PART II

Regional development

and spatial inclusion





## Chapter 6

# Regional development at the heart of Africa's structural transformation

In the debate on Africa's structural transformation, the demographic and spatial dimensions have been overlooked. This chapter analyses the challenges and opportunities brought about by the rapid growth of urban and rural populations, especially in sub-Saharan Africa. It argues that development strategies must focus not just on economic sectors, but also on people and places. Regional development can promote spatial inclusion and unlock the potential of African economies.



#### In brief

Structural transformation is Africa's overarching priority. But despite some progress over the last decade, current policies have not proved effective enough at speeding up job creation in productive sectors.

New approaches are all the more necessary to accelerate structural transformation in the face of Africa's unique demographic and spatial dynamics. In the decades to come, a fast rise in urban and rural populations, acute regional disparities and the constraints of global competition will make the challenge of transforming the continent a unique undertaking, although with wide variations between North, South and sub-Saharan Africa.

Africa's transformation path will thus have to cross unchartered territory. Past experiences of demographic, urban and economic transition may inspire action, but they cannot provide blueprints. As for current strategic options hinging on specific sectors, they may not be enough to meet the double challenge of massive job creation and productivity growth on their own. Pragmatic, context-specific approaches combining their merits will have to be crafted. Africa has no choice but to innovate.

But how? One way is to start from the unique structural features of African economies: the demographic boom demands to place job creation at the centre of development strategies; its stark regional disparities call for regional approaches to development – multi-sectoral and place-based. This report focuses on the latter: it explores ways in which African policy makers may better tap African regions' diversity and unlock their potential by building on specific local resources.

### Accelerating Africa's structural transformation calls for new approaches

Recent analysis demonstrates the continent's nascent but slow progress towards structural transformation. But by focusing too narrowly on the issue of factor reallocation across economic sectors – and especially the question of industrialisation – the current debate ignores the demographic and spatial dimensions, although they are part and parcel of structural transformation.

### Structural transformation is Africa's economic priority

Over the past few years, structural transformation has gradually made its way to the top of Africa's economic agenda. It is at the centre of the African Development Bank's tenyear strategy (AfDB, 2013) and a priority for the Economic Commission for Africa (UNECA, 2011). The World Economic Forum for Africa 2012 focused on the theme "Shaping Africa's Transformation", and the African Center for Economic Transformation, an Accra-based think tank, has started to publish an African Transformation Index (ACET, 2014). This strategic shift culminated in the African Union's adoption of its Agenda 2063 in January 2015, which identifies structural transformation as Africa's overarching objective.

At the heart of this new consensus is the realisation that growth alone will not be enough for the continent to fulfil its aspirations, especially employment creation. The benefits of Africa's recent growth episode have been shared unequally between countries and within them, raising the question of their sustainability and effectiveness (King and Ramlogan-Dobson, 2015; McMillan and Headey, 2014; McMillan, Rodrik and Verduzco-Gallo, 2014; Rodrik, 2014; Chuhan-Pole et al., 2013). Despite new opportunities brought about by the global process of "shifting wealth" (AfDB et al., 2011), Africa's recent growth has failed to create the amount and quality of jobs that young entrants on labour markets demand (AfDB et al., 2012).

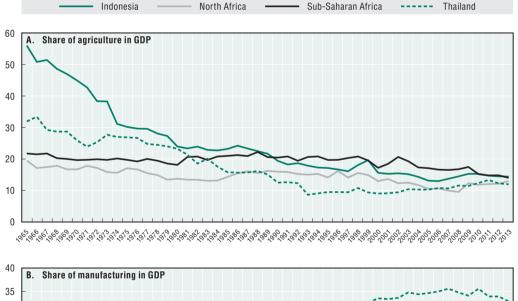


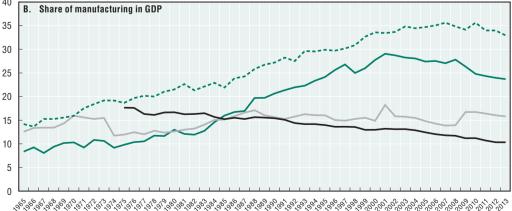
This is because structural transformation—the process by which new, more productive activities arise and resources move from traditional activities to these newer ones—has been too limited and too slow (AfDB et al., 2013). Although structural transformation has increased slightly since 2000, the change has been insufficient. Overall, between 1990 and 2005, "labour seems to have moved" from relatively high-productivity sectors (wholesale and retail trade, and manufacturing) to low-productivity sectors (informal services and agriculture); as a result, labour productivity fell by 1.3 percentage points per year and eliminated more than half of within-sector productivity gains. Some countries did experience positive structural transformation (Ghana, Ethiopia and Malawi), but not enough to fundamentally transform their economies (De Vries, Timmer and De Vries, 2013; McMillan, Rodrik and Verduzco-Gallo, 2014; UNECA/AU, 2014).

### Policies have had a limited impact on Africa's economic structures

In contrast with Asia, the structure of Africa's **economy** has changed little over the past five decades. It remains dominated by primary activities linked to natural resources and by services, especially in sub-Saharan Africa (Devarajan and Fengler, 2013). Over that same period, Indonesia and Thailand have seen the share of agriculture in GDP decrease and that of manufacturing increase. However both have remained fairly stable in Africa over the same period, with manufacturing noticeably on the decline in sub-Saharan Africa (Figure 6.1).

Figure 6.1. Shares of manufacturing and agriculture in gross domestic products of Africa, Indonesia and Thailand, 1965-2013





Source: Authors' calculations (GDP weighted) based on World Bank (2014). StatLink age http://dx.doi.org/10.1787/888933206844



Efforts to increase competitiveness and promote export diversification have yet to reverse the long-standing dependency of many African countries on commodity rents and official development assistance. Few African countries have managed to diversify their export structure away from unprocessed commodities (Table 6.1). In eight countries, a single commodity accounts for over three-quarters of exports; in seven countries, only two commodities account for the same. Seventeen countries have slightly diversified exports, with more than ten products accounting for three-quarters of them. Some countries still largely depend on exports of a single crop such as cotton, cloves, cashew nuts or tuna. However, the dominant commodity is usually extracted; in most cases it is oil. Nevertheless, some countries without sizeable mineral resources have managed to maintain growth by diversifying their exports. These include Ethiopia, Rwanda, Senegal and Uganda. They have opened up sectors with greater added-value, which contributes to their structural transformation (McMillan, Rodrik and Verduzco-Gallo, 2014). The African Economic Outlook 2014 also identified important achievements in specific sectors where local companies actively participate in global value chains (AfDB/OECD/UNDP, 2014).

Table 6.1. Number of products accounting for more than 75% of exports in African countries, 2013

Products accounting for more than 75% of exports	Countries and main exports	Number of countries
1	Angola, Chad, Congo, Libya, Nigeria, Sao Tome and Principe, South Sudan (oil); Botswana (diamonds)	8
2	Equatorial Guinea (oil and gas); Eritrea (gold and copper); Gabon (oil and manganese); Guinea (aluminium and oil); Guinea-Bissau (cashew nuts and fish); Niger (cigarettes and oil); Sierra Leone (iron and diamond)	7
3 to 5	Algeria, Burkina Faso, Burundi, Central African Republic, Comoros, Democratic Republic of the Congo, Gambia, Liberia, Malawi, Mali, Mauritania, Rwanda, Seychelles, Somalia, Sudan, Zambia	16
6 to 10	Benin, Cabo Verde, Cameroon, Ethiopia, Ghana, Mozambique	6
More than 10	Côte d'Ivoire, Djibouti, Egypt, Kenya, Lesotho, Madagascar, Mauritius, Morocco, Namibia, Senegal, South Africa, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zimbabwe	17

Source: AfDB Statistics Department; UN Statistics Division (2015).

Similarly, employment structures have changed little, according to available studies.1 Family farming remains the main occupation in sub-Saharan Africa, though it does not prevent rural populations from participating in other activities (see Chapter 7).2 In East Africa and the Sahel, two-thirds of the workforce are engaged in farming (see Annex Table 13). Household enterprises outside of agriculture are the second largest source of employment in sub-Saharan Africa, estimated at 22% of all jobs (Filmer and Fox, 2014). When adding small firms to self-employment, the share of this informal sector is estimated at 28-36% (Jütting and de Laiglesia, 2009).3 In comparison, the formal (waged) sector - manufacturing and services, including administration - is estimated at an average 16% of the jobs in sub-Saharan Africa (Filmer and Fox, 2014), though the percentage is much lower in many countries. The flexibility of the informal sector, including family farms, is key to Africa's economic resilience but it also translates into low incomes and under-employment, with few hours worked per active person. The large size of the informal sector partly explains why recent economic growth has hardly reduced poverty and exclusion. The extractive, energy and industrial sectors create few jobs. The industrial sector's share of employment remained stable between 2000 and 2013, at around 9% of total jobs (UNECA/AU, 2014: 27).

### Different dynamics are underway

While structural transformation has been slow across Africa, a finer analysis of ongoing processes of factor reallocation across sectors reveals that different dynamics are underway. For example, in all countries the share of agriculture is declining in both



GDP and employment, and it is decreasing faster in GDP than in employment due to productivity gaps between sectors (Timmer, 2009). But different countries move at different speeds: based on the pace at which countries diversified from agriculture between 1961 and 2010, four different profiles of structural transformation can be distinguished:<sup>4</sup>

- The countries that diversified the most, the "diversifiers", experienced the greatest changes. Characterised by higher urbanisation and a significant exit from the agricultural sector, the 11 countries concerned include those marked by industrial development Mauritius, Tunisia and South Africa and those that maintained a dynamic agricultural export sector Cameroon, Côte d'Ivoire, Egypt and Morocco.
- The "agriculturally-based" profile includes the 12 countries of East Africa, Madagascar and Mali, which are predominantly rural-populated. Agriculture remained the cornerstone of their economy and, overall, change was particularly slow.
- The "intermediate" profile corresponds to eight countries including Ghana, Senegal and Togo, where the share of agriculture was smaller.
- The fourth profile, "agriculture +", presents the atypical evolution of 11 countries where the share of agriculture tended to increase. These are mainly countries that experienced crises and where the agricultural sector provided a refuge from the overall lasting downturn, as in Burundi, the Democratic Republic of the Congo, Guinea-Bissau, Liberia and Sierra Leone. This profile also includes countries with a booming agricultural sector, like Burkina Faso since its "cotton revolution".

