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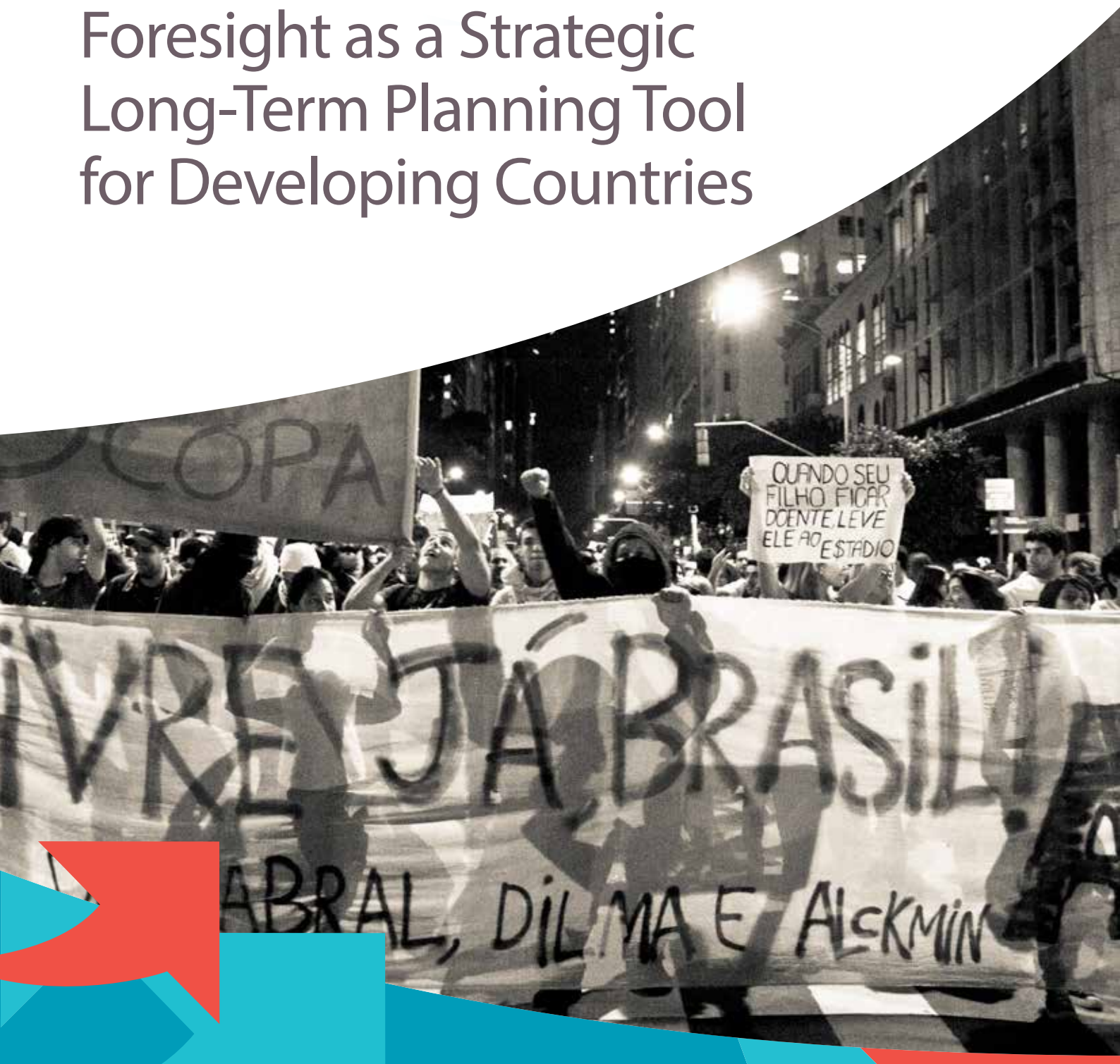
Foresight as a Strategic Long-Term Planning Tool for Developing Countries



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1. EXECUTIVE SUMMARY

In today's complex and rapidly changing world, events and trends in various spheres interact with one another in unpredictable ways. Governments increasingly realise that few contemporary challenges can be confined to one policy area and that a single-issue focus is in many instances insufficient.

Addressing climate change, for example, cuts across many issues of concern including water, agriculture and food security. Additionally, information silos common in highly decentralised, bureaucratic organisations can hinder 'whole picture' perspectives. Prominent voices in development suggest shifting from traditional normative thinking towards adaptive, complexity-aware approaches, which encourage resilient and adaptive policies responsive to change.

'Foresight' refers to processes of anticipation that identify opportunities and threats which may arise in mid- to long-term versions of the future. As a way of thinking, foresight also encourages innovation, strategic evaluation and the proactive shaping of the future. Where traditional planning has sought to prevent failure, strategic foresight prioritises resilience, namely early detection and fast recovery. Forward-looking, adaptive and resilient policies allow public administrations to engage with and shape events to the best advantage of their citizens.

An effective foresight system represents an information generation and management process that generally consists of three phases: 1) collecting information, 2) interpreting the data and formulating different versions of the future and 3) developing strategic options for action. For traditional organisations moving towards foresight, this not only requires a paradigm shift about how to think about the future, but also a cultural shift towards creating a learning organisation. In government, this means encouraging civil servants to capture knowledge, share information and practise anticipatory thinking at every level of public administration, from front-line service delivery to top-level decision-making.

Governments increasingly realise that few contemporary challenges can be confined to one policy area and that a single-issue focus is in many instances insufficient.

Foresight, combined with complex adaptive systems thinking, promotes being anticipatory and being agile. This is useful for helping governments address the challenge of planning for the long-term in the face of uncertainty and accelerating change. Developing countries, however, are often faced with limited resources and capabilities for developing foresight capacity. This paper suggests that, with sufficient political will, current and ongoing foresight endeavours can be leveraged to the benefit the long-term planning goals of developing countries.

Conferences and events that bring together scholars, practitioners and policy makers are already being held around the world. These events provide a platform for networking and knowledge sharing. Properly facilitated, there is a potential for policy makers in low-capacity countries to develop long-term, sustainable development policies by collaborating with independent foresight academics, practitioners and institutions.

A growing number of regional foresight activities are taking place in Europe, the Asia-Pacific and Latin America and the Caribbean. These collaborations focus on identifying regional priorities for setting action agendas, and cover issues as diverse as agriculture and food production, information communications technology, climate change and water security and eco-resilience. Such existing regional collaboration allows lesser-developed countries to leverage the resources, experiences and information of their more developed regional neighbours in the spirit of South-South cooperation.

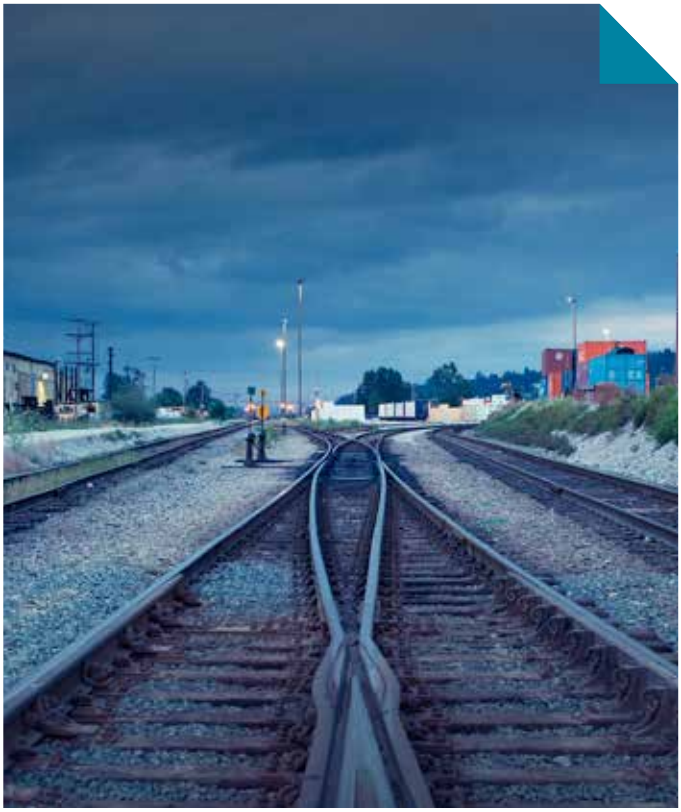
2. INTRODUCTION

Governments increasingly realise that few contemporary challenges can be confined to one policy area and that a single-issue focus is in many instances insufficient.[1] Climate change, for example, crosscuts other issues of concern including access to water, agriculture, food security and urban planning. Information silos common in highly decentralised, bureaucratic organisations can hinder 'whole-picture' perspectives. This presents a further challenge for decision makers tasked with formulating strategies and policies that effectively address interconnected and interdependent problems. In an increasingly complex and rapidly changing world, what is the value of futures thinking and foresight programmes as long-term planning tools in strategic policymaking, especially its implication in the development context of low-income countries?

