



EC SAFIRE Scenarios for Global Regions

The following collection of blogs arose from a recent project report to the EU Commission based work with our partners to support the use of foresight in the development of EU R&D Policy.

EC SAFIRE Scenarios for Global Regions: China



Image by ELG21 from Pixabay

A Happy New Year to our Readers. Before Christmas we published three blogs based on a report to the European Commission by [SAMI](#) and a consortium of partners, [IFOK](#), [Cadmus](#), and [Teknologi Radet](#), to develop a system for using foresight to develop EU R&I [policy](#).

The [first blog described four global scenarios for 2040](#). The [second looked in more detail at one global scenario](#) – the one that most closely reflects the current state of the world. [The third in the series described how the scenarios can be kept up to date](#).

We now offer a series of ten blogs which will look in turn at scenarios for each of the regions covered by the study. The ten regions are:

- China;
- Japan, South Korea & Taiwan;
- ASEAN;
- India & its Neighbours;
- Australia & New Zealand;



- Russia & Central Asia;
- The Middle East & North Africa;
- Sub-Saharan Africa;
- Central & South America; and
- United States, Canada & Mexico.

The original Report is available [here](#) and the original scenario reports for each Region can be found within Chapter 3 of the report.

The Report was published in autumn 2021, but we continue to monitor developments and trends in each of the ten Regions. So these blogs, rather than simply recycling the content of the Report, will look at the trends and drivers that might influence how each Region might move across the scenario “board” over the next 20 years.

What Might Drive Change in China?

Demography

The EU/SAFIRE Report envisaged that by 2040 China would be firmly established as a global superpower, both militarily and economically. However, China would be wary of its potential rivals, notably the USA and India, and faced unavoidable challenges in the form of demographic change, environmental and climate pressures, and competition from other economies.

China’s demographic trends are somewhat uncertain. In 2015 the Ministry of Health and Family Planning reported that China’s Total Fertility Rate (TFR) was between 1.5 and 1.6. However the latest data from the National Bureau of Statistics (NBS) suggested that China’s TFR might be much lower, just 1.05%. The statistics on the number of births supports the impression of a reducing fertility rate. There were 11.5% fewer births in 2018 than in the previous year. Cities tend to have lower TFRs than rural areas: Beijing’s TFR is 0.69, according to the 2000 census; and Xiangyang district of Jamusi city has a TFR of 0.41, which is the lowest TFR recorded anywhere in the world since records began. The highest TFRs are in the region of Tibet.

At the same time, Chinese people are living longer. About 12% of the population is aged 65 or older. Since 1949, life expectancy has more than doubled. Deaths from infectious diseases have reduced dramatically, while the afflictions of affluence – cancer, strokes, heart attacks – are increasing among the aging population. This presents a challenge for China – meeting an increasing need for pensions, and increasing health care costs as the population ages.



China's advances in technology, particularly AI and robotics, and its parallel advances in military technology, may mean that it can assimilate the radical reduction in fertility, but it is clear that China's population looks set to begin to reduce. If the most extreme data were to be realised, The European Strategy and Policy Analysis System (ESPAS) suggests China's population might reduce by HALF by 2066, as well as being much older. That would obviously necessitate a massive rethink of China's internal and global strategy.

Environment and Climate

China now accounts for a quarter of the World's Carbon emissions. Put simply, the prospects for the achievement of global aspirations for reducing carbon emissions depend on China. The good news is that President Xi has signalled his own, and China's, commitment to tackling the problem of climate change. China is the world's leading manufacturer of renewable technology, such as solar panels and batteries. China is also anxious to reduce air pollution in its cities.

However, China also needs to keep its economy firing, despite its commitment to climate goals, and its leading role as a manufacturer of green technology. Currently it is opening scores of new coal mines. It says that the proportion of its energy generated from fossil fuels will be 25% or less by 2030. Progress towards this will have significance for the whole world, not just China. China will not want to fail to achieve such a high profile goal.

Politics and Economics

In the last few years, Xi Jinping has tightened central controls of both the Chinese system of government, and the economy. Currently his authority seems unchallenged, but that may change if the economy runs into choppy waters, or GDP growth begins to level off, as many observers believe it will.

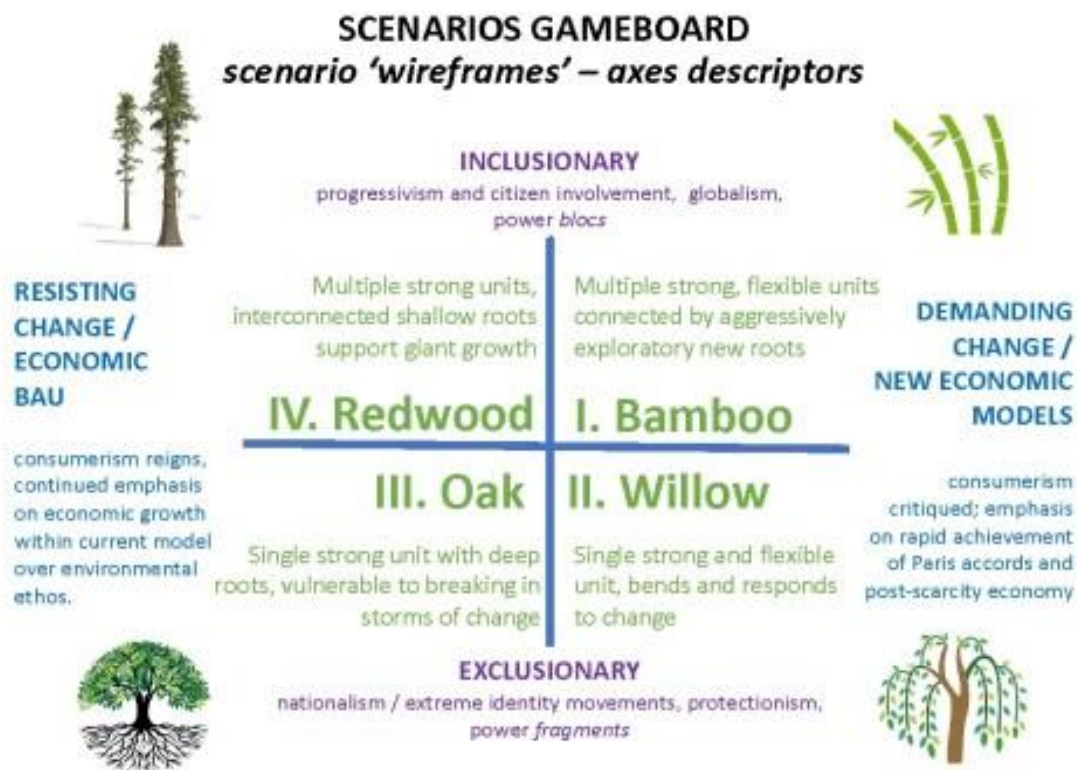
In foreign policy, Xi has embraced an assertive brand of "wolf warrior" diplomacy, castigating China's critics, whilst offering investment and praise to friendly states.

This approach may be ripe for review.

China's neighbours and rivals have become more assertive in return, in seeking to develop alliances designed to show unity in resisting what they see as Chinese aggression. Earlier this year, Chinese rhetoric on its claim to Taiwan as part of the Chinese homeland, was intense; perhaps it is now reducing the volume; it is too soon to say, but China's intentions will become clearer before long, and will set the tone for China's relationships with its other neighbours.



China's need to address its internal challenges may also lead it to prefer to tone down its overseas ambitions. Its Belt & Road investments may become more problematic because of the economic impact of the Covid-19 pandemic on actual and potential recipients of Belt and Road investment. Indebtedness is increasing sharply in much of Sub-Saharan Africa, and in other countries that are recipients of Chinese investment, eg Sri Lanka, and there have been ant-Chinese protests, and acts of violence, eg Pakistan. The combination of economic headwinds at home and abroad, and resistance to foreign influence in some places may force China to tie its investments more closely and selectively to strategic criteria.



Conclusion

Turning finally to the question of where China may move on the Scenario Board, we start with China on the borderline between Oak and Willow, with entrenched interests in many areas, but open to change and innovation in others, for example in tackling climate and renewables.

If China sees an economic slowdown, especially if its falling fertility rate is very severe, it might be expected initially to become more exclusionary, but if it decides that it can no longer achieve its desired status as a superpower, it may choose to re-engage with other regions on more collaborative terms.



