharia compliance led to delays in registering loans due to issue of interest-bearing mortgages. The Iffragh principal was a work around vehicle to address the issue of compliance. This basically involves transferring the title to the lender's SPV and would be released upon full payment of the loan value.

The introduction of Vision 2030 on April 25<sup>th</sup>, 2016, added a significant momentum to the Housing program. The Housing Vision Realization Program under Saudi Vision 2030 sets a target to increase home ownership for citizens to 70% by 2030 and to raise the total mortgage loans to SAR502 billion by end-2020 from SAR290 billion, representing an increase of 73% from the mortgage book in 2017-18.

Several measures took place to speed up Financing and registration. In 2016, SAMA raised the Loan to Value ratio to 85% and instructed the banking community to apply this LTV to first time applicants. In 2017 SAMA cancelled the Iffragh principal and instructed banks to register security against real estate needs to be registered as a mortgage. SAMA also instructed banks to issue to notaries confirmation that a sharia compliant Murabaha structure was being used for the mortgages. SAMA further increased the LTV to 90%.

Working alongside the Ministry of Housing SAMA and REDF have developed a suite of incentives for first time applicants which are detailed in the next section.

In 2015 REDF was turned into a bank providing mortgages subsidies up to SAR500,000 based on a set of guidelines including term of the loan, family size, household income and value of the loan. In addition, a 5% guarantee is given to assist with the down payment.

In 2017 PIF launched the Saudi Refinance Company (SRC) to provide mortgage-backed securities to investors. The establishment of this secondary mortgage market has allowed the banks to expand their loan books and this increase has been steady since 2017 providing further bank financing for qualified applicants.

In general, access to financing has been honed over the past decade and will continue to grow and develop with the banks providing most of the financing.

## The Ministry of Housing and the Housing Program

The Ministry of Housing is a cabinet-level government ministry established in 2011 by a royal decree and responsible for the supervision of the housing program in the Kingdom. The Ministry is also responsible for stimulating the development of housing products and the supply of dwelling units for low-income housing. H.E Majid Al-Hogail was appointed Minister of Housing in 2015.



Since its establishment, the Ministry had an ambitious mandate of delivering 500,000 housing units that were promised to the Saudi population by the late King Abdullah bin Abdulaziz in 2011. The ministry faced several challenges. On the supply side, a major overhaul of the ministry of housing standards was desperately needed. The planning and design of the Townships stalled and decision making needed to be streamlined. The public sector had no interest in the Housing Industry as investments in other sectors of the economy were more profitable. The issue of the white lands weighed heavy on the engagement of the private sector. On the demand side, the waiting lists of eligible citizens grew significantly. With a very nascent and ineffective mortgage industry with a Loan-to-Value of 70% when coupled with an anemic growth in personal income, had the net effect of locking out a large proportion of citizens from homeownership.

Over the last decade, the Ministry has greatly evolved. The measures introduced by SAMA to enhance the regulatory framework and improve access to financing, starting with the real estate mortgage and financial laws which were introduced in 2012, and coupled with the white lands' Tax law, the ministry is exhibiting all the characteristics of being on an accelerated path towards meeting and exceeding its goals and those of Vision 2030 mandating a 70% homeownership by 2030.

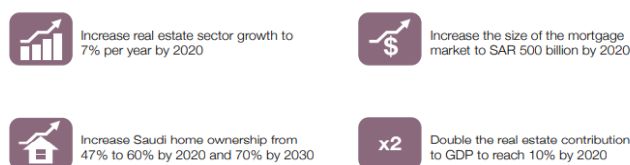


The Ministry has launched different programs to overcome the issue of housing in the country. Sakani (literally means my house) is one of the main programs that aim at providing citizens with housing products based on criteria set up by the Ministry. This program is detailed below.

Realizing that the engagement of the private sector is critical on the short and long term and in line with vision 2030 to grow the Housing Industry and have it contribute significantly to the GDP, the Ministry has engaged with the private sector through a PPP program called Sharakat (literally means partnerships). The program is detailed below.

In April 2021, the Sakani program launched new services on its application like electronic financing, approved contractors, and interactive maps.

The key government targets for 2020 in relation to the real estate sector and in line with the National Transformation Plan (NTP) are indicated in the adjacent pictogram. Additional and for clarity, the goal was to deliver 100,000 units and 90,000 plots achieving a target of 130,000 families living in their own homes. In actuality, and by the end of 2020, 365,000 families benefited from general MOH activities and 122,000 families were living in their own homes. The goals for 2021 are to deliver 50,000 new dwelling unit and 30,000 plots. Additionally, the goals for 2021 involve enabling 150,000 families to own their own home and 220,000 families to benefit from MOH activities. Since the start of 2021 to date, 66,651 families are living in their own home and 89,493 families have benefited from MOH activities.

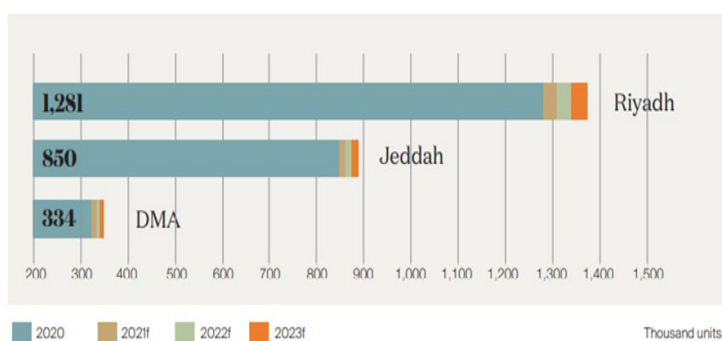


Source: Knight Frank Research, NTP, Ministry of Housing

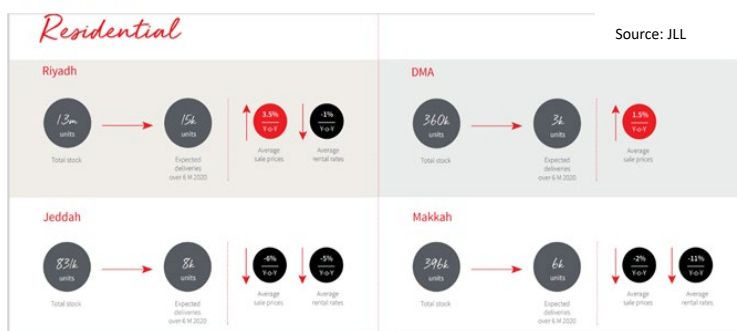
In 2015 the Ministry of Housing estimated that it would need 3.3m more housing units by 2025 to keep up with the Kingdom's growing population, which is set to increase at an annual rate of 2.5% to reach 37m by 2025, up from 31m in 2015.

The adjacent pictograms by Knight Frank and JLL show the current and future supply of residential units. If we are to believe that the requirement for 3.3 homes by 2025, then it is likely that by 2025 the shortfall might be as much as 300,000 units based on the current available data. This would require some major players to enter the residential market. One such major player is PIF's Roshn that is planning major residential communities on its landbank. We will discuss Roshn in more detail later.

Evolution of residential supply



Source: Knight Frank Research



Source: JLL

Saudi Arabia's real estate sector is a key and effective economic driver for the country's gross domestic product (GDP) and is connected to at least 120 industries. Vision 2030 calls for an increase in the value of mortgages to SAR502 billion by 2020 from SAR290 billion in 2017-2018. As of March 2021, the value of outstanding mortgages has jumped to 482bn riyals, a 66% increase since 2017. The mortgage market is currently about 10% of GDP.

### Ministry of Housing Programs and Initiatives

Following are some of the programs and initiatives that the MOH has set in motion to support the housing initiative and to achieve Vision 2030 goal of 70% home ownership:



**Mullak:** Enables owners to establish a homeowner’s association to maintain and manage shared spaces as well as the creation of a sustainable residential environment to reinforce a healthy, organized, and safe neighborhoods



**Itmam:** Facilitating the procedures required for real estate development work through a center of excellence providing an integrated digital platform to accelerate the processes of approvals, including approvals from stakeholders, and approvals for real estate development with stakeholders, as well as integrated consulting solutions



**Ejar:** Comprehensive and integrated website dedicated to organizing and managing the rental market in the Kingdom. Aims at preserving the rights of all parties and delivers solutions that help in the development, organization, and facilitation of the rental market



**Idle Lands:** White lands tax levied at 2.5% of land value annually. Proceeds used for Housing projects and infrastructure. Promotes additional lands reasonably priced for housing developments



**Developmental Housing:** Targeting most underprivileged citizens on social security programs and families of fallen heroes. A joint effort between the Awqaf and the Islamic Bank to provide suitable housing around the Kingdom



**Sustainable Building:** Provides an inspection service on behalf of the homeowner to determine the quality and safety of the construction activities of the allocated unit. Upon completion of the investigation and in the event the unit passes the requirements, the inspection team will issue a certificate of compliance



**The Saudi Real Estate Institute (SREI)** is an educational facility that provides courses and training in real estate science and aims at qualifying and providing professional certification



**Cooperative Housing:** Aims at organizing and empowering the cooperative unions’ sector related to Housing to participate in the delivery of low-income housing within the legal framework of cooperative housing



**VAT initiative for the first home:** The state will bear the VAT of the purchase price of the first dwelling to reduce the overall ownership cost (not to exceed 850,000SAR)



**Housing Data and Observatory Center:** A Trusted National Source for Housing Data, Indicators and Related Studies. Observe, present, and develop housing indicators targeting stakeholders to enable them to make appropriate decisions



**Wafi:** Issue licenses to carry out the sale of real estate units off-plan, and to issue registration certificates in the register of real estate developers for real estate development companies.