The purpose of this paper is to support decision and policymakers in developing countries to maximise the strengths and benefits of national foresight programmes, which will require embracing levels of risk and uncertainty outside the typical bureaucrat's usual comfort zone.

Futures Studies, an interdisciplinary field of inquiry that emerged in the mid-1960s, asserts the significance of forward thinking and anticipation in strategy and policy development. It is more than forward thinking alone, however, which little prepares governments for unforeseen changes to environments and circumstances. It is not about prediction or guesswork to figure out what 'the future' will be.[2] Rather, Futures Studies is an exercise in strategic planning that takes into account different alternatives of the future. In this regard, foresight and futures thinking are useful long-term planning tools for anticipating and preparing for possible, probable and desired futures.

In international development, there is a shift towards a complexity-aware approach that favours adaptation as a way of dealing with challenges in unpredictable, complex systems.[3] The relationship between foresight and complex adaptive systems thinking is therefore an important one because it combines being anticipatory and being agile. Strategic foresight is about "doing things right versus doing the right things" (Raford, 2013).[4]



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Strategic foresight is well-established in many advanced economies, including the European Union, Japan and Singapore. Among the BRICS nations (Brazil, Russia, India, China and South Africa), foresight programmes at the government level are increasingly common. There is also evidence of a growing number of foresight exercises in Latin America and the Caribbean conducted at the regional level on topics as diverse as agriculture and food production, information and communications technology, and climate change.

With a view of foresight as an information-generation and management process, and drawing on the foresight experiences in the Latin American and Caribbean region, policymakers in emerging economies and other developing countries are encouraged to leverage regional and international resources and capabilities through activities such as knowledge sharing and collaborative partnerships.

1 Beat Habegger, "Strategic foresight in public policy: Reviewing the experiences of the UK, Singapore, and the Netherlands," *Futures* 42 (2009): 49.

2 Joseph Voros, "A primer on futures studies, foresight and the use of scenarios," *prospect, the Foresight Bulletin*, no. 6, December 2001, p. 1.

3 Owen Barder, "Complexity, adaptation, and results," blogpost from *Centre for Global Development website*, 7 September 2012.

4 Noah Raford, "Foresight and surprise," presented at *The Lift Conference*, CICG, Geneva, Switzerland, 6-8 February 2013.

3. FUTURES AND FORESIGHT

The difference between 'futures' and 'foresight' is subtle. Futures Studies consists of pondering possible, plausible, probable and preferable futures; foresight is about strategising how to navigate a course there in the face of uncertainty. Both processes encompass many techniques that think about or use the future as a strategic planning tool.[5] Futures Studies is not an exercise concerned with getting it right or wrong; it is about using imagination to escape from the present and drive innovation by thinking about different ways of doing things. The ultimate aim of Futures Studies is to inform decision-making by exploring future trends and potential discontinuities.[6]

The techniques employed in Futures Studies span a wide range, from visioning and backcasting to technically sophisticated trend analyses and statistical projections.[7] A distinction between Futures Studies and foresight is made because not all futures techniques fall into the foresight toolkit.

Also, distinctions can be made among the various tools. Vision and foresight, for example, are non-interchangeable ideas that are not products of the same mental processes.[8] Vision tends to be a fixed image of the future; foresight is based on assumptions that are always understood to be in flux.[9] While visioning has its benefits as a long-term planning tool, it fails to anticipate the breadth of possible forces that may come into play at any point in the future to assist or detract from a desired outcome. It is this sense of preparedness that strategic foresight aims to foster.

Strategic foresight should not be confused with forecasting, which can create a narrow view of the future.[10] "Long-term forecasting has increasingly become discredited, not least because more often than not predictions have proved to be incorrect" (Berkhout, 2002).[11] Rather than making predictions based on extrapolation of current trends or frequency of similar past events, foresight cultivates the capacity to anticipate alternative futures and an ability to visualise multiple possible outcomes and their consequences.[12]

BOX 1: VISIONING, NOT FORESIGHT: A LONG-TERM PLANNING TOOL FOR DEVELOPMENT IN BOTSWANA

Botswana, one of Africa's most stable countries, is often cited as a shining example of just how successful an African nation can be. The country transformed itself from a struggling agricultural economy into the world's biggest diamond producer, graduating to 'developing country' status in 1994. Today, Botswana is relatively free of corruption and has a good human rights record.

Botswana's success as a developing country is the outcome of a national backcasting process and strong leadership. January 1997 saw the commencement and subsequent publication of A Long Term Vision for Botswana. Working backwards from a national vision for the year 2016, the document informed decision and policymaking by identifying major challenges and roadblocks, and the strategies required to deal with them.

The country's civil service is currently undergoing reforms to rebuild and transform its public service and Botswana appears on track to achieve Vision 2016. Yet, a single wildcard event or unaccounted for regional incident may derail Botswana's vision-based strategic plans.

Strategic foresight: What is it and why bother?

In layman's terms, foresight is often understood as "the ability to see what will or might happen in the future."[13] But foresight thinkers and practitioners are not guessing; they are concerned with developing and testing methodologies that contribute to sound, forward-looking decision-making. Foresight is a well-established field of practice and more recently an emerging academic field.[14] It is an effective policymaking tool aimed at developing a collective learning platform with permanent communication among business, academic, governmental and other social actors.[15]

5 Jess Bland, "Futures and foresights," *YouTube video*, uploaded by 'Nesta UK' on 25 October 2013.

6 Frans Berkhout and Julia Hertin, "Foresight futures scenarios: Developing and applying a participative strategic planning tool," *Greener Management International* 37 (Spring 2002): 39.

7 Ashis Nandy, "Bearing witness to the future," *Futures* 28, no. 6-7 (1996): 636-7.

8 Leon S. Fuerth, "Foresight and anticipatory governance," *Foresight* 11, no. 4 (2009): 17.

9 Ibid., p. 17.

10 Jessica Bland and Stian Westlake, *Don't Stop Thinking About Tomorrow: A Modest Defence of Futurology* (UK: NESTA, 2013), p. 10.

11 Berkhout and Hertin, "Foresight futures scenarios," p. 39.

12 Fuerth, "Foresight and anticipatory governance," p. 16.

13 Merriam Webster, "Foresight," *Merriam Webster Online*.

14 Allan Dahl Andersen and Per Dannemand Andersen, *Innovation-system Foresight: Explicating and Systemizing the Innovation-system Foundations of Foresight and Exploring its Implications* (Denmark: Technical University of Denmark, 2012), p. 3.

15 Lajos Nyiri, "Foresight as a policy-making tool," in *Technology Foresight for Organizers* (Brazil: Center for Strategic Studies and Management, 2003), A10.

The history of foresight traces back to military strategies and military technology foresight used by the United States military's research units and think tanks such as the RAND Corporation in the 1940s and 1950s. Many of the ideas on foresight have their origins in management science. A large part of this approach was developed and first tested by practitioners in companies, for instance the Royal Dutch Shell Group's scenario planning exercises in the late 1960s.