On the other hand, if China fails to achieve the necessary progress towards reducing its carbon emissions, it may find itself more isolated from other economic powers as they divert trade elsewhere, insofar as China's size and dominance in some sectors allows them to do so.

China will continue to be a Great Power. Confrontation and rivalry between China and the USA might lead to both becoming more entrenched in Exclusionary scenarios, but equally might produce an opposite reaction, based on a mutual recognition of the harm a state of "Cold War" is doing. A radical breakthrough – a sort of "Nixon in China 2.0 – could lead China towards the other side of the Board, perhaps after 2030.

Some signs to watch for

- Any challenges to Xi Jinping's power and prestige;
- Demographic data;
- Economic data, especially average incomes and pensions;
- Scale of Belt & Road Project, and any signs of trouble in recipient states;
- China's attitude to Taiwan;
- Progress towards decarbonisation.

Written by David Lye, SAMI Fellow, published 5 Jan 2022



EC SAFIRE Scenarios for Global Regions: ASEAN



Image by Sasint at pixabay.com

In a continuation of our series based on a report to the European Commission by SAMI and a consortium of partners, IFOK, Cadmus, and Teknologi Radet, to develop a system for using foresight to develop EU R&I policy, it is the turn of the ASEAN region. It is the next in our series of ten blogs will look at scenarios for each of the regions covered by the study. The ten regions are:

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Introducing the ASEAN region

The Association of Southeast Asian Nations was founded in 1967. Its main objectives are economic growth and, through that, social progress; cultural development; and to promote regional peace and stability based on the rule of law and the principle of United Nations charter. Its 10 member countries are: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

The difficulty with exploring foresight in this region is the disparity between the different countries. They differ in many ways from size, population numbers, levels of democracy, ethnicity to levels of economic development. In ASEAN, decisions are reached by consensus. For the purposes of the report we focused on Singapore, Malaysia, Indonesia, Philippines, Thailand, Vietnam and Cambodia.

What Might Drive Change in the ASEAN region?

The EU/SAFIRE Report envisaged that by 2040, ASEAN would be a middleweight global power with its widely ranging members from small states such as Brunei, Laos and Singapore to the larger and more populous Malaysia and Indonesia. Its influence would come from Research and Development on the part of Singapore and latterly, Malaysia and Vietnam, and its growing markets, especially Indonesia. While ASEAN would be keen to develop, it is likely to be hampered by low investment and national differences between its member states, as well as its geographic spread. The region would still be divided and greatly influenced by its neighbour, China.

ECONOMIC

The Covid-19 pandemic has damaged the economies of the ASEAN members to varying degrees. Initially, countries like Singapore and Vietnam handled the pandemic well and their economies did not suffer. However, with different variants (and waves of the pandemic), this advantage has disappeared. Countries that relied on tourism for much of their GDP have been hit the hardest. Up until the pandemic, tourism had been 13% of the Region's GDP (compared with the sector's value of 10% of world GDP).

ASEAN countries had [varying levels of vaccination](#), from Singapore at 87% to Indonesia at 57%. The vaccinations that were available to them were not necessarily the most effective formulations, leading to successive waves of infection, hospitalisation and deaths.

This affects not only people's ability to work and earn money, but it also affects their economic choices. Many people in the region do not have health insurance or sickness pay thus must rely on support from family and friends. When disasters hit - either natural disasters or health disasters - their economic choices diminish.



GDP per capita fell between 2019 and 2020, but has risen slowly since, with Singapore (and Brunei) the outlier as usual. There has been relatively little growth in the rest of the group. ASEAN is a big market with a [total population 660 million in 2020](#). It has (or had) a growing middle class. As a region, it is likely to be the engine for economic growth in Asia, but it is currently struggling.

The region has a growing and mostly young middle class, which means a growing local marketplace. The supply chain disruption caused by Covid-19 has given it an opportunity as countries scrambled to minimise their supply chain dependence on China. The biggest winners have been Singapore and Vietnam who had already developed significant expertise in the areas of IT, AI and Pharmaceuticals.

Singapore has a high standard of living and a mature economy, with its investment in R&D and education. Other countries – Malaysia, Thailand, Indonesia, Philippines – are following with investment in education and R & D; it is a region that should not be ignored.

ENVIRONMENT AND CLIMATE

The region grapples not just with climate change but also being on the “ring of fire”, many countries contain some of the most active volcanoes on Earth. They are thus subject to volcanos, earthquake and tsunamis. It faces risks of rising sea levels in delta areas and islands and increasing intensity and frequency of typhoons and natural disasters. Parts of Jakarta were underwater in 2020, hence Indonesia’s decision to move its capital from Java to Kalimantan.

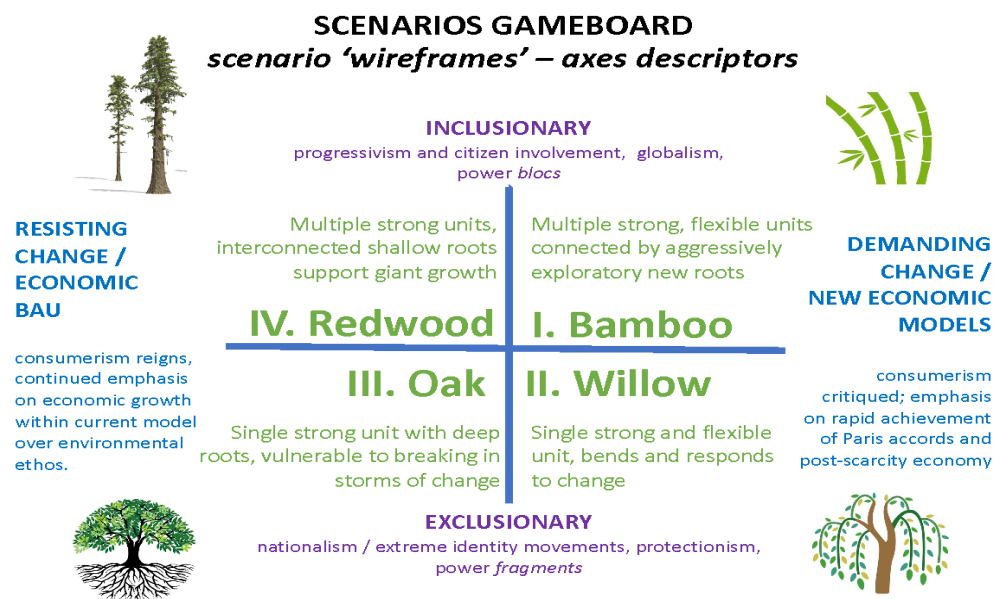
As Deltas become submerged, not only is land lost to cultivation, but water tables may become saline. For instance, the Mekong Delta is sinking, but as the number of dams upriver increase, less water flows down, effecting not just agriculture, but also fish stocks in countries where people get much of their protein from fish. The Mekong affects 5 of the 10 ASEAN countries.

As people’s incomes improve, they have more choices regarding where they work and live and how they respond to pollution. They begin to make their voices heard where it is possible to do so. It is, however, not necessarily easy for middle-income (and a few low-income) countries to respond quickly. Coal – the biggest carbon emitter of all fossil fuels – remains the cheapest source for electricity generation across the region. Environmental issues may be largely ignored as countries struggle for economic stability and growth.

POLITICS

The region has a range of governance from the ‘more-or-less’ democratic (Singapore, Malaysia, Indonesia, Philippines) to limited/controlled democracy (Thailand) to autocratic/one party states (Cambodia, Vietnam).

Much of the region is distrustful of China to varying degrees, especially around the issues of the South China Sea. While there is disagreement between member states about some things, this seems to be something about which almost all



members agree. Some countries (for instance, Malaysia) have had issues with investments via the Chinese Belt and Road initiative which has increased the distrust. Singapore frequently operates as a bridge between the region and China. Cambodia has taken advantage of the Belt and Road initiative, with joint investment in Mekong hydro and leisure/tourism from China. However, China's stance over the South China Sea is causing problems with Vietnam, Indonesia, Philippines, Malaysia and Thailand.

Conclusion

Turning finally to the question of where ASEAN may move on the Scenario Board, we began with ASEAN in Oak near the border with Willow. In the past two years, and largely due to the Covid-19 pandemic, the region has become more authoritarian and fragmented. It has suffered from the absence of tourism and falling remittances. As incomes have dried up, people have less choice. This has combined to move the region further into Oak. For the region to move out of Oak, GDP would need to rise, creating larger markets and governments would need to be more willing to invest in public goods such as education, research and development to support innovation and social care.

