



# **Roundtable on Governance & Law: Challenges & Opportunities**



**The Millennium Project**  
GLOBAL FUTURES STUDIES & RESEARCH

**World Bank Headquarters Washington DC – Nov 5-6, 2018**

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## **BACKGROUND PAPERS**

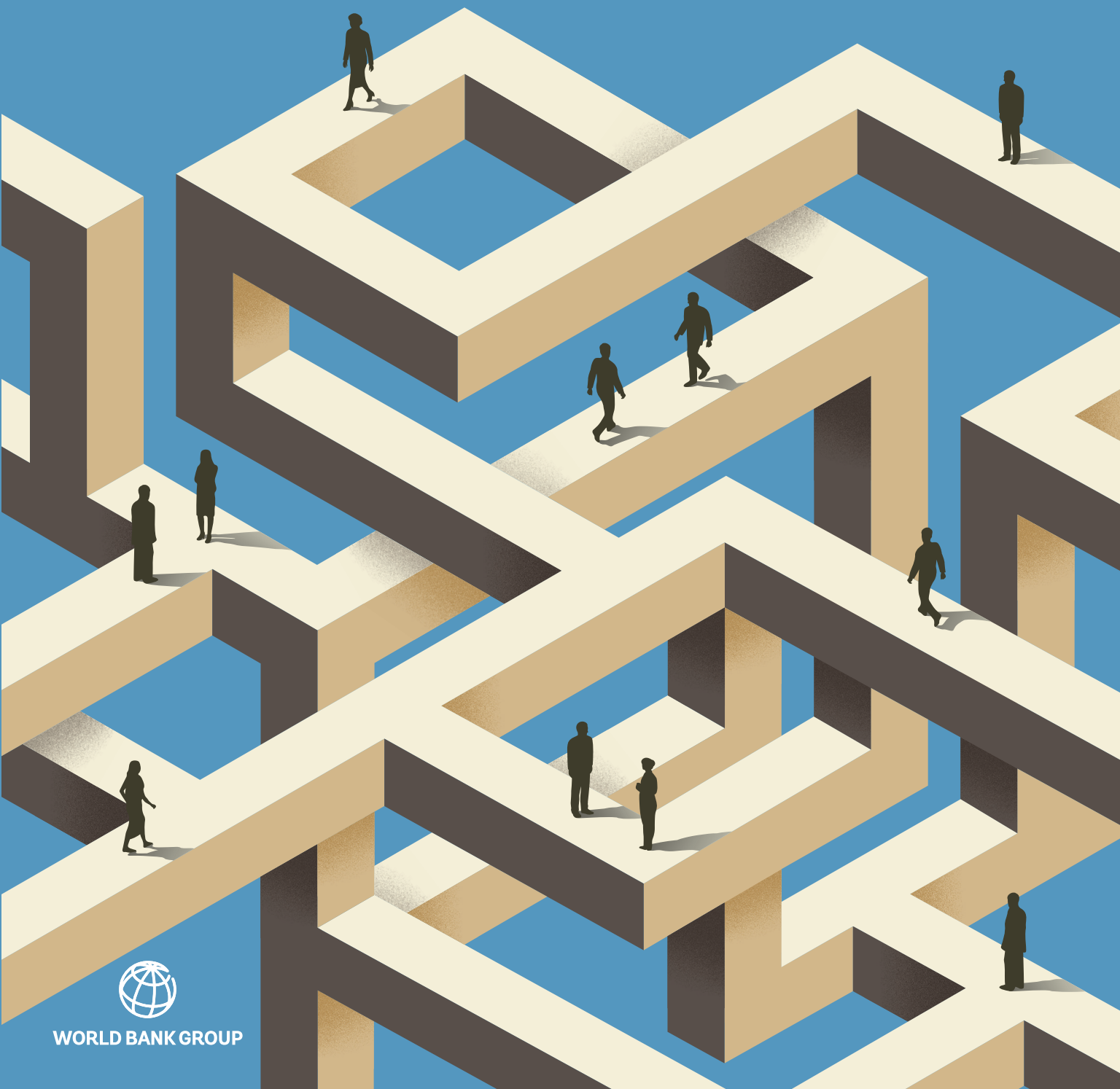
<b>1</b>	<b>World Development Report 2017 - Governance &amp; the Law</b>	<b>1</b>
<b>2</b>	<b>Global Governance, Human Needs and Values by Winston P. Nagan &amp; Brittany M DiCaprio</b>	<b>42</b>
<b>3</b>	<b>Session 4: Constitutional and Legal Culture, Social Culture and Human Rights draft by Winston P. Nagan and Samantha R. Manausa</b>	<b>73</b>
<b>4</b>	<b>Session 12: National Governance in a Global Society draft by Winston P. Nagan and Samantha R. Manausa</b>	<b>74</b>
<b>5</b>	<b>Who should Govern on What Principles: The Future of Decision Making by Elif Cepni</b>	<b>89</b>
<b>6</b>	<b>Planetary Security &amp; Anticipatory Governance by Leon Fuerth</b>	<b>104</b>
<b>7</b>	<b>Foresight &amp; Anticipatory Governance by Leon Fuerth</b>	<b>110</b>
<b>8</b>	<b>Anticipatory Governance: Practical Upgrades by Leon Fuerth &amp; Evan M. H. Faber</b>	<b>129</b>

<b>9</b>	<b>Would the Big Government Approach Increasingly Fail to Lead to Good Decision? A Solution Proposal by Rodolfo Fiorini</b>	<b>225</b>
<b>10</b>	<b>A New Environmentalism: The Need for a Total Strategy for Environmental Protection by Scott Fulton and David Rejeski</b>	<b>245</b>



# GOVERNANCE *and* THE LAW

## OVERVIEW







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**This booklet contains the overview, as well as a list of contents, from the *World Development Report 2017: Governance and the Law*, doi:10.1596/978-1-4648-0950-7. A PDF of the final, full-length book, once published, will be available at <https://openknowledge.worldbank.org/>, and print copies can be ordered at <http://Amazon.com>. Please use the final version of the book for citation, reproduction, and adaptation purposes.**

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**Cover design:** Kurt Niedermeier, Niedermeier Design, Seattle, Washington.

**Interior design:** George Kokkinidis, Design Language, Brooklyn, New York, and Kurt Niedermeier, Niedermeier Design, Seattle, Washington.

# Contents

vii     *Foreword*

ix     *Acknowledgments*

## **1     *Overview: World Development Report 2017: Governance and the Law***

2     Improving governance to meet today's development challenges

5     Drivers of effectiveness: Commitment, coordination, and cooperation

12    Levers for change: Contestability, incentives, preferences and beliefs

19    Drivers of change: Elite bargains, citizen engagement, and international influence

29    Rethinking governance for development

32    Navigating this Report

33    Notes

34    References

39    Contents of the *World Development Report 2017*



# Foreword

Leaders, policy makers, and development professionals often worry that well-intentioned policies designed to improve the lives of their communities will fail to deliver results.

The global development community needs to move beyond asking “What is the right policy?” and instead ask “What makes policies work to produce life-improving outcomes?” The answer put forward in this year’s *World Development Report* is better governance—that is, the ways in which governments, citizens, and communities engage to design and apply policies.

This Report is being launched at a time when global growth and productivity are continuing to slow, limiting the resources available to help the world’s poorest and most vulnerable. Yet, people’s demands for services, infrastructure, and fair institutions are continuing to rise. Given strained government budgets and development aid, it is vital that resources be used as effectively as possible. We can do this by harnessing the finance and skills of private businesses, working even more closely with civil society, and redoubling our efforts in the fight against corruption, one of the biggest roadblocks to effective, lasting development.

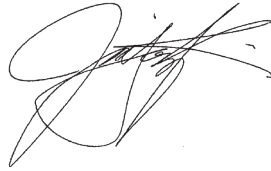
However, coordinating the efforts of this diverse set of groups requires clarity on the roles and responsibilities of each group, along with effective rules of the road to reach and sustain agreements. Without paying greater attention to stronger governance, the World Bank Group’s goals of ending extreme poverty and boosting shared prosperity, as well as the transformational vision of the United Nations’ broader Sustainable Development Goals, will be out of reach.

Based on extensive research and consultations conducted in many countries over the past 24 months, this Report draws attention to the importance of commitment, coordination, and cooperation as the three core functions needed to ensure that policies yield their desired outcomes. The Report also offers a helpful framework for approaching and resolving the challenges faced by our partners. Specifically, it explores how policies for security, growth, and equity can be made more effective by addressing the underlying drivers of governance.

Moving beyond the traditional concerns about implementation, such as limited state capacity, the Report then digs deeper to understand how individuals and groups with differing degrees of influence and power negotiate the choice of policies, the distribution of resources, and the ways in which to change the rules themselves.

As the Report shows, positive change is possible. Although reform efforts must be driven by local constituencies, the international community can play an active role in supporting these endeavors. In particular, we need to ensure that our future development assistance fosters the fundamental dynamics that promote better, more sustainable development.

I hope the insights presented in this Report will help countries, their communities, development institutions, and donors succeed in delivering on our shared vision to end extreme poverty and boost shared prosperity.

A handwritten signature in black ink, appearing to read 'J. Kim', with a large, stylized flourish extending from the end.