Foresight refers to processes of anticipation[16] and is a part of *strategic thinking* designed to open up an expanded range of perceptions of the strategic options available.[17] Strategic foresight, or what Peter Schwartz calls 'the art of the long view', is a planning-oriented subset of foresight that helps policymakers improve the effectiveness of governments[18] by identifying opportunities and threats that may arise over the coming years and decades,[19] as well as possible strategies to deal with them.

Strategic foresight differs from traditional planning in that it considers plausible, possible, probable and preferred futures equally. Additionally, where traditional planning tends towards robustness—that is, trying to prevent failure—foresight favours resilience, which is about early detection and fast recovery.[20] As a speculative exercise bolstered with analysis, strategic foresight combines being agile and being anticipatory.[21]

Concerned with long-term futures, as well as the production of knowledge about alternative futures,[22] foresight is "intended to empower decision makers to consciously expand the boundaries of their own perception with regard to future challenges" (CSS, 2009).[23]

BOX 2: FLOODING AND COASTAL DEFENCE: POLICY IMPACT OF FORESIGHT PROJECT IN THE UNITED KINGDOM

Foresight capabilities can help governments and businesses address systemic challenges and guard against fragility.[24] In the United Kingdom, the Foresight Flood and Coastal Defence project launched in 2004 was tasked with looking 30 to 100 years into the future. The outcomes of the project and its resulting report led to changes in environmental policy.[25]

The foresight team, panelled by environmental experts in subjects from agricultural land use to sea-level change, formed four scenarios: national enterprise, world markets, global sustainability and local stewardship. The scenarios helped expand the kinds of futures they imagined and helped shape their models of the physical environment 100 years from now.

The Foresight Flood and Coastal Defence report has had major impact on government policy in the United Kingdom. Rather than prioritising any particular scenario or developing direct strategies to address an imagined future, the value of this particular foresight exercise was in convincing policymakers to take definitive action to protect the lives, properties and livelihoods of its flood-risk citizens. This included doubling national funding for protection against coastal erosion[26] and signing into legislation the Flood and Water Management Act 2010, which regulates risk management activities and ensures that new building and construction projects adhere to 'flood resistance' standards.[27]

Institutionalising foresight

Current approaches to Futures Studies "aim to provide a systematic framework to draw out, challenge and refine, often tacit, knowledge about the future" (Berkhout, 2002).[28] For more traditional organisations hoping to foster a culture of foresight, this requires a shift towards creating a learning organisation. In government, this means encouraging civil servants to capture knowledge, share information and practise anticipatory thinking at every level of public administration, from front-line service delivery to top-level decision-making.

An effective foresight system represents an information-generation and management process, which in addition to data, contains creative innovation, strategic evaluation and the rendering of proactive futures.[29]

16 Tuomo Kuosa, "Practising strategic foresight in government," *RSIS Monograph*, no. 19 (Singapore: S. Rajaratnam School of International Studies, 2011), p. 9.

17 Voros, "A primer on futures studies," p. 4.

18 Andrew Leigh, "Thinking ahead: Strategic foresight and government," *Australian Journal of Public Administration 62*, no. 2 (2003): 3.

19 Berkhout and Hertin, "Foresight futures scenarios," p. 38.

20 Dave Snowden, "Risk and Resilience," *YouTube video*, uploaded on 15 May 2011.

21 Raford, "Foresight and surprise."

22 Iana Dreyer and Gerald Stang, "Foresight in governments – practices and trends around the world," in *EUISS Yearbook of European Security 2013* (Paris: EU Institute for Security Studies, 2013), p. 7.

23 Centre for Security Studies, "Strategic foresight: anticipation and capacity to act," *CSS Analyses in Security Policy no. 52*, ETH Zurich, April 2009.

24 Bland and Westlake, *Don't Stop,* p. 14.

25 For more on this exercise, see United Kingdom, Department for Business, Innovation & Skills, "Foresight project Flood and Coastal Defence," *BIS Foresight website*.

26 Bland and Westlake, *Don't Stop*, p. 14.

27 United Kingdom, Flood and Water Management Act 2010, see for example S 4 (1) and S 40 (1).

28 Berkhout and Hertin, "Foresight futures scenarios," p. 39.

29 Olli Hietanen, David Lefutso, Mario Marais, Neeshal Munga, Barend Taute, Mphathi Nyewe and Thembinkosi Daniel Semwayo, "How to create national foresight culture and capacity: Case study South Africa," *Ekonomiaz* 76, no. 1 (2011): 149-50.

There are generally three phases of generating strategic foresight: 1) collecting information or 'scanning', 2) interpreting the data and formulating versions of the future and 3) developing options for action.[30]

Collecting information or 'scanning': Almost all foresight activity starts with or involves horizon scanning. Scanning is a process of looking outwards, at the trends and drivers that are currently shaping the world, including those within and outside a given context.[31] The main function of futurists is to collect knowledge about the future, more specifically, current knowledge that could have an influence on the future, or 'insights'. Thorough horizon scanning that is both wide and deep produces a pool of insights that form one big knowledge base about the future.[32]

Interpreting data and formulating versions of the future: This step generally consists of applying a combination of techniques and practices such as identifying weak signals or emerging strategic issues, casual layered analysis, wildcard exercises, participatory methods, roadmapping, scenario planning, the Delphi method and so on. For the purpose of brevity, this paper does not cover the various methods in detail. Refer to Jackson's *Practical Foresight Guide*[33] for a comprehensive overview of futures and foresight techniques.

Developing options for action: The final and often most challenging phase is developing policy recommendations that spur decision makers to action. An organisation that engages in foresight without using or acting upon its results and information is wasting its resources. Therefore, governments must consider the practical implications of foresighting on bureaucratic, strategic and policy planning before committing to widespread implementation.

Promises and challenges

Futures and foresight are ideal strategies for dealing with uncertainty.[34] Foresight creates 'anticipatory awareness', that is to say, the ability to anticipate that a particular problem may be experienced in a particular task or situation. In the context of development, this might refer to anticipating changing demands in the provision or delivery of public services.

Anticipatory awareness also challenges organisations and management to think differently about how goals can be achieved and identifies changes or discontinuities that might occur along the way. An awareness of and expectation that changes might occur forces organisations to consider flexibility in their long-term plans, resulting in the formulation of more adaptable policies.

Set in the safety of an alternative or hypothetical future, exercises like scenario planning can also be a useful tool for enabling conversations about difficult or taboo issues, especially in contexts of instability.

BOX 3: MONT FLEUR SCENARIO EXERCISE: TRANSFORMATIVE SCENARIO PLANNING IN SOUTH AFRICA

In 1991, Nelson Mandela was released from prison and the negotiations to end apartheid had begun. In the midst of deep conflict, the Mont Fleur Scenario Exercise35 was an opportunity for people from different organisations and political and ideological landscapes to engage in dialogue and think creatively about the future of their country.

Over the course of the exercise, a team of 22 participants—South African leaders from the opposition and the establishment (left and right, black and white), business people, politicians, academics, trade unionists and community workers—imagined four scenarios in response to the question: "How will the South African transition go and will the country succeed in 'taking off'?"

In a setting of informal meetings and open conversations, the scenario process enabled participants to create common ground and contributed to establishing mutual understanding. As a set, the scenarios provided a provocative roadmap for the country's transition away from apartheid. The exercise also helped to avert an economic disaster by shifting the economic thinking and action of the African National Congress (ANC) and cementing strict and consistent fiscal discipline.[36]

Mont Fleur is a shining example of transformative scenario planning providing "a way for people to work with complex problematic situations that they want to transform but cannot transform unilaterally or directly" (Kahane, nd).[37]

Foresight can also be a useful driver of innovation, entrepreneurship and social change. The movement of populations from rural to urban areas, for instance, raises serious concerns regarding land use, space design and even social dynamics. In this case, applying foresight to anticipate future needs and challenges can inspire innovative and entrepreneurial projects to address these concerns before they become too disruptive.