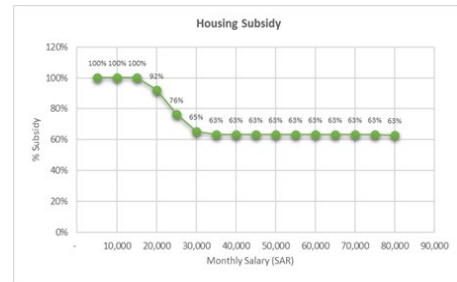
### Sakani Program

Sakani is a program provided by the Ministry of Housing and the Real Estate Development Fund (REDF) to allocate fully constructed and to be-built housing units and residential products across the Kingdom to eligible applicants. The Sakani program has the mandate to utilize the initiatives under Vision 2030, designed to improve access to finance, to ensure that the vision of realizing a 70% homeownership in 2030 is met.



The initiatives are as follows:

- Financial support for beneficiaries entitled to housing support:** Financial support targeted at beneficiaries to access funding through partnerships with the finance sector in the form of a grant of up to SAR500,000. The size of the subsidy is a complex function of the size of the requested mortgage, the mortgage term, the size of the family, and the monthly household income. The Sakani website includes a convenient calculator that shows the amount of subsidy when the aforementioned parameters are entered. As illustrating this four-dimensional function is not possible, we have elected to fix the mortgage amount at 316,000 SAR, the mortgage term at 25 years, and size of the family at 5 and leave only the monthly household income as the variable to illustrate the variable nature of the Subsidy for monthly household income between 15,000 SAR and 30,000 SAR
- Down payment subsidy program:** Financial support targeted at beneficiaries aged 45+ in the form of a 10% to 20% subsidy on their first housing repayment to a maximum of SAR140,000 depending on family income and size. This is given as a zero-interest loan repayable at the end of the funding period. Beneficiaries must be referred to the program, over 45 years of age, and on a salary less than SAR14,000.
- Lease-to-own financial support:** targeted support for applicants that do not qualify for home ownership in the form of subsidized lease instalments
- Housing support for military personnel on active duty:** Real Estate Loan to cover the first instalment of funding to a maximum SAR140,000 in the form of an interest-free loan
- Mortgage guarantees:** Provision of real estate funding guarantees to individuals not considered creditworthy due to banks' lending restrictions who would otherwise go to users and get financed at extremely high rates. This is normally accessed by entrepreneurs, private employees, people in remote areas and retirees
- Guarantee for off-plan sale and self-construction:** Guarantees to enable applicants access to funds for off-plan sale and for self-construction projects. Banks consider both options as being high risk and rarely offers funding
- Real Estate Development Fund certificates:** Issue certificates of equal value, representing common quotas in the ownership of Fund assets that already exist, or will exist out of subscription revenues. This will contribute to the liquidity necessary for the Fund to meet its obligations and achieve its investment objectives. It will also support the real estate funding market and the Saudi debt instruments market
- Program to support citizens:** Targeting citizens who have a standing eviction order and are unable to pay housing rent and making the payment on their behalf and list them on developmental programs to help them not to fall in distress again. Also targeting citizens who are unable to pay the instalments of housing real estate finance, in which an eviction order had been issued on the house and sell it to settle the debt of the financier and offer them rent support
- Cooperative program:** A joint program between the Ministry of Housing and the Ministry of Finance to facilitate housing loans for government employees. This is done by issuing official guarantees for bank loans granted to bankable applicants in the public sector.



- **Provide loans to improve uninhabitable homes:** Aimed at owners of homes that are not constructed of reinforced concrete in the form of financial support to help with home improvements to bring the property to reinforced concrete standards

### Public Private Partnership Program-Sharakat

In order to stimulate and diversify the supply of affordable housing, and in order to get the private sector to engage in the Housing industry as the private sector involvement, The Ministry of Housing has embarked on a PPP program known as “Shrakat” (literally means partnerships). Sharakat supports the private sector through many advantages and incentives that contribute to building a sustainable partnership through the exchange of resources, assets, and expertise to deliver housing at a reasonable price and quality based on approved specifications.



Sharakat’s long- term objectives are:

- Drive towards balancing the supply and demand in the residential market
- Ensure that urban developments are environmentally responsible and meets the citizens needs
- Enable Saudi citizens below 30 years of age to own their home
- Develop sector services and offer them competitively
- Create provisions for technology enabled homes to meet technology requirements of the future



Shrakat’s short-term objectives

- Provide a suitable ecosystem to act as a draw for local and international developers to assist in boosting the supply of affordable housing
- Incorporate urban planning best practices in the central procurement policy
- Support and assist the joint efforts in achieving a successful cooperation in the residential market



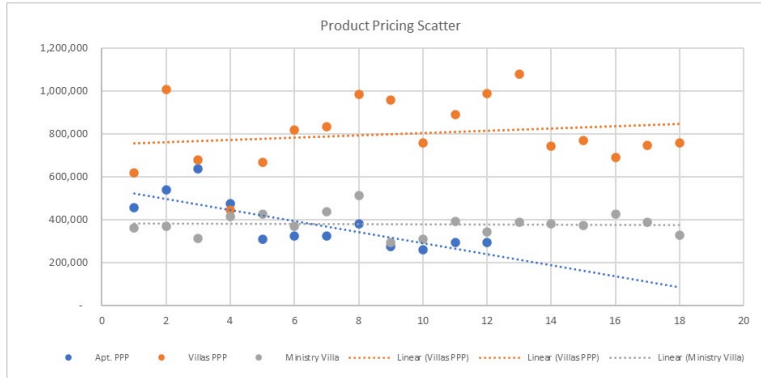
Shrakat offers many incentives and privileges to encourage developers through procedural requirements’ facilitation and creating flexible implementation mechanisms. Incentives designed to attract partners to the housing industry as offered by the Ministry of Housing are as follows:

- Subsidized land and / or free land based on the types of projects proposed by the developers
- Direct financing, matchmaking, and business support. Investors can expect funding of up to 75% of their capital requirements and six months of working capital equivalent. Loan repayments are made over five years (starting year three)
- Interest-free financing to qualified developers to support project initiation and construction
- Increase the FAR (floor area ratio) and land coverage resulting in denser developments with higher yield
- Support the developers in expediting approvals, permits and licenses
- The Ministry will organize the sale of residential units off-plan through a program known as “Wafi” to assist developers with their cash commitments
- Provide access to the SHS (Securities Holdings Statistics) database and customer service center

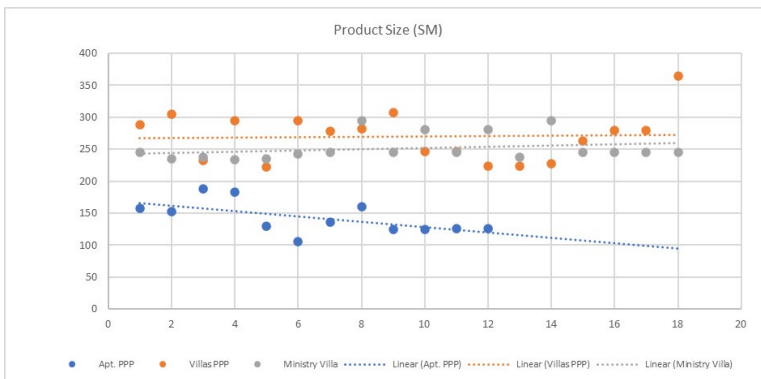


- Purchase of any unsold units on private land in accordance with stipulated terms and conditions

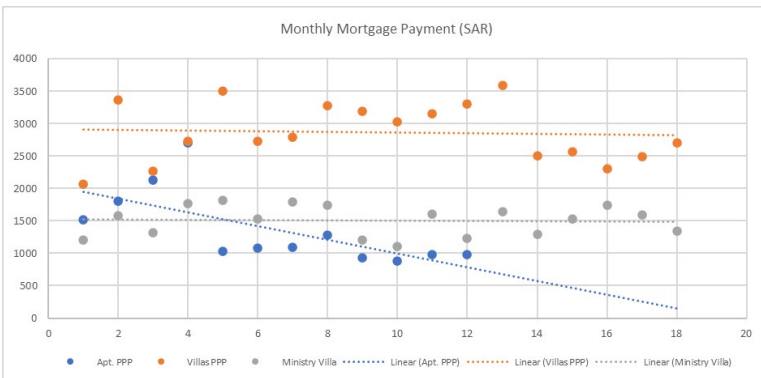
**Ministry of Housing statistics for all programs [www.housing.gov.sa](http://www.housing.gov.sa)**



