FROM BALANCED TO INTEGRATED DEVELOPMENT
The Case of the National Spatial Strategy 2030 of the Kingdom of Saudi Arabia

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Abstract
Achieving balanced development between cities and regions has been a guiding principle for state planning agencies. This concern has always guided national spatial policies and served as basis for many spatial plans in both developed and developing countries. Balanced development main assumption is that growth of large metropolitan areas must be controlled for the benefit of small and intermediate cities and that rural population migration towards cities must be stopped. This imperative requires allocating resources and services evenly throughout the territory and reducing state (and private) investments in large cities and promoting investment in smaller cities and lagging regions. However, experience shows that this principle has often led to many shortfalls. On one hand, national funds were spread too thinly country wide and failed to achieve the anticipated outcome in medium and small cities and lagging regions. On the other hand, metropolitan areas were penalized and prevented from playing their natural role as leaders of the national economy. This situation was even more aggravated with globalization which led cities and regions of one country to compete even more to attract resources and funding while central governments disengaged further from their responsibility to redistribute growth to lagging regions and cities. Through the case of the National Spatial Strategy 2030 of the Kingdom of Saudi Arabia this paper argues for the need to move from the imperative of balanced development to the concept of integrated spatial development. The paper strongly recommends that there should be no trade-off between strengthening metropolitan areas on one hand and developing medium and small sized cities on the other since both processes can take place at the same time in an integrated manner. We argue that, in a globalized world, metropolitan areas are more than ever needed for economic diversification and should be empowered to rely more on their global positioning and capacity to attract FDIs, multinational businesses and creative and skilled labour. While state intervention in the form of more local devolution and through a smart allocation (both rational and technologically driven) of resources and services is still needed to achieve the integrated development of small and intermediate cities in the national urban system and, beyond, in the regional and world economy.

Keywords
Spatial Planning, Metropolitan Areas, Urban System, Intermediate & Secondary Cities, Urban Rural Linkages
1. Introduction

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However, experience shows that this principle has often led to many shortfalls. On one hand, national funds were spread too thinly country wide and failed to achieve the anticipated outcome in medium and small cities and lagging regions. On the other hand, metropolitan areas were penalized and prevented from playing their natural role as leaders of the national economy. This situation was even more aggravated with globalization which led cities and regions of one country to compete even more to attract resources and funding while central governments disengaged further from their responsibility to redistribute growth to lagging regions and cities.

Through the case of the National Spatial Strategy 2030 of the Kingdom of Saudi Arabia this paper argues for the need to move from the imperative of balanced development to the concept of integrated spatial development. The paper strongly recommends that there should be no trade-off between strengthening metropolitan areas on one hand and developing medium and small sized cities on the other since both processes can take place at the same time in an integrated manner. We argue that, in a globalized world, metropolitan areas are more than ever needed for economic diversification and should be empowered to rely more on their global positioning and capacity to attract FDIs, multinational businesses and creative and skilled labour. While state intervention in the form of more local devolution and through a smart allocation (both rational and technologically driven) of resources and services is still needed to achieve the integrated development of small and intermediate cities in the national urban system and, beyond, in the regional and world economy.

2. On the Origins of the Concept of Balanced Development

The objective of achieving balanced development is deeply entrenched in planning agencies. Planning agencies at supranational, national and local levels, feel entrusted with the objective of consolidating territorial integrity and cohesion by redistributing growth to lagging regions and cities.

These principles are inherited from the era of comprehensive and top-down planning and Keynesian economy. In many ways, the French approach of spatial planning or “aménagement du territoire” is representative of this tradition and aimed to allocate economic resources in a balanced way at national level rather than to encourage people to move to places where new jobs would be created by the market (Bakhos, 2015, Cichowlaz, 2005, Zaki, 2019). More recently, at European Union level, the spatial planning dilemma between Competitiveness and Territorial Cohesion has been extensively documented and
analyzed (Faludi, 2006, Medeiros, 2016, Tewdwr-Jones and Morais Mourato, 2005, Vanolo, 2010). In geographical terms, the debate is whether to strengthen strong economic regions, most commonly metropolitan areas (competitiveness) or whether to support intermediate and secondary cities and rural areas (cohesion). This debate is still open today, and the EU policy objectives and programmes still hesitate between these two seemingly opposing directions.