Jim Yong Kim  
President  
The World Bank Group



# Acknowledgments

This Report was prepared by a team led by Luis Felipe López-Calva and Yongmei Zhou. Lead chapter authors were Edouard Al-Dahdah, David Bulman, Deborah Isser, Marco Larizza, Ezequiel Molina, Abba Safir, and Siddharth Sharma. The extended core team was composed of Kimberly Bolch, Lidia Ceriani, Samantha Lach, Bradley Larson, Annamaria Milazzo, and Evgenia Pugacheva. Brónagh Murphy and Jason Victor served as the production and logistics team for the Report. Mart Kivine led partner relations and provided strategic advice and support for resource mobilization. Stephen Commins provided consultations support and advice on the “green cover” consultation. The team received excellent research assistance from Yanina Eliana Domenella, Simona Ross, and Hari Subhash. This work was carried out under the general direction of Kaushik Basu, Shanta Devarajan, and Indermit Gill. The team is also grateful for comments and suggestions from Paul Romer.

The team received guidance from an advisory panel composed of Pranab Bardhan, Dr. Boediono, Mauricio Cárdenas, Francis Fukuyama, Avner Greif, Rebeca Grynspan, Tarja Halonen, Joel Hellman, Karuti Kanyinga, Karl Ove Moene, Benno Ndulu, James Robinson, Tharman Shanmugaratnam, and Xixin Wang.

The team would also like to acknowledge the generous support provided for preparation of the Report by Global Affairs Canada, Finland’s Ministry of Foreign Affairs, Norway’s Ministry of Foreign Affairs, and Sweden’s Ministry of Foreign Affairs, as well as the French Development Agency, German Corporation for International Cooperation (GIZ), Knowledge for Change Program, and Nordic Trust Fund.

Consultation events were held in Argentina, Chile, China, Colombia, Estonia, Finland, France, Germany, Ghana, India, Italy, Kenya, Mexico, the Netherlands, Norway, the Philippines, Spain, Sweden, Tajikistan, Tanzania, the United Kingdom, the United States, Uruguay, and Vietnam, with participants drawn from many more countries. The team thanks those who took part in all of these events for their helpful comments and suggestions.

Bilateral and multilateral consultation events were held with the Asian Development Bank, CAF Development Bank of Latin America, European Commission, French Development Agency, German Federal Ministry of Economic Cooperation and Development, GIZ, Inter-American Development Bank, International Court of Justice, Norwegian Agency for Development Cooperation, Organisation for Economic Co-operation and Development, Swedish International Development Cooperation Agency, U.K. Department for International Development, United Nations Development Programme, and U.S. Agency for International Development.

The team also met with representatives from think tanks and civil society organizations, including the ABA Rule of Law Initiative, Afrobarometer, Berghof Foundation, Centre for Global Constitutionalism, Centro de Estudios Espinosa Yglesias, Civicus, Eurasia Foundation, Global Partnership for Social Accountability, Hague Institute for Global Justice, Innovations for Successful Societies at Princeton University, InterAction, International Food Policy Research Institute, International Institute for Democracy and Electoral Assistance,

Latin American Public Opinion Project, Mexican Competitiveness Institute, México ¿Cómo Vamos?, OpenGov Hub, Oxfam-UK, Partnership for Transparency Fund, Peace Research Institute Oslo, Stockholm International Peace Research Institute, Transparencia Mexicana, and Transparency International.

The initial findings of the Report were also discussed at several conferences and workshops, including the 2015 annual meeting of the American Political Science Association; 2015 Annual Bank Conference on Africa: Confronting Conflict and Fragility in Africa, hosted by the University of California at Berkeley; 2015 Annual Bank Conference on Development Economics; XXVIII Annual Congress of the Italian Society of Public Economics, Governance and Development: The Case of Politically Connected Businesses in Europe and Central Asia (in collaboration with the World Bank's Office of the Chief Economist, Europe and Central Asia Region); Implementing SDG 16: Good Governance Reloaded or New Opportunities for the Support of Democratic Governance? hosted by the German Development Institute; 2016 International Civil Society Week; 2016 International Conference on Inequality: Trends, Causes and the Politics of Distribution, hosted by the Friedrich-Ebert-Stiftung Foundation; 2015 International Policy Workshop on Governance and the Law, hosted by GIZ; 2016 Thinking and Working Politically Community of Practice, hosted by the Carnegie Endowment for International Peace; WDR 2017 Law Symposium, *Cuentas Claras: Governance for Growth and Equity in Latin America* (in collaboration with the World Bank's Office of the Chief Economist, Latin America and the Caribbean Region); 2015 World Bank Law, Justice and Development Week; and 2016 World Justice Project Scholars Conference on the Rule of Law, Non-law, and Social Order, hosted by Stanford University. Several universities sponsored events to provide feedback on the Report, including Ateneo de Manila University, Beijing University, Columbia University, Cornell University, East China University of Political Science and Law, Leiden University, Oxford University, Renmin University, Torcuato Di Tella University (Buenos Aires), University of los Andes (Bogotá), and University of the Republic (Montevideo).

A “green cover” consultation was held before submission of the draft Report to the Board of the World Bank. The team made the draft available online and explicitly contacted a set of key partners in the development community to request feedback. The team received and incorporated comments, criticism, and suggestions from members of civil society, academia, and think tanks.

Nancy Morrison was the principal editor of the Report. Sabra Ledent copyedited the Report. Bruce Ross-Larson provided editorial guidance. And Kurt Niedermeier was the principal graphic designer. Phillip Hay, Mikael Reventar, Anushka Thewarapperuma, and Roula Yazigi provided guidance on a communication and dissemination strategy. Special thanks are extended to Mary Fisk, Patricia Katayama, Stephen Pazdan, and the World Bank's Publishing Program. The team would also like to thank Vivian Hon, Surekha Mohan, Dirk Peterson, and Claudia Sepúlveda for their coordinating roles.

This Report draws on background papers, notes, and spotlight inputs prepared by Izak Atiyas, Sheheryar Banuri, Paolo Belli, Jürgen René Blum, Carles Boix, Tessa Bold, Alejandro Bonvecchi, Sarah Botton, Laurent Bouton, Juan Camilo Cárdenas Campo, Fernando Carrera, Francesco Caselli, Gonzalo Castañeda, Micael Castanheira, Simon Commander, Aline Coudouel, Manuel Eisner, Thomas Fujiwara, Scott Gates, Garance Genicot, Gaël Giraud, Alfredo González-Reyes, Helene Grandvoinnet, Ruth Guillén, Stéphane Hallegatte, Sébastien Hardy, Michael Jarvis, Patricia Justino, Daniel Kaufmann, Mushtaq H. Khan, Jenni Klugman, Sarwar Lateef, Étienne Le Roy, Andrei Levchenko, Brian Levy, Stéphanie Leyronas, Staffan Lindberg, Anna Lührmann, Ellen Lust, Nora Lustig, Yasuhiko Matsuda, Frédéric Maurel, Valeriya Mechkova, Jonathan Mellon, Alina Mungiu-Pippidi, Hamish Nixon, Ragnhild Nordas, Håvard Møkleiv Nygård, Daniel Oto-Peralías, Tiago Peixoto, Doug Porter, Franck Poupeau, Peter Reuter, Halsey Rogers, Dominique Rojat, Diego Romero, Martin Schmidt, Fredrik Sjöberg, Michael Stanley, Håvard Strand, Shawn Tan, Benno Torgler, Trang Thu Tran, John Wallis, Michael Walton, Leonard Wantchekon, and Michael Watts.

The team received expert advice during several rounds of reviews from chapter advisers Carles Boix, François Bourguignon, Francesco Caselli, Deval Desai, Avinash Dixit, Manuel Eisner, Thomas Fujiwara, Patrick Heller, Patricia Justino, Philip Keefer, Herbert Kitschelt, Andrei Levchenko, Brian Levy, María Ana Lugo, Rohini Pande, Doug Porter, Nigel Roberts, Carlos Scartascini, Brian Tamanaha, John Wallis, Leonard Wantchekon, and Michael Watts.

The team would like to acknowledge a number of people for their insightful discussions, feedback, and collaboration: Sakuntala Akmeemana, Martin Ardanaz, Omar Arias, Kathleen Beegle, Paolo Belli, Samuel Berlinski, David Bernstein, Robert Beschel, Bella Bird, Jürgen René Blum, Tessa Bold, Laurent Bouton, Miriam Bruhn, James Brumby, Hassane Cisse, Denis Cogneau, Walter Cont, Cristina Corduneanu, Aline Coudouel, Shanta Devarajan, Quy-Toan Do, Eduardo Engel, Peter Evans, Francisco Ferreira, Chloe Fevre, Deon Filmer, Varun Gauri, Tom Ginsburg, Markus Goldstein, Álvaro González, Duncan Green, Zahid Hasnain, Arturo Herrera, Joan Serra Hoffman, Robert Hunja, Ravi Kanbur, Daniel Kaufmann, Asmeen Khan, Mushtaq H. Khan, Stuti Khemani, Rachel Kleinfeld, Stephen Knack, Stefan Kossoff, Aart Kraay, Paul Lagunes, Sylvie Lambert, Ellen Lust, Nora Lustig, Syed A. Mahmood, Martha Martínez Licetti, Magdy Martínez-Solimán, Yasuhiko Matsuda, Sebastián Mazzuca, Nicolas Menzies, Samia Msadek, Gerardo Munck, Alina Mungiu-Pippidi, Kaivan Munshi, Makau Mutua, Roger Myerson, Ambar Narayan, Sara Nyman, Thiago Peixoto, Andre Portela, Gaël Raballand, Vijayendra Rao, Martin Ravallion, Nathaniel Reilly, Bob Rijkers, Daniel Rogger, Joe Saba, Audrey Sacks, Renaud Seligman, Mitchell Seligson, Harris Selod, Giancarlo Spagnolo, Jan Svejnar, Rob Talierno, Jeff Thindwa, Florencia Torche, Benno Torgler, Dominique van de Walle, Nicolas van de Walle, Andrés Villaveces, Lorena Vinuela, Michael Walton, Deborah Wetzell, and Alan Whaites.