This diversity hints at the need to better take into account the heterogeneity of structural features of African economies. One way of doing so is to look beyond the issue of economic factor reallocation across sectors and broaden the analysis to other driving forces that shape countries' transformation trajectories and yet are mostly absent from recent analyses: demography and places.

# Africa's demographic and spatial dynamics must be at the centre of the structural transformation debate

As seen above, the debate on Africa's structural transformation has mainly focused on explaining how and why economic factors, notably labour, have been moving slowly out of agriculture, bypassing industrial sectors and moving into low-productivity services in a context of lingering informality. Despite the fact that, as shown by Shimeles and Nabassaga (forthcoming), spatial factors account for close to 40% of asset inequality in Africa (see Annex 6.A2), little attention has been paid to the continent's demographic and spatial dynamics.

And yet urbanisation is part and parcel of structural change: typically, productivity growth in agriculture releases workers from farming, pushing them towards urban areas where higher productivity sectors locate as they benefit from higher economies of agglomeration and knowledge spill-overs (Jedweb, Gollin and Vollrath, 2013; Hnatkovska and Lahiri, 2013; Long, Zou and Yansui, 2009; Markusen, 1996). Progress in income, health and education which come with these changes are usually associated with a demographic boom which also fuels urbanisation until fertility eventually decreases (Leukhina and Turnovsky, 2014).

Strikingly, however, this traditional model of structural change does not seem to apply to most African countries, where urbanisation has occurred without industrialisation (Jedweb, Gollin and Vollrath, 2013; Losch, Fréguin-Gresh and White, 2012). Broadening the discussion to the interplay between economy, demography and geography is thus essential to designing effective strategies for structural transformation.



The World Bank's World Development Report 2009: Reshaping Economic Geography dealt with the issues of spatial transformation (Box 6.1). This report aims to connect those issues to some of Africa's major structural challenges.

### Box 6.1. The World Development Report 2009

The World Bank's World Development Report 2009: Reshaping Economic Geography (WDR2009) deals with the need for "spatial transformation" to achieve economic development.

The WDR2009's analytical framework proposes three dimensions of development: **density** of population and economic product, **distance** between lagging and leading regions, and **division**, i.e. the extent of trade barriers due to borders, regulations, etc. These dimensions mainly correspond to three levels of policy making – local, national and international – and three social and economic forces: agglomeration, migration and specialisation.

The WDR2009's "main message is that economic growth will be unbalanced. To try to spread out economic activity is to discourage it". The report states that, despite imbalanced growth, development can be inclusive if growth is achieved through economic integration at the local, national and international levels. The WDR2009 proposes three instruments to articulate policies for more inclusive economic development: institutions, infrastructure and incentives (World Bank, 2009: 22-23). The first priority must be given to institutions, which must be "spatially blind" to reduce divisions. Secondly, investing in infrastructure can reduce distances. Finally, spatially targeted interventions can connect places and thus boost population densities. Spatially-targeted measures (such as tax-breaks for manufacturing) must be taken as a last-resort. When conditions of density, distance and division are poor, strong institutions must accompany them.

Critics of the WDR2009 (such as Bryceson et al. [2009], Harvey [2009], Rodríguez-Pose [2010], Hart [2010] and Garcilazo, Martins and Tompson [2010]) have argued that its methodological choices overlooked important contributions of the economic geography literature and that it neglected topics related to space and scale. The report's focus on economic development overshadowed other dimensions of human activities, be they historical, political, financial, demographic, social, environmental or cultural. Such dimensions precisely make each country, region and place unique, opening doors to a variety of development experiences. Policy recommendations were thus deemed too generic, advocating a universal path towards a single type of development. In this chapter, we show that the challenges facing Africa differ from those faced by other regions of the world, notably in terms of historical, demographic, environmental and global contexts. The AEO2015 argues for strategies that focus on the particularities of each city, region and country and on the multiple dimensions of development (OECD, 2011; Barca, 2009; EU, 2011; see also Chapter 8).

# Africa's demographic revolution creates unprecedented opportunities and challenges

Demographic patterns are central in any process of structural transformation, but in the case of Africa, they will shape the policy agenda given their magnitude and pace.

### Demographic growth will shake up labour markets

Africa's population of 1 billion in 2010 should double by 2050, but the magnitude of the increase will vary across the continent. Only South Africa and the region of North Africa will be less affected (Figure 6.2). The disparities across the continent are magnified when comparing GDP per capita and fertility rates. Africa's 54 countries appear divided into three major "macro regions", based on common historical and structural features and displaying different challenges: the five countries along the Mediterranean coast, as well as South Africa, have per capita incomes of USD 3 000-6 000 per year and low fertility rates at fewer than three children per woman. They have broad-based economies and are substantially urbanised. Of the 47 countries in Central, East and West Africa, 37 have



lower per capita incomes of below USD 1 500 and higher fertility rates varying between 4 and 7. They depend more on mining and agriculture and in most cases have a majority of rural dwellers. The anamorphic Maps 1 and 2 (see at the end of Part II) compare the size of African countries' GDPs and populations: they illustrate the respective challenges of those three "macro regions", stressing in particular the disparities between the demographic and economic weights of countries in Central, East and West Africa on the one hand and North and South Africa on the other.

A finer analysis reveals that various groups of countries will evolve in different ways, depending on the stage of their demographic transitions. Guengant and May (2013) thus list four such groups (see Annex, Table 13):

- the few countries that have been in transition for a long time, where fertility is less than three children per woman: Mauritius, South Africa and countries in North Africa
- more recent transition countries, where fertility has fallen from six to seven children per woman at the end of the 1970s to three to four children: Côte d'Ivoire, Ghana and countries in Southern Africa
- countries in slow and erratic transitions with five children per woman: the majority of African countries
- countries with six to seven children per woman, that have gone through a very slow transition or whose transition has not begun: landlocked Central and West African countries.

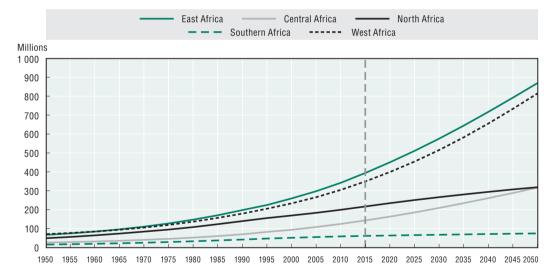


Figure 6.2. Population growth in Africa, 1950-2050

Note: Medium fertility scenario.<sup>6</sup> Source: UNDESA (2014).

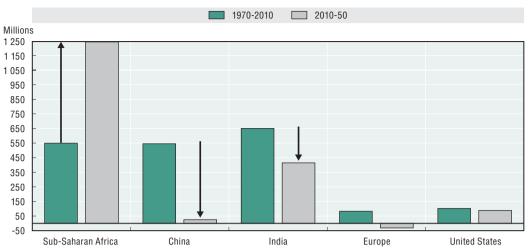
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Some experts play down the challenge of demographic growth, noting that Africa has coped with fast demographic growth in the past. However, the magnitude of future changes should not be underestimated. Past decades have seen the absolute – in some cases also the relative – numbers of poor people increase. But the population increase currently underway is unprecedented in size and pace.

Between 1970 and 2010, China, India and sub-Saharan Africa grew in similar numbers, by some 550-650 million people. Over the next 40 years, however, the increase of sub-Saharan Africa's population will be at least 200% of that between 1970 and 2010, compared with 70% in India, while in China it will level off and start to fall (Figure 6.3).



Figure 6.3. Demographic changes in sub-Saharan Africa, China, India, Europe and the United States, 1970-2010 and 2010-50

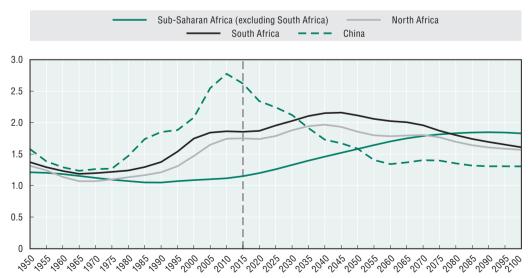


Source: UNDESA (2012).

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Those demographic changes bring about both opportunities and challenges. On the one hand, the ongoing demographic transition opens a window of opportunity, as ratios of the working-age population to the inactive population improve significantly. The ratio between those inside and outside the workforce, the activity ratio, will increase over the next several decades and possibly create a demographic dividend for sub-Saharan Africa. The number of active people supporting inactive people will increase due to lower birth-rates; this will free up resources to improve living conditions (e.g. education, health care and housing) and boost savings and investment. And it will remove a long-lasting, heavy burden from Africa, although differences between countries will be significant. In the 1990s, there was practically one active person for each inactive one. The average activity ratio is expected to steadily rise and continue well beyond 2050. By that time it is forecast to reach 1.6 active people per inactive person in sub-Saharan Africa (far from China's current level) (Figure 6.4). Ahmed et al. (2014) estimate that Africa's demographic dividend could contribute 10-15% of gross GDP volume growth by 2030.

Figure 6.4. Activity ratios in sub-Saharan Africa, North Africa, South Africa and China, 1950-2100



Note: Aggregate ratios are population weighted. The activity ratio is the ratio between the working age population (15-64) and the dependent age population (under 15 and over 65). Projections are modelled using the medium fertility variant.

Source: Authors' calculations based on data from UNDESA (2012).