The antagonism is even more critical in developing countries where top-down comprehensive planning approaches are still strong and where the paradigm shift towards more neoliberal planning approaches or more participatory planning approaches is still not fully achieved.

This is the case in geographies such as the MENA region, where the situation is even more pressing given that national boundaries are still contested and national unity requires careful attention by governing parties to territorial claims and aspirations of the internal ethnic groups and communities. This could explain why in such countries, competitiveness and its spatial expression, i.e. metropolitan areas, are perceived as a potential risk to territorial integrity and are constantly counterbalanced by redistributive measures to the remaining regions through balanced development mechanisms.

3. Two Remaining Misconceptions

This paper argues that spatial policies are still the victims of two misconceptions. The first being the concept of Balanced Development itself and the second is the strict opposition between Urban and Rural.

With respect to the first misconception, there is still a strong belief within the planning community (and by default, planning agencies) based on traditional theory that “attracting firms from outside (“exogenously”) will encourage industry to move to secondary cities with national economic development as diseconomies of scale build in highly industrialised core cities - in the form of rising land, infrastructure, congestion and labour costs” (Ferguson, 1992)

As a result, governments focus their efforts on moving “outside industry [or businesses] from large cities primarily by giving away infrastructure and land in the hope of attracting firms. However, this strategy is rarely successful” (Ferguson, 1992). In fact, experience shows that this approach has often led to many shortfalls. On one hand, national funds were spread too thinly country wide and failed to achieve the anticipated outcome in medium and small cities and lagging regions. On the other hand, metropolitan areas were penalized and prevented from playing their natural role as leaders of the national economy. This situation was even more aggravated with globalization which led cities and regions of one country to compete even more to attract resources and funding while central governments disengaged further from their responsibility to redistribute growth to lagging regions and cities.

With respect to the second misconception, the opposition between rural and urban areas on one hand and metropolitan area vs intermediate and secondary cities, on the other, it is noted that:
“To this day, the concept of intermediate cities is misused. In fact, it seems to cause more confusion than anything else when defining urban systems and understanding their dynamics. If it were better understood, its typological characteristics and appropriate indicators could turn it into a formidable instrument for analysing urban reality and managing the interaction between cities and their environment.” (Bolay and Rabinovich, 2004)

One could also add that the concept of “metropolization” is too often confused with urbanization itself and the deeply more complex processes at play within the metropolization process are overlooked.

As demonstrated by Berdegué et al. (2015), in the case of Mexico, proximity to cities, and population and per capita income in cities, affect population growth and welfare in rural places in Mexico:

“Using data for 2000 and 2010, our findings include: (a) 75% of rural people live within 90 min of an urban area, and 60% within 60 min; (b) proximity to a city increases rural population growth and welfare; (c) adverse (backwash) effects on rural areas due to increases in urban per capita income are very small and of no economic significance; (d) cities with populations in the 350,000–500,000 range appear to have more positive effects on rural areas than smaller or larger cities; (e) rural localities interact with multiple urban places simultaneously” (Berdegué et al., 2015)

Berdegué et al. (2015) conclude that “in comparison with rural territories without a city (deep rural), the growth in urban–rural and metropolitan territories has a greater effect on poverty reduction, both in Chile and in Colombia.

Based on above studies and our findings in the preparation of NSS 2030 (MoMRA, IBI Group and IAU-IDF, 2018), this paper strongly recommends that there should be no trade-off between strengthening metropolitan areas on one hand and developing medium and small sized cities on the other since both processes can take place at the same time in an integrated manner. We argue that, in a globalized world, metropolitan areas are more than ever needed for economic diversification and should be empowered to rely more on their global positioning and capacity to attract FDIs, multinational businesses and creative and skilled labour.

While state intervention in the form of more local devolution and through a smart allocation (both rational and technologically driven) of resources and services is still needed to achieve the integrated development of small and intermediate cities in the national urban system and, beyond, in the regional and world economy.