Many people inside and outside the World Bank Group provided helpful comments, made other contributions, and participated in consultative meetings. The team would like to thank the following: Sophie Adelman, Om Prakash Agarwal, Yayha Amir, Armando Ardila, Robert Bates, Verónica Baz, Radia Benamghar, Najy Benhassine, Luis Benveniste, Alexandra C. Bezeredi, Deepak Bhatia, Denis Biseko, Helena Bjuremalm, Eduardo Bohórquez, Francesca Bomboko, Sarah Botton, Carter Brandon, Michael Bratton, Chiara Bronchi, László Bruszt, Ruxandra Burdescu, David Calderón, Claudia Calvin, Oscar Calvo-González, Juan Camilo Cárdenas Campo, Enrique Cárdenas, Kevin Carey, Tom Carothers, Michael Chege, Donald Clarke, Roland Clarke, Pedro Conceição, Jill Cottrell, Philipp Dann, Bill Dorotinski, Alain Durand Lasserre, Ute Eckertz, Yara Esquivel, Mike Falke, Frederico Finan, Luis Foncecerra, Harald Fuhr, Bernard Funck, Yash Ghai, Frederick Golooba-Mutebi, Kristóf Gosztonyi, Donald Green, Jane Guyer, Gillian Hadfield, Jeffrey Hammer, Lucia Hanmer, Tazeen Hasan, Finn Heinrich, Hans-Joachim Heintze, Rogelio Gómez Hermosillo, Benjamin Herzberg, Ingrid-Gabriela Hoven, Alan Hudson, William Hurst, Gabriela Inchauste, Edna Jaime, Michael Jarvis, Melise Jaud, Erik Jensen, Melissa Johns, Patrick Keuleers, Anouar Ben Khelifa, Hannah Kim, Francis Kiwanga, Stephan Klasen, Anne-Lise Klausen, Verena Knippel, Matthias Kötter, David D. Laitin, George Larbi, Margaret Levi, Alberto Leyton, Doris Likwelile, Stefan Lindemann, Kathy Lindert, Mariana Llanos, Ernesto López Córdoba, Anna Lührmann, Christian Lund, Bentley MacLeod, Beatriz Magaloni, Alexander Makulilo, Ernest Mallya, Sumit Manchanda, Richard McAdams, David McKenzie, Craig Meisner, Rudolf Mellinghoff, Mauricio Merino, Edward Miguel, Omar Mohamed, Rui Monteiro, María Elena Morera, Fred Mufulukye, Ana María Muñoz, Mike Mushi, Per Norlund, Silas Olang, Virginia Oliveros, Jan Michiel Otto, Juan Pardinás, Haydee Pérez Garrido, Guillermo Perry, Lant Pritchett, Christine Qiang, Balakrishnan Rajagopal, Rita Ramalho, Juan Mauricio Ramírez, Juliana Ramirez, Viridiana Ríos, Christophe Rockmore, Carlos Rodríguez-Castelán, Lourdes Rodríguez-Chamussy, César Rodríguez Garavito, Halsey Rogers, Gérard Roland, Pallavi Roy, Eliana Rubiano, Elizabeth Ruppert Bulmer, Caroline Sage, Indhira Santos, Phillip Shelkens, Animesh Shrivastava, Dumitru Socolan, Michael Stanley, Albrecht Stockmayer, Håvard Strand, Harold Sunguiza, Hani Syed, Miguel Székely Pardo, Attilio

Tagalile, Will Taylor, Fletcher Tembo, Katy Thompson, Charles Undeland, Deus Valentine, Ingrid van Engelshoven, Roberto Vélez Grajales, Eric Verhoogen, Andrea Vigorito, Tara Vishwanath, Anya Vodopyanov, Stefan Voigt, George Mukundi Wachira, Waly Wane, Fredrick O. Wanyama, Asbjorn Wee, Barry Weingast, Jennifer Widner, George O. William, Oliver Williamson, Michael Woolcock, World Bank 1818 Society, Kaifeng Yang, Abdulqawi Ahmed Yusuf, and Davide Zucchini. We especially thank Rogier van den Brink for the very useful conversations we had in Manila and for bringing to our attention the work on fiscal management in Mongolia, including the reference to the film *Amka and the Three Golden Rules*, which we reference in chapter 2.

Despite efforts to be comprehensive, the team apologizes to any individuals or organization inadvertently omitted from this list and expresses its gratitude to all who contributed to this Report.

# Overview

## OVERVIEW

# *World Development Report 2017: Governance and the Law*

The past 20 years have seen enormous progress around the world in socioeconomic indicators. The rapid diffusion of technology and greater access to capital and world markets have enabled economic growth rates that were previously unfathomable, and they have helped lift over 1 billion people out of poverty. And yet increased flows have also led to rising inequality, both within and across borders, and to greater vulnerability to global economic trends and cycles. Indeed, although the global spread of capital, technology, ideas, and people has helped many countries and people move forward, other regions and populations appear to have been left behind, and they are still facing violence, slow growth, and limited opportunities for advancement.

As ideas and resources spread at an increasingly rapid rate across countries, policy solutions to promote further progress abound. However, policies that should be effective in generating positive development outcomes are often not adopted, are poorly implemented, or end up backfiring over time. Although the development community has focused a great deal of attention on learning *what* policies and interventions are needed to generate better outcomes, it has paid much less attention to learning *why* those approaches succeed so well in some contexts but fail to generate positive results in others.

## **Improving governance to meet today's development challenges**

Ultimately, confronting the challenges faced by today's developing countries—poor service delivery,

violence, slowing growth, corruption, and the “natural resource curse,” to name a few—requires rethinking the process by which state and nonstate actors interact to design and implement policies, or what this Report calls governance (box O.1). Consider some recent cases that have attracted global attention.

*State building in Somalia and Somaliland.* Somalia, one of the world's most fragile countries, has been wracked by violence for more than two decades. Insurgent attacks and regional conflicts have prevented the emergence of a centralized state with a monopoly over the legitimate use of force. Warring factions, many with their own regional sources of power, have been unable to reach a credible deal that determines the makeup and responsibilities of the central state. By contrast, in Somalia's autonomous region of Somaliland, an area with similar tribal and clan tensions, 20 years of stability and economic development have followed a 1993 clan conference that brought together leaders from both the modern and traditional sectors, successfully institutionalizing these clans and elders into formal governing bodies.

*Confronting corruption and the resource curse in Nigeria.* In 2010, just a year after a decade-long bounty of windfall revenues from high oil prices, Nigeria was requesting budget support from its development partners. From a long-term perspective, it is unclear how much of Nigeria's oil wealth has been saved to invest in the future, although a Sovereign Wealth Fund was established in 2011 to address these concerns. According to a former governor of the central bank, the country has lost billions of dollars to corruption by the National Petroleum Company. Indeed, 2015 data from the Afrobarometer survey indicates that 78 percent of Nigerians feel that the

Ultimately, confronting the challenges faced by today's developing countries requires rethinking the process by which state and nonstate actors interact to design and implement policies, or what this Report calls governance.

## Box O.1 What is governance?

For the purpose of this Report, governance is the process through which state and nonstate actors interact to design and implement policies within a given set of formal and informal rules that shape and are shaped by power.<sup>a</sup> This Report defines *power* as the ability of groups and individuals to make others act in the interest of those groups and individuals and to bring about specific outcomes.<sup>b</sup>

Depending on the context, actors may establish a government as a set of formal state institutions (a term used

in the literature to denote organizations and rules) that enforce and implement policies. Also depending on the context, state actors will play a more or less important role with respect to nonstate actors such as civil society organizations or business lobbies. In addition, governance takes place at different levels, from international bodies, to national state institutions, to local government agencies, to community or business associations. These dimensions often overlap, creating a complex network of actors and interests.

Source: WDR 2017 team.

a. The general definition of *governance* used in this Report is consistent with the World Bank's corporate definition, which emphasizes formal institutions and the role of state actors.

b. Dahl (1957); Lukes (2005).

government is “doing badly in fighting corruption.” Ultimately, the institutional context was unable to safeguard natural resource revenues in order to reduce fiscal volatility and promote a macroeconomic environment conducive to long-term investment. Several countries have demonstrated that this kind of “natural resource curse”—the paradox that countries with abundant natural resources face slower growth and worse development outcomes than countries without resources—can be avoided through effective economic and fiscal policies.

*China's growth performance and growth challenges.* For four decades, China, while increasingly integrating its economy with the global economy, grew at double-digit rates and lifted more than 700 million people out of poverty. This successful track record of economic growth is well known. Yet, according to many frequently used indicators, China's institutional environment during this period would seem not to have changed. Does this imply that institutions do not matter for growth? No. Rather, a deeper understanding of China's development shows what these indicators miss: the adaptive policy decisions and state capacity that enabled economic success were facilitated by profound changes to mechanisms of accountability and collective leadership. China's experience highlights the need to pay more attention to how institutions function and less to the specific form they take. Meanwhile, today China faces a slowdown in growth. Maintaining rapid growth requires political incentives to switch to a growth model based on firm entry, competition, and innovation. In many middle-income countries, this transformation has

been blocked by the actors that benefited from early growth and have few incentives to join coalitions for further reforms. Going forward will involve addressing these governance challenges.