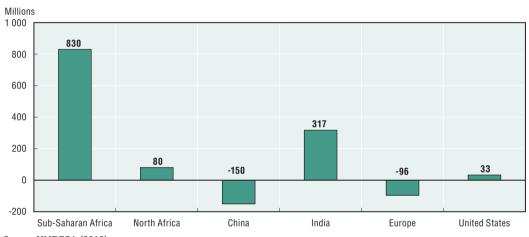
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On the other hand, the rapid growth of Africa's workforce will increase the pressure on labour markets. The workforce is expected to increase by 910 million people between 2010 and 2050, of which 830 million in sub-Saharan Africa and 80 million in North Africa. Creating more productive jobs, a major stake in Africa's structural transformation, becomes even more pressing. The estimated numbers of youth joining labour markets in 2015 are about 19 million in sub-Saharan Africa and 4 million in North Africa. Over the next 15 years, the figures will be 370 million and 65 million respectively, or a yearly average of 24.6 million and 4.3 million new entrants. While the 2015 population figure is an estimate, the magnitude of cumulative flows is fairly certain, as those entrants have already been born (see Annex, Table 13).

The upcoming growth in Africa's workforce represents two-thirds of the growth in the workforce worldwide (Figure 6.5). It is ahead of Asia, which includes India's additional 317 million workers. In Europe the figure should drop by 96 million and in China by 150 million.

Figure 6.5. Projected workforce growth in sub-Saharan Africa, North Africa, China, India, Europe and the United States, 2010-50



Source: UNDESA (2012).

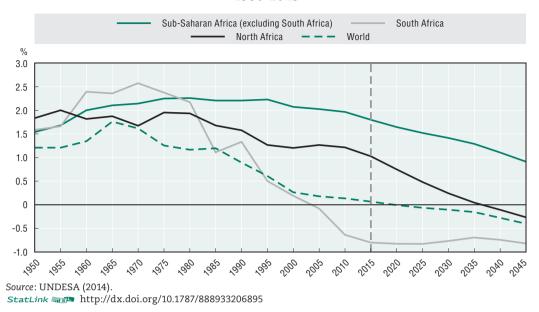
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### Rural and urban populations will grow, affecting the environment

Africa's cities will grow fast, but so will its rural communities. Africa remains a predominantly rural continent, despite strong urbanisation rates at its northern and southern rims and along the Gulf of Guinea. The majority of Africa's population is likely to remain rural until the mid-2030s, while the majority of the world's population has lived in urban areas since 2007. Figure 6.6 shows that North and sub-Saharan Africa's rural populations are projected to grow more than the world average. South Africa's annual rural growth rate has been below zero since 2003, and the world's growth rate is projected to also be negative by 2020. By 2050, sub-Saharan Africa's rural population is expected to increase by two-thirds, i.e. 400 million more people (UNDESA, 2014). This forecast should be interpreted with caution, notably due to the various definitions of "rural" (see Box 6.2) and to fast changing dynamics that further blur them. Nevertheless, a general trend towards a significant increase in the "rural" population, however defined, is to be expected.



Figure 6.6. Annual growth rates of rural populations in Africa and the world, 1950-2045

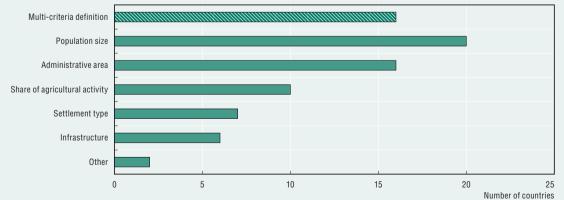


Box 6.2. "Urban" and "rural": flexible definitions

There are no universal definitions of "urban" and "rural" areas. The United Nations recognises that, because of national variations, urban and rural areas cannot be distinguished on the basis of a single definition valid for all countries (UN, 1998; FAO, 2005). Rural areas are often described negatively, as in "what is not urban" (UN, 1998; UNDESA, 2004). Therefore, inconsistencies and variations in defining urban areas lead to similar contradictions when defining rural areas.

The UN World Urbanization Prospects reports the sources for its data (mostly population censuses) as well as definitions of "urban" and "rural" for each country when available. The most common criteria are based on widely varying quantitative population thresholds (Figure 6.7). For example, several West African countries define a "town" as having at least 2 000 inhabitants, while Nigeria sets the minimum at 20 000. Some countries have changed thresholds multiple times. ¹¹ Other criteria include population density, administrative boundaries, service provision (e.g. water, electricity, schools) and the extent of farming. The large differences make it difficult to give weight to aggregate data.

Figure 6.7. Frequency of common criteria in 32 African countries' definition of "rural"



Note: The striped bar shows that 16 of the 32 countries in the sample use more than one criterion for their rural definitions.

Source: Authors' calculation based on UNDESA (2014).

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Demographic growth will affect resources and cause migration. Natural resources of already densely-populated areas will come under pressure, possibly magnified by the impacts of climate change (Map 3 at the end of Part II). As a result, people are likely to migrate to urban areas or to less populated areas, boosting the need for facilities. In some cases, people might move to neighbouring countries or further afield. For some already densely-populated countries, e.g. around the Great Lakes, even modest increases in population density could cause major physical and social changes. Environmental damage, along with extreme weather events, often render places inhabitable, obliging people to abandon them (Gemenne, Brücker and Ionesco, 2013).

The deep-rooted causes of tensions potentially intensified by climate change vary greatly by region. They depend on demographics, economics, and institutional or social and political factors. Trouble erupts when local resilience is exhausted and local and central authorities have no suitable solutions (Busby et al., 2014). There is no consensus on a direct link between climate change and civil disorder, but it does heighten the risk of turbulence (Gleditsch and Nordås, 2014; O'Loughlin, Linke and Witmer, 2014).

At present, 29% of people in sub-Saharan Africa want to move away from their current areas, and dissatisfaction with local public services accounts for 60% of the variation in migration intentions compared with 20% for discontent with their personal living standard (Figure 6.8).

Contentment with the local public services Satisfaction with personal living standard Area security

Confidence in the country's institutions Wealth index Perceptions of the change in a country's overall situation

Sub-Saharan Africa

60

20

9

4

4

2

Latin America

36

33

19

5

5

2

Figure 6.8. Relative contribution of explanatory variables to overall variation in migration intentions, 2014

Source: Table 2 from Dustmann and Okatenko (2014), based on Gallup World Poll 2012. StatLink as http://dx.doi.org/10.1787/888933206914

Migration for public services rather than for economic opportunities is "economically inefficient" (World Bank, 2009: 168). First, migration imposes fixed economic and emotional costs on migrants' households, and congestion costs on receiving regions. Second, industrialisation has created too few jobs to absorb this rural outflow in formal sectors. Most migrants thus find low-paid informal jobs and still end up in poverty. Only 16% of the rural-urban gap in multidimensional poverty is explained by the gap in the deprivation intensity, suggesting that the deprivations faced by the rural and urban poor are similar (Annex 6.A2). Third, rural-urban migrants tend to be young mobile males who are more educated than the average rural residents. In a study of five African countries, 57% of rural-urban migrants were male and were 28 years old on average, whereas only 48% of rural residents were male and were 36 years old on average; those migrants were also better educated (de Brauw, Mueller and Lee, 2014). Such migration can take away labour force from activities in the local economies where they are often needed, such as physical labour in farming.



Africa's demographic patterns thus raise a series of questions:

- How to mitigate the magnitude and speed of the population increase? In particular, how to slow the flow of new entrants into the labour market and enhance their skills? (Annex 6.A1 suggests how education policies could help capture the demographic dividend.)
- How to manage the migration flows stemming from demographic pressure, climate change and regional disparities?
- How to accelerate the pace of job creation to match labour supply?

This report focuses on the latter.

### Africa needs innovative development strategies

African economies cannot merely reproduce past models of economic transition, not just because of the unique demographic and spatial patterns described above, but also because they face external restraints that Asian and OECD countries have not had to confront. They need fresh strategies that combine the merits of existing prescriptions so as to build on their own unique demographic and spatial features and to chart original paths to structural transformation.

### Globalisation and climate change impose new constraints

The moment in time when transitions occur is important; for Africa that moment differs greatly from the industrial periods of Asia, Europe and Latin America.<sup>13</sup> Since the 1990s, Africa has faced the challenge of structural transformation in a context of globalisation and climate change. African policy makers thus enjoy less room to implement their structural transformation than early industrialisers. Globalisation offers new market opportunities but entails a number of constraints. Africa can gain shares in several agricultural, agro-industrial, industrial and services markets (AfDB/ OECD/UNDP, 2014). But today's global markets are stiffly competitive, in costs as well as in the quality of goods and services and in production potential. In addition, multilateral and bilateral agreements regulate trade and trade-related policies more stringently. Indeed, Africa's share in world trade decreased sharply from around 6% in 1980 to less than 2% in 1998 and has remained low (UNCTAD, 2014). Moreover, increasing trade openness may have contributed to eroding the link between agricultural production and domestic food demand since food can be imported from abroad (UNRISD, 2010). Encouraging young labour entrants to work abroad is not presently an option because of tight migration controls in OECD and other countries (Rodrik, 2011).

Africa is also vulnerable to ongoing changes to the environment.<sup>14</sup> The negative effects of climate change-related hazards on agricultural resources heavily affect the poorest who largely depend on them not only for food but also for jobs (Muller et al., 2011; Thornton et al., 2011). Pressure on already limited water supply is expected to increase sharply due to changes in water cycles caused by erratic rainfall and to affect negatively the production of annual crops such as cereals and cotton, or perennial crops like coffee, cocoa and palm oil. Livestock may also suffer from shrinking water supply, as grazing land is divided and damaged, and new diseases arise (Niang et al., 2014).15 As the demographic pressure on land grows, gathering wood for fuel will cause deforestation, as will developing agriculture and felling for timber (Bodart et al., 2013; Vittek et al., 2014; Malhi et al., 2013).16 The recent growth episode has compounded the deterioration of environmental resources, and ecological boundaries are close to being exceeded (AfDB/WWF, 2012; Raworth, 2012). Because environmental issues are localised and require local solutions tapping local assets, this report highlights that the related challenges must be taken into account in African development strategies but does not propose generic solutions. Those will depend on local contexts and must be defined on a case-by-case basis (see Chapter 8).