30 CSS, "Strategic foresight."

31 Bland, "Futures and foresight."

32 Walter Kehl, "Strategic foresight as knowledge management," *ShapingTomorrowBlog website*.

33 For a comprehensive description of futures and foresight tool and techniques, see Michael Jackson, "Chapter 3 – Methods", in *Practical Foresight Guide* (Creative commons license, 2013).

34 Stuart Smith, "A journey through foresight and innovation," presented at *UNDP Global Innovation Meeting 2013*, Montenegro, 14-16 November 2013, slide 9.

35 For the full report, see Global Business Network, "The Mont Fleur scenarios: What will South Africa be like in the year 2002?" *Deeper News 7*, no. 1, (1992). See also Adam Kahane, "Learning from experience: The Mont Fleur scenario exercise," REOS website, 13 March 2010.

36 Kahane, "Learning from experience."

37 Adam Kahane, "Transformative scenario planning: Working together to change the future," *Stanford Social Innovation Review website*.

The complexity of the world's largest pilgrimage with over 100 million attendees: Kumbh Mela (Allahabad, India)

There are, of course, also challenges and limitations to foresighting. Due to methodological constraints, foresight is often too theoretical and abstract for non-practitioners. The transmission of knowledge to policymakers operating with different cultures, vocabularies, processes and time scales is one of the biggest difficulties futurists face.[38] As a result, "much foresight work, while very interesting and great fun to discuss over dinner, goes unused, unappreciated, and makes little observable difference" (Horton, 2012).[39]

Long-term futures also tend to seem dystopian or unrealistic to people and careful engagement is required in order to inform policymaking. Critics say the lofty, futuristic nature of foresight renders it disconnected from realpolitik and operations, and that the further into the future it looks, the more its outcomes resemble science fiction. For this reason, futurists must be vigilant about using language that is consistent with and accessible to decision makers.

'Inattentional blindness' is one of the biggest challenges in foresight. Cognitive biases are evident in all phases of generating strategic foresight, from the relevance of information collected (prioritising recent happenings over older events), to the way information is filtered (situational bias), and eventually to the formulation of strategic options congruent with prevailing mindsets of the time (*Zeitgeist* bias).[40]

Foresighting can also be counter-intuitive as people and organisations are generally conditioned to demand and expect certainty. It is thus crucial for futurists not to fall for the temptation to tell the future, a particularly challenging task for individuals in organisations newly embarking on the foresight journey. Rather, they should remind themselves that their role is to confront people with alternative worldviews and to make them consider possibilities that they would not otherwise think of.

38 Olivier Da Costa, Philine Warnke, Cristiano Cagnin and Fabiana Scapolo, "The impact of foresight on policy-making: Insights from the FORLEARN mutual learning process," *Technology Analysis & Strategic Management* (Institute for Prospective Technological Studies Joint Research Centre / European Commission, 2008), p. 2.

39 Averil Horton, "Complexity science approaches to the application foresight," *Foresight* 14, no. 4 (2012): 295.

40 Peter Stoyko, "Foresight and forecasts: Comparative review," *SmithySmithy weblog,* July 20, 2010. See also John B. Mahaffie, "13 mistakes you make when exploring the future," *foresightculture website*.

4. FORESIGHT AND POLICYMAKING

Decision makers are often tasked to deal with short-term urgencies, as well as plan for long-term sustainable development. This is particularly challenging in developing countries where resources are limited and budgets and capabilities must be prioritised.

What is the relationship of foresight to policymaking? "In the best cases, foresight activities will initiate changes in the way decisions are made and policies are designed" (Da Costa, 2008).[41] It offers a long-term view: "As a factor in governance, the purpose of foresight is to enhance the ability of decision-makers to engage and shape events at a longer range and, therefore, to the best advantage of the citizens they serve" (Fuerth, 2009).[42] The biggest difficulty however, is to get the message across to decision makers, so that they most effectively use the foresight results. One way policy-oriented foresight practitioners can overcome the gap between themselves and decision makers is to align their work with national political agendas and ongoing administrative processes, which allows them to more effectively feed their results into the appropriate political channels.[43]

Complexity and wicked problems

Complex problems resulting from modern challenges like climate change and water security have renewed the appetite for foresight practices that can describe systemic change.[44] Foresight, as a tool for advising policy, can thus be described as a means of transmitting complexity to policymakers.[45] Policymakers may sometimes be blindsided by 'black swans', 'unknown unknowns' and 'wildcards'[46] because traditional forecasting methods are based primarily on linear extrapolation.[47] Foresight practitioners, however, are more comfortable with a non-linear world.

Policymakers are dealing with increasingly complex, multi-dimensional issues that are frequently interconnected and interdependent.[48] Globalisation resulting from and combined with technological innovation has accelerated change on all fronts—political, economic and social. In today's global environment, events and trends in various spheres interact with one another in complex and sometimes mystifying ways.[49]

"The growing complexity of the system that a particular policy is trying to affect makes it impossible to steer it directly without facing the risk of unintended consequences" (Da Costa, 2008).[50]

Complexity science is the study of complex adaptive systems—the patterns of relationships within them, how they are sustained, how they self-organise and how outcomes emerge. In the field of development studies, there is a shift towards a complexity-aware approach that favours adaptation as "the way to deal with problems in unpredictable, complex systems. Adaptation works by making small changes, observing the results, and then adjusting" (Barder, 2012).[51] This appears contrary to the 'planning approach' widely used in development to design complicated programmes and track implementation milestones. However, adaptability combined with foresight work allows for quick, insightful decision-making that enables "doing things right versus doing the right things" (Raford, 2013).[52]

In addition to creating 'spaghetti bowls of issues', complex systems and unpredictable environments are also the seedbed of wildcards and black swans, which ultimately generate what the political scientist, Horst Rittel, called 'wicked problems'. Wicked problems are large and intractable issues that have no immediate or obvious solutions and whose causes and influencing factors are not easily determined. "Most of the pressing threats to global civilisation fall into this class of problems: climate change, terror networks and global crime, extreme poverty, child slavery" (Ramos, 2012).[53] Wicked problems often have many agents interacting with each other in often mystifying ways and many stakeholders with different perspectives and goals.[54]

Networked governance/whole-of-government approach

A common feature of bureaucracies, particularly of governments, is the atomisation of work tasks from the upper echelons of ministers to front-line public officers. The resulting lack of flexibility is an obstacle that impedes the institutionalisation of foresight, which relies on wide access to information to address interdependent and crosscutting issues.

Futurists suggest that traditional governance is blind to the longer-term implications of its decisions, slow to detect the onset of major defects in policy and inattentive to its best options until they have been allowed to slide by.[55] The non-linear nature of increasingly complex and wicked problems requires a more subtle and continuous form of integration between policy and management.

41 Ibid., p. 3.

42 Fuerth, "Foresight and anticipatory governance," p. 17.

43 Timon Wehnert and Wolfram Jörß, "Evaluation paper: Foresight and decision making," (Energy Foresight Network, 2009), 7th FP – Project contract no. 213496, p. 9.

44 Wilkinson and Eidinow in Bland and Westlake, Don't Stop, p. 15.

45 Da Costa, Warnke, Cagnin and Scapolo, "The impact of foresight on policy-making," pp. 3-4.

46 'Black swan events' are unprecedented, unexpected, have major effects and are often inappropriately rationalised after the fact with the benefit of hindsight. 'Unknown unknowns' refer to situations that planners are unaware that they do not know about. 'Wild cards' refer to low-probability and high-impact events,

47 Mika Aaltonen and T. Irene Sanders, "Identifying systems' new initial conditions as influence points for the future," foresight 8, no. 3 (2006): 28.

48 Ibid., p. 2.

49 Peter Ho, "Coping with complexity," in *Government Designed for New Times: A Global Conversation* (McKinsey&Company, 2012), p. 82.

50 Da Costa, Warnke, Cagnin and Scapolo, "The impact of foresight on policy-making," p. 2.

51 Barder, "Complexity, adaptation, and results."

52 Raford, "Foresight and surprise."

53 Jose Ramos, Tim Mansfield and Gareth Priday, "Foresight in a network era: Peer-producing alternative futures," *Journal of Futures Studies* 17, no. 1 (2012): 72.