Disruptors

- What will China do in the South China sea and how will ASEAN members react? How will ASEAN react?
- How will the AUKUS relationship affect the region?
- Will tourism return to 2019 levels and if so, when?
- How long will it take until Covid is merely endemic?
- How quickly will member states decarbonise and address pollution?
- How will the relationship between China and Taiwan play out?
- How will China's relationship with the different member states play out?



Written by Patricia Lustig, published 21 January 2022



EC SAFIRE Scenarios for Global Regions: Indian Subcontinent



Image by 4174332 at pixabay.com

In a continuation of our series based on a report to the European Commission by SAMI and a consortium of partners, IFOK, Cadmus, and Teknologi Radet, to develop a system for using foresight to develop EU R&I policy, it is the turn of the Indian subcontinent. It is the fourth of our series of ten blogs looking at scenarios for each region covered by the study. The ten regions are:

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The Report was published in autumn 2021, but we continue to monitor developments and trends in each of the ten Regions. So these blogs, rather than simply recycling the content of the Report, will look at the trends that might influence how each Region might move across the scenario “board” over the next 20 years.

Introducing the Indian subcontinent region

The difficulty with exploring foresight in this region is the disparity between the different countries. They differ in many ways: from size, population numbers, levels of democracy, and ethnicity, to levels of economic development. The largest by far regarding population, size and economy is India, so it has the greatest influence. The Indian subcontinent consists of India, Pakistan, Nepal, Bangladesh, Bhutan and Sri Lanka. We considered all bar Bhutan in our report.

What Might Drive Change in the ASEAN region?

The EU/SAFIRE Report envisaged that by 2040, India would have joined the ranks of global superpowers in a poly-nodal world. By that time, it is likely to have the largest population of any country in the world. It will have a younger median age (34.5) than other countries with large populations, indicating a young population likely to push for change.

The impact of climate change on the region will be enormous. It will be the biggest driver of change in the region.

The combination of internal controls and distrust of others will increasingly lead to rivalry between countries. This combination will strongly influence innovation in all countries – without sufficient cross-fertilisation, innovation will stall.

POPULATION AND ECONOMY

India’s population has reached 1.4 billion ([2022](#)). Within the next few years, it will surpass China to become the most populous country in the world. Its fertility rate was [just over 2.1 in 2021](#) – replacement level. Within the region, the only country over replacement rate is Pakistan at 3.3. The median age is under 27 (bar Sri Lanka). As populations within the region migrate to urban areas for better opportunities, fertility rates will also decrease, and education rates will increase.

Population is one of the largest influences on national/regional economy. With so many young people, there will be a growing need to set up and furnish new family homes. There will be a large workforce to draw from which could mean – in some cases – developing a social welfare safety net, which is likely to decrease fertility rates even further. It is interesting to note that Bangladesh has had impressive economic development due to its focus on education – a good example to others.

POLITICS AND RELATIONSHIPS



It is unlikely that the restrictions on personal movement and rights of assembly put in place across the region will be removed within our timeframe. Hindu nationalist government in India is likely to continue and consolidate and tighten its power and control. This is likely to increase spats both internally and between India and the neighbouring countries where religious difference leads to differing world views. India continues to use its size to bully neighbours. India has had border disagreements (that included fatalities on both sides) with China and is showing increasingly anti-Chinese sentiment. With its growing population and economic clout, it sees itself as a successor on the world stage to its main rival, China. It remains distrustful of Pakistan, most especially around the unresolved issue of Kashmir.

Sri Lanka suffered from its inability to repay a loan to China (made via the Belt and Road Initiative) and was forced to hand a 99-year lease on BRI financed Hambantota port to the Chinese in 2017. Yet BRI investment continues, supported by the current government.

BRI investments in Pakistan in developing the Port of Gwadar and CPEC (the China-Pakistan Economic Corridor which connects China to the port) have increasingly been the cause of social unrest, distrust and anti-Chinese sentiments among locals who see no benefit from the investment. Pakistan granted China a 40-year lease on the port and promised local development but none has occurred.

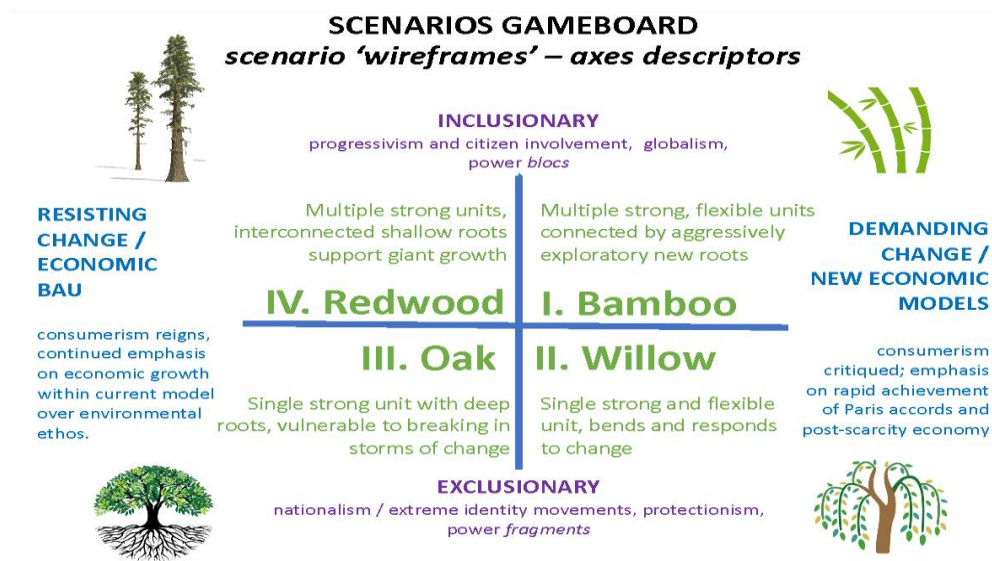
Internal dissension between provinces and ethnic groups, together with rising poverty, lack of development and terrorism, is likely to force a change of government, perhaps returning it to military rule.

China is likely to continue to support Pakistan and Sri Lanka – and to a lesser extent Bangladesh and Nepal – as a counterweight to India.

ENVIRONMENT AND CLIMATE

Increasingly hot summers, erratic monsoons and the increasing numbers of large storms in the Bay of Bengal are all indicators of climate change. Large swathes of India and Pakistan are becoming uninhabitable. Storm surges on the coast are destroying land and making it unusable for agriculture. Bangladesh stands to lose up to 20% of its viable agricultural land. Meanwhile, water shortages are growing as Himalayan glaciers dry up and water tables disappear.

The water shortage is the biggest driver of migration across the region. People move from rural areas to cities (which may themselves be water stressed). Bangladesh suffers from a shrinking land mass and a large population that needs to be resettled. As people move to cities, pollution increases which affects peoples' health. Most people migrate within countries, but climate migration is becoming a big issue and internal migration is not always possible (or desirable).



Conclusion

Turning finally to the question of where the Indian subcontinent may move on the Scenario Board, we began solidly in the middle of Oak. In the past two years, and largely due to the Covid-19 pandemic, the region has become more authoritarian, fragmented and poorer. Education has suffered – children (especially girls) who stop going to school, rarely return.

The region has suffered from the absence of tourism and falling remittances to varying degrees. When incomes dry up, people have less choice. This has combined to move the region further into the bottom left-hand corner of Oak.

For the region to move out of Oak, GDP would need to rise, creating larger markets, and governments would need to be more willing to invest in public goods such as education, health, research and development. They would also need to be willing to collaborate for innovation and be more open to other worldviews.

Disruptors

- What will China do in the region and how will individual countries react??
- Which countries will India align with? USA? Europe? Russia? What will the impacts be?
- Will tourism return to 2019 levels, and if so, when?
- How long will it take until Covid is merely endemic?
- How quickly will the economy improve in each country?
- How open will each country be to collaboration with others?
- How soon will governments drop internal security measures?
- How will the countries and the region handle climate migration?