### Available policy options will not be enough to foster Africa's structural transformation

In today's debate on Africa's structural transformation, experts put forward several policy options to speed up the process, but none of them alone may be sufficient to address the demographic and environmental constraints mentioned above. Each option tends to prioritise one sector, underrating the necessity of a multi-sectoral approach combining different options. They tend to overlook the importance of regional dynamics and sometimes underestimate the constraints imposed by the global context (Losch, 2015). We consider here the five major policy options with their benefits and limitations as found in the literature.

- · Some experts propose that industrialisation be the mainstay of the African structural transformation. The continent should emulate past policies of developed and emerging economies, but in a more pragmatic way, and integrate into world trade (UNECA/AU, 2014). The changing international economic environment increasing manufacturing costs in Asia, the shift from the manufacturing of end products to task-based production (UNIDO, 2008), and the development of outsourcing and intra-firm trade (Dinh et al. 2012) - opens up opportunities for light manufacturing: it requires less capital and fewer technical and managerial skills and remains viable in fragile economic and institutional environments (AfDB/OECD/UNDP, 2014). However, many hurdles have to be overcome, all related to appropriate public policies, institutions, governance systems and sustainability (Page, 2012). As technical change has gradually rendered manufacturing more capital and skill intensive, it has triggered premature de-industrialisation in many developing countries over the past decades (Rodrik, 2014: 11). On its own, industrialisation may not suffice to create the almost 30 million additional jobs Africa will need every year.
- Others see services as the new pillar of structural transformation because jobs in services continue to expand (Ghani and O'Connell, 2014). Services related to outsourcing, new information and communication technologies, and cloud computing present multiple possibilities. Whether opportunities are large enough to enable countries to bypass industrialisation is debatable, particularly as services are becoming increasingly tradable and the challenges associated with winning effective market shares will be high (UNRISD, 2010). Furthermore, productive services require high-skilled workers, whereas the African workforce is mostly low skilled (Rodrik, 2014).
- A third option to foster structural transformation would be to produce more natural resources. Investing natural resource revenues wisely and simultaneously developing industrial policies could diversify economies (AfDB, 2013).<sup>17</sup> Improving transparency, tax collection, public spending, the management of public companies, and the social and environmental impacts of mining would sustain growth (APP, 2013). However, given governance deficits in the extractive sector (RWI, 2013), the long-term risks associated with this option are high, due to environmental limits and the instability of international prices.
- Green growth strategies, calling for dramatic changes in production and consumption modes, have been advocated as a fourth alternative (UNESC/UNECA/ UNEP, 2011). Africa could initiate the world's energy transition and leapfrog to a more sustainable development path. But such a transition would take too long. The current resource extraction model will continue to mobilise significant investments in the short to medium term, thereby hampering the green transition (Swilling, 2013).
- Finally, tenants of an agriculturally-based growth stress that, given the current share of agriculture in employment, this sector should be prioritised (Headey, Bezemer and Hazell, 2010). As seen above, the number of workers in rural areas will continue to grow. The economic development literature highlights the important role of agriculture in structural transformation and its direct effect on poverty reduction (Johnston and Mellor, 1961; Johnston and Kilby, 1975). Improved agricultural performance played a major role in the economic successes of East and



Southeast Asia (World Bank, 2007). More recent works on Africa confirm the sector's unique role (Diao et al., 2007; Dorosh and Thurlow, 2012). Still debated, however, is the type of development model for agriculture that could absorb a significant share of the workforce while dramatically improving productivity, such as small- or large-scale farming (Losch, Fréguin-Gresh and White, 2012; see Box 6.3).

In the end, there is no single solution to the challenges of African structural transformation. Today's international environment makes it more difficult to achieve high growth rates like East Asia did with export-led strategies. While there is little doubt that job creation must be the central priority, the options are not necessarily exclusive. Drivers of change differ according to the context: "Perhaps it will be agriculture-led growth. Perhaps it will be services. But it will look quite different than what we have seen before" (Rodrik, 2014: 15).

# Regional development can promote spatial inclusion and unlock the potential of African economies

Given the unique set of challenges confronting the continent, "business-as-usual" is not an option. Changing policy models and changing scales are imperative (Paulais, 2012: 197). Effective transformation strategies need to draw from Africa's own experiences and those of others, but they must also focus on the uniqueness of Africa's transformation challenge: to manage its population growth and its spatial development. Therefore, structural transformation in Africa may require policies that:

- focus on local resources and their adequate development and management
- better articulate the changing relationships between the countryside and the cities
- strengthen networks of intermediary cities (Annex 6.A3)
- diversify the rural economies through decent off-farm activities (Box 6.3)
- better define the changing role of agriculture in African societies
- accompany the transformation towards more sustainable metropolitan areas
- provide services and opportunities, particularly in the regions whose populations are doubling
- make the informal sector more productive (Box 6.3)
- improve regional integration, notably by developing African value chains and tapping regional markets.

Each sectoral approach holds a part of the answer to those imperatives. African policy makers need innovative, effective ways of articulating those policies. One such way, discussed in the next chapters, is development strategies that focus on local assets, such as firms, the labour force and natural resources to unlock the potential of African regions (Garofoli, 2009: 225). In this respect, the continent's unique assets have an immense potential:

- a fast growing domestic market: the continent's current population of 1.1 billion inhabitants will grow by 1.2 billion by 2050.
- an emerging middle class of urban consumers: Africa's combined consumer spending was USD 680 billion in 2008 and is projected at USD 2.2 trillion in 2030 (AfDB, 2011: 14).18
- a diversity of ecosystems: Africa hosts a quarter of the world's approximately 4 700 mammal species, a fifth of the world's 10 000 bird species and 40 000-60 000 plant species (UNEP, 2006).
- natural resources: Africa has an estimated 10% of the global reserves of oil, 40% of gold and 80-90% of chromium/platinum group metals (AfDB et al., 2013: 135). 19
- large scale and vast land areas: the continent represents around 24%, or 600 million hectares, of the world's arable land.<sup>20</sup>

Tapping those assets requires balancing trade-offs at the local level: for instance choosing between extracting natural resources and developing eco-friendly activities.



### Box 6.3. Policies must support decent job creation in labour absorptive sectors

Structural transformation critically hinges on developing new, productive economic activities (AfDB et al., 2013). Last year's AEO demonstrated the opportunities offered by greater participation in global value chains and upgrading in the agricultural, manufacturing and services sectors but showed the limited impact on job creation in formal companies so far (AfDB/OECD/UNDP, 2014). By identifying and activating unexploited local resources, place-based development strategies can widen opportunities for integrating into global value chains and enlarging modern businesses. In addition, demographic growth will increase the number of jobs in non-tradable sectors such as construction, public services (e.g. health, education, security), retail and infrastructure (see Chapter 7). However, unless growth patterns are significantly altered, the change in employment structures will likely be slow over the next decade (Filmer and Fox, 2014). Therefore, employment strategies should focus both on formal enterprises and on improving labour absorption by small-scale businesses and farming (Chuhan-Pole et al., 2014; AfDB et al., 2012).

- Productivity and employment in agriculture are key for structural transformation. Few countries met the 2003 Maputo Declaration target to commit 10% of their budgets to agricultural development, and agricultural growth in Africa has been limited (Benin and Yu, 2012). Weak incomes in the sector translated into low rural demand, slow rural change and thus slow structural transformation. A two-fold rationale must therefore guide public investment: labour absorption and increased productivity to sustain the livelihoods of newcomers. Whether to promote labour-intensive small-scale farming or more productive large-scale farming is debated (see for instance Collier and Dercon, 2014; and Losch, Fréguin-Gresh and White, 2012). Trade-offs can only be settled on a case-by-case basis.
- Jobs in the non-farm sector will be crucial to increase productivity in rural areas. Haggblade, Hazell and Reardon (2007) point out that only 9-19% of the rural labour force in Africa are employed in the rural non-farm sector, yet they are responsible for 37% of the income of rural households. Non-farm activities diversify the household income to absorb the impact of agricultural shocks and utilise spare agricultural labour during the low season. Additional income also relieves credit constraints, allowing households to invest in human and physical capital. However the rural nonfarm sector is still limited in Africa. On-farm income represents a much higher share of total income for rural households in Africa than in other regions, at 63% compared to 33% in non-African countries; while the shares of non-farm wage income average 8% in Africa and 21% elsewhere (Davis, Di Giuseppe and Zezza, 2014, based on a sample of nine countries accounting for 51% of the sub-Saharan population and 13 non-African countries). African households may resort to low-productivity non-farm jobs due to the agricultural sector's poor performance and to the absence of financial markets (Reardon et al., 2007). Promoting the rural non-farm sector thus does not necessarily translate into more productive employment. Rural non-farm activities will develop alongside other economic sectors. Higher agricultural productivity leads to more nonfarm activities, and non-farm income increases demand for agricultural goods.
- Jobs in the urban informal sector can be more productive. Recent evidence from a number of countries in Africa, Asia and Latin America shows that returns to capital in the urban informal sector are high (Banerjee and Duflo, 2004; McKenzie and Woodruff, 2006; De Mel, McKensie and Woodruff, 2008; Kremer, Lee and Robinson, 2010; Fafchamps et al., 2011; Grimm, Krüger and Lay, 2011). Yet those high returns up to 60-70% annually remain largely unexploited as a result of a number of economic, institutional and social constraints (Grimm, Krüger and Lay 2011; Grimm, van der Hoeven and Lay, 2011). Removing them would enable entrepreneurs to create and enlarge their businesses, achieve their full productive potential, and create better quality jobs for themselves and others. Public interventions need to improve the income generating capacity of the informal sector while supporting its ability to absorb additional workers (AfDB et al., 2012).