*Slums and exclusion in India's cities.* Urban development that stems from coordinated planning and investment by coalitions of developers, bureaucrats, citizens, and politicians can lead to cities that are centers of growth, innovation, and productivity. Planners can help ensure that infrastructure meets the demands of investors who seek to maximize land rents; businesses that need connectivity to consumers, employees, and other firms; and citizens who want access to services and jobs. But many cities fail to deliver on these promises. In India, massive urban slums—about 49,000 at the latest count, with tens of millions of inhabitants—represent failures to align public investments and zoning with the needs of a diverse set of urban constituents. Poorly designed cities with misallocated investments have limited connectivity among housing, affordable transportation, and utilities, driving workers into informal settlements, often in peripheral areas. Many developers and politicians have exploited the system to generate rents for themselves, but this uncoordinated urban development has prevented cities from achieving their growth potential, leading to large slums where most citizens are deprived of basic services.

*Demanding better services in Brazil.* In 2013 the world watched when protests erupted in Brazil's streets about the quality of public services—transport, education, and health—as the FIFA World Cup soccer tournament approached. Brazil had gone through

12 years of inclusive and sustained growth, which had lifted more than 30 million people out of poverty and strengthened the middle class. These same middle classes that contributed with their taxes to the provision of public services were now demanding better quality and coverage, including “FIFA standards” for their schools. Why did this change come about? Brazil’s social contract had historically been weak and fragmented. The poor received low-quality public services, while the upper-middle classes relied on private services and were thus unwilling to contribute to the fiscal system. The creation of an expanded middle class and the reduction of poverty paradoxically heightened the perceptions of unfairness as the new middle class expected more than low-quality public services for its contributions.

“*Brexit*” and the growing discontent with economic integration. In June 2016, voters in the United Kingdom elected to leave the European Union (EU). The economic consequences for the country in particular and Europe in general have become a source of uncertainty in policy circles. Dissatisfaction with economic

and political integration is not, however, exclusive to this region. In countries throughout the world, populist parties have campaigned against trade and integration, some of them enjoying unprecedented electoral success. These parties often prey on citizens’ increasing feelings of disenfranchisement and exclusion from decision making, as well as on a growing perception of free-riding by specific groups. Even in countries that have undoubtedly benefited from integration, the unequal distribution of such benefits and perceived ineffectiveness of “voice” have led many citizens to question the status quo, which could have consequences for social cohesion and stability.

What do these examples have in common? This Report assumes that all countries share a set of development objectives: minimizing the threat of violence (*security*), promoting prosperity (*growth*), and ensuring that prosperity is shared (*equity*), while also protecting the sustainability of the development process for future generations (box O.2). But policies do not always translate into these development outcomes in the expected ways. As the previous

## Box O.2 Governance for what? Achieving the goals of security, growth, and equity

Many aspects of governance are valuable in and of themselves—that is, they have intrinsic value—in particular, the notion of freedom. In economic terms, freedom can be seen as an opportunity set, and development can be seen as “the removal of various types of unfreedoms” (exclusion from opportunities), where these unfreedoms reduce people’s capacity to exercise “their reasoned agency.”<sup>a</sup> As essential as such an intrinsic value as freedom is, its instrumental value also matters because of the “effectiveness of freedoms of particular kinds to promote freedoms of other kinds.”<sup>b</sup> These positive relationships are what economists call complementarities. This Report acknowledges the intrinsic value of various dimensions of governance, as well as the notion of development as positive freedom, while also recognizing their instrumental value to achieving equitable development.

The analysis in this Report starts from the normative standpoint that every society cares about freeing its members from the constant threat of violence (*security*), about promoting prosperity (*growth*), and about how such prosperity is shared (*equity*). It also assumes that societies

aspire to achieving these goals in environmentally sustainable ways. This Report, then, assesses governance in terms of its capacity to deliver on these outcomes.

This approach is consistent with the transition from a dialogue based on ideology to the dialogue based on ideals that has transpired in the global development community over the past few decades. The establishment of the Millennium Development Goals (MDGs) in 2000 and the recent ratification of the Sustainable Development Goals (SDGs) by member countries of the United Nations are examples of the efforts to set common goals for social and economic advancement. SDG 16 calls for promoting “peace, justice and strong institutions,” and it is explicitly related to governance. Nevertheless, as this Report will argue, beyond the intrinsic value of SDG 16, it also has important instrumental value because the attainment of the goal will aid in the attainment of all the other SDGs. Indeed, the achievement of all the development goals will require a solid understanding of governance to enable more effective policies.

Source: WDR 2017 team.

a. Sen (1999, xii).

b. Sen (1999, xii).



examples illustrate, contradictions occur in the real world. Somalia is a fragile state, whereas Somaliland seems to be doing well. Nigeria has an abundance of resources, but it is still a lower-middle-income country. China grew rapidly, even though many of its fundamental institutions did not change. India has grown, but it cannot control the propagation of slums. Brazil has experienced inclusive growth, but it is now facing widespread protests from the middle class. Great Britain had low unemployment, but it voted to leave the EU. The common thread running through these contradictions appears to be governance malfunctions: ineffective policies persist, effective policies are not chosen, and unorthodox institutional arrangements generate positive outcomes. So, what drives policy effectiveness?

## Drivers of effectiveness: Commitment, coordination, and cooperation

Often, when policies and technical solutions fail to achieve intended outcomes, institutional failure takes the blame, and the solution usually proposed is to “improve” institutions. But many types of institutional arrangements and trajectories can enable development, as examples around the world demonstrate, whereas often many other “best practices” fail. In some cases, rapid progress comes about suddenly, seemingly unexpectedly. Because of this diversity of paths and perils, it becomes essential to uncover the underlying drivers of policy effectiveness. This Report identifies *commitment*, *coordination*, and *cooperation* as the three core functions of institutions that are needed to ensure that rules and resources yield the desired outcomes.<sup>1</sup>

### Form versus function: Underlying determinants of policy effectiveness

**Commitment.** Commitment enables actors to rely on the credibility of policies so they can calibrate their behavior accordingly. Consistency over time in policies is not easy to achieve. Circumstances change, policy objectives may extend beyond the political cycle, and resources may fail to match, changing the incentives to implement previously chosen policies. In line with the economic theory of incomplete contracts, policies require commitment devices to ensure their credibility.

Take, for example, security—a foundation of sustained development. It is premised most basically on commitment. Are conflicting parties able to reach

credible agreements to renounce violence and endow the state with a monopoly on the legitimate use of force? In Somaliland, commitment has been achieved by establishing institutional arrangements that provide sufficient incentives for all key groups to work within the rules. The commitment is credible because all parties stand to lose if any party reneges on those arrangements. In Somalia, by contrast, despite several internationally sponsored efforts at state building, polarized groups continue to believe they are better off retaining their own power or forming shifting alliances with others than conferring the monopoly of violence on a central state. Why? In large part, the nature of the agreements and the proposed institutional arrangements had failed to serve as effective commitment devices. When commitment to deals is not credible, contending sides walk away from the bargaining table and violence prevails: warring factions may renege on peace agreements, policy makers may default on promises to transfer resources to discontented groups or regions, disputants may fail to abide by court judgments, or the police may abuse citizens instead of protecting them.

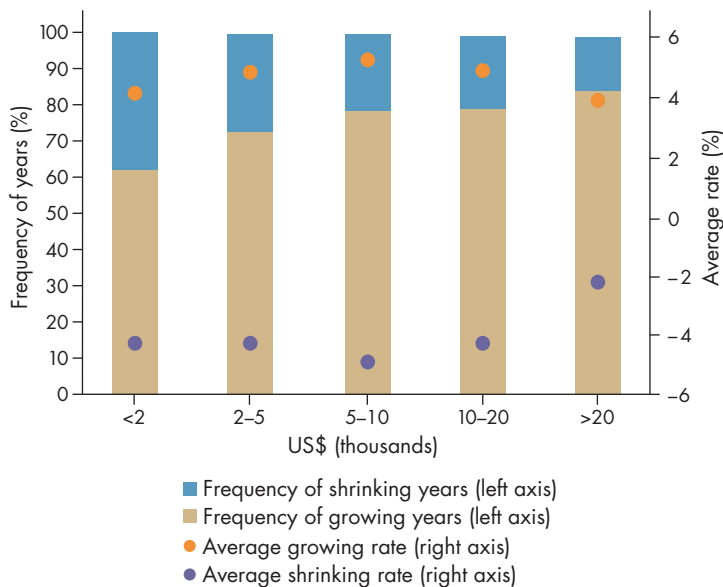
A credible commitment to pro-growth policies and property rights is also essential to ensure macroeconomic stability and enable growth. According to recent evidence, most long-term growth comes not from episodes of rapid growth—as is commonly believed—but from countries not shrinking in response to an economic crisis or violent conflict (figure O.1). Growth requires an environment in which firms and individuals feel secure in investing their resources in productive activities. This commitment may arise in diverse ways. During China’s take-off in the 1980s, growth success depended on a pledge to local governments, private enterprises, and rural farmers that they would be able to keep their profits—credible commitment was thus provided, even if it was still in the early stage of securing the protection of private property rights. By contrast, in Nigeria the institutional context did not provide the commitment needed to safeguard revenues from natural resource extraction in order to support long-term development. In the Nigerian context, where perceptions of corruption were negative, implementing “best-practice” fiscal rules that worked in other contexts did not constitute a credible commitment because government officials were overcome by short-term interests. State governors, for example, uncertain about whether resources would still be there in the future, had incentives to spend them straightaway.