54 Peter Ho, "Governing for the future: What governments can do," *RSIS Working Paper Series*, no. 248 (Singapore: S. Rajaratnam School of International Studies, 2012), p. 3.

55 Fuerth, "Foresight and anticipatory governance," p. 14.

Uncertainty and Risk
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Networked thinking is one way to approach complexity and offers an alternative way to organise governance. Features of networked thinking include adaptability instead of control; emergence instead of predictability; resilience and redundancy instead of 'rock stardom'[56] —qualities closely aligned to features of futures thinking and present in foresight techniques. Networked governance represents a shift from vertical to horizontal approaches to decision-making and is a pre-requisite for adopting a 'whole-of-government' (WG) approach, which incorporates foresight at every level of governance.[57]

Whole-of-government policy planning and execution comprises a process of identifying, analysing and managing wide-ranging issues to achieve greater coordination in policy advice and programme and service delivery.[58] The WG approach is built on inter-agency collaboration to improve collective solutions to global problems. It therefore requires permeable vertical organisational structures so that learning, communication, analysis and decision-making processes can take place across organisational boundaries.[59]

A WG approach is inextricably linked to 'anticipatory governance', described as "a system of institutions, rules and norms that provide a way to use foresight for the purpose of reducing risk, and to increase capacity to respond to events at early rather than later stages of their development" (Fuerth, 2009).[60]

Anticipatory governance ensures that risks and opportunities identified by foresight programmes receive the resources necessary to address them. Such a system, however, raises the question of accountability and points back to one of the major challenges of foresight: Who is 'where the buck stops?' and can that person be trusted to recognise and avoid their own cognitive biases?

Beyond the WG approach, foresight also presents a unique opportunity for the co-creation of public policy. Many foresight techniques are, by their very nature, inclusive processes, drawing on the collective knowledge of corporate, academic, governmental and other social actors. The widest possible set of outcomes from a successful scenario exercise, for instance, relies on the diversity of stakeholders who participate. This 'whole-of-society' approach to governance, or 'anticipatory democracy', is defined by Clement Bezold as "a process for combining citizen participation with future consciousness."[61]

Foresight and innovation

The value of futures thinking and foresight is evident in the area of science and technology innovation. "The digital paradigm is characterised by fast innovation cycles and accelerating technological progress" (Hilbert, 2009).[62] In the public sector, science and technology innovation foresight is responsible for many of the innovative ideas that have contributed to the growing number of e-government services currently being offered globally. According to the OECD "e-Government explores how governments can best use information and communication technologies to embrace good governance principles and achieve policy goals."[63]

Yet, innovation and the value of foresight are not confined to the realm of science and technology. In terms of traditional economic growth, it is widely accepted that entrepreneurship is key to a country's development. "Most policymakers want to encourage innovation and entrepreneurial activity, but it is difficult to fully appreciate the full impact of policies designed to transform a system as complex as a nation's economy" (Colwell, 2010).[64] Admittedly, the complexity of crosscutting, socio-economic issues is a more challenging environment than technology futures. Increasingly however, attention is also being paid to public sector innovation.

56 Curtis Ogden, "Network thinking," Interaction Institute for Social Change website.

57 Leon Fuerth, "Operationalizing anticipatory governance," *Prism* 2, no. 4 (2011): 38.

58 Australian Public Service Commission, *Connecting Government: Whole of Government Responses to Australia's Priority Challenges* (Canberra Australia: Commonwealth of Australia, 2004), p. 3.

59 Kharina Zainal. "Reviewing whole-of-government collaboration in the Singapore public service," *Ethos* 9, June 2011.

60 Fuerth, "Foresight and anticipatory governance," p. 30. In Singapore, Fuerth's concept of Anticipatory Governance is referred to as Whole-of-Government Integrated Risk Management (WOG-IRM).

61 Clement Bezold (Ed.), *Anticipatory Democracy: People in the Politics of the Future*, (New York: Random House, 1978), quoted in Clement Bezold, "Anticipatory democracy and aspirational Futures," Journal of Futures Studies 15, no. 2 (2010): 167-70.

62 Martin Hilbert, Ian Miles and Julia Othmer, "Foresight tools for participative policy-making in inter-governmental processes in developing countries: Lessons learned from the eLAC Policy Priorities Delphi," *Technological Forecasting & Social Change* 76 (2009): 880.

63 OECD, "Public sector innovation and e-Government," *OECD website*.

64 Ken Colwell and V. K. Narayanan, "Foresight in economic development policy: Shaping the institutional context for entrepreneurial innovation," *Futures* 42 (2010): 295.

Public sector innovation "seeks to develop a better understanding of innovative approaches and tools, and their impact on government performance and public service delivery" and "is concerned with new or significantly improved ways of doing things, either within the structure of the public sector itself, or in the way in which public services are provided" (OECD, nd).[65] Foresight is thus an appropriate tool for identifying emerging areas of need and anticipating innovative solutions for addressing them. "Foresight on innovation policy issues can be interpreted as a systemic co-ordination mechanism that mediates not only between policy actors and different stakeholder communities, but also between different policies (and their respective stakeholders) affecting innovation" (Havas, 2010).[66]

Going a step further, practitioners are beginning to adopt a new approach dubbed *human-centred foresight*, which uses methods employed by designers to predict the future, starting with the 'users'.[67] Based on a traditional design approach, human-centred foresight begins by thinking about the future from the centre of the issues; identifying who the users are, what their interests are and how those might collide with changing external factors.

BOX 4: SINGAPORE: 'A LIVING LAB FOR INNOVATIONS' TO MEET FUTURE CHALLENGES

Design thinking,[68] particularly at the policy development stage, has allowed Singapore to anticipate its future needs and maximise its limited capabilities and resources. By applying innovation and creativity to addressing its identified weaknesses and probable future challenges, Singapore has been able to make a virtue of its constraints and turn its limitations into a source of competitive advantage.[69]

Singapore's sustainable development blueprint exemplifies the country's proactive rather than reactive approach to policymaking. The document outlines integrated national strategies to cope with resource and size constraints in land use, urban design, transport needs, water and waste management, environmental and emissions policy, energy policy and other areas.

Proclaiming itself 'a living lab for innovations', Singapore will continue to invest heavily in research and development while positioning itself as a hub for innovating and creating sustainable development solutions with partners across the globe.[70] Besides fostering good relations, global partnerships will bring investments to Singapore while helping her solve domestic challenges.

65 OECD, "Public sector innovation," *OECD website*.

66 Atilla Havas, Dorris Schartinger and Matthias Weber, "The impact of foresight on innovation policy-making: Recent experiences and future perspectives," *Research Evaluation* 19, no. 2 (2010): 95.

67 Raford, "Foresight and surprise."

68 Design Thinking is mostly concerned with how decision-making processes are organised and function and how collaboration and cross-fertilisation can be fostered and guided across organisational structures and policy disciplines. It puts end-users needs – rather than legacy and policy – at the centre of the policy formulation system, shifting paradigms and creating a new decisional process.

69 Singapore, MEWR and MND, *A Lively and Liveable Singapore: Strategies for Sustainable Growth* (Singapore: MEWR and MND, 2009), p. 92.