This thematic part of the African Economic Outlook 2015 aims to assess the usefulness of regional development policies in contributing to the structural transformation of African countries. Policies of regional development have benefited from centuries of experience and decades of analysis. Many debates have arisen as to which policies are the most effective, such as: should regional policies aim to actively mobilise the potential of all regions? Or should they focus on creating the conditions for the most competitive to thrive? Those debates, however, have mainly focused on European experiences, far from African realities (Box 6.1). This report argues that development strategies can unlock untapped potential by better valuing the diversity of African regions and by better connecting them.

Box 6.4 discusses the various terms used in the economic literature and beyond to discuss where human activities take place and argues for the use of the term region throughout Part II of this report.

# Box 6.4. Definitions of region, place, territory, space and regional development

There are no standard definitions of region, place, territory, space and regional development. Moreover, these terms are sometimes used interchangeably. The three languages in which this report is published – English, French and Portuguese – also lack a common usage of these terms.

The concept of region gained notoriety with the work of Vidal de la Blache, a French geographer, for whom a region results from a historically constructed relationship between human beings and nature in a specific spatial unit (De La Blache, 1883). Today "region" is often understood as a unit of analysis or a tool for policy making or public administration (Ribeiro, 2004; Dunford, 2009). People define a region's limits depending on their own specific practices and activity (Fremont, 1976). "Functional regions" refer to the spatial unit whose boundaries are defined by the organisation of social and economic relations (OECD, 2009, 2012; EU, 2011; Cistulli et al., 2014).

"Region" traditionally means a particular spatial unit either within a country or crossing the border between two countries. However, recently it has also come to refer to spatial units that encompass many countries, on a scale between national and continental as in the case of Africa's Regional Economic Communities. In this report, the term region refers to spatial units at the supranational, subnational and cross-border levels.

"Place" usually refers to the space that people experience and involves meaning, practice and materiality. Barca (2009: 5) states that place, in the context of a development policy, refers to an area with physical continuity. In other words, in a given place similar conditions influence development, such as nature, culture and work. The word is now broadly used for development policies in the terms "place-based approaches" and "place-based policies". The term place has almost always been used in geography, but geographers began to conceptualise it in the 1970s (Cresswell, 2009). The concept of territory became popular with the work of Jean Gottman, a French geographer, who defined it as the jurisdiction of a state (Gottman, 1952); However, Santos (2008: 138) claims that globalisation and the increasing porosity of national borders have modified its meaning. Territory can relate to identity, usage and belonging. It is also a space where a coalition of actors share goals (Giraut, 2008). This is the approach adopted in economic geography (Benko and Lipietz, 1992, 2000; Storper and Walker, 1989; Storper, 1997). Hence, networks of stakeholders mobilise a territory's resources and dedicate them to a project, frequently to produce goods or services but also to promote broader economic and social development (Campagne and Pecqueur,

(2011) summarises the debate by saying that territory is the political dimension of geographic space. Geographical space or simply **space** refers at once to an area and its content or can be understood as a totality. The area refers to size, distance and materiality, such as buildings and railways. The

2014). Often local, these networks benefit from strong social capital and sometimes rely on complementary skills, as illustrated by Italian industrial districts (Becattini et al., 2003). Cataia



# Box 6.4. Definitions of region, place, territory, space and regional development (cont.)

content refers to the meaning that a society attributes to it. As a totality, space is a collection of places, their relationship, and their material, economic and social characteristics (Santos, 1999; Lévy and Lussault, 2009).

French and Portuguese speakers traditionally distinguish between the concepts of **space** and **territory** more so than English speakers, who use "space" more often than "territory". "Spatial planning", for example, translates into French as *aménagement du territoire* and into Portuguese as *planeamento territorial*. One exception is Harvey (2001), who distinguishes space from territory by pointing out that space is a basic category of human life, but that space becomes territory when leaders organise it to optimise economic production. Moreover, Storper (1997) argues that these concepts can help provide a response to globalisation through regional development. For instance, the European Union's "Territorial Agenda 2020" refers to the development of its "diverse regions" (EU, 2011).

Despite different definitions, regional development always relates to improving welfare and economic productivity in a certain region of a country (Baerenholdt, 2009: 181). The idea of regional development emerged in the framework of regional geography. Different schools of thought have since developed. François Perroux established the idea of poles of development (Perroux, 1991). More contemporary approaches base regional development on entrepreneurship, innovation and knowledge (Howells, 2009; Nijkamp and Abreu, 2009). In line with the most common usage, the English version of this report refers to regional development where the French and Portuguese versions use territorial development.

Since Africa's structural transformation is not only an economic but also a social transformation, issues of economic efficiency must be balanced with concerns for equity. Strategies for spatial inclusion must therefore complement those for regional development. Spatial inclusion is a pillar of inclusive growth, together with economic, social and political inclusion (AfDB, 2013). Growth is by nature spatially unbalanced, but it must be inclusive to be sustainable. Fostering growth requires competitive regions, and sustainable growth requires economic integration. Moreover, balancing effectiveness and equity is particularly important in the context of the demographic revolution and the persistence of spatial poverty traps (Annex 6.A2). Regional development will increase the competitiveness of regions; spatial inclusion will improve their connectivity. The approach should thus be multidimensional and participatory (OECD, 2009, 2012).

Regional development policies have been implemented in African countries at various scales (Table 6.2). The next chapters review their policy experiences in light of the structural transformation imperative, before proposing actions to improve their impact.

Table 6.2. Simplified definitions of regional scales and policies

	•	
SCALE	DEFINITION	POLICIES
Supranational region	Territory of an international organisation (e.g. Economic Community of West African States).	Economic and social policies for integration and economic corridors.
National territory	Jurisdiction of a country	Policies for transfers, policy co-ordination, urbanisation, credit, education, training and health.
Sub-national region	Spatial unit within a country created to manage specific needs (e.g. Volta,	Policies for services and investments in research and development.
•	Ghana).	Policies for poles of growth, for transport and communication infrastructure linking rural and urban areas, for specific resources activation, and for special economic zones.
Cross-border region	Spatial unit created to manage issues that cross national borders (e.g. SKBo).	Policies related to cross-border issues.
City or neighbourhood	A place at the scale that people actually experience.	Policies that promote the local economy, urban planning, and citizens' and local leaders' participation in and management of local issues.



#### Notes

- 1. Data on jobs are mostly inaccurate due to the limited development of formal employment and wage systems.
- 2. The actual share of agriculture in economies is a debated issue. The Food and Agriculture Organization's broad definition of the economically active population in agriculture includes anyone employed or unemployed and seeking work in farming, hunting, fishing and forestry. It does not take account of other activities or under-employment and therefore tends to overestimate the share of agriculture.
- 3. No standard definition of the "informal sector" exists, and the notion is disputed. It is usually defined relative to formal companies and self-employment. The latter are registered with tax authorities and observe rules of accounting as well as economic and social aspects of labour law related to hiring, firing, minimum wage and working conditions (Charmes, 2011). The informal sector includes in particular handicrafts, transport and small-scale trading.
- 4. Groups of countries were built by statistical analysis of 42 countries using regression-based agglomerative hierarchical clustering on time series data from FAOSTAT (2011) and World Bank (2014) between 1961 and 2010. Countries eliminated from the analysis are countries with too short time series and also several oil-exporting countries with a drastic evolution in GDP shares. The countries are classified as follows: i) Diversifiers: Benin, Cabo Verde, Cameroon, Côte d'Ivoire, Egypt, Mauritius, Morocco, Namibia, South Africa, Swaziland, Tunisia; ii) Intermediate: Botswana, Ghana, Kenya, Lesotho, Mauritania, Senegal, Sudan, Togo; iii) Agriculturally based: Central African Republic; Djibouti, Eritrea, Ethiopia, Madagascar, Malawi, Mali, Mozambique, Seychelles, Tanzania, Uganda, Zimbabwe; iv) Agriculture+: Burkina Faso, Burundi, Comoros, Democratic Republic of Congo, Guinea, Guinea-Bissau, Liberia, Niger, Rwanda, Sierra Leone, Zambia
- 5. Anamorphosis is the intentional distortion of a depicted object and is used in statistical cartography to highlight a phenomenon. In anamorphic maps the value of the area is replaced by another statistical value. This distorts the geometry of the map according to the weight of each variable shown but keeps the shape and relative position of each country.
- 6. UN demographic projections mainly distinguish between high, constant, medium and low fertility. However, the UN has constantly revised its projections upward (Guengant and May,
- 7. The ratio is the inverse of the dependency ratio (inactive/active) which is more commonly used. This one has the advantage of targeting active people, i.e. the activity or production dimension, rather than dependent people and their cost.
- 8. In China in the 1990s, there were two active people for every one inactive (2.5 today), a sharp difference with Africa at the time in terms of productive capacity and living standard improvements.
- 9. In the case of the East Asian "miracle", the effective realisation of such potential contributed 25-40% of GDP per capita growth between 1965 and 1990 (Bloom and Williamson, 1998; Bloom, Canning and Malaney, 2000).
- 10. Growth rates of the rural population are the yearly increase in rural population as a share of the existing population.
- 11. Mali revised the size criterion several times: until 1987, it used an urban cut-off of 5 000 inhabitants; the 1998 census used a cut-off of 30 000 and the 2009 census used a cut-off of 40 000 (McGranahan and Satterthwaite, 2014: 7). In Tanzania, estimates of the extent of urbanisation may vary depending on three definitions used by different institutions. The urbanisation rate ranges from 16.8% (using the political-administrative approach) to 22.8% (using the statistical approach) and 23.5% (using the human settlements approach). Nonetheless, when using the OECD's occupancy-density-based approach, Tanzania's urbanisation rate rises to 33.5% (Paulais, 2012: 71).
- 12. In a small country like Burundi, the average size of land per household used for agricultural exploitation has fallen from around 2.2 hectares in 1990 to half a hectare in 2014 (AEO Country Note). With one of Africa's lowest levels of urbanisation (11%), Burundi has 396 inhabitants per square kilometre (World Bank, 2014).
- 13. Europe fully benefited from its hegemony in consolidating its structural transformation, and its imperialism gave it access to captive markets with little competition. It also enabled massive European emigration to the "new worlds", helping to absorb its growing workforce, strong poverty and even starvation like in Ireland in the 1850s. Latin America and Asia relied on important state-led modernisation policies - though arguably with many variations -, with import-substitution, protection of infant industries (Evans, 1995; Amsden, 2001) and substantial support to modernise agriculture (Djurfeldt et al., 2005), particularly during the Cold War period. Strong state intervention was the rule in reaction to World War I and the 1929 financial crash until the late 1970s when economic liberalisation began, with state disengagement and the rise of globalisation (Giraud, 1996; Ha-Joon, 2002). By then, African countries were still young and had barely worked out their own plans for modernisation.