**Coordination.** Credible commitment alone, however, is not sufficient; coordination is also needed.

**Commitment enables actors to rely on the credibility of policies so they can calibrate their behavior accordingly.**

**Figure O.1 Long-term growth is less about how fast one grows than about not tripping along the way**

Frequency of economies' growing and shrinking years and average rates, by GDP per capita



Sources: WDR 2017 team, based on Wallis 2016, with data from Penn World Table, version 8.0 (Feenstra, Inklaar, and Timmer 2015).

Note: The figure shows real GDP per capita (constant prices: chain series). Countries are first sorted into income categories based on their income in 2000, measured in 2005 U.S. dollars. Average annual growth rates are the simple arithmetic average for all the years and all the countries in the income category, without weighting. The sample underlying the figure consists of 141 countries, for which data are available from at least 1970 onward.

For investment and innovation, firms and individuals must believe that others will also invest. Institutions can help solve market failures by coordinating both investment decisions and the expectations of market participants. The insight that a failure to coordinate investment activity can lead to underdevelopment is decades old.<sup>2</sup> Consider the case in which large-scale factories are more efficient, but investing in them is not profitable for individual firms unless those firms invest simultaneously in a group. Perhaps the size of the market is too small to justify large-scale investments unless all the industries expand together, providing markets for one another. In such a situation, there are two possible outcomes, or equilibria. The first is one in which no firms invest in large-scale factories, and efficiency levels remain low. The second, a better outcome, is one in which firms are able to coordinate a simultaneous move to large-scale, efficient production. Such problems of coordination can occur in many contexts, ranging from finance and adoption of technology to innovation and industrial clusters to urban planning.<sup>3</sup> In India, the lack of coordination among urban planners, real estate developers, and

local politicians has prevented an efficient design of urban areas, hindering many cities from performing their roles in enhancing growth.

*Cooperation.* Finally, policy effectiveness to achieve equitable development requires cooperation, particularly citizens' willingness to contribute to public goods and not free-ride on others. The extent to which societies can ensure opportunities for all individuals depends on their ability to invest in providing high-quality services such as health, education, and connectivity, and to ensure access to economic opportunities. For such investment to take place, resources need to be collected and redistributed. Indeed, no high-income country has achieved improvements in equity without significant taxation and public spending aimed at protecting individuals against shocks (such as illness or unemployment) and reducing welfare disparities within and across generations.<sup>4</sup> In addition, for individuals to realize the returns of such investment, they need access to economic opportunities in adulthood, especially access to opportunities that allow them to use the human capital they have acquired. For a country to collect the taxes needed to fund investments in public goods, its citizens must be willing to comply and cooperate. Cooperation is enhanced by commitment because credible and consistent enforcement of laws is also needed to expand opportunities and level the playing field.

Sometimes, societies face a breakdown of cooperation. For example, Brazil, whose citizens organized to demand higher-quality public services, faced a problem common to many countries: the fragmentation of a social contract. In such cases, the low quality of service provision spurs the upper-middle classes to demand private services, which in turn weakens their willingness to cooperate fiscally and contribute to the provision of public goods—a perverse cycle. At other times, actors potentially affected by policies may be excluded from the design of those policies, thereby undermining their incentive to cooperate and weakening compliance. An induced perception that the EU was engaged in technocratic and exclusionary decision making and that some countries were benefiting disproportionately from the agreement, was among the reasons that led the United Kingdom to vote for “Brexit”—and led to the rise of populist parties in the world that challenge further integration.

*Commitment, coordination, and cooperation* are therefore essential institutional functions for making policies effective and thereby able to achieve development outcomes (table O.1).<sup>5</sup> Yet, they are effectively fulfilled under only certain conditions. This Report proposes an analytical framework to advance

**Table O.1** Three institutional functions—commitment, coordination, and cooperation—are essential to the effectiveness of policies

Function	Examples of why these functions matter
Commitment	<ul style="list-style-type: none"> <li>Decision makers may want to spend windfall revenues now instead of saving them for others to spend in the future.</li> <li>Politicians may resist continuing policies that have been working and prefer to pursue others that are associated with their political group.</li> <li>Public service providers may push to renegotiate the terms of their contracts to their benefit when they know that the political cost of suspending service is high.</li> </ul>
Coordination	<ul style="list-style-type: none"> <li>Investment and innovation are induced when individuals believe others will also invest.</li> <li>Financial stability depends on beliefs about the credibility of policies; failures involve, for example, bank runs, where everyone believes the rest will rush to withdraw deposits.</li> <li>Laws serve as a focal point for individuals to behave in certain ways, such as the convention of driving on the right side of the road.</li> </ul>
Cooperation	<ul style="list-style-type: none"> <li>People have incentives to free-ride or to behave opportunistically—for example, by not paying taxes while enjoying the public services that other (tax-paying) individuals are funding.</li> <li>Some actors potentially affected by policies may be excluded from their design, which weakens compliance and leads to fragmentation.</li> </ul>

Source: WDR 2017 team.

understanding of how governance can help achieve these functions to promote development outcomes.

### When political will is not enough:

#### Power, bargaining, and the policy arena

This Report argues that institutions perform three key functions that enhance policy effectiveness for development: enabling credible *commitment*, inducing *coordination*, and enhancing *cooperation*. But why are policies so often ineffective in doing so? A typical response among policy practitioners is that the right policies exist, ready to be implemented, but that what is missing is political will in the national arena. This Report argues that decision makers—the elites<sup>6</sup>—may have the right objectives and yet may still be unable to implement the right policies because doing so would challenge the existing equilibrium—and the current balance of power. Thus the balance of power in society may condition the kinds of results that emerge from commitment, coordination, and cooperation.

Ultimately, policy effectiveness depends not only on what policies are chosen, but also on *how* they are chosen and implemented. Policy making and policy implementation both involve bargaining among different actors. The setting in which (policy) decisions are made is the *policy arena*—that is, the space in which different groups and actors interact and bargain over aspects of the public domain, and in which the resulting agreements eventually also lead to changes in the formal rules (law). It is the setting in which governance manifests itself.<sup>7</sup> Policy arenas can be found at the local, national, international, and supranational

levels. They can be formal (parliaments, courts, inter-governmental organizations, government agencies), traditional (council of elders), or informal (backroom deals, old boys' networks).

Who bargains in this policy arena and how successfully they bargain are determined by the relative *power* of actors, by their ability to influence others through control over resources, threat of violence, or ideational persuasion (de facto power), as well as by and through the existing rules themselves (de jure power). Power is expressed in the policy arena by the ability of groups and individuals to make others act in the interest of those groups and individuals and to bring about specific outcomes. It is a fundamental enabler of—or constraint to—policy effectiveness (box O.3).

The distribution of power is a key element of the way in which the policy arena functions. During policy bargaining processes, the unequal distribution of power—*power asymmetry*—can influence policy effectiveness. Power asymmetry is not necessarily harmful, and it can actually be a means of achieving effectiveness—for example, through delegated authority. By contrast, the negative manifestations of power asymmetries are reflected in capture, clientelism, and exclusion.

#### How power asymmetries matter for security, growth, and equity

*Exclusion.* One manifestation of power asymmetries, the *exclusion* of individuals and groups from the bargaining arena, can be particularly important for security (figure O.2). When powerful actors are excluded

### Box O.3 The idea of power and the power of ideas

“The ideas of economists and political philosophers,” British economist John Maynard Keynes noted in *The General Theory of Employment, Interest and Money*, “both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else.”<sup>a</sup> The notion of how ideas can influence historical paths in fundamental ways has long been studied by social scientists, not only from the perspective of ideology and culture but also from the viewpoint of “cultural entrepreneurship.”<sup>b</sup> It is important, however, to distinguish two specific ways—not exhaustive but fundamental—in which ideas influence policy making and effectiveness: ideas as knowledge and ideas as a means of shaping preferences and beliefs.

From the perspective of ideas as knowledge, over the past few decades the policy discussion has been influenced by the principles of “capacity building” in the form of knowledge sharing and dissemination of “best practices.” Ideas as knowledge undoubtedly play a role in strengthening the effectiveness of policies and enhancing the capacity to deliver on specific policy commitments.

But ideas also shape preferences and beliefs. Keynes ended his discussion of ideas by saying that “practical men, who believe themselves to be quite exempt from any intellectual influences, are usually slaves of some defunct

economist. . . . But soon or late, it is ideas, not vested interests, which are dangerous for good or evil.” In the 18th century, Hume’s law established that no normative statement (such as a policy prescription) can be derived from a positive one (observation of facts) without a normative idea as an assumption. Policy prescriptions based on facts still require some normative notion—that is, an idea in the background. Acknowledging the importance of ideas, this Report discusses the relevance of shaping preferences and beliefs as a means of understanding the policy bargaining process.