Written by Patricia Lustig, published 27 January 2022



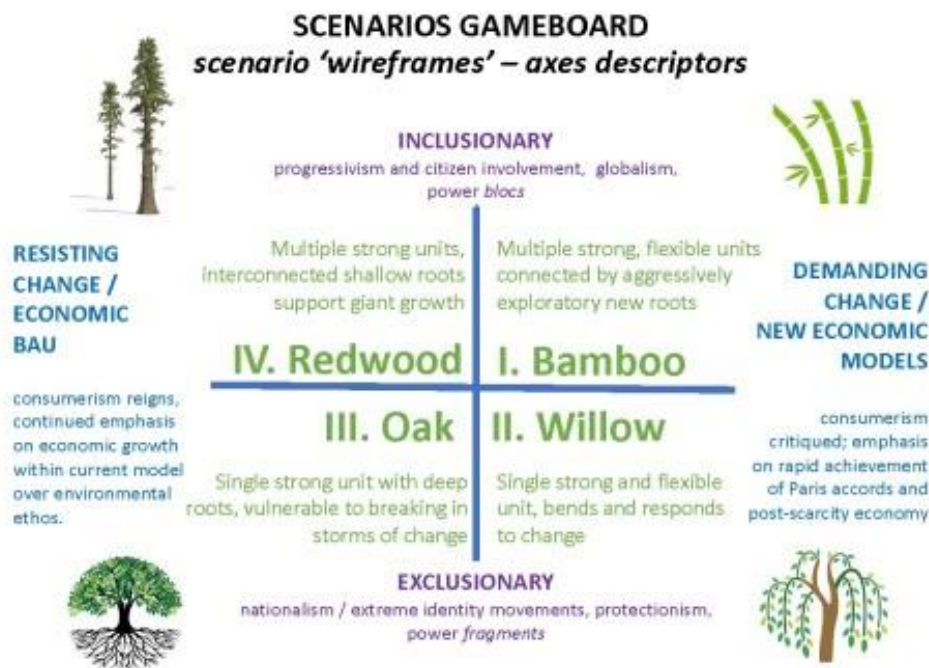
EC SAFIRE Scenarios for Global Regions: Australia and New Zealand



Image by Penny from Pixabay

The latest in our series based on SAFIRE, a proposed system using foresight to develop policy for Research and Innovation relationships for the EU, is a review of Australia and New Zealand, with some references to the rest of Oceania.

The original Report is available via the link [here](#). Four global scenarios provide the structure of a “gameboard”. These were then expanded into scenarios of each of the 10 Regions – the scenario reports for each Region can be found within Chapter 3 of the report. At a workshop, Regional experts then examined how their Region might journey through the scenarios over time.



The Report was published in autumn 2021, but we continue to monitor developments and trends in each of the ten Regions. So these blogs, rather than simply recycling the content of the Report, look at the trends that might influence how each Region might move across the scenario “gameboard” over the next 20 years.

Introducing Australia and New Zealand

Both Australia and New Zealand have positive, self-confident views of themselves. They have important relationships with China and ASEAN countries but continue to maintain strong links to the Anglo-Saxon world, with a position in the “Five Eyes” signals intelligence network, and strong sporting and cultural ties to the UK.

People in both countries like to think of themselves as self-reliant, independent and open-minded, but there is also a strong streak of Puritan populism running through society, especially outside the major cities. They regard themselves as part of the wider Australasian community, and New Zealand in particular has close links with the Pacific Islands. Both countries’ populations are well-educated and politically engaged. Attitudes to the indigenous populations and LGBTQ+ communities are generally becoming more liberal, though pockets of prejudice remain, especially in rural Australia.

Although similar in many respects, there are major differences between Australia and New Zealand, notably in terms of size (population, GDP) and natural resources. These differences do lead to different drivers of change and socio-political positioning. Tourism is an important economic sector in both. Attitudes to the



(different) indigenous populations are becoming less prejudiced, with NZ more actively promoting its Maori heritage.

Australia

Australia's economic dependence on coal and iron mining and agriculture shapes its politics, and its relationships with other countries, China in particular. Financial services are on an upward trend, but despite various initiatives the country is yet to make a significant mark in IT.

There is a strong national identity which verges on the insular and anti-immigrant. Waves of immigration from South-East Asia, from Vietnamese "boat-people" days onwards, have been resisted as much as possible, with harsh processing centres in offshore islands.

New Zealand

New Zealand has a broader range of agricultural and bio-technology products with a higher value-added, but struggles to find investment partners around the world. Alliances with ASEAN countries are seen as the best way forward. NZ is more welcoming of immigrants, but does expect a high degree of conformity with local culture

What might drive change? What are the recent forces acting on the countries?

Politics and Relationships

China is the dominant factor in Australia's geo-political environment. Relations have deteriorated recently. China introduced tariffs of 220% on wine; banned imports of lobster (it had previously taken 96% of lobster exports); put tariffs on barley, beef and coal. In 2018, Australia banned Huawei from its 5G mobile infrastructure rollout. More recently, Australia has been vocal about human rights issues in China, with a political boycott of the Winter Olympics.

Concern over Chinese naval advances, led Australia to ditch its deal with France for conventional submarines in favour of nuclear powered (not nuclear armed) ones in a new arrangement with the US and UK – AUKUS. Although not operational for some years yet, these boats will be able to stay submerged longer, and be less easily detected. The AUKUS deal extends to other areas such as cyber capabilities, artificial intelligence, and quantum technologies, This is an extension of the "Five Eyes" intelligence sharing network that also includes Canada and New Zealand.. Nonetheless, Australia's economic dependency on China means it has a difficult line to tread.



New Zealand is less likely to join AUKUS because of its aversion to nuclear technology. Instead it is looking more to partnerships with comparable sized ASEAN countries.

Environment and Climate

Climate change is a real crisis for both countries, Australia especially. The bushfires of 2020 are just a precursor of ever-more damaging events (droughts and fires), which could extend to impacting Sydney suburbs. Farmers are increasingly struggling and the state is now providing subsidies.

In New Zealand, increasing temperatures are impacting the glaciers which are likely to shrink to virtually nothing, and coastal flooding has increased, with several inundations in the many low-lying areas. NZ is also active in supporting low-lying Pacific Island countries when affected by extreme weather events and remains more open to immigrants (within the limits of its pandemic constraints)..

Pandemic

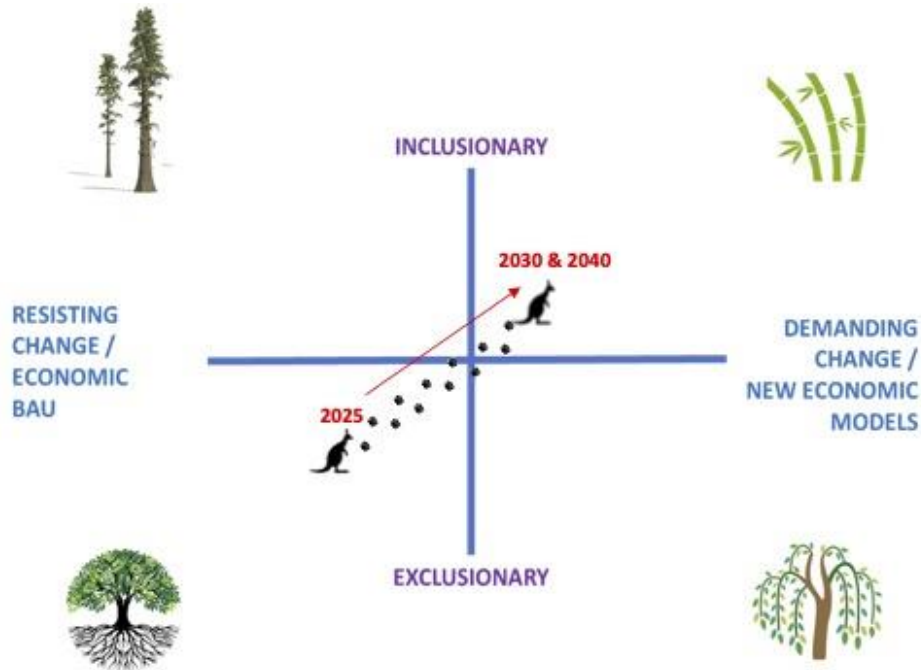
Both countries' responses to the Covid-19 coronavirus outbreak were a strong "Zero-Covid" approach. Strict lockdowns were imposed (repeatedly in some areas) and international travel effectively banned. Public co-operation was strong. This has been relatively effective on containing the number of deaths, though the path to relaxation of restrictions remains difficult. The OECD said that Australia weathered the economic downturn from Covid-19 better than most developed countries but could face a slower recovery when community transmission is higher,

Population

The population in Australia is forecast to grow steadily from around 25 million in 2020 to nearly 30 million in 2040 and to continue rising right through the end of the century. New Zealand's population however, is forecast to plateau at around 6 million (up from 4.9m today) from 2080. Compared with other developed countries, this confers a demographic dividend with a younger population.