Through the case of the National Spatial Strategy 2030 of the Kingdom of Saudi Arabia this paper argues for the need to move from the imperative of balanced development to the concept of integrated spatial development. This paper also shows that in order to achieve integrated spatial development it is required to go past the prevailing urban-rural dichotomy in favour of the adoption of the concept of rurality gradients (Brezzi, Dijkstra and Ruiz, 2011, Organisation for Economic Co-operation Development, 1994) or similar approaches typology of the functional territories (Berdegué and Soloaga, 2018)
For many decades, the Kingdom of Saudi Arabia was able to rely on huge oil reserves that constituted the pillar of its economy and the cornerstone of its development. Thanks to this considerable resource, the choice between consolidating key cities (Riyadh, Jeddah, Dammam) and achieving balanced development through financing growth of medium and small cities and rural regions did not pose an acute dilemma to the central government and both options were implemented. The 3 Saudi main cities continued to grow exponentially following a low urban density pattern while heavy investments were spent on large scale developments in the regions. Economic and industrial cities, universities and health care centres were disseminated evenly throughout the Kingdom sometimes (often?) in scarcely populated areas.

However, with the recent collapse in global oil prices, Saudi Arabia’s economy deteriorated. The county’s fiscal deficit hit almost $100 billion or 15% of GDP in 2015. Saudi Arabia also recorded a deficit in the current account balance, which for the first time since 1999 reached $41 billion, or 6.4% of GDP in 2015. As a response to these dramatic challenges, the Kingdom launched Vision 2030, an ambitious vision aiming at diversifying the country’s economy and reducing its dependency on oil. It is under these premises that a consortium led by IBI Group in partnership with IAU-IDF was assigned by the Saudi Government to draft the National Spatial Strategy 2030 (NSS 2030).

NSS 2030 was mainly designed as the spatial expression of Vision 2030 and a localized response to the economic diversification imperative (which winning sectors to develop and...
where?). However, the laws of agglomeration-concentration (The World Bank, 2008) necessarily entail that economic diversification will most likely occur in large metropolitan centres due to availability of skilled labour force and consumption markets but also because of increasing returns to scale (Krugman, 1991) and the provision of advantages thanks to diversified access to markets and market-linked risks alleviation.

Based on the KSA example, and our experience in the preparation of the NSS 2030 (MoMRA, IBI Group and IAU-IDF, 2018), this paper argues that there should be no trade-off between strengthening metropolitan areas on one hand and developing medium and small sized cities on the other since both processes can take place at the same time in an integrated manner. We argue that, in a globalized world, metropolitan areas are more than ever needed for economic diversification and should be empowered to rely more on their global positioning and capacity to attract FDIs, multinational businesses and creative and skilled labour. While state intervention in the form of more local devolution and through a smart allocation (both rational and technologically driven) of resources and services is still needed to achieve the integrated development of small and intermediate cities in the national urban system and, beyond, in the regional and world economy.

4.1. KSA’s Current Urban Structure

Saudi Arabia has a unique spatial configuration that make it a fascinating case study for spatial planning. The country is the largest in the Arabian Peninsula, with 2,149,690 km², and the most populated in the region, with around 32 million people in 2017. However the major part of its territory is a desert area and the spatial distribution of its inhabitants is strongly unequal.

While the average density of population is very low, around 14 inhab/km², the urbanization rate is high, at around 83%. People are concentrated in three areas:

- The Hijaz on the South-Western coast, with about 15 million inhabitants (nearly 47% of the total population);
- The Najd in the centre of the country, with about 10 million inhabitants (more than 30% of total population);
- The Southern part of the Arabian Gulf coast, with more than 3.5 million inhabitants (about 11% of total population).

The remaining part of the population, around 3.5 million, is scattered on about 80% of the national territory where the average population density is between 3 to 7 inhab/km².