It was Eric Wolf who, in 1999, called attention to the importance of understanding power and ideas as complementary to understanding social dynamics.<sup>c</sup> Indeed, following Michel Foucault, Wolf argues that the ability to shape other people’s beliefs is a means of eliciting an action from another person—an action the other person would not otherwise take. The ability to make others act in one actor’s interest or to bring about a specific outcome—the definition of power in this Report—is thus closely related to the notion of ideas as beliefs.

The dichotomy between ideas (ideology and culture) and power as a primary determinant of social dynamics is thus a false one. The idea of power cannot be understood without taking seriously the power of ideas.

Source: WDR 2017 team.

a. Keynes (1936, 383).

b. See, for example, Mokyr (2005) for a discussion of the “intellectual origins of modern economic growth.”

c. Wolf (1999). See also Barrett, Stokholm, and Burke (2001).

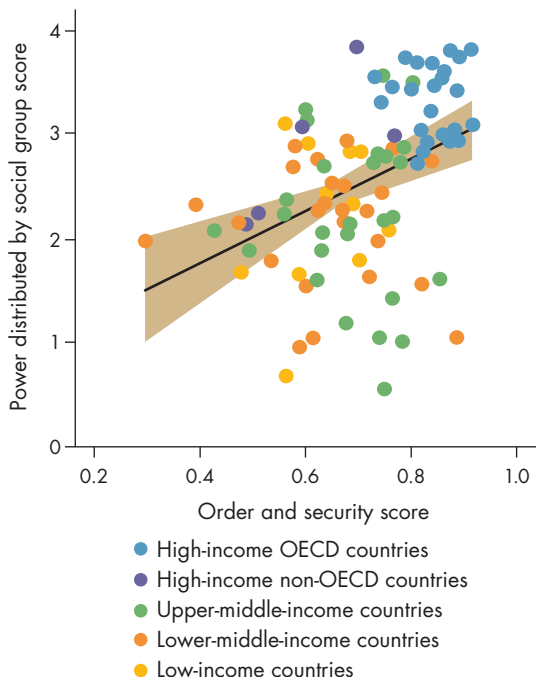
from the policy arena, violence may become the preferred—and rational—way for certain individuals and groups to pursue their interests, such as in Somalia. It can lead to failed bargains between participants in the bargaining arena (such as when peace talks between rival factions break down, or when disputants fail to reach an agreement).

Exclusion, which can take the shape of lack of access to state institutions, resources, and services, often occurs along identity fault lines. The distribution of power among ethnic groups, measured by their access to central state power, is a strong predictor of violent conflict at the national level (whether in the form of repression by the state or rebellion against the state).<sup>8</sup> Cross-country statistical analyses using the Ethnic Power Relations data set from 1945 to 2005 indicate that states that exclude large portions

of the population based on ethnic background are more likely to face armed rebellions.<sup>9</sup> The existence of norms that exclude certain groups, such as women and minorities, from the bargaining arena where disputes are settled tend to reinforce power asymmetries and perpetuate inequitable and insecure outcomes.<sup>10</sup>

**Capture.** A second manifestation of power asymmetries—the ability of influential groups to “capture” policies and make them serve their narrow interest—is helpful for understanding the effectiveness (or ineffectiveness) of policies in promoting long-term growth. In the 1990s, for example, some of Indonesia’s largest industrial groups had strong connections to President Suharto.<sup>11</sup> Between 1995 and 1997, rumors about President Suharto’s health circulated on several occasions. During every episode, the closer that industrial groups were to the president, the more

**Figure O.2 A more even balance of power is associated with positive security outcomes**



Sources: World Justice Project, Rule of Law Index 2015, Factor 5, “Order and Security” (consisting of “Crime is effectively controlled”; “Civil conflict is effectively limited”; “People do not resort to violence to redress personal grievances”); V-Dem, version 6 (consisting of “Power distributed by social group” in which a score of 0 indicates political power is monopolized by one social group, and a score of 4 indicates that social groups have equal political power).

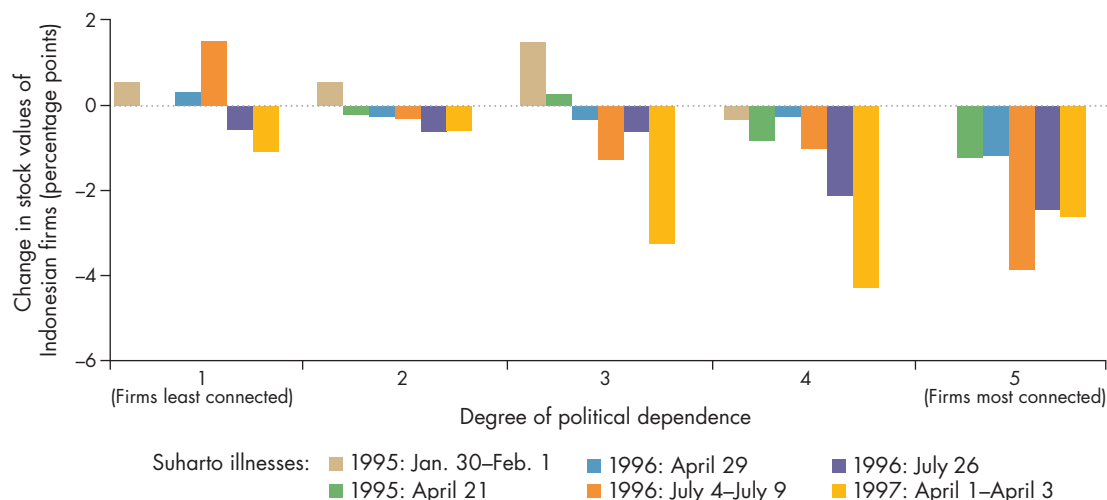
Note: OECD = Organisation for Economic Co-operation and Development.

the value of their stock fell (figure O.3). The effects of capture can be quite costly for an economy. Politically connected firms are able to obtain preferential treatment in business regulation for themselves as well as raise regulatory barriers to entry for newcomers—such as through access to loans, ease of licensing requirements, energy subsidies, or import barriers. Such treatment can stifle competition and lead to resource misallocation, with a toll on innovation and productivity. Between 1996 and 2002, politically connected firms in Pakistan received 45 percent more government credit than other firms, even though they were less productive and had default rates that were 50 percent higher. Based on the productivity gap between firms, the annual cost of this credit misallocation could have been as high as 1.6 percent of the gross domestic product (GDP).<sup>12</sup>

Although it is possible for economies to grow without substantive changes in the nature of governance, it is not clear how long such growth can be sustained. Consider the case of countries apparently stuck in “development traps.” Contrary to what many growth theories predict, there is no tendency for low- and middle-income countries to converge toward high-income countries. The evidence suggests that countries at all income levels are at risk of growth stagnation. What keeps some countries from transitioning to a better growth strategy when their existing growth strategy has run out of steam? With a few exceptions, policy advice for these countries has focused on the proximate causes of transition, such as the efficiency

**Figure O.3 The value of political connections: Indonesia during President Suharto’s era**

The closer that industrial groups were to the president, the more the value of their stock fell as rumors about the president’s health circulated



Source: Fisman 2001, figure 1.

of resource allocation or industrial upgrading. The real problem, however, may have political roots: powerful actors who gained during an earlier or current growth phase (such as the factor-intensive growth phase) may resist the switch to another growth model (such as one based on firm entry, competition, and innovation in a process of “creative destruction”). These actors may exert influence to capture policies to serve their own interests. Box O.4 presents an example of the political challenges in transitioning toward a different growth strategy—one that is related to investment in environmental sustainability.

*Clientelism.* A third manifestation of power asymmetries is *clientelism*—a political strategy characterized by an exchange of material goods in return for electoral support.<sup>13</sup> This strategy is helpful for understanding why policies that seek to promote equity are

often ineffective. Although pro-equity policies can be potentially beneficial for growth in the medium and long run, they can adversely affect the interests of specific groups, particularly in the short term. Those affected by equity-oriented policies may be concerned about losing rents or about seeing their relative influence reduced, and thus they may attempt to undermine the adoption or implementation of those policies. When societies have high levels of inequality, such inequalities are reflected in the unequal capacity of groups to influence the policy-making process, making inequality more persistent. Clientelism leads to a breakdown of commitment to long-term programmatic objectives, where accountability becomes gradually up for sale.

Clientelism can shape the adoption and implementation of policies in two main ways. In the first

#### Box O.4 Why some people see red when they hear “green growth”

“Green growth is about making growth processes resource-efficient, cleaner and more resilient without necessarily slowing them.”<sup>a</sup> For many reasons, environmental conservation is also good for long-term economic growth and development. Economic production depends on the stock of natural resources and on environmental quality (“natural capital”). Green growth strategies can increase natural capital by preventing environmental degradation. Environmental protection can also contribute indirectly to growth by correcting market failures. For example, a policy that addresses market failures leading to urban congestion can improve air quality and increase urban productivity. Greener growth can also improve well-being directly by improving air and water quality.