Conclusion

Turning finally to the question of where the countries may move on the Scenario Board, at the Brussels workshop in November 2019, participants suggested that the countries would move from Oak ("She'll be right") to Bamboo ("Scandinavia of the South"). The pressing need to respond to severe climate crisis events was taken to be the most significant driving force.



However, recent developments – the rise of Chinese regional assertiveness, reluctance to accept climate change challenges, border controls in response to the pandemic – suggest the workshop participants may have been too optimistic and we will see less movement and instead a strengthening of Oak attitudes in Australia. New Zealand is already more open and inclusive and remains on track to the Bamboo scenario. Whether this divergence between the two causes tensions remains to be seen.

Disruptors

- China's actions are the dominant force in the region; both countries are likely to be react by trying to insulate themselves
- Which countries will the countries align with? USA/UK? Europe? Japan? ASEAN? What will the impacts be?
- Will tourism return to 2019 levels, and if so, when?
- Will climate change-related disasters drive public clamour for change?
- How will the countries and the region handle climate migration?

Written by Huw Williams, SAMI Principal, published 9 Feb 2022



EC SAFIRE Scenarios for Global Regions: Central and South America

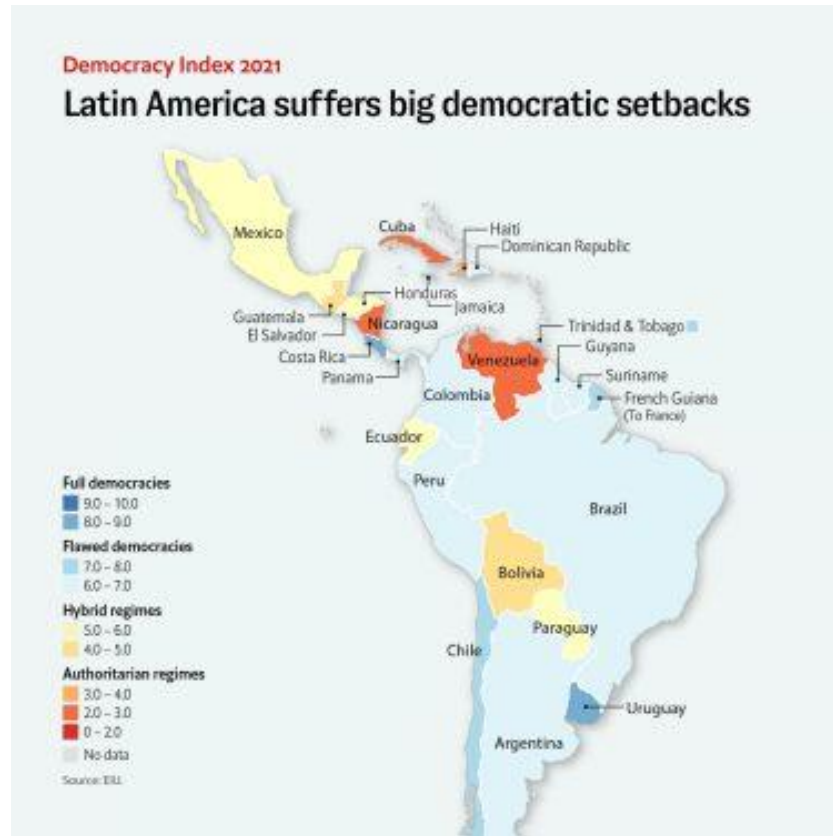


The latest in our series based on SAFIRE, a proposed system using foresight to develop policy for Research and Innovation relationships for the EU, is a review of Central and South America. The original Report published in autumn 2021 is available via the link [here](#). We continue to monitor developments and trends in each of the ten Regions.

Introducing the Region

The major countries in the Region are (by size, population and GDP) Brazil, Argentina, Colombia, Chile and Peru – of these Chile has the highest GDP per capita. Each has faced similar challenges of economic instability, high levels of inequality resulting in occasional civil unrest, and political upheaval. A worryingly high level of political corruption seems to be endemic, even as leaderships change. However, the integrity of national borders is secure and cross-border tensions relatively few.

The EIU Democracy Index registered a fall for a sixth consecutive year, the biggest downgrade recorded by any region since the Index was launched. Only Uruguay and Costa Rica are rated as “fully democratic”, with most of the larger countries described as “flawed democracies”.



Smaller countries, especially those in Central America, are still struggling to develop sound economies, and some have been at risk of collapse. Costa Rica is an exception having further developed its ecosystem services and exploited its unique biodiversity, developing a world-class model of sustainable tourism. Venezuela remains in the grip of an autocratic regime, failing to take advantage of its oil reserves.

An enormous proportion of South America's economy is informal — 55% of workers — and those people lack the social safety nets of the formal sector.

What might drive change? What are the recent forces acting on the countries?

Politics and Relationships

The region used to be regarded as the USA's "backyard", but in 2040 it has transitioned to being more reliant on China. The dynamics of the USA/China relationship affect the region substantially but are volatile and unpredictable. There is increased geo-political tension in the region, with some countries being more wary of Chinese influence than others. Cultural connections with ex-colonial countries remain strong, despite a higher proportion of the population now being of African descent due to differences in birth-rates.



Regional free trade agreements link key groups of countries:

- Mercosur members are Argentina, Brazil, Paraguay, and Uruguay; in 2020, the EU and Mercosur signed a trade agreement designed to anchor important economic reforms and modernisation and uphold standards of food safety and consumer protection.
- The Pacific Alliance covering Chile, Colombia, Mexico, and Peru is moving toward complete freedom in the movement of goods, services, capital and people between the four member states.
- Central America Integration System (SICA) links several Central American countries,

Left-wing politicians have recently won power in several countries in the Region – Bolivia, Peru, Honduras and Chile; others – notably Brazil and Colombia – show signs of moving that way. In contrast, mid-term elections in Argentina were won by a centre-right coalition “Together for Change” against the incumbent Peronists, with both far-left and far-right groups also making advances.

The new officeholders are constrained by debt, lean budgets, and limited access to credit so radical change seems unlikely. However, anti-US policies and closer relationships with China do seem to be on the cards.

Environment and Climate

Climate change impacts in the Region are growing. Large parts of Central America are low-lying and at risk of flooding and are vulnerable to any increase in the number of hurricanes; drought has driven many to try to migrate to the US.

In January, Argentina suffered historically high temperatures of 40°C across the country (some areas reaching 45°C), leading to black-outs in Buenos Aires, failure of grain crops and challenges to its valuable beef industry.

In Brazil, the Amazon has changed from being a carbon sink become a net emitter of carbon dioxide. This was mainly due to fires caused by forest clearance projects enabled by President Bolsonaro. Fewer trees means less rain and higher temperatures, making the dry season even worse – a very negative feedback loop. Trade data already shows a fall in coffee exports (a major foreign currency winner), and Arabica production is expected to drop by 30% this year,

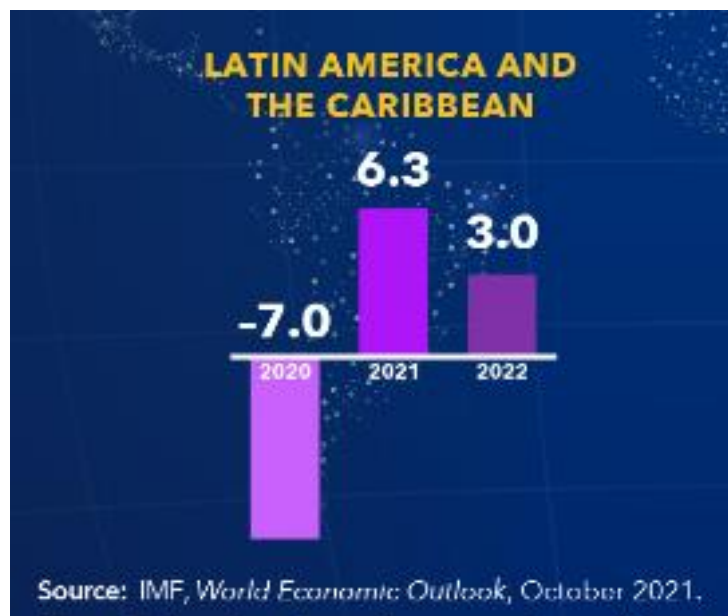
On the other hand, increased rainfall in some areas is making them more suitable for agriculture, and the wine-making industry is looking to expand its geographic scope substantially.