The current urban structure is the result of a long urban history but it has also been shaped by strong trends observed in the last decades with a very high concentration and increase of population in the largest cities. Riyadh has one of the highest rates of urban development in spite of its inland location, away from any direct maritime connection (Red Sea or Arabian Gulf). Other cities like Al Hofuf and Jizan have also experienced very high increase in urban development. Large cities such as Jeddah, Dammam and Madinah, Buraydah, Abha and Yanbu have witnessed a fast urban development. It can be considered that the golden corridor between Buraydah and Madinah, the Southern region around Jizan and few cities in the North have strong urban development dynamics.
At present, the urban structure is as follows:

- Riyadh is the largest city;
- Jeddah, Makkah and Taif are emerging as the largest metropolis of the Kingdom;
- Dammam-Al Hofuf is the third metropolis benefiting from the oil investments and related jobs, the harbor function for the Eastern region and Riyadh;
- Madinah is a large city that is emerging with strong relations with Jeddah and Buraydah;
- Buraydah and its satellite cities is also emerging as a city cluster;
- The axis Dammam, Riyadh, Makkah, Jeddah is the Golden Corridor;
- Jeddah is the most connected city with strong linkages with KAEC, Madinah, Makkah, Riyadh, Buraydah and Jizan;
- Riyadh and Dammam have also strong relations with other cities, but at a lower intensity than Jeddah;
- Cities in the North, can now benefit from mining potential that is creating opportunities for development;
- Tabuk is emerging but is still isolated, it will benefit greatly from the creation of NEOM. North-Western areas are still less connected to other areas;
- Southern cities in the mountains chains along the Red Sea are well connected; in this location the urban structure is characterized by a dense network of human settlements and small towns.

Hence, there are significant differences between Saudi cities, some are benefiting from the presence of large metropolitan areas, some from a group of large cities and others from a dense network of smaller towns and villages. However, certain regions are more isolated with few cities and low urban development dynamics. Megaprojects and large infrastructure (railway), new initiatives for economic development (tourism, new technology in agriculture, mining) will support these cities. The central region remains the core development engine of the Kingdom. New international connections and the expansion of the development of the core part of the country can provide a more integrated development for the remote regions.
4.2. Interregional Migrations in KSA

Past demographic growth trends show increases and decreases of the share of each region in the KSA total population, based on their economic development and on the share of their rural population.

A visualization of residential migration between regions shows different regional dynamics. Riyadh and the Eastern region have a large positive balance. Tabuk and Al-Jawf are positive but with a lower intensity flux. Hail, Al-Qassim, Al-Madinah, Al-Bahah, Jizan, Asir, Najran and Northern Borders regions witness high loss of population. There is a strong concentration effect on very few regions/cities.
4.3. KSA Key Facts

- Among the five large metropolises, the hierarchy has been stable for decades and is not expected to change in the near future. In fact, the urban structure of a given country undergoes a soft process of change, if any, and need very strong policies to revert the historic path dependencies.
- Overall, the delivery of health and education facilities has experienced tremendous improvements in the last 2 decades.
- Horizontal dispersal of services and increase of spending. The decision to lower the minimum threshold of cities to 5,000 inhabitants has resulted in an excessive number of cities and their spatial dispersal.
- Lack of efficiency and ability for providing services. The concentration of half of the Saudi population in the 5 major cities and the dispersal of small cities and centres is exerting pressure on services provision.
- Dispersion of resources. The existence of 41 provinces with low population densities and scattered human settlements.

4.4. The Need for a New Spatial Distribution of Public Services

The spatial structure of the Kingdom is a challenge for delivering public services and requires a specific organization. The different patterns between areas make the provision of the same level of services difficult to all people depending on their place of location in the Kingdom. The contrast between areas with high concentration of population, along the coastal areas or
close to large urban oases, and areas with few inhabitants in the remaining national territory induces extra costs and excessive public funding.

Presently, the Kingdom is managed through a complex administrative territorial system combining different hierarchies of spatial units under which the Government provides security and services to the entire population. There are specifically two different systems which coexist, both rooted in the long history of the Kingdom as well as in the modernisation process experienced during the last decades. Their coexistence combines national sovereignty and traditional system of governance with public participation at local level. The public services have been organized by the Government in this complex grid.

During the last years, the need for rationalisation of public funds led to the search for a more functional grid, made of a hierarchy of places, cities as well as villages, and of clusters around them.

4.5. A Simplified Grid for Providing Public Services

In order to optimize the provision of public services, NSS 2030 did not engage in new administrative reforms or discard the existing system but considered the problem of the organization of the Kingdom’s territory through another set of principles, without abolishing the current functioning entities.

The first principle is giving priority to population and settlements density and taking into account the strong spatial differentiation generated by this simple indicator.