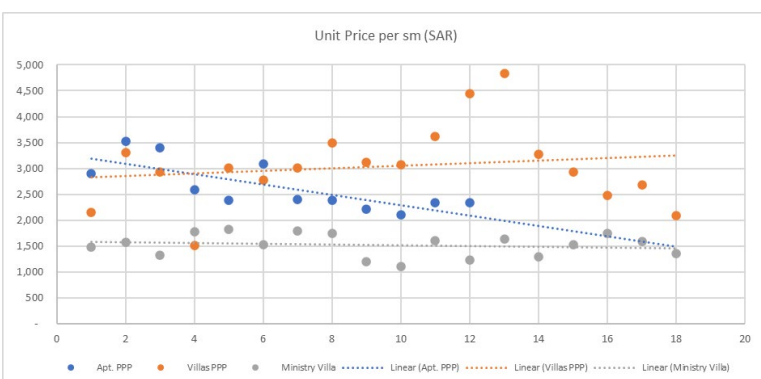
Unit price variation within a sample size of 18 Villas/ Townhouses and 12 Apartments buildings. Data segregated into Villas/ Townhouses by the Ministry and those done as a PPP with Private Sector.  
 Av. Villa/Townhouse: SAR834,700  
 Av. Ministry Villa: SAR 380,000  
 Av. Apartment: SAR393,750



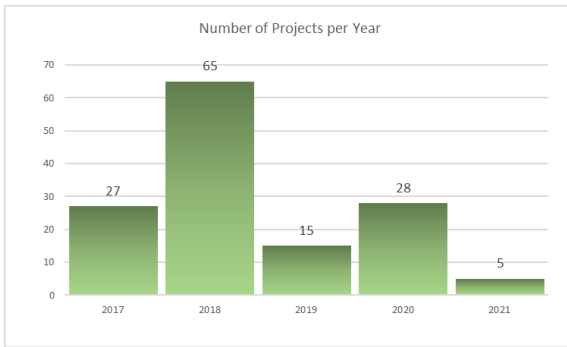
Product Size variation within a sample size of 18 Villas/ Townhouses and 12 Apartments buildings. Data segregated into Villas/ Townhouses by the Ministry and those done as a PPP with Private Sector.  
 Av. Villa/Townhouse: 270 sm  
 Av. Ministry Villa: 252 sm  
 Apartment: 143 sm



Monthly Mortgage Payment variation within a sample size of 18 Villas/ Townhouses and 12 Apartments buildings. Data segregated into Villas/ Townhouses by the Ministry and those done as a PPP with Private Sector.  
 Av. Villa/Townhouse: SAR2,863  
 Av. Ministry Villa: SAR1,503  
 Av. Apartment: SAR1,366

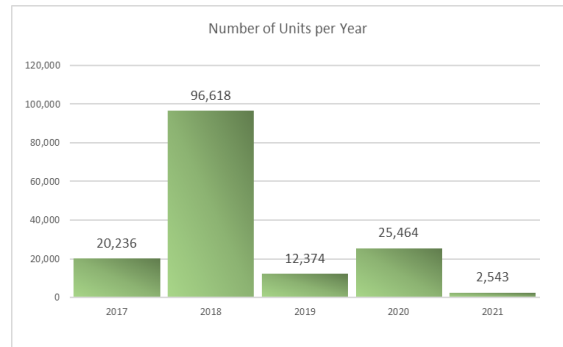


Unit Price SAR/sm variation within a sample size of 18 Villas/ Townhouses and 12 Apartments buildings. Data segregated into Villas/ Townhouses by the Ministry and those done as a PPP with Private Sector.  
 Av. Villa/Townhouse: 3,040SAR/sm  
 Av. Ministry Villa: 1,519SAR/sm  
 Av. Apartment: 2,640SAR/sm



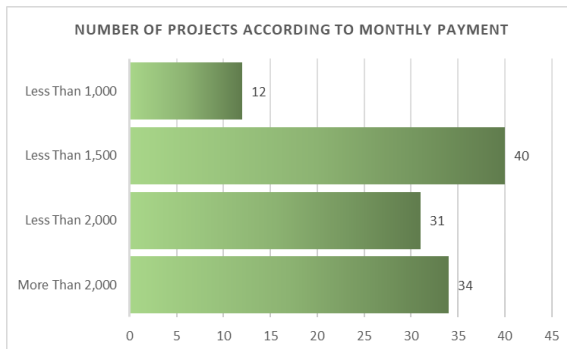
The histogram indicates the number of projects by the Ministry to include all PPP projects with the private sector. 2018 shows a significant number of projects in play. Values for 2021 are partial based on projects to date.

For estimating purposes, using about 25 projects per year is reasonable with 2018 considered a distorter

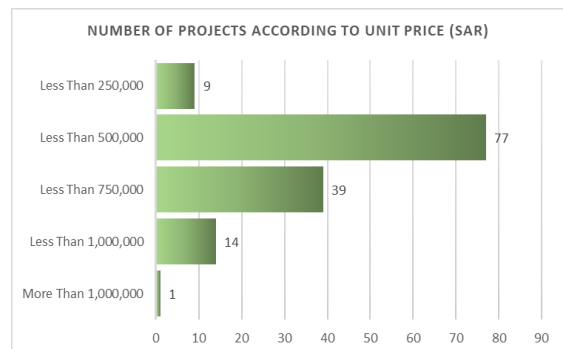


The histogram indicates the number of new units by the Ministry to include all PPP projects with the private sector. 2018 shows a significant number of units delivered after relaxation of rules and regulations. Values for 2021 are partial based on projects to date.

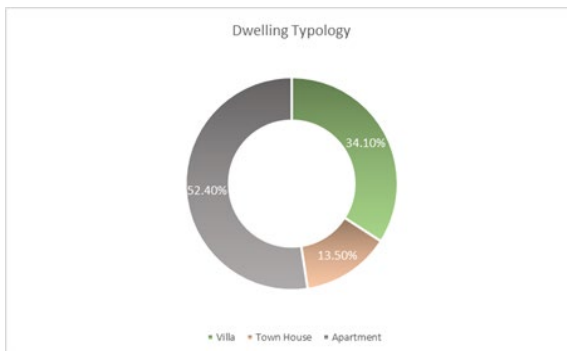
For estimating purposes, using about 20,000 units per year is reasonable with 2018 considered a distorter



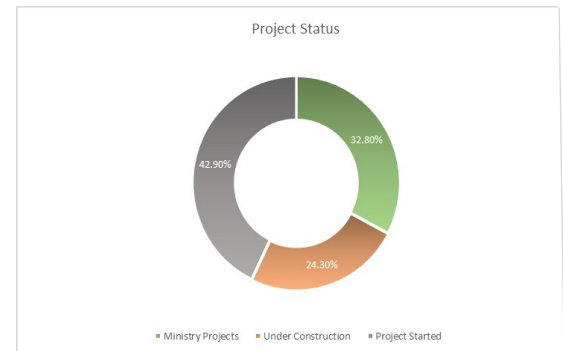
The histogram indicates the number of projects grouped by value of monthly payment for units by the Ministry and to include all PPP projects with the private sector. Many projects appear to be with less than 1,500 SAR monthly payment. It also shows that there are projects that offer a wide spectrum of payments for the citizen to choose from.



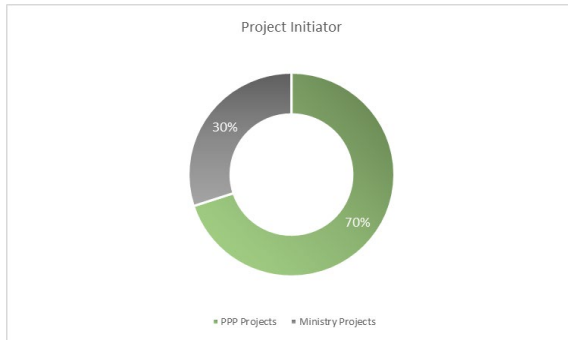
The histogram indicates the number of new projects grouped according to unit price. The grouping is more of a range. For example, there are 77 projects whose unit price is between 500,000 and 250,000 SAR. This involves projects by the Ministry to include all PPP projects with the private sector. A significant number of projects fall within the 250,000 to 500,000 SAR unit price



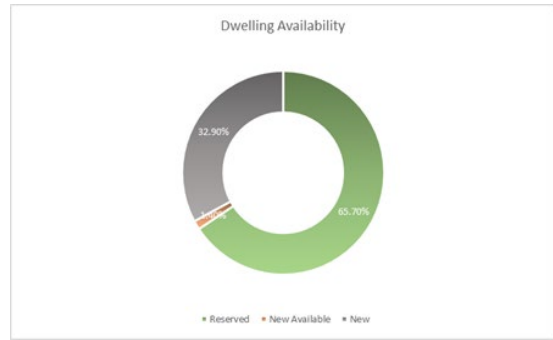
This pie chart indicates the percentage of projects by type to include all PPP projects with the private sector. A significant amount of apartments are planned or under construction which shows and demonstrates a shift from Villas to more economical dwelling typology.