Pandemic

Brazil's President Bolsonaro's Trump-like handling of the pandemic led to high death rates and is contributing to his poll ratings lagging behind Lula of the Worker's Party. After early set-backs with Chinese medicines, Chile has the highest level of COVID vaccinations in South America and, at a rate of almost 90%, one of the best in the world. This is due to a very successful model of community healthcare, with family healthcare centres in every neighbourhood.

The Region's economies were the worst hit by the pandemic, and their recoveries are the weakest globally. Caribbean countries were hit particularly hard (falls of around 20%); Brazil and Chile performed better than the Regional average (4%/5% declines); Argentina and Peru worse (around 11% down).



International Labour Organization estimates suggest that Latin America and the Caribbean was among the regions where declines in working hours in 2020 were particularly large.

Population

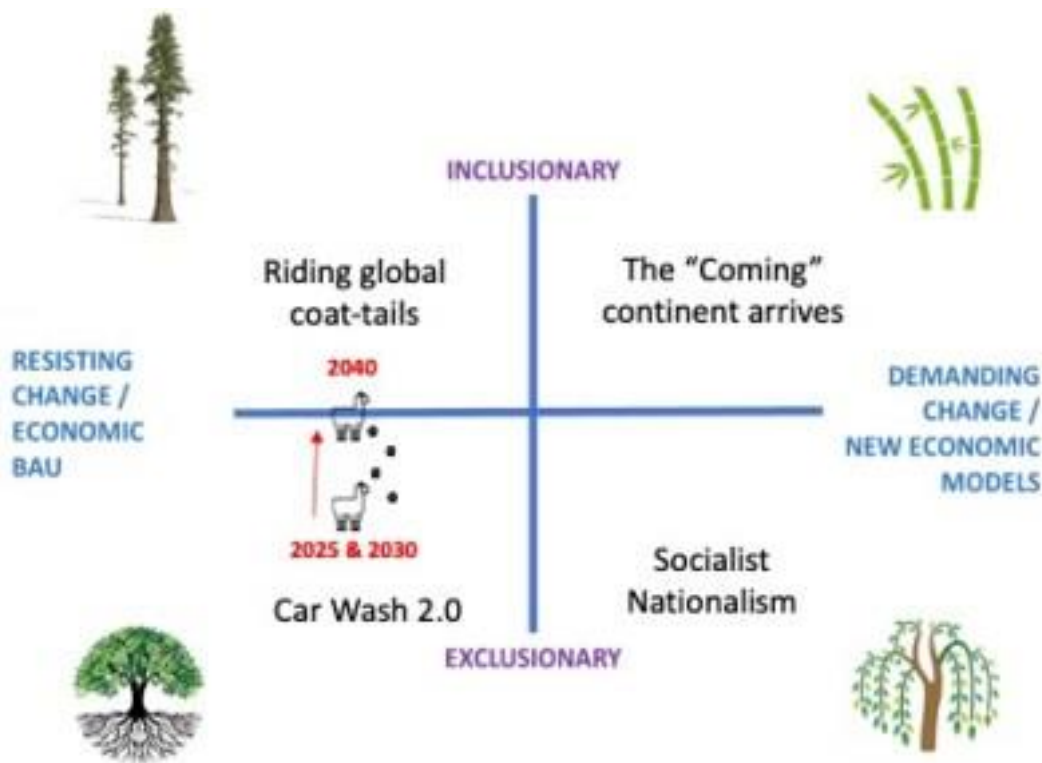
Reductions in fertility have caused the population at working ages (25-64 years) to grow faster than at other ages, creating an opportunity for accelerated economic growth – a “demographic dividend”. The share of the population aged 65 years or more has almost doubled since 2020. And as the population is now beginning to peak, aging will accelerate. Urbanisation continues, with São Paulo being one of the world's largest cities.



Conclusion

The Region has long been described as the “Coming Continent” due to the advantages conferred by its natural resources and range of habitats, a demographic dividend (at least for some years) and well-regarded universities in the region, notably in Ecuador, Colombia and Brazil. Observatories and space facilities are also prominent. This is reflected in our “Bamboo” scenario. However, these opportunities have yet to be seized and currently, overall, the Region remains firmly in “Oak”, mired in corruption.

Participants at the November 2019 workshop were not optimistic and suggested that the Region would move only slowly towards an inclusionary approach from its current position in Oak.



The effect of the pandemic on the Region’s economies will inhibit radical change. Whether the leftward drift of major countries within well-structured trade agreements offers the opportunity to reduce inequality and crack down on corruption remains to be seen.

Written by Huw Williams, SAMI Principal, published 16 Feb 2022



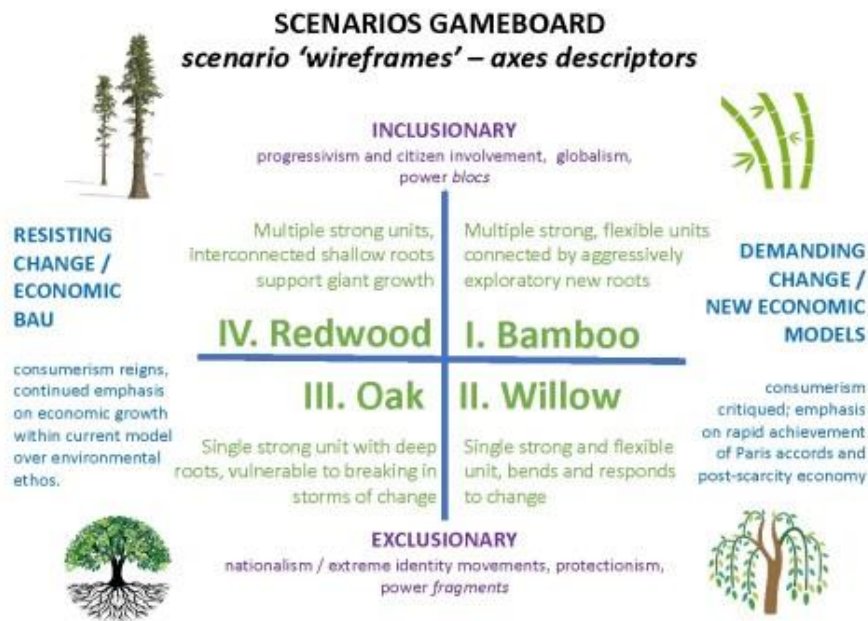
EC SAFIRE Scenarios for Global Regions: Sub-Saharan Africa



Image by [Ante Hamersmit](#) from [Pixabay](#)

The latest in our series based on SAFIRE, a proposed system using foresight to develop policy for Research and Innovation relationships for the EU, is a review of sub-Saharan Africa.

The original SAFIRE Report is available via the link [here](#). Four global scenarios provide the structure of a “gameboard”. These were then expanded into scenarios of each of the 10 Regions – the scenario reports for each Region can be found within Chapter 3 of the report. At a workshop, Regional experts then examined how their Region might journey through the scenarios over time.



The Report was published in autumn 2021, but we continue to monitor developments and trends in each of the ten Regions. So these blogs, rather than simply recycling the content of the Report, look at the trends that might influence how each Region might move across the scenario “gameboard” over the next 20 years. The ten Regions are:

- China;
- Japan, South Korea & Taiwan;
- ASEAN;
- India & its Neighbours;
- Australia & New Zealand;
- Russia & Central Asia;
- The Middle East & North Africa;
- Sub-Saharan Africa;
- Central & South America; and
- United States, Canada & Mexico.

What Will Drive Change in Sub-Saharan Africa?

DEMOGRAPHY

We know that SSA will “buck” the global trend in population. Whereas fertility rates are falling, or about to fall across Asia, Europe and North & South America, Africa’s population is set to surge. SSA’s population, currently 1.15 billion, is projected to double to 2.3 billion by 2050. In contrast with the aging populations of the other regions, SSA will be the “Young Continent”, with 70% aged 30 or under. The Census Bureau of the United States predicts that Nigeria’s population will overtake



that of the USA in 2047, making Nigeria the third most populous country in the World, after India and China. A small number of “megacities” will join the world’s largest – Lagos, Kinshasa, Dar-es-Salaam.