However, switching to greener growth strategies could impose short-term costs on some groups in society. Take the case of organic fertilizer. Smaller and more targeted doses of fertilizer (a “green” approach) are better for the environment in the long run, but conventional fertilizer is less costly and easier to use. Malawi faced this problem in 2005 when, to cope with food insecurity, it introduced a fertilizer subsidy for smallholder maize farmers. The intensive use of conventional fertilizer did lead to an immediate increase in farm output. However, because small farmers would not find it easy to adopt more organic fertilizers and

greener approaches, efforts to phase out the subsidy for conventional fertilizers could hurt maize farmers for some years.<sup>b</sup>

It could be that the groups who stand to lose from green growth policies in the short term have an oversized influence over the policy arena, and so they are able to block reforms and undermine commitment. Because the costs are concentrated and many of the benefits from cleaner technologies are intangible and dispersed, the potential losers from such reforms are likely better able to organize. They also can form a strong electoral constituency. For example, Malawi’s fertilizer program has been popular among small farmers—an important constituency. At times, switching to greener growth strategies can entail losses for influential groups of consumers and firms. For example, South Africa announced an ambitious climate change plan in 2010 that would reduce the share of electricity generated by coal-fired plants in a country in which electricity is in short supply and coal is a relatively abundant source. The plan, despite being watered down a year later, has been opposed by consumers, labor unions, and business interests, particularly those in mining and heavy industry.<sup>c</sup> As these examples demonstrate, the design of green growth policies must take into account the potential resistance from those who will lose in the short term.

Sources: Hallegatte and others (2012); Resnick, Tarp, and Thurlow (2012).

a. Hallegatte and others (2012, 2).

b. Resnick, Tarp, and Thurlow (2012).

c. Resnick, Tarp, and Thurlow (2012).



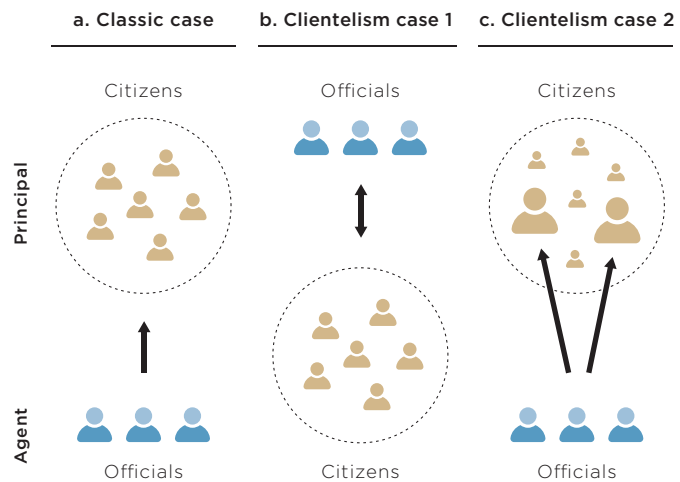
type of clientelistic setting, the relationship between public officials and voters becomes distorted. Instead of a dynamic in which the official is the agent of the voter, who monitors and sanctions the agent (figure O.4, panel a), the interaction becomes a bargain in which the politician “buys” votes in exchange for (usually) short-term benefits such as transfers or subsidies (figure O.4, panel b).<sup>14</sup> These bargains tend to be more frequent when individuals have a higher time preference for the present with respect to the future. The poor and disadvantaged are particularly vulnerable to this sort of exchange because their pressing needs make their discount rates for the present higher than those of the better-off. In the second type of clientelistic setting, politicians become responsive to those groups that wield greater influence—for example, favoring the interests of teachers’ unions over those of students (figure O.4, panel c). This happens when public officials become dependent on the support of certain groups for their political survival, including the providers of public services.

The costs of this malfunction can be high. In exchange for their political support, service providers may extract rents through the diversion of public resources, or withhold their effort in the form of absenteeism or low-quality provision, or engage in corrupt practices, hampering the delivery of services such as education, health, or infrastructure. When groups in charge of providing services capture politicians, monitoring and sanctioning these providers are no longer credible, leading to a weak commitment to service delivery. A policy experiment in Kenya illustrates this point. It compared the impact of contract teachers in interventions managed by nongovernmental organizations (NGOs) and interventions run by the government. Test scores increased only in the intervention run by NGOs, indicating that NGOs were more credible in implementing sanctions—through firing—than the government.<sup>15</sup> When commitment breaks down systematically, it can erode people’s incentives to cooperate, and some groups may opt out by demanding private services and looking for ways to avoid contributing to the provision of public goods.<sup>16</sup> In clientelistic settings, states tend to have low tax revenues and provide few public goods, undermining economic activity and future taxation.

### Best practice or best fit? Revisiting the notion of “first-best” through the bargaining lens

The development community has largely focused its reform attempts on designing best-practice solutions and building the capacity needed to implement them.

**Figure O.4 Principals, agents, and clients: Accountability for sale**



Sources: WDR 2017 team, extending World Bank 2003 and Khemani and others 2016.

Note: Arrows indicate who is responsive to whom.

Capacity, often considered a prerequisite for policy effectiveness, is certainly important, and in many cases it is even an overriding constraint. At a given point in time, it can be thought of as a stock. How and where to use such capacity, however, are also the product of a bargaining process. Even if physical and administrative capacity exists, policies may still be ineffective if groups with enough bargaining power have no incentives to pursue implementation. An example is the low investment in statistical capacity in Africa, which limits the ability to monitor policy effectiveness (box O.5). In addition, the existing power structures may be reinforced by the prevailing social norms, which are persistent shapers of behavior.<sup>17</sup> Such norms may reinforce or undermine policy effectiveness.

Thus investing in capacity may not be enough. Designing policies to improve security, growth, and equity requires understanding the balance of power among different actors. In the presence of powerful actors who can block or undermine policies, optimal policies from a strict economic standpoint (first-best policies) may not be the optimal implementable policies (second-best but feasible). Even when feasible, implementing what seem like first-best economic policies from a static perspective can lead to worse outcomes for society when such policies negatively affect the power equilibrium. For example, where governments are captured by firms and there is high inequality, unions may be the only way for workers

### Box O.5 The need to strengthen incentives to gather development data

For years, the development community has invested heavily in developing statistical capacity in Africa through economic resources as well as technical expertise. The results, however, have been disappointing.<sup>a</sup> Many countries in the region still lack the data to monitor socioeconomic conditions such as poverty, inequality, and service delivery. As a result, demands are growing for more money and more capacity building to solve this problem. And yet, forgotten is that to develop statistical capacity, countries need the political incentives to do so.

In many countries, political incentives lead those in power to avoid investing in capacity or to actively undermine

capacity. Some elites in African countries consider high-quality data systems a tool that the opposition could use to audit their performance. Thus these elites have incentives to establish either weak statistical offices or partisan ones, staffed with political supporters rather than technical experts.<sup>b</sup> But, of course, this practice is not unique to Africa. The argument for using existing capacity is as valid as it is for building such capacity. In Latin America, a region well known for its capacity for data collection, there are several examples where the political dynamics led to a weakening of the credibility of official statistics.<sup>c</sup>

Source: WDR 2017 team.

a. Devarajan (2013).

b. Beegle and others (2016).

c. *Economist* (2012); Noriega (2012); Roitberg and Nagasawa (2016).

to solve their collective action problem,<sup>18</sup> even if representation is not perfect. In such cases, passing a law to make labor contracts more flexible may undermine union membership and lead to more inequality, which in turn can perpetuate the power of the wealthy.<sup>19</sup>

### Levers for change: Contestability, incentives, preferences and beliefs

From the perspective of power asymmetries, efforts to strengthen the ability of institutions to effectively enable commitment, coordination, and cooperation call into question many traditional practices of the development community. Anyone seeking to design more effective policies may find it helpful to recognize how the distribution of power in the policy arena could affect policy design and implementation and to consider how the policy arena can be reshaped to expand the set of policies that can be implemented.

Reshaping the policy arena occurs when changes are made in who can participate in decision-making processes (the *contestability* of the policy arena), when *incentives* to pursue certain goals are transformed, and when actors' *preferences and beliefs* shift.<sup>20</sup> As an illustration, consider how countries are more or less effective at redistributing income through the fiscal system. The average measure of inequality (as captured

by the Gini coefficient) based on individuals' market income is 0.47 for developed countries and 0.52 for developing countries. After the effects of taxes and transfers are taken into account, the corresponding coefficients drop to 0.31 and 0.50, respectively. If the effect of publicly provided services (in particular, education and health) is also included, inequality falls further: to 0.22 in developed countries and to 0.42 in developing countries.<sup>21</sup> The quantifiable redistributive capacity of these countries can be interpreted in different ways. It can be interpreted as the relative ability of different actors to influence and *contest* decisions about how resources are distributed in a given country. It can be interpreted as the *incentives* of governments to commit to the collection of taxes and allocation of spending—more checks and balances on power are associated with more redistribution.<sup>22</sup> Or it can be interpreted as the *preferences* for redistribution in a given country.

*Contestability.* Who is included and who is excluded from the policy arena are determined by the relative power of the competing actors, as well as by the barriers of entry to participation (that is, how contestable the process is). A more contestable policy arena is one in which the actors or groups who have reason to participate in the decision-making process have ways to express their interests and exert influence. Because contestability determines who is included and who is excluded from the bargain, it is closely linked to



the notion of inclusion. However, it also emphasizes the barriers to participation. Although the inclusion of more actors in the decision-making process is not necessarily a guarantee of better decisions, a more contestable policy arena tends to be associated with higher levels of legitimacy and cooperation. When procedures for selecting and implementing policies are more contestable, those policies tend to be perceived as “fair” and to induce cooperation more effectively.

*Incentives.* The incentives that actors have to comply with agreements are fundamental to enabling commitment in the policy arena. Credible commitment requires consistency in the face of changing circumstances. Incentives for actors to commit to agreements are thus crucial for effective policy design and implementation. Stronger incentives to hold policy makers accountable can also strengthen voluntary compliance because repeatedly delivering on commitment helps build trust in institutions.