This pie chart indicates that about 56% of the projects have either started or are under construction. The Ministry still has a significant number of projects of about 42%.



This pie chart demonstrates the extent of the private sector involvement with the Ministry of housing and is a good indicator that the Ministry realizes that if the goals of Vision 2030 are to be met then there needs to be a heavy involvement by the private sector. This is indeed evident with 70% of the current projects being done as a PPP with the private sector.



This pie chart indicates that 65.7% of the available dwellings have been reserved. 32.9% of the dwellings are in new projects but not available to be reserved yet. 1.4% are new and available.

## Planning Principals for Community Development

### Overview

Riyadh has hundreds of square kilometers of housing, but very few neighborhoods. As a result, such developments tend to be islands of development with poor connectivity and a lack of community features. The scale of the planned developments would present a wonderful opportunity to achieve sustainable Suburbia. To achieve the sustainability of suburbia, it is critical that “placemaking” be a major consideration. In the process of planning and it is most appropriate to use the traditional planning principles of a compact town: pedestrian character of space, local services, diversity of uses, small shops and services at a walking distance from residence, low-rise structures which interact with the environment, district center with a strong genius loci and good designed public spaces for establishing social contact. Efficient usage of land and infrastructure is achieved through moderate density values and development of public transport. Synergic action of all these elements of urban design is necessary for sustainable suburban neighborhoods.

In this context, placemaking is a critical ingredient, which, if done right, has the potential to transform the way people live, work, and play in the kingdom. This provides an opportunity for Saudi institutional property developers and operators to focus on developing integrated communities targeting millennials and unlock success for Saudi real estate.

The incorporation of such amenities with the context of community development will enhance the value of the built environment and will generate a revenue stream that would defray the additional costs of placemaking. This is consistent with the younger population of the Kingdom and their developing taste for global trends.



Digital City and the Diplomatic Quarters are successful examples of Community developments. Roshn's community development in Riyadh pays homage to the principals of placemaking and the new lifestyle that the younger population will be looking for.

### Planning Principals (Hall, 2014)

Until the mid-20th century, cities were generally organized into and developed around mixed-use walkable neighborhoods. For most of human history this meant a city that was entirely walkable, although with the development of mass transit the reach of the city extended outward along transit lines, allowing for the growth of new pedestrian communities such as streetcar suburbs. But with the advent of cheap automobiles and favorable government policies, attention began to shift away from cities and towards ways of growth more focused on the needs of the car.



Specifically, after World War II, urban planning largely centered around the use of municipal zoning ordinances to segregate residential from commercial and industrial development and focused on the construction of low-density single-family detached houses as the preferred housing format for the growing middle class. The physical separation of where people live from where they work, shop, and frequently spend their recreational time, together with low housing density, which often drastically reduced population density relative to historical norms, made automobiles indispensable for practical transportation and contributed to the emergence of a culture of automobile dependency.

This new system of development, with its rigorous separation of uses, became known as "conventional suburban development" or pejoratively as urban sprawl. As awareness grew towards the creation of sustainable and smart cities and a more responsible attitude towards our environment and preservation of our natural resources, the modernist planning techniques were being questioned. Calls for planners to reconsider the single-family housing projects, large car-dependent thoroughfares, and segregated commercial centers that had become the "norm."

New Urbanism promotes environmentally friendly habits by creating walkable neighborhoods containing a wide range of housing and job types. The Canons of New Urbanism are a set of operating principles for human settlement that re-establish the relationship between the art of building, the making of community, and the conservation of our natural world promoting the use of passive energy sources, the use of locally obtained materials, and in general, a "culture of permanence" based on the following principals:

- Neighborhoods should be diverse in use and population
- Communities should be designed for the pedestrian and transit as well as the car
- Cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions
- Urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice
- Regional planning for open space
- Adequate provision of infrastructure such as sporting facilities, libraries, and community centers. A balanced development of jobs and housing



The masterplan should address the complex issues that affect our towns, cities, districts and neighborhoods. Critical to the masterplan is a vision and concept, followed by a strategic framework, setting out the baseline physical, economic, social, and political context. It must capture the imagination of stakeholders and the wider public and realize their aspirations for a thriving, attractive, accessible, and people-friendly environment. It must also be the catalyst for attracting funding and inward investment. High quality and sustainable development, long term economic viability and the protection of the environment are central.



Undertaking the development of mega residential projects requires the understanding that such projects will have a great impact on the social fabric of the nation. It needs to satisfy their physical, commercial as well as their spiritual needs. It must inspire the inhabitants and create a sense of pride in their surroundings. It must also be a vehicle for economic growth through the creation of investment opportunities. It needs to be a holistic, responsible approach to building sustainable, smart environments for the 21<sup>st</sup> century Saudi Arabia.



An effective master plan describes and illustrates the proposed urban form in three dimensions, explains the method of developing a site and illustrates what delivery strategy to use to implement the project. Typically, a master plan addresses transportation and traffic, community facilities, neighborhoods and housing, parks and open space, land use and economic development.

A master plan is used in building any municipality, from small villages to large metropolises. Generally, it is required for large-scale changes, such as housing developments, town and city centers, regeneration projects and town extensions. It is also important in places where certain environmental assets need protection. Master plans are typically commissioned by landowners, house builders, developers, local authorities, and regeneration agencies. Once a master plan is adopted, the next phase is implementation. This phase relies heavily on government authority. Most plans include an action agenda that outlines the necessary short-term and medium-term actions to implement the plan.



### City Structure Models (Hall, 2014)

Every city provides an array of service, residential, and industrial functions. How these services are arranged in relationship to one another is what we call the urban structure, or the land use structure.

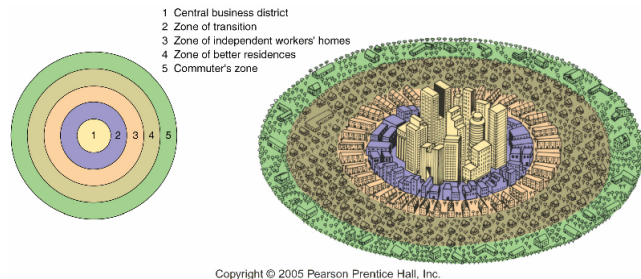
There are three modern models used to describe these structures, which were based on observations of the North American city, as well as some additional models that help explain unique situations and antiquity. However, it is important to note that not every city falls into one of these models. These models attempt to explain larger organizational trends of people/services seen in existing cities. They do not dictate ultimate city form. In other words, you could not use these models to decide whether or not your street patterns are gridded or irregular, you could not use it to decide whether or not your city is planned, circular, square, or organic in form. You could design a grid city that fits any of these models for example! City form is only influenced, not dictated, by the urban structure.

Therefore, we can conclude that an urban structure model is more theory on the special relationships of goods, services, and people need and have to have in a city, and the city form is your physical implementation of these ideas.

A city core is the area of the city where the flow of people, culture, goods, services, information, etc. is most concentrated. Often times it is considered the center of business. Cost of living is the highest here, as is the magnitude of activity. Today we may refer to this as the 'down-town', or the 'hub' or the 'heart'. Cities can have one core or several, depending on many different factors.

### Concentric Zones

In this first model, the city is organized in a series of rings emitting concentrically outwards from the Core. The core of the city makes up the entire first ring, followed by (2) a ring of industry & factories, (3) a zone of transition intermixing working class housing & industry, (4) working-class residences, (4) middle-class residences, and (5) the commuter zone. When applied generally, you can see this either in play or in the past in many American and European cities.

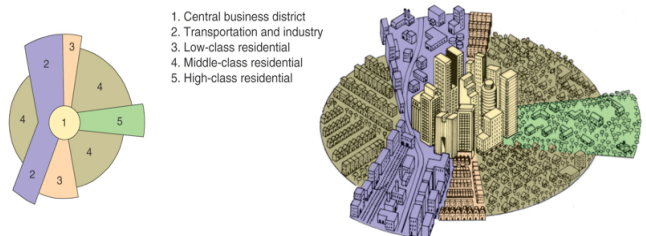


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In real-time practice, these zones would encroach somewhat on each other, and would need to respond to any cultural influences and demands made by the terrain. As with all models, it needs a reasonable transportation network (good roads, trains, etc.). However, in a Concentric Zone Model, most often the transit system is expensive, and use is thus limited to the wealthy.