70 Ibid., p. 99.

5. FORESIGHT IN GOVERNMENT

Singapore's Public Service

Following independence in 1965, Singapore experienced rapid socio-economic development, earning its status as an Asian Tiger in the 1990s, alongside Hong Kong, South Korea and Taiwan. With no natural resources or economic hinterland, Singapore's policymakers recognised the necessity to anticipate demands, influence developments and meet Singapore's needs in innovative ways in order to sustain the country's growth and development, as well as its global competitive edge.[71]

Singapore implemented scenario planning in the late 1980s within the Ministry of Defence, generating narratives of the future to imagine how the world may evolve and what problems, challenges and opportunities could occur. In 1993, the government approved the use of scenario planning as a long-term strategic and policy development tool.[72]

Scenario planning functions were transferred from the Ministry of Defence to the Prime Minister's Office (PMO) in 1995. At this time, Singapore's civil service entered an era of reformation with the launch of its Public Service for the 21st Century (PS21) movement. Launched in May 1995, PS21 forced a paradigm shift from being satisfied accepting the present to questioning the future. Against the backdrop of a rapidly changing global and local landscape, "the basic tenet of PS21 is accepting the need for change as a permanent state."[73] By empowering and engaging public officers at all levels, the movement seeks to foster an environment where civil servants are able to anticipate and adapt to changes, responsive and flexible to customer needs and motivated, innovative and enterprising.[74]
Realising that "an over reliance on scenario planning may lead to an expectation that events would unfold just as they had been predicted" (Tan, 2008), the Risk Assessment and Horizon Scanning (RAHS) programme was initiated in 2005 under the National Security Coordination Secretariat to develop strategic anticipation.[75] Singapore's Risk Assessment and Horizon Scanning programme operates under the principle that collaboration is critical. "Agencies cannot be working in silos and examining issues in a compartmentalised way. RAHS requires horizontal collaboration and sharing of information across agencies" (Jayakumar, 2008).[76]

Singapore continues to expand its use of futures and foresight and, as of 2013, has numerous centres, offices and units across government departments dedicated to futures thinking, foresight, scanning and anticipation. Most recently, the Centre for Strategic Futures was established in 2010 to develop government-wide capabilities in strategic anticipation by coordinating all futures work of Singapore government agencies. The Centre for Strategic Futures helps by shaping whole-of-government policy to manage challenges in an increasingly complex environment. In partnership with the Civil Service College, the Centre also trains public servants to build capacity in the public service.

From foresight to action: replanting mangroves.

Foresight implementation in developed countries

Singapore's government invests heavily in its own futures and foresight activities. However, governments of other countries with foresight programmes additionally rely on the research of independent futurists and non-governmental organisations (NGOs). Finland, France, Germany, Japan and the United Kingdom, among others, employ a variety of models that inform policymaking.

The United Kingdom's foresight project operates under the Government Office for Science, but also draws information from think tanks, corporate foresight, governments, academia, NGOs, blogs, mainstream media, or music. It establishes networks among professionals within and outside of government who can translate recommendations into policy. It also operates as a broad public outreach that builds networks of futures thinkers and practitioners in the public, private, academic and other sectors.[77] Recent foresight projects undertaken include 'international dimensions of climate change, 'global migration' and 'global food and farming futures'[78], which have contributed to policy recommendations in the areas of foreign relations and national security, urban planning and food-systems design. The third cycle of the United Kingdom's foresight project addresses environment, health and identity policies.[79]

71 Donald Low and Andrew Kwok (Eds.), *In Time for the Future: Singapore's Heads of Civil Service on Change, Complexity and Networked Government* (Singapore: Civil Service College, 2010), p. 14.

72 Singapore, Public Service Division (PSD), *Conversations for the Future* (Singapore: Public Services Division, 2011), p. 10.

73 Ibid., p. 8.

74 PSD, "Public service for the 21st century," *PSD website*, 8 April 2008.

75 Edna Tan and Hoo Tiang Boon (Eds.), *Thinking About the Future: Strategic Anticipation and RAHS* (Singapore: National Security Coordination Secretariat, 2008).

76 S Jayakumar, "Opening address of IRAHSS 2008," presented in Singapore, 13 October 2008.

77 United Kingdom, Department for Business, Innovation and Skills (BIS), "Foresight," BIS Foresight website.

78 Ibid.

79 Luke Georghiou, "The future of foresighting for economic development," presented at Technology Foresight Summit 2007 Water Productivity in the Industry, Budapest, Hungary, 27-29 September 2007), p. 2.

Engaging citizens: can participatory foresight contribute to resilience?
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Japan's foresight programme began in the 1970s with a series of Delphi surveys. The Delphi method consists of a survey conducted in two or more rounds and provides the participants in the second round with the results of the first so that they can alter, or stick to, the original assessments. Japan held its ninth Delphi round in 2009, which was organised by the National Institute of Science and Technology Policy, a national research institution under the direct jurisdiction of, and funded by, the Ministry of Education, Culture, Sports, Science and Technology.[80]

By contrast, Germany does not have centrally steered planning offices or systems for the coordination of foresight projects. Instead, it relies on publicly supported and funded independent organisations located outside of governmental structures. Ad-hoc committees and scientific councils report directly to the ministries responsible for dealing with arising problems. In Finland and France, the foresight systems are fragmented between many actors that are public, private, non-governmental and international, or combinations of these.

Although funded, directed and carried out differently, these countries engage in the widespread use of futures and foresight tools in strategic long-term planning across multiple sections of government and public service administration.

80 Japan, NISTEP, "About NISTEP," NISTEP website.

Public services and social affairs in BRICS

Brazil, Russia, India, China and South Africa (BRICS) are distinguished by their large, fast-growing economies and significant influence on regional and global affairs. However, the economic model for these emerging markets appears to be rapid development at the cost of rising inequality. In most of the BRICS countries, economic growth has come at the expense of exacerbated corruption and the prioritisation of infrastructure over public services.[81] As Brazil prepares for the 2016 Olympics, for instance, widespread citizen dissent has led to large-scale protests for "less stadiums, more hospitals" (Mason, 2012).[82]

The BRICS countries have been evaluated on the basis of Sustainable Governance Indicators.[83] A study by Reisen finds that "Brazil performs best among the BRICS in terms of social affairs … China is the second-best performer in terms of average social affairs score, followed by Russia. South Africa and India display the lowest scores in all policy areas in the social affairs cluster."[84] However, the study goes on to state that even Brazil's result is worrisome given that its average is skewed upward by an extremely high score in the area of integration;

South Africa has very consistent albeit low results; Russia's most urgent area of reform need is social inclusion, followed by health care policy and integration policy; and China's most urgent challenges are to be found in the areas of health policy and integration policy.[85]

Foresight programmes in emerging economies

In the BRICS countries, government foresight programmes operate at various levels of implementation, but generally revolve around science and technology. Despite utilising some degree of foresighting within their national frameworks and experiencing high rates of economic growth, "the BRICS do considerably worse on governance indicators in the social affairs cluster, which comprises health care, social inclusion, family policy, pension policy and integration" (Reisen, 2013).[86]

When it comes to allocating resources and capabilities, these emerging economies face the overwhelming task of balancing 'burning' short-term social and budgeting issues with a compelling need for fundamental organisational and institutional changes. In these cases, "a thorough, well-designed foresight process can help identify priorities, also in terms of striking a balance between short- and long-term issues" (UNIDO, 2005).[87]

81 Paul Mason, "Why are the BRICs are crumbling? Welcome to the permanent revolution," *The Independent* (website), 21 June 2013.

82 Ibid.

83 Sustainable Governance Indicators (SGI) analyze and compare the need for reform in Organisation for Economic Co-operation and Development (OECD) member countries, as well as each country's ability to respond to current social and political challenges. The Bertelsmann Foundation published SGI in 2009 and updated it in 2011.

84 Helmut Reisen, *Economic Policy and Social Affairs in the BRICS* (Gütersloh, Germany: Bertelsmann Stiftung, 2013), p. 22.

85 Ibid., p. 22.

86 Ibid., p. 20.

87 United Nations Industrial Development Organization (UNIDO), "Organizing a technology foresight exercise," in *UNIDO Technology Foresight Manual* (Vienna: United Nations, 2005), p. 53.

Brazil
In 1998, Brazil embarked on its first experience of prospective studies and integrated government planning called 'Brazil 2020'.[88] The exercise was a large-scale national dialogue and reflection on alternative development paths Brazil could take in the 21st century. It turned out to be a fundamental step for the country's foresight activity, which effectively started with the Prospectar Programme developed within the Ministry of Science and Technology in 2000.