Perhaps more significantly, the century will see the emergence of a host of big, but not mega-cities: call them “medium cities”. SSA has 528 cities with populations of over 250,000. There is a chance for these cities, or some of them, to become the engine of a great African leap forward. But the chances are that there will be a mixed picture. The World Economic Forum’s 2016 report identified “model cities” across Africa, for example Narok and Kisumu (Kenya), Accra (Ghana), Arusha (Tanzania) and Kigali (Rwanda).

But elsewhere, similar-sized African cities are fragile, struggling to cope with very rapid population growth, both due to high fertility rates, and the influx of refugees from conflict and/or poverty. According to the WEF report, Ouagadougou (Burkina Faso) has annual population growth of over 7%, Abuja (Nigeria) 6.2%, and Antananarivo (Madagascar) 5.1%. All are rated as “fragile cities”, whose infrastructure struggles to cope with the population growth.

Population growth is potentially a huge opportunity for SSA – a chance to take a central place in the economy, and become a developer and nurturer of talent and innovation, in an aging and – probably – risk-averse world. Likewise, Africa’s cities will teem with young people.

But the projected rate of growth, in a region with generally underdeveloped infrastructure, also poses major risks: a surplus of young men providing participants in conflicts, which are already widespread; pollution and urban squalor, and lack of access to water, leading to the risk of disease; endemic poverty. Some African cities will be pathfinders to a bright future: some, alas, will be dystopias of poverty, ill-health, crime and violence.

ENVIRONMENT AND CLIMATE

In the lead-up to last autumn’s Climate Conference of the Parties (COP), major concerns were flagged about the impact of environmental challenges for SSA. The World Bank warned that some 86 million Africans would be forced to migrate within their own countries by 2050 in response to environmental pressures, leading to fragility, poverty, conflict and actual violence. Their report highlighted two areas in particular: the Lake Victoria Basin, which could force 38.5m people to migrate, and West Africa, which could similarly affect 30m.

The World Meteorological Organisation warned (again in October last year) that the last three glaciers in SSA are now melting: Mount Kenya, the Rwenzori



Mountains (Uganda & DRC), and Kilimanjaro. All could become deglaciated by 2040, affecting access to water in these regions. The IPCC highlights the risk of flooding in East Africa, and severe droughts in North-West Africa and South-East Africa.

The impact of adverse climate change in regions with fragile infrastructure will affect many millions, heighten food insecurity, and spark mass-migrations. It will also almost inevitably lead to conflict. The fast-growing population will fuel greater pressure on SSA's ability to feed itself, increasing the risk of widespread famine and disease.

The combination of population growth and climate change will also prompt competition for water resources. This week saw Ethiopia begin for the first time to draw water from its "Grand Ethiopian Renaissance Dam", Africa's biggest hydro-electric project to date, which draws water from the Nile – a plan which has caused great concern among its two main northern neighbours, Sudan and Egypt, with the latter even talking of possible military confrontation.

POLITICS AND ECONOMICS

SSA has been adversely affected by the global impact of Covid-19. The impact of the pandemic itself is still not fully understood: access to vaccines and medicines has been poor, as compared with other regions, but the region's relatively young population, may prove to be its trump card. However, equally, the relatively low roll-out of vaccines leaves open the possibility that new strains may develop in SSA, and may spread beyond. More positively, five SSA countries: Egypt, Kenya, Nigeria, Senegal, South Africa, plus Tunisia are jointly setting up mRNA vaccine production centres. The development of independent state of the art technology of this sort will be a key indicator of the region's potential to thrive.

The economic impact has been more clear. The World Bank reported that output in SSA fell 2.4% in 2020 – the region's deepest recession since the 1960s. The Region's debt to GDP ratio rose by an average of 8%, to 70% of GDP. GDP per capita fell by 4.9%.

Assuming the world recovers quickly from the economic impact of Covid, SSA would have the chance to put 2020's problems behind it. The African Union continues to work to open the region's own borders to easier terms of trade, and investors, particularly China, have been keen to develop business with states in the Region. However, again there are clouds on the horizon. According to a report from Reuters in November 2021, China reduced its investment in Belt & Road Initiatives (BRI) by 54% between 2019 and 2020. In Africa, where 40 states have sought BRI funding, Chinese expenditure fell from \$11Bn in 2017, to just \$3.3Bn in



2020. Projects have been left uncompleted, for example the BRI rail link from Mombasa to Uganda, on which work has stopped 468km short of the Ugandan border.

In addition, SSA knows all too well that investment from other regions comes with strings attached – diplomatic and strategic as well as economic. And the approaching confrontation between Russia, Europe, the USA and China may well lead to serious economic reversals in SSA.

Some SSA states are struggling with debt. The Reuters report quotes the African Development Bank, which estimates the region's infrastructure investment deficit to be \$100Bn. More specifically, Zambia has defaulted on debts of \$12Bn, half of which is owed to China.

Conflict seems to be on the increase across the region. As well as the long-standing conflict zones, such as Somalia or the Democratic Republic of Congo, there is an arc of conflict across the Sahel Region, taking in Burkina Faso, Niger, Northern Nigeria, Mali and Chad. Conflict flared up in Mozambique in 2020 and 21, and in Ethiopia, which had been widely seen as an exemplar of economic development and good governance, but is now engaged in a major civil conflict.

Conclusion

SSA both enjoys massive opportunities – its natural resources, its population boom, its youth and ambition – and greater challenges perhaps than any other global region: the impact of the population surge, the impact of climate change. Given the diversity of the region, it is certain that we will observe a very mixed picture across the SSA's states. Indicators of success will include:

- The speed at which SSA recovers from the Covid pandemic and its economic effects;
- Examples of innovation and African-led research and innovation;
- Examples of model cities as Africa's urban population swells;
- Progress towards open trade;
- More equal partnerships with powerful external investors.

But the risks and challenges facing Africa are enormous, including:

- Failure successfully to absorb the rapidly increasing population, leading to overcrowding, conflict and civil unrest;
- Adverse environmental impacts of climate change, leading to widespread water and food shortages, mass-migrations and possible pandemics;
- Spreading conflict on religious and ethnic grounds; and
- The “backwash” from strategic conflict in other regions, affecting SSA's own economic and strategic situation.



SSA's potential movement on the scenario board above will to a large extent depend on how these opportunities and challenges play out; it will also depend on events in other, more developed regions. Inevitably, in such a large and diverse region, there will be a mixed picture among the individual states. But it might be prudent to predict that success may – in overall terms – come slowly: perhaps in the second half of the century. Short term success is likely to be confined to a minority of leading states in the region.

Written by David Lye, SAMI Fellow, published 24 Feb 2022



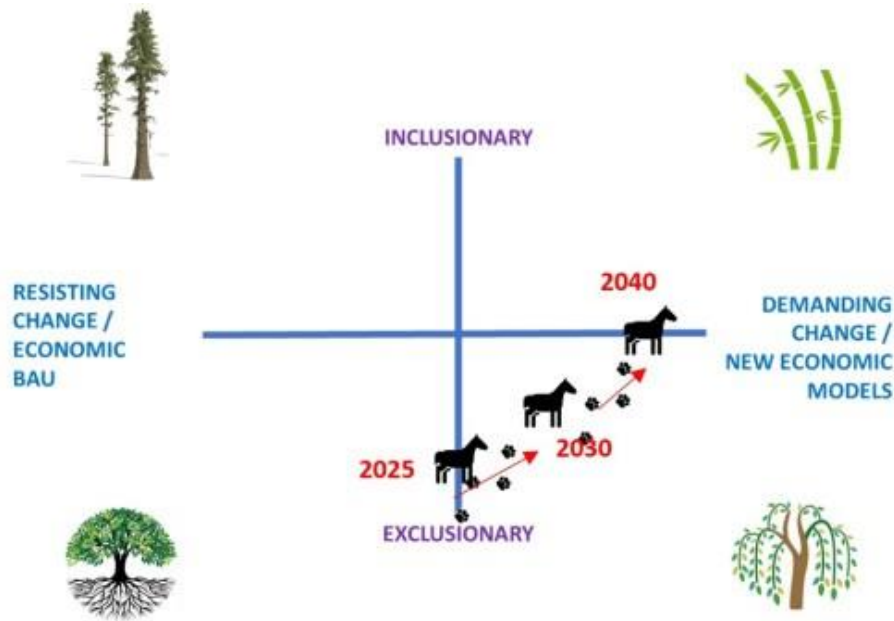
EC SAFIRE Scenarios for Global Regions: MENA



Image by martinmaricak@pixabay.com

The latest in our series based on SAFIRE, a proposed system using foresight to develop policy for Research and Innovation relationships for the EU, is a review of the Middle East and North Africa. Our aim is not to review what the report contains, but to identify signs of progress, or confounding issues, which may affect the scenarios for the region.