### Districts/Sectors with a Central Hub

This model also has a single core, with social groups and industries arranged around it in a series of sectors or districts that are more defined by their relationship to major transit lines. In a way, this is just an evolution of the concentric model—where, as a more complex and affordable transit network emerges, the city responds.

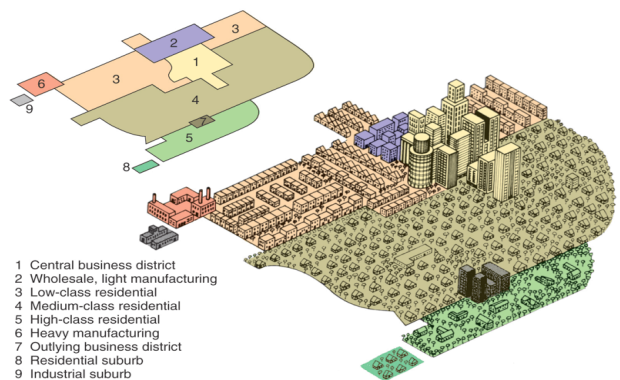


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City form follows transit lines. Also, higher income neighborhoods tend to follow higher ground, extending along non-industry river fronts, along transit lines as well, and usually towards open country. This model also acknowledges that there are high-income residents interested in living close to the core.

### Districts/Sectors with Multiple Nuclei

This model states that cities are composed of several cores—religious cores, industrial cores, business cores, cultural cores, etc., Around each of these cores conglomerate related services. For example, a university core may attract well-educated residents, pizzerias, and bookstores, whereas an airport may attract hotels, low-income residences, and warehouses. Incompatible activities will avoid clustering in the same area.



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This obvious acknowledges that different functions require different amenities. But it also that a city requires a really strong transit infrastructure. This is most likely a system to exist on a large scale where cars or some other forms of rapid transit are in place.

### **Industrial Urbanism** [www.Industrialurbanism.com](http://www.Industrialurbanism.com)

Since the Industrial Revolution, cities and industry have evolved together: from Manchester, England, to Rochester, New York, company towns and entire metropolitan regions have grown around factories and expanding industries. Despite this shared past, popular notions of manufacturing tend to highlight industry's negative aspects: pollution, environmental degradation, and the exploitation of labor caused by expanding industry, on the one hand; and blight, abandonment, and “shrinkage” resulting from the more recent decline of manufacturing in cities in the developed world, on the other. Industrial Urbanism moves the conversation beyond the negative, exploring the relationship between current urban planning practices and the places where goods are made today. In a time of dramatic shifts in the manufacturing sector from mass production to small-scale distributed factories; from polluting and consumptive production to a clean and sustainable process; from a demand of unskilled labor to a growing need for a more educated and specialized workforce cities will see new investment and increased employment opportunities. Yet, to reap these benefits will require a shift in our thinking about manufacturing.



In the quest to makes cities competitive and resilient, we should ask: What are the contemporary relationships between city and industry? What might future relationships between city and industry look like? What physical planning and design strategies should cities pursue to retain, attract, and increase manufacturing activity? These questions point to the limitations of the current planning and architectural paradigm in addressing manufacturing, and the need to conceptualize new planning strategies that would respond to and help cities adapt to current trends in manufacturing. Spatial adaptation to manufacturing is required at the regional, city and local scales, in both existing and new settings, and considering, not merely the physicality of space, but also its social and political characteristics.

This is not a simple task. In a society widely perceived as “post-industrial,” it is essential to educate the public about manufacturing processes. A deeper awareness – a true consciousness-raising – is necessary if we are to dispel lingering misconceptions that portray industry as always unsafe and polluting and instead, present manufacturing as an appropriate and even desirable activity within the city. When industrial processes were most noxious, factories moved out of the city and into windowless, suburban boxes. The animosity was mutual: manufacturers were as content to shut the public out as the public was to banish them from their downtowns. This attitude must be altered if industry is to be welcomed back, to resume its role as a good (and productive) urban citizen. Manufacturers who take pride in their work will encourage the public to share in their fulfillment. It is about redefining the role of industry in our urban areas, making it an integral part of our cities. All production requires producers, all work involves workers, and new models for industry will call for and be called for by a new generation of industrial labor. As we take account of the emerging new modes of production and call for changes in the ways we plan and design our cities, we must also support the “makers” of this coming generation.

### **Bedroom Communities** (*Wikipedia*)

A commuter town may also be known as an exurb (short for "extra-urban"), or a “bedroom community”. Suburbs and commuter towns often coincide, but not always. Similar to college town and mill town, the term *commuter town* describes the municipality's predominant economic function. A suburb, in contrast, is a community of lesser size, density, political power, and/or commerce comparative to a nearby community that is usually of greater economic importance. A town's



economic function may change, for example when improved transport brings commuters to industrial suburbs or railway towns in search of suburban living.

As a general rule, suburbs are developed in areas adjacent to a main employment center, such as a town or a city, but may or may not have many jobs locally, whereas bedroom communities have few local businesses, and most residents who have jobs commute to employment centers some distance away. Commuter towns may be in rural or semi-rural areas, with a ring of green space separating them from the larger city or town. Where urban sprawl and conurbation have erased clear lines among towns and cities in large metropolitan areas, this is not the case.

Commuter towns can arise for a number of different reasons:

- A town loses its main source of employment, leaving its residents to seek work elsewhere.
- A pleasant small town, over time attracts more residents but not large businesses to employ them, requiring denizens to commute to employment centers.
- The rapid development of the transportation systems
- Commuter towns form when workers in a region cannot afford to live where they work and must seek residency in another location with a lower cost of living



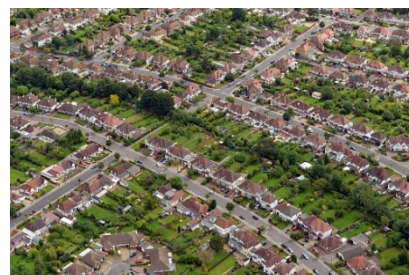
Some architects, environmentalists, and urban planners consider exurbs to be manifestations of poor or distorted planning. Comparatively low-density towns, often featuring large lots and large homes, create heavy motor vehicle dependency.

"They begin as embryonic subdivisions of a few hundred homes at the far edge of beyond, surrounded by scrub. Then, they grow – first gradually, but soon with explosive force – attracting stores, creating jobs, and struggling to keep pace with the need for more schools, more roads, more everything. And eventually, when no more land is available and home prices have skyrocketed, the whole cycle starts again, another 15 minutes down the turnpike."

Mono-functionality of suburbia and strict segregation of uses lead to adverse development models. Vitality of suburban neighborhoods requires diversity of uses, which is the first but not the only condition of their sustainable development. Experiences around the world show that the mere increase in density of central facilities is not a measure sufficient to create *genius loci*, or a distinctive character/ spirit of the place. The problem of implementing central content is much more complex, and involves urban economy, sociological aspect and especially, the issue of urban design. When it comes to allocation of uses, in cases of sprawling settlements it is evident that isolated residential zones are not a good solution. Therefore, the implementation of mixed-use development in suburban zones seems to be the best development model, with carefully balanced mixture of central functions and housing as the principal use. Retail, shaped as small local shops within walking distance from housing, must be encouraged in suburbia, for it generates everyday visits and ensures vitality.



Establishing a proper value of urban density parameter in suburban areas is especially important. Low population density at the periphery considerably increases the cost of construction and makes public transport impossible. High suburban densities are not economically justified. Therefore, moderate density values are recommended in suburbia, which create a critical mass of people in the street, increase safety and enable the creation of the *genius loci*. Low densities do not support the implementation of mixed-use development, but high densities alone are not



sufficient to provide vitality. Furthermore, for a suburban settlement it is essential to create an attractive and picturesque neighbourhood center with mixed uses, in a space of human proportions, which is well-integrated into the surroundings via pedestrian and car links. The use of public spaces (street, square, park) is preferred, which should be attractive pedestrian-oriented focal points integrated into the network of pedestrian paths. Residents of suburbia must have a place for establishing social contacts outside their home. The presence of public spaces also contributes to the safety of the environment.

Traffic design favouring mixed-use development requires public transport and a grid network with street scenery which allows walking. Establishment of public transportation lines to the suburban districts is necessary. Pedestrian trails, especially towards the neighbourhood center, are multiply useful as they interconnect public spaces, encourage social contacts and contribute to a healthy way of life.

To achieve the sustainability of suburbia, in the process of planning it, it is most appropriate to use the traditional planning principles of a compact town: pedestrian character of space, local services, diversity of uses, small shops and services at a walking distance from residence, low-rise structures which interact with the environment, district center with a strong genius loci and good designed public spaces for establishing social contact. Efficient usage of land and infrastructure is achieved through moderate density values and development of public transport. Synergic action of all these elements of urban design is necessary for sustainable suburban neighborhoods, which will be more than a “bedroom community” .