- 14. By the end of the century, the predicted rise in temperatures of at least 2° C is set to seriously disrupt land and marine ecosystems.
- 15. Those consequences are mostly forecast through average changes in the weather, whose variations are still poorly understood (Thornton et al., 2014), but extreme weather events such as droughts and floods will also probably have significant impacts on agricultural systems. In recent decades, unpredictable rainfall has already badly affected the Lake Victoria region, northern Tanzania, the eastern part of the Democratic Republic of the Congo, the agro-pastoral region from central Kenya to the Eritrean coast, the Atlantic coast of West Africa, and the coasts of Angola and the Republic of the Congo.
- 16. Forests still cover between half and two-thirds of the land available in sub-Saharan Africa, but the increase in farmland from 200 to 340 million hectares between 1975 and 2000, a 57% increase was mainly at their expense (Brink and Eva, 2009).
- 17. The mixed results of many resource-rich countries in terms of poverty alleviation and inequality (Gamu, Le Billon and Spiegel, 2015) is largely explained by poor governance and rent usage (Bhattacharyya and Collier, 2014).
- 18. In 2010, 326 million people, or 34.3% of Africa's total population, had a daily income of USD 2-20 in 2005 PPP, the range used to characterise the middle class in Africa (AfDB, 2011: 2).
- 19. Expenditure on mining exploration activity in Africa has long remained below USD 5 per square kilometre relative to an average of USD 65 in Australia, Canada and Latin America. Exploiting these resources, however, may imply trade-offs with environmental sustainability.
- 20. "Some 24% of the world's agricultural land is found in Africa, but it produces only 9% of global agricultural output" (AfDB et al., 2013: 136).



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# Annex 6.A1. Capturing the demographic dividend requires fast-track education policies

One important channel for the demographic dividend is fast-track, quality education policies that can accelerate the demographic transition. Fast-track education policies can contribute to economic growth by increasing activity ratios – the proportions of workers to dependants – and by upgrading people's skills (Cuaresma, Lutz and Sanderson, 2014; Lutz, Butz and KC, 2014; Basu, 2002; Abdurazakov, Minsat and Pineda, 2012). Accelerating the demographic transition will also smoothen the structural transformation of many countries.

The Wittgenstein Centre has developed demographic scenarios that integrate the effect of education on fertility and mortality, among others (Wittgenstein Centre for Demography and Global Human Capital, forthcoming). The scenario based on the constant enrolment ratio, or base-case scenario, projects no quantitative educational improvements. The fast-track scenario predicts that countries will achieve ambitious educational targets consistent with the Millennium Development Goals and the Education for All initiative. This scenario assumes that countries manage "to follow the experience of nations such as the Republic of Korea and Singapore, who experienced some of the most rapid expansions in schooling in human history" (Lutz and KC, 2013: 5). Base-case implies keeping the same percentage of students in school, while fast-track increases the number of students and their level of education.

### A country scenario: The case of Ethiopia

Ethiopia would benefit from stronger education policies. The country's fertility rate was almost five children per woman in 2010. Ambitious education policies would reduce population pressure, increase the activity ratio, foster a more educated labour force and decrease gender inequality in education achievement. Figure 6.A1.1 illustrates the impacts of alternative education policies on Ethiopia's demographic structure. It compares Ethiopia's education attainment in 2010 with two possible demographic scenarios. By 2050, according to the base-case scenario, the dependent population would increase by 57%, compared with 14% in the fast-track scenario.

Fast-track education policies would favourably reshape Ethiopia's population pyramid. In 2010, Ethiopia's pyramid was triangular due to the large population of young dependents. If the country adopts fast-track education policies, by 2050 the pyramid will become dome shaped as most of its population will have reached working age. Further, 23% of the population would obtain a post-secondary education. By contrast, under the base-case policies, Ethiopia's pyramid would remain triangular, and the majority of its population would remain without secondary education. Between 2010 and 2050, Ethiopia's total population would grow from 82.9 million to either 143.9 million in the fast-track scenario or 169.6 million in the base-case scenario.



Under 15 No education Primary education Secondary education Post secondary 85+ Population pyramid of Ethiopia, 2010 80-84 75-79 70-74 65-69 60-64 Male Female 55-59 50-54 45-49 40-44 35-39 30-34 25-29 20-24 15-19 10-14 5-9 0-4 7 000 5 000 5 000 7 000 3 000 1 000 1 000 3 000 Thousands 85+ Population pyramid of Ethiopia: 80-84 base-case scenario, 2050 75-79 70-74 65-69 Male Female 60-64 55-59 50-54 45-49 40-44 35-39 30-34 25-29 20-24 15-19 10-14 5-9 0-4 9 000 7 000 5 000 3 000 1 000 1 000 3 000 5 000 7 000 9 000 Thousands 85+ 80-84 75-79 Population pyramid of Ethiopia: fast-track education scenario, 2050 70-74 65-69 Male Female 60-64 55-59 50-54 45-49 40-44 35-39 30-34 25-29 20-24 15-19 10-14 5-9 0-4 9 000 7 000 5 000 5 000 7 000 9 000 3 000 1 000 1 000 3 000

Figure 6.A1.1. Ethiopia's educational achievement in 2010 and scenarios for 2050

Source: Wittgenstein Centre for Demography and Global Human Capital (forthcoming). StatLink Map http://dx.doi.org/10.1787/888933206921

Thousands

2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060



#### A continental scenario

At the continental level, a fast-track education scenario would expand the working-age population significantly. It would improve Africa's activity ratio by increasing the number of workers per 100 dependents from 133 in 2015 to 200 in 2050. Moreover, ambitious fast-track policies would increase the number of workers with post-secondary degrees to almost 650 million by 2060, compared with 31 million in 2010. By contrast, keeping the current rate of enrolment would leave almost 700 million people of working age with no education in 2060 and few people with post-secondary degrees. Figure 6.A1.2 shows Africa's projected education structure by 2060. It also illustrates how education policies could affect the size of the continent's population. If African governments pursue fast-track education policies, the African population will reach 1.88 billion in 2050, compared with 2.13 billion in 2050 if the enrolment rate remains constant, a difference of 250 million people.

Primary Under 15 No education Secondary Post secondary Millions Millions 2 500 2 500 A. Base-case scenario B. Fast-track education scenario 2 000 2 000 1 500 1 500 1 000 1 000 500 500

Figure 6.A1.2. Distribution of educational attainment in Africa: Policy scenarios, 2010-60

Source: Wittgenstein Centre for Demography and Global Human Capital (forthcoming). StatLink is http://dx.doi.org/10.1787/888933206933

2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060

Korea adopted the fast-track education scenario. Since the 1960s, Korea sequenced its education policy to match the changing domestic labour demands. The first stage included expanding universal access to primary school through free compulsory education and building more schools, including in lagging areas. The programme was financed through a dedicated surtax and foreign aid which more than tripled the education budget from 4% of the government's total budget in 1954 to 15% in 1959. As the education base was gradually strengthened, the government shifted investment towards the expansion of secondary and tertiary education before investing in improving the quality of education at all levels (Kim, 2010). Throughout these periods, the government also focused on establishing and strengthening technical and vocational training to match the domestic demand for skills.

Moreover, increasing the availability and quality of education can help African countries direct their growth models towards higher value-added activities. Better quality education is linked to higher labour productivity, even when controlling for per capita income (OECD/CAF/ECLAC, 2014: 89; Hanushek and Woessmann, 2012). Improving education also means better targeting labour markets in both rural and urban areas. Post-secondary education is often too generalised and instils few of the practical skills that small businesses or self-employment require. Technical and vocational skills



development plays a minimal role for the moment, though it can be an important tool especially when used in co-operation with businesses. Fewer than 5% of secondary school students are enrolled in technical and vocational programmes, and their share in educational budgets is only about 2-6% (AfDB/OECD, 2008). A much larger share of youth goes through informal apprenticeships. In South Africa, expanding vocational training could enhance the skills of 3.4 million young people, one-third of those aged 15-24, who are neither formally employed nor in education or training. At the university level, Africa has the highest share of social science and humanities graduates of any world region but the lowest share of engineers. Only 2% of students study agriculture, the same as in OECD countries, although this sector is clearly the comparative advantage of many African countries (AfDB et al., 2012).



### Annex 6.A2. Assessing spatial inequality in Africa

Available evidence suggests that Africa is the second most unequal continent in the world after Latin America (Ravallion and Chen, 2012). Moveover, high inequality seems to have persisted for over 60 years and shows no visible sign of declining (Bigsten, 2014; Milanovic, 2003). A paucity of data collected in repeated waves at the household level for many countries has prevented any systematic analysis on the underlying determinants of inequality in Africa. A recent attempt at the African Development Bank to fill this data gap resulted in a significant finding that confirmed other studies: using data from Demographic and Health Surveys from 37 countries conducted in 108 waves, Shimeles and Nabassaga (forthcoming) report that close to 40% of asset inequality in Africa is mainly due to spatial factors (Table 6.A2.1).