The original SAFIRE Report is available via the link [here](#). Four global scenarios provide the structure of a “gameboard”. These were then expanded into scenarios of each of the 10 Regions – the scenario reports for each Region can be found within Chapter 3 of the report. At a workshop, Regional experts then examined how their Region might journey through the scenarios over time.



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Driving Change in MENA

MENA is neither a region nor is it typical

We start with two general points. The Middle East and North Africa is not really a region. Unified (by politicians in the West) by Islam and the Arabic language, the superficial unity disguises widespread differences in social, political, economic and other factors – indeed, the full STEEPLE mix. It is better to think of three regions – North Africa, the Gulf, and the Levant (though this name itself comes freighted with imperialist overtones).

Our study, however, brought all three subregions together, which, whilst useful, also in some respects disguised the essential disunity which is fundamental to understanding what actually may happen.

We also, for various reasons, excluded the explicit mention of Israel (neither Islamic nor Arabic), Turkey (nominally secular and Turkish speaking) and Iran (traditionally not included in MENA for cultural, geographic and other reasons).

The region is also not typical. The general view of the overall direction of travel within the scenarios tended towards our “Oak” scenario – exclusionary and resisting change. However, if you look at the scenario frame above, which includes the two-



phase scenario project we developed for this project (the Journey Game), you'll note that whilst the region starts on the border of Oak, our participants thought that the region would, between 2025 and 2040, move steadily towards "Bamboo" – demanding change and inclusionary. This is exceptional in the context of the SAFIRE project – and implies the region has a more hopeful future than it sometimes seems it might.

Recent events, however, may prove a challenge to this positive projection.

The influence of Israel, Turkey and Iran

No region is isolate to itself, still less one as complex as MENA. Still less again, when it has three powerful neighbours which act as poles of disruption.

Israel is potentially a contributor to speeding up travel to Bamboo. The recent visit of Israel's president Herzog to the UAE is the clearest example. For those of us who have been watching the region for years, seeing an Emirati band play the Israeli national anthem in front of President Herzog and Crown Prince Mohammed Bin Zayed, in the UAE national palace, is a concrete example of a radical change in approach from all sides. The "Abraham Accords" that led to this meeting are groundbreaking.

A substantial driver in the accords is the region's response to **Iran**, whose influence across the region remains deeply felt. Its explicit support for disruptive forces in Lebanon and Syria and its covert support more widely, coupled with its nuclear ambitions, remain a source of tension. Without a revolutionary change in the country's government and outlook, we anticipate that Iran's influence will continue to do two main things: force rapprochement between Israel and the Sunni states; and be a source of instability across the region.

President Erdoğan continues to drive an expansionist foreign policy in **Turkey**. Whilst this has many names (among the least useful being "neo-Ottomanism"), Turkey's desire for a place in the world, particularly in its near abroad, has led to an involvement in Syria, clashes with the Kurds, direct battlefield confrontations with Russia, and an overt intervention in the recent Armenia-Azerbaijan conflict. The undoubted success of Turkey's military equipment, especially the drone technology in the TB2 Bayraktar, and Erdoğan's militarised foreign policy, are both disruptive. However, their success will inevitably mean they will continue. Even a change of government in Turkey is unlikely to signal a return to Atatürk's "peace at home, peace in the world" doctrine.



Second-order effects from the invasion of Ukraine

Harold Macmillan's line about "Events, dear boy, events" being the statesman's greatest challenge has become trite. However, the last two months have proved its truth.

There is nothing so diverting to the global order as a European war. Powerfully armed, nationalistic states and groupings (including NATO and the EU), fighting each other in Eurasia, disrupt almost everything, almost everywhere. As long as the conflict remains between Russia and Europe, however, it should not directly affect the region even if it goes very badly wrong.

Except, of course, it does. Not in the boots-on-the-ground sense, though Ukraine's recent withdrawal of its peacekeeping forces is an unpleasant harbinger of what may happen if this turns into a general European war. It is the second-order effects that matter, and especially two.

Grains

The impact on grains exports to the region stemming from Russia's invasion of Ukraine is profound.

- Turkish agriculture ministry data indicates that the country imported almost half of its wheat needs in 2020, mainly from Russia with 64 percent of imports, and Ukraine at 13.4 percent.
- Lebanon consumes approximately 450,000-550,000 tonnes of wheat every year and imports 60 percent of its wheat from Ukraine.
- Between 2020 and 2021, Egypt imported most of its wheat – 12.5 million tonnes – from Russia and Ukraine. The price of bread is political in Egypt, and at least 70 percent of the country's 102 million population rely on subsidised bread. Almost 85 percent of Egypt's wheat imports in 2020-21 came from Russia and Ukraine.
- Ukraine, the world's fifth largest wheat producer in 2019, exports most of its output to North African states.
- Wheat makes up almost half of Tunisia's overall cereal imports. These come from a wide range of suppliers, on top of which are Ukraine and Russia.
- "Russia is Tunisia's traditional ally when it comes to wheat imports," Tunisian political commentator Najeh Missaoui told MEE. "The Tunisian government has already started searching for alternatives."
- Having previously relied on European wheat, Algeria imported it from Russia last year for the first time in five years, due to changes in its import specifications.^[1]

Historically, the one thing that causes significant disruption in the region is bread. Subsidised, to one degree or another, virtually everywhere, bread is the fundamental



foodstuff of the Middle East and North Africa, and price rises or absence leads to civil disorder.

Civil disorder will affect our scenarios. Should the war be short, then governments in the region should survive. Suppose it is long, or international sanctions on Russia remain sustained. In that case, countries within the region will collapse into themselves as their public search for bread. The potential of unrest affects all North Africa and the Levant, the Gulf only really being exempt through its wealth and relatively smaller populations.

Oil

The global economy is in an intensely fragile state. Two years of Covid, the still unresolved effects of the 2008 global financial crisis, and supply chain disruptions have led to governments pumping money into economies, to the point where it must be questionable how long it can be sustained. An oil price shock, caused by the removal from the international markets of Russian oil, will be another blow to the global system. Releasing oil from strategic reserves can only support prices for so long.

Gulf states are maintaining their support for the OPEC+ agreements at present. No further crude is to be brought onto the market. But Brent crude has risen 60% in 2022, and the previous peak of \$147/barrel (2008) is almost sure to be breached.

This is good news only for one of our subregions. The combination of higher oil prices and much less wheat is potentially highly disruptive for the rest.

Where now?

Our scenarios for MENA were fundamentally optimistic. Our Journey Game direction of travel was more so. Nothing within the region has changed to alter those scenarios – in fact, with the rapprochement between Israel and its neighbours, we could be more confident than before.

But externalities are really going to hurt. Power prices will rise. Wheat will become scarce. The fundamental difference in world view between Iran and the region will remain and intensify, even should the nuclear talks be successful. We move from some confidence to some nervousness.

Written by Jonathan Blanchard Smith, SAMI Fellow and Director, published 10 March 2022



▮ SEE FOR INSTANCE

[HTTPS://WWW.AL-MONITOR.COM/ORIGINALS/2022/03/EGYPT-MAY-PLANT-2-MILLION-ACRES-WHEAT-COMPENSATE-UKRAINE-WAR](https://www.al-monitor.com/originals/2022/03/egypt-may-plant-2-million-acres-wheat-compensate-ukraine-war)

[HTTPS://WWW.MIDDLEEASTEYE.NET/NEWS/RUSSIA-UKRAINE-WAR-MIDDLE-EAST-BREAD-WHEAT](https://www.middleeasteye.net/news/russia-ukraine-war-middle-east-bread-wheat)

[HTTPS://WWW.MIDDLEEASTEYE.NET/NEWS/EGYPT-UKRAINE-RUSSIA-WHEAT-NORTH-AFRICA](https://www.middleeasteye.net/news/egypt-ukraine-russia-wheat-north-africa)

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