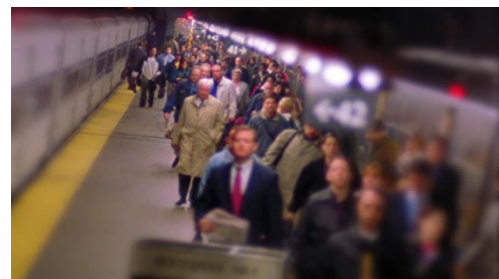


## A Modular Approach to the Kingdom’s community development of Affordable Housing

### The Concept

The nature of community development projects, by virtue of their size, are of National importance. They need to contribute positively to the overall planning framework of the Kingdom and to the overall vision of 2030. It is therefore critical that those plots be looked at within the context of their surroundings and be developed to provide resilient and sustainable communities that contribute positively to the overall economy.

The development typology of those plots is greatly influenced by their proximity to the centers of Urbanization or, sources of employment. The closer they are to the sources of employment, the easier it will be to attract people to settle there. The transportation network is essentially the umbilical cord that sustains mobility to and from the source of employment. However even with a well-developed transportation system, travel time needs to be reasonable. A 30-minute trip is considered the maximum travel time that would keep such communities desirable for commuters to the centers of urbanization. Previously, we discussed at length the necessary ingredients to create a resilient and sustainable community. The emphasis was on proper planning principals. Those commuter communities (bedroom communities) will need to be enhanced using the Modern Principals of planning to create communities that have a critical mass to support facilities (retail, F&B, entertainment, civic etc..) and henceforth create an environment that is conducive for a sustainable habitation while maintaining a commutable journey to the workplace.



Plots that are either remote or have poor connectivity to the centers of urbanization (distance, type, mode) will be introverted communities that would require an economic engine to create jobs and maintain a workforce to service their respective industry. We discussed the principals of Industrial Urbanization and the creation of a city built for purpose. In this instance, the needs of the industry, that is the economic engine, will dictate the size, location and to some extent, city typology. The planning principals of the commuter communities discussed above are subsets of planning principals for cities built for purpose (energy, manufacturing, automotive, etc.). However, the creation of such cities requires significant lead time to establish the proper businesses that will need proper enticements to establish presence in those areas. The success or failure of those urban centers will depend on the success of the policy of creating a good business environment for the economic drivers. Plot size becomes an important attribute as smaller plots might not be able to support the needs of the industry.



The classification of the land bank's plots will need to be done carefully, with due regard to proximity to centers of urbanization and a good knowledge of the planned transportation infrastructure of the Kingdom.

In developing the commuter communities, a specific planning module needs to be identified. This is the minimum size community that can satisfy the urban principals we discussed, creating sufficient footfall to sustain commercial civic and entertainment venues that must be accommodated within the community. As mentioned above, the derivation of this module will also hold true for the purpose-built cities as it will also be used to develop the communities/districts within the city.

It is important to keep in mind that should a development be sanctioned as being economically viable, the number of the dwellings and the supporting social and physical infrastructure will be dictated by the business case. So, in other words, the phasing of a development might contain several modules that form the first phase or other subsequent phases. Evaluating the business case and recommending the phasing scenarios is best done by a management consultancy .

### The planning module:

As discussed earlier, the planning module is the minimum size community that can sustain itself within the general planning guidelines (physical, economic, and spiritual). The facilities that would be required to compliment the housing units are:

- Retail
- Healthcare
- Education
- F&B outlets
- Public Safety (Police, Fire Brigade etc.)
- Public domain (parks, pedestrian trails, playgrounds)
- Internal transportation network
- Utilities



We will assume for now that the utilities under consideration are those within the module boundaries. Source utilities will be discussed later.

- **Dwellings:** We believe that the minimum community/module is 5,000 people. Based on the current standards for dwelling size of 175sm and a household size of 4 the total number of dwellings is 1200 units. We have assumed that 2/3 of the total units are flats in low rise buildings with 4 apartments per floor.



The remaining 1/3 are distributed 75-25% row-house and villas, respectively. The total built up area is 313,082 sm. And total land needed is 354,571 sm. The estimated construction cost is 882,554,950 SAR. We have also assumed that all parking is subterranean

- **Retail:** We have assumed 4.2 sm of retail for each resident to include retail and F&B. We have also allowed for parking at 1 car per 23 sm of retail
- **Healthcare:** We have assumed 5 beds per 1000 residents. This is a clinic type facility
- **Education:** We have assumed 4.55 sm/ student. We have allowed for four classes per grade as well as all sports and recreational facilities.
- **F&B outlets:** Included in Retail above
- **Internal transportation and ROW:** We have used a factor 30% of Dwellings land area
- **Parks, playgrounds, and public Plazas:** We have used a factor 15% of Dwellings land area
- **Utilities:** We have allowed for 200 SAR per square meter of site area



The following table summarizes our findings and would serve as input for further analysis by the management consultant and a master planner when preparing the business case. The approximate land coverage for 5000 residents is 354,571 sm. The cost of construction of the dwelling units ranges from 1,900-2,400 SAR/sm. If we load the cost of the utilities within the site and all other amenities' cost the burdened cost will reach about 3,660 SAR/sm of dwelling area. How much of those costs can be loaded onto the cost of the dwellings knowing that several of those amenities are income generating needs to be determined in the business case in accordance with an overall development strategy.

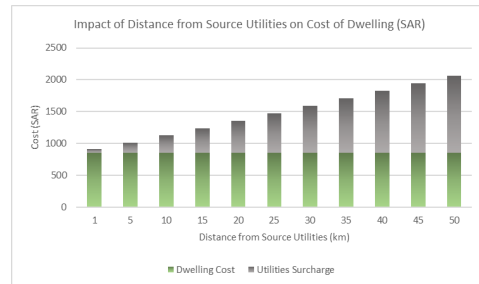
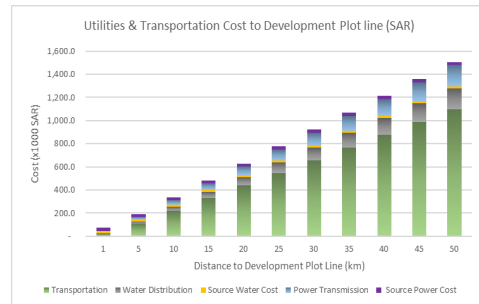
Module Component	Guideline	Unit	Nos.	Unit	Nos. Details (Units)	Total Gross Built Up Area (m <sup>2</sup> )	F&R	Building Footprint (m <sup>2</sup> )	No. of Floors	Built up area/plot (m <sup>2</sup> )	Plot area (m <sup>2</sup> )	Building Coverage (%)	Total Plot Area (m <sup>2</sup> )	Cost/\$M (SAR)	Total Cost	Grand Total
Population/ Residents					5000Residents											
Dwellings		4Resident/ Unit			1250Units											
Residential Density (Type 1) Apartments (2/3)		143m <sup>2</sup> /unit				833	144,144	2.25	696	3	2,088	928	75	64,960	1,900	273,873,800
Residential Density (Type 2) Row houses (1.0x/75%)		220m <sup>2</sup> /unit				313	68,880	1.25	140	2	220	224	62.5	70,112	2,400	165,264,000
Residential Density (Type 3) single-family detached houses (1.3x/25%)		270m <sup>2</sup> /unit				104	28,080	1.0	180	2	270	540	50	56,160	2,400	67,392,000
Parking for Residential		40m <sup>2</sup> /car			1620Lot		64,815							1,500	97,222,500	
<b>Total Dwellings Total</b>					<b>1250</b>		<b>241,084</b>						<b>191,232</b>			<b>603,752,100</b>
Retail		4.2m <sup>2</sup> /capita					21,000		10,500	2	21,000			2,500	52,500,000	
Parking for Retail		40m <sup>2</sup> /23 m <sup>2</sup>					36,522		9,130	4	18,261		18,261	800	29,217,390	
Healthcare (KSA 2.2 WHO)		5bed/ 1000 Resident			54.5m <sup>2</sup>	25	1,383	0.5	681	2	1,383		50	1,383	8,000	10,900,000
Education: Primary School		4.55m <sup>2</sup> /student			1250Student		5,688		2,844	2	6,288		25,150	4,000	22,750,000	
Education: Secondary School		5.94m <sup>2</sup> /student			1250Student		7,425		3,713	2	8,225		32,900	4,000	29,700,000	
Public Space: Asphalt and Hardscaped Streets		30%											57,110	650	37,121,780	
Public Space: Parks and Landscaped Plazas		15%											28,555	900	25,699,500	
Utilities													354,571	200	70,914,200	
<b>Support Facilities Total</b>							<b>71,998</b>						<b>163,339</b>			<b>278,802,850</b>
<b>Module Total</b>					<b>5000Residents</b>		<b>313,082</b>						<b>354,571</b>			<b>882,554,950</b>

We believe that although each module of 1200 homes can create a sustainable community, we however, would recommend about 4 modules to be built to attain the critical mass required. If four modules, or 4,800 homes, are selected either to cover the entire plot or perhaps part of a larger plot, then the cost for development will be 882,554,950 x 4 = 3,530,219,800 SAR and would consume about 1.4 million sm of land.