Density is a key factor in geography and in urban or regional planning with its potential to build a relational approach of spatial differentiation. Population density measures the level of potential interaction between people in a given territory. It also measures the level of relation between people on one side and the diverse elements present in this territory on the other side. The elements taken in account could be natural, such as water resources, given the mean to calculate the potential water availability or scarcity. They could be social, such as institutions, and for example those which provide services to people, authorising to assess the potential use of the offered services.

The map of total population density shown at the level of governorates illustrates the strong diversity of the human distribution and the prominence of desert on the national space.
The second principle is related to the hierarchy of settlements and specifically the role of cities and towns in the structuration of the national territory and their capacity to provide public services to the population. The size of settlements obviously matters because cities and towns offer the opportunity for population to benefit from their available services. They constitute by themselves a grid for offering public services.

Although population data of the 240 Saudi cities and towns clearly show that these settlements, which have more than 5,000 inhabitants, are unevenly distributed on the Saudi territory, it also shows that these cities provide, nevertheless, an urban structure covering most of the inhabited areas. This is clearly indicated by the location of villages on the same map, which are largely clustered around urban settlements of different sizes (metropolitan, medium and intermediate cities and towns).
It is also established that the geographic distribution of villages follows different patterns according to their location.

Four patterns of settlements can be differentiated: "metropolitan, corridor, cluster and isolated"

- In the first pattern, "the metropolitan", in red on the map, villages are located close to the key cities and towns and local population can find service in the vicinity.
- In the second pattern, "the corridor," in blue, the villages are located along communication routes and benefit from the flows created which drive the need for services and supports their functioning.
- In the third pattern, "the cluster", in purple, the villages are in relative high density clusters, and reach the required level for justifying to set-up and maintain public services; and
- In the fourth pattern, "the isolated", in grey, the villages are scattered in desert or in mountain areas. This is the most difficult situation for delivering cost effective services. It should also be noted that some villages are in complete isolation in a desert environment.
These patterns of rural settlements can be seen in other geographies such as Central and Latin America, as shown by Berdegué, Carriazo et al. (2015), who identified “functional territorial spaces as being of three types: (a) deep rural territories that lack even a small urban nucleus; (b) rural–urban territories characterized by a small- to medium-sized urban core and a rural hinterland; and (c) metropolitan territories formed around large cities”.

The third principle is to assign adequate level of importance to transport infrastructure and accessibility in the organisation of a service grid. The last two decades KSA have seen a continuous improvement of roads and accessibility for motorized vehicles and a rapid growth of diverse systems of telecommunication, with the mobile phones and the internet reaching most of the Saudi households. The methods by which accessibility is determined have to change with the catchment areas not being linked anymore to distances in kilometers but to trip durations, travel comfort and cost.

The map of the roads hierarchy shows some relatively well connected areas while others are in lack of adequate land communication infrastructure. In large parts of the Saudi territory, and not only the most populated regions, there are still places which remain far from the main transportation networks. Overall, there is a strong access to local markets with gaps in intercity connections. Links between major cities are poor, 8-9 hours from Riyadh to Jeddah or Riyadh and Sakakah to the North and telecommunications cannot bridge these gaps alone. It clearly appears that the delivery of public services has to be adjusted to such different situations.
These three principles produce a framework for a new spatial distribution of public services aiming to provide a simplified and cost effective grid covering in an integrated manner the needs of the people. This approach is far from the traditional methods looking for an optimal localization of different public services. It allows to develop a system in which the delivery of services can be significantly different from one region to another depending on the specific linkages between a given territory and its inhabitants. By giving priority to population and settlements density (first principle), by taking into account the diversified roles played by cities and towns in the structuration of the national territory (second principle), by giving importance to accessibility through the new roads network and the disruption induced by new communication technologies (third principle), there is a possibility to not only build different grids of services, but to organize a flexible and integrated system combining slightly different types of grids, closer to the needs of an evolving population.