In addition to the Prospectar Programme, horizon scanning activities were established in 2011 in the Brazilian Network for Health Technology Assessment (REBRATS). The working group limited horizon scanning activities within the REBRATS scope to focusing on technologies found in the initial phase of adoption and that are of high priority for the Unified Health System.[89]

The Center for Strategic Studies and Management Science, Technology and Innovation (CGEE) is a non-profit Brazilian think tank, created in 2001 and supervised by the Ministry of Science and Technology. CGEE promotes science, technology and innovation development to advance economic growth, competitiveness and well-being in Brazil.[90] It produces a wealth of knowledge and information on science, technology and innovation foresight in the form of publications, projects and events.

The outcome of Brazil 2020 identified recommendations in 17 thematic areas—including education and basic social services, redistribution and poverty-fighting policies, employment policies, regional development and environmental quality.[91] However, the country's focus on science, technology and innovation and its failure to implement urgent social policy reforms threatens to lead to social instability arising from extreme social inequality and widespread corruption.[92]

India
In 1996, the Indian government embarked on a scenario- and panel-based foresight exercise, Technology Vision 2020. The exercise aimed to provide directions for national initiatives in science and technology and a basis for a policy framework for investment and development of an integrated science and technology policy both at the state and national levels.[93] The Technology Vision 2020 exercise, coordinated by the Technology Information, Forecasting and Assessment Council within the government's Department of Science and Technology, led to a set documents including 16 on technology areas and one on services.

In July 2013, India's Planning Commission produced the document 'Scenarios: Shaping India's Future'. The three scenarios were developed, with the aid of the Center for Study of Science, Technology and Policy, to facilitate new, collaborative conversations amongst citizens and policymakers about India's future. This is the first time scenario planning has been incorporated into India's reform plans in the processes of governance, administration and implementation.[94] The inclusion of citizens in collaborative conversations is a good sign that India is on its way to a new level of participatory democracy.

South Africa
By the time South Africa launched its first government initiated foresight exercise in 1996, the country had already experienced a successful community-led initiative that had a big impact on policy. Formally inaugurated in July 1996 and carried out by the Department of Arts, Culture, Science and Technology, the information and communications technology (ICT) foresight exercise served to analyse context and to increase dialogue among stakeholders in the research and innovation policy system rather than to trigger new policies. It was designed to involve stakeholders such as industry, government, labour and civil society in an attempt to give ownership of the process to all sectors of its population. The foresight exercise was followed by specific national strategies for biotechnology and advanced manufacturing.[95]

"International foresight exercises … can make policy-making in developing countries more participatory, fostering transparency and accountability of public decision-making" (Hilbert, 2009).[96] Between 2006 and 2010, two pilot projects were set up by the Ministry for Foreign Affairs in Finland in cooperation with South Africa. The first aimed to help increase the effectiveness of the national innovation system, contribute to the growing economy and help tackle poverty. The second focused on the development and deployment of ICT service applications for the benefit of South African citizens.[97]

Additionally, South African government departments also outsource foresight projects to private companies, for instance: the Western Cape Government's Department of Rural Development and Land Affairs' 'Long Range Planning Project – Viable Sustainable Rural Communities in 2030' and Northern Cape Provincial Government – Office of the Premier's 'Knowledge Society Foresight – 2030.'[98]

88 Dalci Maria dos Santos and Lélio Fellows Filho, "The role of foresight experience in the promotion of Brazil's national innovation system" presented at *Technology Foresight Summit 2007 Water Productivity in the Industry*, Budapest, Hungary, 27-29 September 2007), p. 2.

89 Ávila Teixeira Vida, Eduardo Coura Assis, Erika Aragão, Bruna Maria de Paula, Fernanda Catelani Miguel, Monica Raggi Rodrigues and Rosimary T. Almeida, "Establishing horizon scanning activities in the Brazilian network of health technology assessment," presented at *HTAI 8th Annual Meeting*, Rio de Janeiro, Brazil, 27-29 June 2011), slide 6.

90 Claudio Chauke Nehme, Marcio de Miranda Santos, Lelio Fellows Filho and Gilda Massari Coelho, "The challenges of communicating the foresight study outcomes to better advise decision makers in policy and strategy matters," presented at *The 4th International Seville Conference on Future-Oriented Technology Analysis (FTA),* Seville, Spain, 12-13 May 2011, p. 2.

91 R. Popper and J. Medina, "Foresight in Latin America," in *The Handbook of Technology Foresight: Concepts and Practice,* eds L. Georghiou, J. C. Harper, M. Keenan, I. Miles and R. Popper (Cheltenham, UK: Edward Elgar Publishing, 2008), p. 256.

92 Reisen, *Economic Policy*, p. 20.

93 TIFAC, "Technology vision 2020," TIFAC website.

94 India, Planning Commission, *Scenarios: Shaping India's Future* (India: Planning Commission Government of India, 2013), p. 24.

95 OECD, *Reviews of Innovation Policy: South Africa* (Danvers, MA: OECD, 2007), pp. 102-3.

96 Hilbert, Miles and Othmer, "Foresight tools for participative policy-making," p. 880.

97 Hietanen, et al., "How to create national foresight culture and capacity," p. 144.

98 Foresight Strategies Pty Ltd, "Foresight and senario [*sic*] planning," *Foresight Strategies website*.

Overcoming tunnel vision in BRICS

In Brazil, India and South Africa, national foresight activities have so far tended to focus on science, technology and innovation. "The emergence of foresight in the 1990s coincided with the biosciences revolution and consequences of ICT developments becoming manifest. … the second wave of activity was associated with those responsible for research and innovation systems" (Georghiou, 2007).[99] Early characterisation of the emergence of foresight used a generational model[100]:

- First generation: emerging from what are mainly technology forecasting activities;
- Second generation: seeks to engage with technology and markets simultaneously with an emphasis on matching technological opportunities with market developments;
- Third generation: market perspective enhanced by inclusion of a broader social dimension;
- Fourth generation: multiple organisations sponsor and/or conduct exercises that are specific to their own needs, but resources and results are shared;
- Fifth generation: principal concern of these activities is either a) structures or actors within the system of science, technology and innovation, or b) the scientific and/or technological dimensions of broader social or economic issues.

BRICS are arguably undertaking first- or second-generation foresight activities, but evidence suggests a natural shift from technology foresight to integrated policy strategies concerned with social dimensions. As the prevalence of foresight projects in emerging economies increases, so too will the body of futures-looking knowledge and information. Continued utilisation of foresighting at a national level will ultimately lead to "growing engagement with broader issues and a higher level of embedment in other policy and strategy developmental activities" (Georghiou, 2007).[101] However, governments and policymakers in these countries would do well to remember the urgency of stakeholders' needs today. With foresight systems already in place, perhaps all that is needed right now is an adjustment in priority setting.

The political economy of foresight and development

The presence of well-established national programmes in developed countries and the rise of foresight exercises in emerging economies indicates a relationship between the political and financial stability of a country and its ability and willingness to undertake foresight activities.

While most countries apply futures thinking and strategic planning to some extent in their national policies, there is little evidence to suggest any widespread use of foresighting at the national level in most developing countries. Likely reasons for this include limited capacities in resources, skills and knowledge, organisation, politics and power and/or incentives.[102] In their 2010 article 'The impact of foresight on innovation policy-making', Havas, Schartinger and Weber note that "foresight is costly in terms of time and money in general, and this can be a decisive factor for emerging economies, in particular."[103] Understandably, countries with limited economic resources and research capacities would be resistant to allocating precious resources to future-oriented activities. They also would lack the capabilities to ensure an ongoing organisational culture of forward thinking.

Conditions are even less conducive in fragile states. Often, governments of fragile states are faced with critical issues that include working under pressure to restore services and security quickly; short timeframes; limited capacities to build on; not simply rebuilding, but creating new capacities; little 'margin of error' (e.g. lack of trust in social capital, institutional resilience, etc.); and hyper-politicised environment.[104]

If political and financial stability are necessary conditions for the development of long-term strategic plans, then reversing situations of poor economic management, reliance on foreign aid and lack of political legitimacy appear to be essential precursors for the implementation of national foresight programmes. Long-term planning is also subject to the conundrum of "services now versus institutional strengthening" (Brinkerhoff, 2007). Is there a place for foresight to address the challenge of how to balance the humanitarian imperative to provide immediate services in low-capacity settings against the need to rebuild public institutions and their capacity to deliver services?[105] If so, what is the utility of foresight for state building in less-developed countries and fragile states?