## Source Utilities:

Developers normally negotiate a deal for the provision of source utilities and transportation infrastructure to the proposed development plots if such capacity is not available or not aligned with the development schedule. Those source utilities are extremely difficult to estimate without knowledge of the plot coordinates. So, while the capacity cost per unit for power/ water/ sewage can be estimated however transmission to the site is dependent on the location of the site. Cost of transportation systems to the plot line is impossible to determine without an understanding of the plot location and its context.

The strategy for building source Utilities needs to be carefully considered. The capacity of say a power plant can be built economically within certain capacity limits. So, the modular approach suggested for phasing the project needs to take that into consideration. Extra capacity might be built into the power plant for subsequent phases and could be sold to the grid until such a time as it is needed to feed the next phases of the project.



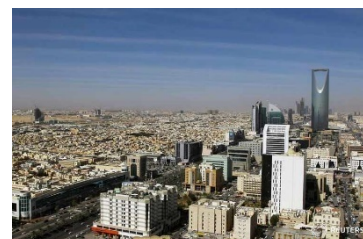
We have made the following assumptions:

- Power
  - 4.8 MW/1200 dwellings and support facilities
  - Generation cost: 2.8-5.5 million SAR/MW for 1.39-4.8 MW plant
  - Transmission cost: 3.75 million SAR/KM
- Transportation
  - 3.65 million SAR/lane/KM
- Water
  - 0.3 cubic meters/day/person
  - Production plant cost 12,300-6,336 SAR/cubic meter/day
  - Transportation use 3.75 million SAR/KM

## Development Considerations

Although the Ministry, partners and other major developers might have within their landbank a diversified portfolio of land, we recommend that the prioritization of the sites be done in a way that promotes Commuter communities on sites that are closest to the centers of urbanization.

Based on our research of housing initiatives around the world, we would recommend that the Ministry considers other forms of tenancies (other than home ownership) that would provide diversity of offering, assist first time home buyers build up equity and provide leverage for potential future financing needs to service multiple sites. Those short-term lease, long term lease, perpetual lease, lease to own or modified mortgage plans are best discussed with a management consult.



Finally, given the size of the developments that fall under community development typology, the impact of such developments will involve many other considerations and it is imperative that for such

developments partners are sought as either primary partners or third-party developers. Such partnerships are critical for the success of large urban developments, and it is encouraging to see that on several of the Giga projects now underway in KSA, partners are being brought in to ensure a successful outcome.

## Roshn Developing Communities around the Kingdom

In 2017 then the Communities Development Company (CDC), a PIF company, initiated the studies into the development of large-scale communities around the Kingdom. The focus was on Riyadh and master planning exercises were conducted with the goal of developing sustainable communities that while celebrating the heritage of Saudi Arabia, offers modern accommodations to cater to the taste of the young population that is increasingly looking towards a global lifestyle.



The move into the residential market by PIF seeks to enable the goals of Vision 2030 to increase the rate of home ownership to 70% by 2030 with cascading benefits to the general economy and to contribute significantly to the GDP. Supporting the Ministry of Housing's efforts to meet its target of 3.3 million homes by 2025, and in line with the Ministry's strategy of engaging with the public sector and gradually taking up the role of the regulator, PIF has set parameters to enable it to develop affordable housing and complement the activities of the Ministry. However, the intent was clear from the outset that such developments were about placemaking and creating communities where people can work, live, and play. A holistic modern lifestyle.



Roshn was launched in August of 2020 by the Public Investment Fund (PIF) to assume the mandate of CDC. Roshn's mandate is to develop large-scale modern and integrated communities in nine cities across four regions in the country (Riyadh, Jeddah, Asir, and the Eastern Region). The communities will advance the nation's construction and infrastructure sectors through strategic partnerships with local organizations, knowledge-transfer with world-leading entities, and the sourcing of local building materials.



Roshn aims to play an integral role in the delivery of PIF's Saudi Real Estate and Infrastructure Development Investment Strategy while acting as an important catalyst for economic diversification. The communities will also make notable contributions to the GDP of Saudi Arabia and lead to significant job creation for Saudi nationals.

The flagship of Roshn's community development is the Riyadh community. Conveniently located close to the capital's main attractions, key highways, and transportation links, with mosques, shops, cafes, parks, schools, and leisure and entertainment facilities. Spread across 20 million square meters of land and with the capacity to accommodate about 30,000 homes. The architectural design of the community has been carefully considered to reflect the best of modern living whilst celebrating Saudi Arabia's rich culture and heritage. The communities will provide homes to meet the needs of all Saudis offering modern living within a traditional setting.



The diverse portfolio of revenue streams within such developments means that many investors are attracted to the diversity of risk. Mixed-use developments present a great option, and in many ways represent the future of the community, not just in the kingdom, but for other major cities around the world.



The first phase of the Riyadh Community Development will include 4,000 homes , the related amenities and enabling infrastructure. Roshn has already awarded Shapoorji Pallonji and Siemens LTD SAR 1.9 billion a contract for 3000 homes and the detailed engineering, procurement, and construction of all associated underground cabling totaling 26 Kilometers. In addition, Roshn has awarded work on part of the 4000 unit included in Phase 1 of the development to Rezaik Abdullah al Gedrawy in the value of SAR 1.6 billion. Total value of contracts awarded SAR3.5 billion.



## Conclusions

The housing initiative in the Kingdom exhibits all the positive attributes of a developing Housing market as defined in my earlier paper “The Affordable Housing Challenge” of June 10, 2021, published June 13<sup>th</sup> on LinkedIn. Following are the positive indications that the strategy and related policies are driving a once ailing housing market towards a mature model.



The housing market had serious issues that were hindering progress towards home ownership

- Mortgage law and the associated legal framework
- Availability of land for development
- Lack of interest by the private sector
- Ministry of Housing playing the role of the developer supplier of housing
- Lacklustre quality of the housing product that was more about one size fits all approach with little regard for placemaking and the creation of neighbourhoods that the young population is yearning for
- Long waiting lists of qualified recipients that extended for years



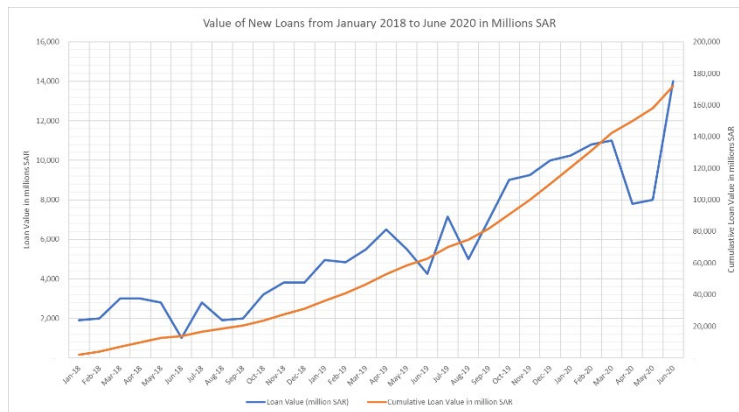
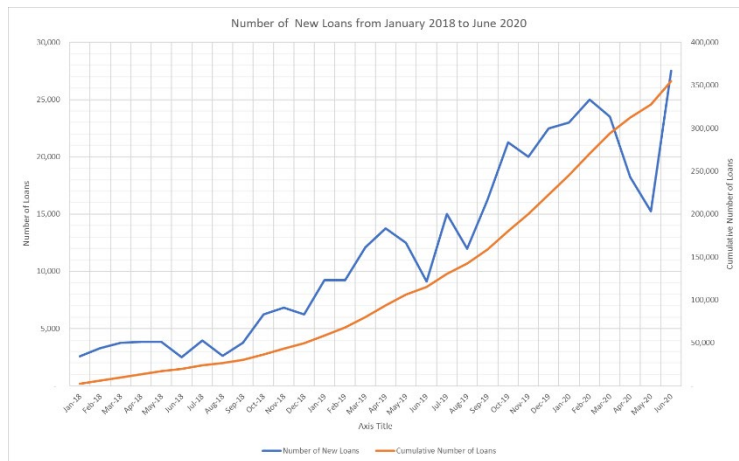
With the program exhibiting all the characteristics of a failing Housing program, home ownership at about 40%, and with a growing population the need to rectify such an acute shortage had to be dealt with on both the supply and the demand side.