Table 6.A2.1. Inequality levels in 37 African countries

Period	Average Gini coefficient for assets	Component due to spatial inequality	Component due to inequality of opportunities	Component due to other factors
Before 1995	0.42	0.37	0.11	0.52
1996-2000	0.43	0.34	0.13	0.53
2001-05	0.38	0.32	0.13	0.54
2006-09	0.40	0.34	0.14	0.51
2010-13	0.44	0.39	0.13	0.47

Source: Shimeles and Nabassaga (forthcoming).

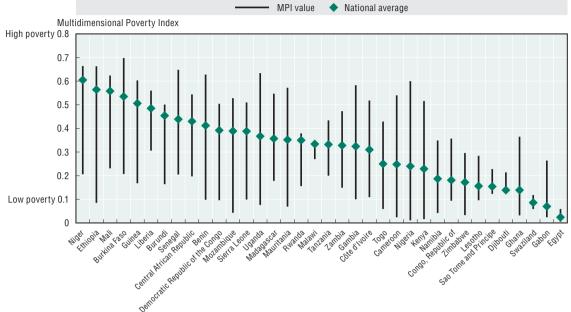
The spatial distribution of poverty reflects the continent's regional disparities, as Figure 6.A2.1. shows. Adverse spatial features can lock some areas in underdevelopment, creating "spatial poverty traps" (Bird, Higgins and Harris, 2010). The disparities overlap with the rural-urban gap. The figure not only shows major differences between capital regions and other regions but also reveals the larger regional gap in poorer countries, such as Ethiopia, Mali and Niger. It is based on the Multidimensional Poverty Index (MPI), a composite measure of poverty headcount and poverty intensity consisting of ten indicators (e.g. electricity access, drinking water, sanitation) which estimate household hardship level (see Chapter 4).

Disparities between regions also reflect spatial disparities at national level. All 37 of Nigeria's regions have sharp MPI variations, from Lagos (0.035) to Yobé (0.635). While the 11 northern regions have an MPI above 0.4, the low-value regions with less multidimensional poverty are all in the south (between 0.050 and 0.150), where the country's large metropolitan area, diversified economic activities and oilfields are concentrated. Other countries are more regionally homogenous outside the capital region. This is the case of Mali where all regions but Bamako have MPIs between 0.44 and 0.594. Niger's regions rate similarly, except Niamey and the sparsely-populated Agadez region (0.405) where uranium is mined.

MPI data also illustrates the disparities between coastal and landlocked areas of many African countries, where the MPI corresponds to 0.23 and 0.43 respectively. In the 365 regions of 36 African countries, landlocked areas have a higher poverty headcount and intensity than the coastal areas, and the difference is statistically significant at less than 1%. The MPI says 86% of the poor (252 million people) live in landlocked areas and only 14% (41 million) in coastal areas.



Figure 6.A2.1. Extreme and average Multidimensional Poverty Index values in 36 African countries, 2005-12



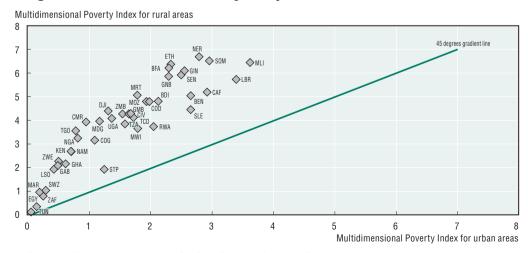
Note: The Multidimensional Poverty Index ranges from 0, the lowest value, to 1, the highest. It can be decomposed by region as well as by dimension.

Source: Alkire, Conconi and Seth (2014).

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Finally, multidimensional poverty is much higher in the countryside than in urban areas, although this relationship decreases with higher levels of development. Comparable data for urban and rural poverty exist for 42 African countries: the average aggregated MPI is 0.11 in urban areas against 0.39 in rural areas, with 74% of poor people living in the countryside. Overcoming this inequality is part of structural transformation: the rural-urban gap narrows with diversification, higher productivity and better rural living standards. A few "diversified" African countries, such as Egypt, South Africa and Tunisia, have sharply reduced rural-urban disparities (Figure 6.A2.2).

Figure 6.A2.2. Multidimensional poverty in Africa's rural vs. urban areas



Note: The green line represents no rural-urban disparity in MPI values.

Source: Alkire, Conconi and Seth (2014).

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# Annex 6.A3. Developing intermediary cities can accelerate structural transformation

For many countries, in a context of regional asymmetries, accelerating structural transformation requires better connecting rural areas to urban areas. Developing intermediary cities can strengthen the links between agriculture, industrialisation and urbanisation.

### Rents have polarised spatial organisation

The colonial period strongly influenced the continent's regional configuration. Territories were largely dedicated to exploiting natural resources. Each territory built its own port to ship out commodities brought from inland by train; the port often became both the main town and a railhead. For landlocked territories, railways generally connected with the nearest colonial harbour, e.g. Ouagadougou to Abidjan or Kampala to Mombasa. The territories were oriented perpendicularly to the coast creating a "combshaped" structure, often dividing existing social and political entities (Figure 6.A3.1). The continent's 16 landlocked countries were thus connected to coastal regions by the "combs' teeth".

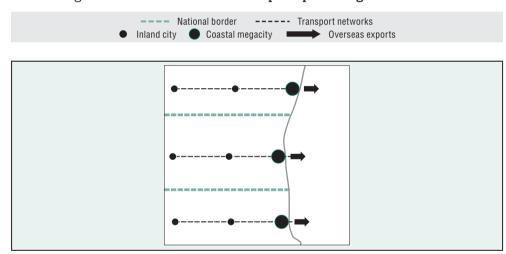


Figure 6.A3.1. Africa's comb-shaped spatial organisation

After independence, countries endeavoured to build national unity and identity by beefing up the administrative and economic functions of the capital city and expanding its infrastructure. National borders were strengthened. Some regional infrastructure was discarded: for instance, the joint railway systems shared by Mali and Senegal and by Burkina Faso and Côte d'Ivoire were divided into separate units. Education systems also were split, each new country wanting to establish its own university despite a lack of money and staff.

In many cases, the newly independent countries' strategic economic choices further fragmented the territories. Africa's integration into the world economy remained chiefly characterised by exports of unprocessed raw materials. Since extracting resources is locally based, enclaves developed, such as mining concessions and plantations.

One explanation for the slow pace of structural transformation is the persistence of rent systems that reinforced spatial polarisation. Governments have focused on capturing the rents that extracting resources generate, collecting them in the form of



royalties, taxes on both exports and imports, and, according to Magrin (2013), official development assistance. This has strengthened reliance on external financing by providing an alternative to domestic resource mobilisation. Figure 6.A3.2 provides a stylised representation of the spatial consequence of this rent system: polarisation is reinforced in favour of capital cities, often the port in coastal countries, and the main business, administrative and logistical hub; regions of extraction receive few benefits; and other regions hardly benefit from redistribution.

Extraction economy

Global market

\$\$\$\$

Production zone

Figure 6.A3.2. Relationship between extractive rents and territories

Source: Adapted from Magrin (2013).

### Urban growth has sharpened regional asymmetries

African cities have not sufficiently acted as a driver of structural transformation. The creation of formal employment did not keep pace with migration flows and most rural-urban migrants found jobs in the informal urban sector. African cities thus have been growing quickly and unevenly, yet urban growth is no longer soaring; it has actually slowed down sharply since the boom of the 1950s-70s. In those days, West Africa's cities grew annually up to 7.5%, but they have since decelerated to a more modest 4.3% per year between 2010 and 2015. East Africa is now growing the fastest at 4.5%, while Southern Africa's growth rate is only 1.7% (Figure 6.A3.3). The severe economic crisis of the 1980s and 1990s was a turning-point, which raises the question of urban attractiveness in a context of massive under-employment and low job creation.



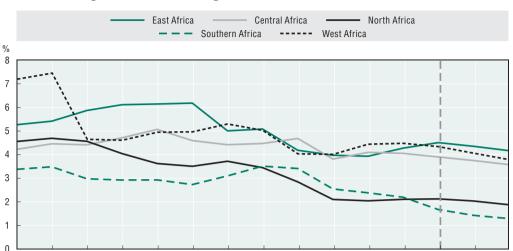


Figure 6.A3.3. Urban growth rates in Africa, 1950-2025

Note: The percentages reflect the average annual rate of change of the urban population over five-year periods. Source: UNDESA (2014).

2020 2025

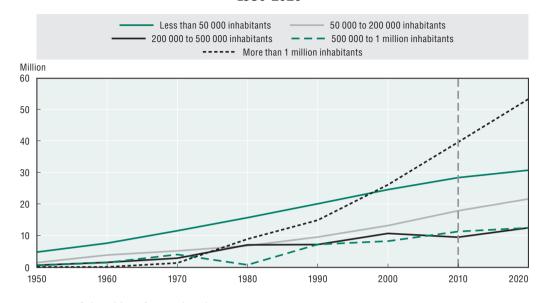
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The continent's asymmetric urban systems have resulted in metropolisation and diffused local growth. In metropolisation, as shown by Map 4 (see at the end of Part II) urban archipelagos emerge from clusters of towns connected by road systems prefiguring future megacities (Dollfus, 1997; Veltz, 1996). These vast, multipolar areas have been arising on the coast of the Gulf of Guinea and all over Nigeria (Denis and Moriconi-Ebrard, 2009). Similar systems are developing in the Ethiopian highlands, the Nairobi-Kampala corridor, South Africa and the countries of North Africa. Some African cities are densely populated: in the built-up areas of Metropolitan Lagos, the average density is over 20 000 people per square kilometre (Lagos State Bureau of Statistics, 2005). Despite this trend, Africa still has fewer large cities than other regions of the world: the continent of 1 billion people counts about 30 cities of 1 million inhabitants, while South America has 42 for only 400 million inhabitants.