Ultimately, the likelihood of governments adopting foresight as a strategic long-term planning tool for sustainable development is dependent on the political will of its leadership, as the United Nations has observed: "In the end, sustainable development is not a fixed state of harmony, but rather a process of change … consistent with future as well as present needs. We do not pretend that the process is easy or straightforward. Painful choices have to be made. Thus, in the final analysis, sustainable development must rest on political will."[106]

99 Georghiou, "The future of foresighting for economic development," p. 9.

100 Ibid., pp. 9-10.

101 Ibid., p. 10.

102 Derick W. Brinkerhoff, "Capacity development in fragile states," *ECDPM Discussion Paper 58D* (Maastricht: European Centre for Development Policy Management, 2007).

103 Havas, Schartinger and Weber, "The impact of foresight on innovation policy-making," p. 97.

104 Brinkerhoff, "Capacity development in fragile states."

105 Ibid.

106 United Nations General Assembly, *Our Common Future, From One Earth to One World*, 4 August 1987, UN Doc A/42/427.

Consultation with North East Region Communities with UNDP partner NGO Movimento Nós Podemos
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Regional foresight for developing countries

While national foresight in developing countries appears lacking, this does not mean that foresight activities fail to exist at all. For example, Europe operates under a system of multi-level governance from local, regional, national and supranational levels, each providing a potential setting for foresight.[107] For the countries of Central and Eastern Europe aspiring to join the European Union, the regional foresight movement represents a pool of knowledge and experience from countries with well-developed programmes waiting to be tapped. For example, FOR-LEARN is a knowledge-sharing project of European Foresight, which operates under the Institute for Prospective Technological Studies of the European Commission's Joint Research Centre. European Foresight is an excellent source of publications and projects that focus on the region: "Foresight initiatives and studies with a European perspective are being constantly monitored in order to identify common issues emerging from national exercises thus allowing early networking and exchanges and to exploit the knowledge gained for informing EU policy making."[108]

Latin America and the Caribbean similarly collaborate on regional futures and foresight activities that cover issues as diverse as information and communications technology, agriculture and food production, and climate change. For example, the Second Meeting on Foresight in Agriculture, held in October 2012, resulted in the establishment of a foresight framework for agriculture, food security and research and development (R&D) in Latin America and the Caribbean.[109]

107 UNIDO, "Introduction to technology foresight," *UNIDO Technology Foresight Manual* (Vienna: UNIDO, 2005), p. 36.

108 European Commission, "Promoting EU wide foresight approaches," *European Commission research & innovation website.*

109 Eugenio Díaz-Bonilla, Eugenia Saini, Bernardo Creamer and Guy Henry, "Better to be foresighted than myopic: A foresight framework for agriculture, food security, and R&D in Latin America and the Caribbean," *Outcome of Second Meeting on Foresight in Agriculture,* Cali, Colombia, 2-3 October 2012.

BOX 5: THE ELAC ACTION PLANS: TECHNOLOGY FORESIGHT IN LATIN AMERICA AND THE CARIBBEAN

Countries of Latin America and the Caribbean are engaging in foresight exercises to identify urgent and important short-term policy goals for the region, in particular to address the 'digital divide' problem and secure digital opportunities for development. They are transitioning towards information societies.[110]

The purpose of the foresight exercise is to mediate between the ambitions of the global agenda[111] and the local demands of individual countries in the region by identifying common regional priorities. The programme calls for a series of consecutive short-term Action Plans, dubbed eLAC, to facilitate implementation.

Adopted in 2005 and dubbed eLAC2007, the first Regional Action Plan represents a regionally concerted public policy agenda based on dialogue, cooperation and the construction of a shared political consensus and strategic vision.

The eLAC Policy Priorities Delphi, conducted between 2006 and 2007, consisted of five consultation rounds leading to a revised priority agenda. The resulting report served as the main input for inter-governmental negotiations that led to the approval of the second Regional Action Plan, eLAC2010. This foresight process is currently in its third phase of implementation with eLAC2015, adopted in Lima in 2010.

In the Asia-Pacific region, the Asia-Pacific Economic Cooperation's (APEC) Center for Technology Foresight "aims to develop and diffuse foresight capability and leading edge planning tools to prepare APEC Economies for rapid change and major societal challenges."[112] A project to integrate foresight for sustainable economic development and eco-resilience in Association of Southeast Asian Nations (ASEAN) countries is currently underway. The project is expected to yield new insights into what may be possible by 2020, and to produce a model to support sustainable development planning in ASEAN countries.[113]

Developing and less developed countries have much to benefit from the knowledge and experience of their more developed neighbours in areas where vigorous regional futures and foresighting activities are ongoing. Where less formal or institutionalised regional foresighting is being conducted, research and practice continues to be carried out by independent organisations, academics, practitioners and global communities.

110 Hilbert, Miles and Othmer, "Foresight tools for participative policy-making," p. 881.

111 The eight Millennium Development Goals (MDGs) form a blueprint, agreed to by all the world's countries and leading development institutions, to alleviate extreme poverty by 2015. The United Nations Millennium Declaration (A/55/L.2) recognizes the role of ICT in enhancing development and focuses on partnerships with the private sector to "ensure that the benefits of new technologies, especially information and communication technologies … are available to all."

112 APEC Centre for Technology Foresight, " History and establishment," *APEC Centre for Technology Foresight website,*

113 APEC, "Integrated foresight for sustainable economic development and eco-resilience in ASEAN countries," project concept note.

6. COLLABORATING FOR THE FUTURE

The appointment of a parliamentary advocate for future generations[114] is an innovative way to get decision makers thinking about the long-term implications of present policies. There are already organisations committed to campaigning for the rights of future generations,[115] including establishing Ombudspersons for Future Generations in governments. Much of the work of these organisations centres around sustainable development and intergenerational justice.[116] The shared interest in long-term outcomes provides a real opportunity to combine the two approaches, Futures Studies and sustainability, in a practical way.

Promoting a parliamentary advocate for futures is futile if the capacity to engage in futures and foresight activities is inadequate. Investing heavily in national foresight programmes is likely to take a backseat to pressing issues such as health care, education or pensions in emerging economies and other developing countries. Fortunately, there is no need for these governments to reinvent the wheel: researchers around the world are already producing policy-relevant material.

The collaborative nature of foresight work means that networks of thinkers and practitioners from academia, business and government already exist. The World Futures Studies Federation and the Association of Professional Futurists, for instance, make sizeable contributions to the discipline and practice of strategic foresight. Additionally, agencies and organisations like UNESCO and OECD are beginning to invest in foresight capacity-building activities. Moreover, foresight conferences, workshops and training are held around the world, bringing together scholars, practitioners and policymakers. These events provide an excellent platform for knowledge sharing and networking.

Properly facilitated, there is a potential for policymakers in low-capacity countries to develop long-term, sustainable development policies by collaborating with independent foresight academics, practitioners and institutions producing current research. More importantly, opportunities exist for developing countries to collaborate and leverage resources to begin institutionalising foresight within their own governments.

114 In 2007, for example, the Office of the Parliamentary Commissioner for Future Generations was set up in Hungary. The Ombudsman was imbued with powers to stop ongoing activities causing severe harm to the environment and intervene in administrative and court procedures. Although the Office was restructured in 2012, the new Office continues to advocate for the interests of future generations.

115 See for example Future Justice, or the Foundation for the Rights of Future Generations.

116 Intergeneration equity is based on the idea that "if there is an intergenerational conflict of interests, present generations may be obligated by considerations of justice not to pursue policies that create benefits for themselves but impose costs on those who will live in the future." See Lukas Meyer, "Intergenerational Justice," Stanford Encyclopedia of Philosophy website, revised 26 Feb 2008.

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