A new human settlements classification is proposed based on above principles to better cover the Kingdom with a clear and sustainable hierarchy of settlements:
Table 2: NSS 2030 Classification System (MoMRA, IBI Group and IAU-IDF, 2018)

The proposed settlements classification is a framework based on the following criteria:

- Size of population
- Status of settlements
- Accessibility to urban centres

As discussed above, this classification shares many characteristics with existing approaches that promote integrated spatial development and move away from the prevailing urban-rural dichotomy in favor of the adoption of the concept of rurality gradients (Brezzi, Dijkstra et al. 2011) or similar approaches such as the typology of the functional territories (Berdegué and Soloaga 2018).

Table 3: NSS 2030 Classification system and other similar classification systems (Brezzi, Dijkstra et al. 2011, Berdegué and Soloaga 2018, MoMRA, IBI Group et al. 2018)
The classification provides a hierarchy of urban and rural settlements that could serve as basis for the allocation of public services resources - investments, operation and maintenance - in the different sectors: health, education, communication, security, etc. However, each sector or service provider should define its standards with respect to the different proposed settlement categories. Some categories could be merged depending on the adopted system in each sector. Due to the very different geographic configurations, specificities and characteristics of each region (with respect to densities, territorial dynamics, size of population, etc.) these standards should be adapted and negotiated with each region.

The NSS 2030 settlements classification is a systematic and coherent approach that could also be used as basis to facilitate the allocation of resources in the Kingdom. It does not modify the existing definition of urban areas in the Kingdom and takes into account their specific nature according to social and political considerations. It also maintains existing advantages and roles/functions of urban and rural settlements. The settlements classification proposes a new services allocation grid that maintains the existing competencies of settlements while introducing new denominations. The change of status of an existing urban centre depends, in most of the cases, on the size of the population, but may also require a political decision, for example, reclassify a local urban centre as a suburb of a metropolitan centre. In this specific case, this reclassification should be discussed and agreed with the related regional or local authority.

Beyond the classification of urban centers, the main concern is how to provide services to the 19,000 villages and hamlets that are currently listed. The preconized approach is to apply a system of interrelation between villages and urban centers classification. Service delivery for villages will be supported by the different categories of urban centers here above through clustering of villages around urban and rural centers. The villages have been identified with the following categories related to their location:

- Suburbs of large cities, for villages inside city agglomerations or urban development boundaries
- City orbitals, for villages located less than 10 minutes from the nearest city
- City satellites, for villages located less than 30 km from the nearest city
- Village center orbitals, for villages located less than 30 minutes form cities by primary or secondary road, or less than 15 km from other “populated” villages (i.e. Rural centers)
- Village center satellites, for villages located less than 50 km from an urban or rural center
- Isolated villages, the remaining villages that do not fall under any of the above categories

Several population density categories have been defined at local level to determine village clustering:

- Very Low population density (<3 inhab./km²)
- Low population density (≥3 et < 20 inhab./km²)
- Medium population density (>=20 et < 100 inhab./km²)
- High population density (>=100 inhab./km²)

This new classification of human settlements is currently being discussed in each region to be adjusted with the geographic, cultural and political considerations discussed above. The following map shows how the new classification is covering most of the 19,000 identified human settlements of the Kingdom leaving out few isolated settlements.

Figure 7: NSS 2030 Classification villages classification  (MoMRA, IBI Group and IAU-IDF, 2018)

Figure 8: How the new settlement classification and village clusters operate  (MoMRA, IBI Group and IAU-IDF, 2018)
5. Conclusion

Saudi Arabia has a unique spatial configuration that makes it a fascinating case study for spatial planning. A major part of its territory is a desert area and the spatial distribution of its inhabitants is strongly unequal.

This uncommon spatial structure presents a challenge for delivering public services and allocating funding and resources. It shows the limits of the balanced development principle and the need promote a more integrated development based on smart allocation of resources and services that is both rational and technologically driven. We believe that, based on the specific case of Saudi Arabia and its National Spatial Strategy 2030, there should be no trade-off between strengthening metropolitan areas on one hand and developing medium and small sized cities on the other since both processes can take place at the same time in an integrated manner.

6. References


BREZZI, M., DUKSTRA, L. & RUIZ, V. 2011. OECD Extended Regional Typology. OECD.


ORGANISATION FOR ECONOMIC CO-OPERATION DEVELOPMENT 1994. *Creating rural indicators for shaping territorial policy*, OECD.