On the demand side, the task was to create sufficient financial products to the consumer to cater to all household income levels with the aim of not leaving any citizen behind. The actions of the REDF in providing the funding and the guarantees to the banking industry assisted greatly in developing the mortgage industry with the aim of raising the total mortgage loans to SAR502 billion by 2030 from SAR290 billion in 2017-2018 mortgage book.

The various programs that were launched by the Ministry of Housing backed by the REDF, such as Sakani, catering to most situations that would present a barrier to homeownership are hailed as being innovative and bold. SAMA’s moves to regulate the mortgage market through the



real Estate Mortgage and Financial laws enacted in 2014 and in regulating the Banking industry as well as specialist financing companies have been successful in creating financial products for the consumer. SAMA was also successful in removing obstacles such as the Ifrac structure and coming up with Sharia compliant transactions. Increasing the Loan to Value mortgages from 70% to 90% with programs to assist in funding half of the remaining down payment has been effective and a welcome reprieve for the low earning tranche of the population. Other programs and funding options are in the works and the government will continue with its support for qualified recipients to achieve the desired goal of raising the total mortgage loans to SAR502 by 2030. The recent decision to exempt real estate transactions from 15% VAT and the introduction of a lower property tax, has helped to boost activity in the residential market.



On the Supply side, the main goal is to develop the private sector participation in the housing market and for the Ministry to gradually move away from a developer and supplier of housing units to that of a regulator. This is a critical transformation that will have a profound impact on the private sector development and propelling the Housing Industry to achieve the goals of Vision 2030 of about 15% of the National GDP.

The issue of the White lands around the Kingdom was dealt with through the White Lands Tax of 2.5% of the land value that was collected by the Ministry Housing to fund housing programs as well as infrastructure development. This was an important step to end decades of land grants that were used for land speculation and raised the value of undeveloped land to such an extent that made schemes to develop the land not economically viable. White lands accounted for over 35% of developable lands.



Engaging the private was critical. To that end the Ministry of Housing launched PPP programs to entice the private sector to participate in the Housing Industry. The Ministry participation could be the provision of land, Funding, Off Plan sales management, Infrastructure etc. all aimed at making the business case more enticing. This is working and currently about 70% of the Ministry's projects are in a PPP format with the private sector. The Ministry's programs coupled with the White Lands tax has encouraged landowners to participate



in the Housing Industry providing much needed land, development expertise, and capital thereby relieving government budget from carrying the full cost of developing housing units.

Riyadh has a lot of housing but very few neighborhoods. Large developments must focus on placemaking, creating neighborhoods for people to worship, work, live and play. Placemaking involves the creation of town centers to cater to the population needs as well as a public domain that has interconnected green spaces and sufficient porosity to encourage connectivity, outdoor activities, and promote wellness.

The debut of Roshn (a PIF Company) into the Housing market, as a master communities' developer, will have a profound impact on the quality of the built environment and will provide the lifestyle developments that the young generation of Saudis are looking for. Modern lifestyle and upholding traditions are not mutually exclusive. When carefully considered, planned, and designed, the result could be a celebration of tradition in a modern setting. Roshn will deliver such communities and work has already started on Phase 1 of its flagship development in Riyadh.



We believe that Vision 2030 has been a major catalyst in overcoming so many hurdles towards home ownership. The Ministry of Housing, SAMA and REDF have been diligent in steering the Housing Industry and the role of the Ministry of Housing in the right direction in line with successful Housing initiatives around the World. However, while the demand side has been successful, the supply side needs further efforts in the private sector engagement.

The Saudi Shura Council called for allowing non-resident foreigners to own real estate in the Kingdom while coordinating with the relevant authorities to set clear controls and regulations. This will naturally add pressure on the current and future inventory of housing units.

If we are to believe the forecasts made earlier about the need for 3.3 million units by 2025 and based on projections by Knight Frank and JLL, more effort is needed. The role of Roshn will be critical to the success of meeting those targets. We wish them the best of luck.

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#### References:

1. *Alnuaim, Mishary, "The Comparison of the Saudi Middle Class: A Preliminary Study", GRC Gulf Paper, October 2013*
2. *Arcadis, "International Construction Costs, 2018*
3. *Dinic, Milena, Mitkovic, Petar "Suburban design: From "Bedroom Communities to Sustainable Neighborhoods", 2016*
4. *Keeton, Rachel, " Rising in the East Contemporary New Towns in Asia", 2011*
5. *Local Government Commission in cooperation with US Environmental Protection Agency, "Creating Great Neighborhoods: Density in Your Community"*
6. *The World Health Organization Data for Hospital Beds*
7. *National Center for Biotechnology Information, "Measuring Hospital Capacity", US National Library of Medicine*
8. *World Health Organization-"World Health Statistics: Health Systems Indicators"*
9. *Global Urban Observatories Unit "Streets as Public Spaces and Drivers of Urban Prosperity", UN Habitat*
10. *School of Design and Planning Laboratory, "Minimum Classroom Size and Number of Students Per Classroom", The University of Georgia USA*
11. *The Economic Census, "Global Economic Trend"*
12. *American Planning Association, " Site Design, Parking and Zoning for Shopping Centers"*
13. *Deloitte, "Saudi Mortgage Market, A Decade of Reforms Towards Vision 2030", 2020*
14. *Saudi Vision 2030*
15. *"Full Implementation of Finance Laws and Regulations" SAMA, 11/2014*

16. *"The Report: Saudi Arabia 2020"*, Oxford Business Group
17. General Authority of statistics, Saudi Arabia, [www.stats.gov.sa/en](http://www.stats.gov.sa/en)
18. Ministry of Housing, [www.housing.gov.sa/en](http://www.housing.gov.sa/en)
19. "Subsidized Mortgage product". SAMA, 2/2016
20. Global Construction Review , " King Abdullah Orders Ministries to Move on 2011 Housing Promise", 18/4/2013
21. [www.Roshn.com](http://www.Roshn.com)
22. [www.Industrialurbanism.com](http://www.Industrialurbanism.com)
23. N.P. Krishna Kumar, "Saudi Housing Sector Undergoes Major Transformation", *The Arab Weekly*, 6/7/2019
24. "Saudi Arabia Market Review Q4 2020" Knight Frank
25. "The KSA Real Estate Market-Q2 2020" JLL MENA
26. Lalainee Delmendo, "Massive changes in Saudi Arabia, despite a weak housing market and struggling economy", 29/11/2020
27. Macro Trends, [www.macrotrends.net/countries/sau/saudi-arabia/population-growth-rate?q=](http://www.macrotrends.net/countries/sau/saudi-arabia/population-growth-rate?q=)
28. <https://worldpopulationreview.com/countries/saudi-arabia-population>, UN World Population prospects, 2019
29. Terminologies in Urban Theory II, <https://www.usa.gov/housing>
30. Zachary Ulman, "5 things to know about the affordable housing crisis", *Forbes Real Estate Council*, 14/2/2020
31. "What is Affordable Housing?", House of Commons, <https://commonslibrary.parliament.uk>
32. Comparing Affordable Housing in the UK: April 2008 to March 2018", Office of the National Statistics, [www.ons.gov.uk](http://www.ons.gov.uk)
33. Trading Economics, "UK Home Ownership Rate 2005-2018 Forecast 2020-2021"
34. "Income Percentile Calculation for USA, Business Insider.com, 7/5/2019
35. "Distribution of housing stock within the residential market in Saudi Arabia in the 4th quarter 2019, by city", Statista
36. "Saudi Arabia Real Estate Price Index" Trading Economics, Saudi Arabia Real Estate Price Index | 2014-2021 Data | 2022-2023 Forecast ([tradingeconomics.com](http://tradingeconomics.com))
37. "Average Salary in Saudi Arabia 2021", Salaryexplorer, [www.salaryexplorer.com](http://www.salaryexplorer.com)
38. Shannon Charles, Krumweide Kip, "IMA's 2021 Kingdom of Saudi Arabia's Salary Survey", ima, the Association of Accountants and Financial Professionals in Business
39. Murphy Trefor, "Cooper Fitch 2020 KSA Salary Guide", Cooper Fitch, 2020
40. Hall, Peter , "Cities of Tomorrow: An Intellectual History of Urban Planning and Design Since 1880", John Wiley & Sons. 17/4/2014
41. Nelson, Nels, " Planning the Productive City", 2009
42. Berube, Alan, "Finding Exurbia: America's Fast-Growing Communities at the Metropolitan Fringe (PDF). Brookings Institution. 2006
43. Wikipedia, "Commuter town", [https://en.wikipedia.org/wiki/commuter\\_town](https://en.wikipedia.org/wiki/commuter_town)
44. Shrakat, " A Saudi Ministry of Housing Program", <https://shrakat.housing.sa/en>
45. Correia, Shannon, " Is Saudi Arabia a Good Market for Real Estate Sales?, Nexa, 24/4/2021
46. Salbak, Dana, Alshabanat, Abdullah, AlMehdar, Shahd, "The KSA Real Estate Market – Q2 2020", JLL 22/7/2020