Diffused local growth is the second driver of urbanisation. Long-standing, large villages become rural centres and then small towns, based on their commercial, administrative or religious functions. This has happened particularly in East and West Africa where the number of towns of less than 50 000 people has grown enormously since the 1960s. In addition, improvements in infrastructure and in mobile telephony have contributed to blurring the rural-urban divide: new, short migration patterns appear – with monthly, weekly or even daily commuting – reflecting regional densities and the quality of transportation (see Maps 5 and 6 illustrating the cases of Mali and Kenya). Diffused local urban growth shows the relative stagnation of medium-sized cities; cities having between 200 000 and 1 million people seem to be missing from Africa (Figure 6 A3.4).



Figure 6.A3.4. Urban population by sizes of cities and towns in West Africa, 1950-2020



Source: AFD et al. (2009) in Imbernon (2013).

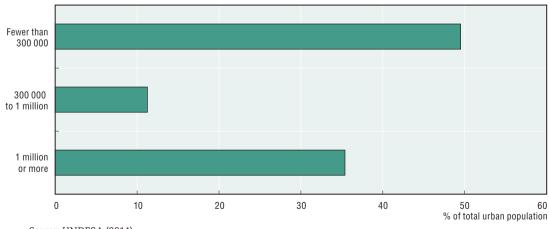
Note: The data covers 16 countries from West Africa.

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### Intermediary cities are a "missing middle"

Consolidating a system of intermediary cities would help African countries bridge their rural-urban divide and decongest megacities. Intermediary cities hold a position between primary cities and small towns; definitions vary according to population size, function and economic status. Urban agglomerations between 300 000 and 1 million inhabitants account for less than 15% of Africa's urban population (Figure 6.A3.5).

Figure 6.A3.5. Share of Africa's urban population by size of agglomeration, 2010



Source: UNDESA (2014).

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Intermediary cities are hence coined Africa's "missing middle" (Christiaensen and DeWeerdt, 2013). Intermediary cities and small towns suffer from high poverty, little investment and scant formal employment opportunities (Roberts and Hohmann, 2014). In small towns, community satisfaction with basic services such as highways, health care and education is lowest (Figure 6.A3.6). The informal sector is proportionally



larger in intermediary cities than in metropolitan areas; weak capacity of municipal government also undermines the business environment.

Without adequate public goods (infrastructure, basic services, equipment) and support to entrepreneurs (facilitation, information), many intermediary cities will likely remain poorly developed. Weak secondary sectors and limited incomes translate into low local demand and low local government revenue. Urbanisation, when limited to the agglomeration of poor people without productive economic opportunities, can hardly play its part in structural change.

Small town or village

Rural area or farm

Large city

Suburb of a large city

43 44 45 46 47 48 49 50 51 52 53 Gallup's Community Basics Index

Figure 6.A3.6. Satisfaction with basic community services for 42 African countries

Source: Authors' calculations based on Gallup World Poll (2012). StatLink May http://dx.doi.org/10.1787/888933206995

In their national strategies, Madagascar and Rwanda have laid plans to develop intermediary cities (Box 6.A3.1).

#### Box 6.A3.1. Developing intermediary cities in Madagascar and Rwanda

Madagascar has adopted a multi-sectoral strategy to foster regional development. The country invested in roads and water supply, as well as in vocational training, higher education, services delivery and capacity building. This has created 13 000 new formal jobs, mainly in the cities of Nosy Be and Tolanaro (Speakman and Koivisto, 2013: 97).

Rwanda is investing in intermediary cities to respond to rapid population growth. The urban population is expected to triple by 2032, from 1.7 million to 4.9 million. The government is promoting the development of six intermediary cities (Huye, Muhanga, Musanze, Nyagatare, Rubavu and Rusizi), as well as improving access to public services. Investments in four provincial industrial zones (Bugesera, Huye, Nyabihu and Rusizi) will strengthen urban-rural economic linkages and increase economic opportunities in rural areas (AEO Country Note).

#### Intermediary cities provide multiple benefits

Intermediary cities have a key role to play in accelerating Africa's structural transformation:

• They can help bridge the gap between rural and urban areas by serving as logistic points mediating the flow of goods and services between rural hinterlands and larger cities (Haggblade, Hazell and Reardon, 2009). They open up competition



in agricultural value chains that are too often oligopolistic: wholesalers and transporters make wide marketing margins at the expense of farmers, while food exporters lack appropriate storage facilities and suffer from delivery delays at ports (Rakotoarisoa, Lafrate and Paschali, 2011: 43). They can serve as markets for products from rural areas and stimulate agricultural productivity. For instance, food consumption in a West African city of 50 000 inhabitants typically reaches USD 10.35 million a year and in a city of 300 000 inhabitants USD 44.8 million (Yatta, 2006: 149). Intermediary cities can thus offset the demand for importing agricultural products (OECD, 2013: 33).

- They can provide the economies of agglomeration necessary to develop labour-intensive industries such as textiles and agro-processing or services like tourism, especially those that do not require high knowledge spill-overs (Christiaensen and De Weerdt, 2013). They can also connect a region to globalisation: Casablanca and Fez in Morocco have leveraged on their educated workforce and ICT infrastructure to become major ICT service centres. Similarly, Zanzibar City, Tanzania, has tapped into the region's cultural wealth to become an international tourist destination. Experiences from other countries show that linkages among intermediary cities can foster innovation. For example, wineries scattered around multiple smaller intermediary cities in Australia and New Zealand have actively collaborated in blending wines to produce new products of international quality.
- Intermediary cities can leverage economies of scale to deliver public services to surrounding areas. They can relieve megacities, which tend to generate diseconomies of agglomeration beyond an estimated threshold of 7 million inhabitants (OECD, 2006). Intermediary cities can serve as hubs providing health services and education and disseminating technology to their surrounding areas. Investing in their infrastructure reduces the incidence of people moving to primary cities for public services. A more balanced urban system prevents overstretching public services and other negative effects of over-concentration in large cities. Moreover, strengthening intermediary cities can create jobs in the non-tradable sectors of construction, infrastructure and services (e.g. education, health, security) that will expand with Africa's demographic revolution.

Intermediary cities can also efficiently alleviate poverty. In rural Kagera, Tanzania, one in two individuals who left poverty did so by transitioning from agriculture into the rural non-farm economy or intermediary cities; only one in seven exited poverty by migrating to a large city (Christiaensen and De Weerdt, 2013).

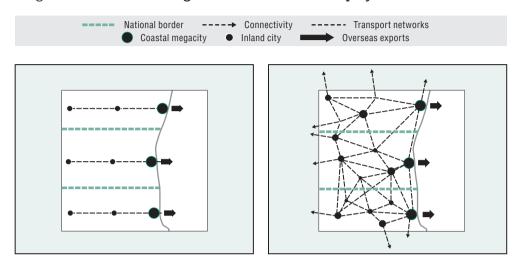
Moreover, moving to intermediary cities may entail lower migration costs than moving to more distant large cities. They offer more possibilities for circular migration and commuting for off-farm employment. Generating rural off-farm employment can reduce rural poverty by providing additional income (Owusu, Abdulai and Abdul-Rahman, 2011). It can also alleviate credit and liquidity constraints, enabling farmers to preserve their productive assets, generate stocks and stabilise their consumption (Barrett, Reardon and Webb, 2001). In India, remittances between intermediary cities and rural areas, consumption linkages, and the upward pressure on agricultural wages contributed between 13% and 25% of rural poverty reduction between 1983 and 1999 (Cali and Menon, 2013).

Developing intermediary cities would benefit endogenous development and lead to polycentric networks that value internal resources, strengthen intra-African trade and connect regions. It would help remedy the extroverted transport networks inherited from rent-based economic systems which intensify spatial exclusion. The stylised



Figure 6.A3.7 helps visualise the contrast between Africa's fragmented territories and what a polycentric network articulated around intermediary cities could look like.

Figure 6.A3.7. Africa's fragmented territories vs. a polycentric network



### Financing sustainable intermediary cities requires innovative solutions

Developing intermediary cities requires a systemic approach that strengthens their respective roles in the urban hierarchy. Through the process described in Chapter 8, local governments and private actors will need to identify comparative advantages and local opportunities (Table 6.A3.1). Communications and transport networks linking intermediary cities with both the rural areas and the primary cities will generate economies of scale. Central and local governments will need policies to foster trade and integrate intermediary cities into global value chains.

Table 6.A3.1. The different urban functions of intermediary cities

Urban function	Description
Regional market	The intermediary city is the main location for producing and exchanging goods and services in local and regional economies.
Service centre	The intermediary city offers public and private services to its community and the surrounding population.
Regional capital	The intermediary city hosts regional or national political and administrative institutions.
Tourist centre	The intermediary city promotes activities linked to domestic or international tourism.
Communication hub	The intermediary city acts as a platform for moving people, goods and information.
Economic location	The intermediary city holds a strategic role in the national, regional and global economies thanks to its geographic location and development strategy (e.g. duty-free zone).

Source: Adapted from Song (2013).

Intermediary cities would need to find innovative ways to cope with environmental challenges, in particular by providing essential services to the majority of the population (UN-Habitat, 2014). By devolving more taxation powers (see Chapter 8) or transferring more resources to local governments, central governments could help intermediary cities carry out the necessary infrastructure projects (Satterthwaite and Tacoli, 2003).

Investments in urban green growth can create jobs. Investing in retrofitting buildings, for example, creates jobs in construction and manufacturing without much additional cost for training. Similarly, ecological public transportation is labour intensive. Finally, the sectors of waste-to-energy and recycling can have potential for generating low-



skilled or high-skilled jobs, for example in waste sorting or research and development, respectively (OECD, 2013).

Financing intermediary cities will require progressive solutions. On the one hand, efficient land-use planning will be crucial to avoid expensive re-settlement costs which currently account for up to 50% of infrastructure budgets. On the other hand, resource-sharing arrangements between cities or with businesses can lower costs, ensure bettermanaged services, and recover some costs of services from developers and landowners (Roberts and Hohmann, 2014: 197). Finally, local and central governments can tap several sources: central government transfers, private domestic and foreign investment, as well as remittances. In many countries, the majority of remittances go to small cities and finance their growth (Orozco, 2008; Roberts and Hohmann, 2014: 80).



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