*Preferences and beliefs.* The preferences and beliefs of decision-making actors matter for shaping whether the outcome of the bargain will enhance welfare and whether the system is responsive to the interests of those who have less influence. Aggregating preferences, for example, can increase the latter’s visibility. Because the preferences and beliefs of actors shape their policy goals, an important condition for policy effectiveness is the coordination of actors’ expectations.

This Report explores in depth how changes in contestability, incentives, and preferences and beliefs can enhance policy effectiveness for security, growth, and equity. Depending on the primary functional challenge—that is, whether a policy needs to enable commitment, coordination, or cooperation—these entry points may be different. Because the functional challenges are interdependent, the entry points act as complements.

### **The role of law in shaping the policy arena**

Law is a powerful instrument for reshaping the policy arena. Although laws generally reflect the interests of those actors with greater bargaining power, law has also proven to be an important instrument for change. By its nature, law is a device that provides a particular language, structure, and formality for ordering things, and this characteristic gives it the potential to become a force independent of the initial powers and intentions behind it. Law, often in combination with other social and political strategies, can be used as a commitment and coordination device

to promote accountability, and also to change the rules of the game to foster more equitable bargaining spaces. Effective laws are those that are able to shape bargaining spaces that increase contestability by underrepresented actors; that provide incentives by changing payoffs to lower the cost of compliance (or increase the cost of noncompliance); and that shift preferences by enhancing substantive focal points around which coordination can occur. State law, however, is but one of many rule systems that order behavior, authority, and contestation. Such legal and normative pluralism (box O.6) is neither inherently good nor bad: it can pose challenges, but it can also generate opportunities.

Law can play a role in making the policy arena more contestable. Enhancing the contestability of the arena encompasses both *ex ante* procedures (which relate to the means by which law is made and the extent to which it is participatory and transparent) and *ex post* ones (the extent to which law is applied consistently and fairly). If various actors believe the process is exclusionary or reflects only the interests of certain groups, they may not comply, or they may outright oppose it. Public hearings, stakeholder consultations, social audits, and participatory processes are some examples of instruments that can make the policy arena more contestable.<sup>23</sup> In this case, law serves as a tool to promote accountability, change the rules of the game, or both. This function is embodied, for example, in the advocacy to adopt right-to-information laws.

Law can play a role in shaping the incentives of actors to comply with agreements by, for example, providing a credible threat of punishment or a credible commitment to delivering the reward for compliance. Law orders behavior through rules ranging from prohibiting bribery, to establishing licensing fees and business registration, to banning child marriage, as well as through the means to enforce these rules. Following Hart’s classic legal theory, laws induce particular behaviors of individuals and firms through coercive power, coordination power, and legitimating power.<sup>24</sup>

Law can effectively reshape preferences and coordinate expectations about how others will behave, serving as a focal point. In this way, law can act as a signpost—an expression—to guide people on how to act when they have several options, or (in economic terms) in the presence of multiple equilibria.<sup>25</sup> Law provides a clear reference in the midst of diverging views. People comply with the law because doing so facilitates social and economic activities.

**A more contestable policy arena tends to be associated with higher levels of legitimacy and cooperation. When procedures for selecting and implementing policies are more contestable, those policies tend to be perceived as “fair” and to induce cooperation more effectively.**

## Box O.6 Legal and normative pluralism

The phenomenon of “legal pluralism”—the coexistence of multiple legal systems within a given community or sociopolitical space—has existed throughout history and continues today in developing and developed countries alike. Modern forms of legal pluralism have their roots in colonialism, through which Western legal systems were created for colonists, while traditional systems were maintained for the indigenous population. As is well documented, that traditional or customary law still dominates social regulation, dispute resolution, and land governance in Africa and other parts of the developing world. In some cases, customary law, including a variety of traditional and hybrid institutional forms of dispute resolution, is formally recognized and incorporated into the legal system, such as in Ghana, South Africa, South Sudan, the Republic of Yemen, and several Pacific Island states. In other cases, such forms continue to provide the primary means of social ordering and dispute resolution in the absence of access to state systems that are perceived as legitimate and effective, such as in Afghanistan, Liberia, and Somalia. Customary legal systems reflect the dominant (yet evolving, not static) values and power structures of the societies in which they are embedded, and as such are often seen to fall short of basic standards of nondiscrimination, rights, and due process. The extent to which they are considered legitimate and effective by local users is an empirical question and a relative one in light of the available alternatives.

Source: WDR 2017 team.

a. Ellickson (1991); Sunstein (1996); Basu (2000); Posner (2000); Dixit (2004).

b. Platteau (2000b).

c. Braithwaite and Drahos (2000); Halliday and Shaffer (2015).

A further source of normative pluralism is the less visible but highly influential social norms—generally accepted rules of behavior and social attitudes within a given social grouping. A vast literature documents how social norms derived from communal and identity groups, professional associations, business practices, and the like, govern the vast majority of human behavior.<sup>a</sup> Social norms are a fundamental way of enabling social and economic transactions by coordinating peoples’ expectations about how others will act. Social sanctions, such as shame and loss of reputation, or, in some cases, socially sanctioned violence, are a powerful means of inducing cooperation to prevent what is regarded as antisocial and deviant behavior.<sup>b</sup>

Yet another source of normative pluralism is generated by today’s globally interconnected world in which a multitude of governmental, multilateral, and private actors establish and diffuse rules about a wide range of transactions and conduct (see chapter 9). Increasingly, local experiences of law are informed by these broader interactions covering topics such as trade, labor, environment, natural resources, financial institutions, public administration, intellectual property, procurement, utility regulation, and human rights. These interactions can take the form of binding international treaties and contracts (hard law) or voluntary standards and guiding principles (soft law). These rules may reinforce, complement, or compete with state law to govern public and private spaces.<sup>c</sup>

Ultimately, the *rule of law*—the impersonal and systematic application of known rules to government actors and citizens alike—is needed for a country to realize its full social and economic potential. But as Gordon Brown, the former prime minister of the United Kingdom, noted, “In establishing the rule of law, the first five centuries are always the hardest.” The ideal of the rule of law emerges from a home-grown (endogenous) process of contestation that shapes societies’ adherence to the principles of the rule of law over time—sometimes a very long time. Box O.7 discusses the challenging process of transitioning to the rule of law. Pragmatic policy design that takes into account how these different roles of law can

bolster the effectiveness of development policies can ultimately move countries on a trajectory toward a stronger rule of law.

### Enhancing policy effectiveness for security, growth, and equity: Entry points for reform

How can strengthening the role of law to change contestability, incentives, and preferences and beliefs enhance policy effectiveness for security, growth, and equity? Take the case of security. Whether formally or informally, institutions of governance can solve commitment and cooperation problems in ways that create incentives to not use violence. Four

### Box O.7 Transitions to the rule of law

Compared with the extensive literature on transitions to democracy, a surprisingly small amount of systematic work has been done on transitions to a modern rule of law. History reveals three separate types of transitions which one can learn from, while other paths might be possible: (1) the shift from a customary, informal, and often highly pluralistic system of law to a unified modern one; (2) how powerful elites come to accept legal constraints on their power; and (3) how countries successfully adapt foreign legal systems to their own purposes.

The shift from a customary or pluralistic system (or both) to a codified modern one is usually motivated, at base, by actors who view a single formal system as better serving their interests, particularly their economic interests in expanded trade and investment. Scale matters: at a certain point, the personal connections that characterize customary systems become inadequate to support transactions between strangers at great remove. However, the transition costs are high, and the customary rules are often preferred by the existing stakeholders. Therefore, political power is critical in bringing about the transition.

Formal law is usually applied first to nonelites (“rule by law”); the shift to “rule of law” occurs when the elites themselves accept the law’s limitations. Some have argued that constitutional constraints become self-reinforcing when power in the system is distributed evenly and elites realize that they have more to gain in the long term through constitutional rules.<sup>a</sup> What this theory does not explain, however, is why these same elites stick to these constraints when the power balance subsequently changes and one group is able to triumph over the others. Similarly, independent courts are always a threat to elite power; why do rulers come to tolerate them when they have the power to manipulate or eliminate them? This finding suggests that constitutionalism needs to be underpinned by a powerful

normative framework that makes elites respect the law as such. Subsequent respect for law depends heavily on the degree of independence maintained by legal institutions that persist even after their normative foundations have disappeared.

Finally, as for the importation of foreign legal systems, perhaps the most important variable determining success is the degree to which indigenous elites remain in control of the process and can tailor it to their society’s own traditions. Thus Japan experimented with a variety of European systems before settling on the German civil code and Bismarck constitution at the end of the 19th century. Later, in the 20th century, China, the Republic of Korea, and other Asian countries similarly adapted Western legal systems to their own purposes. In other countries and economies, such as Hong Kong SAR, China, India, and Singapore, the colonial power (Great Britain) stayed for a long time and was able to shape the local legal norms in its own image. Even so, India today practices a far higher degree of legal pluralism than does the United Kingdom itself as part of the process of local adaptation. Less successful were countries in Sub-Saharan Africa, where customary systems were undermined by colonial authorities but not replaced by well-institutionalized modern systems.

Much more research is needed on the question of legal transitions. It is clear that a fully modern legal system is *not* a precondition for rapid economic growth; legal systems themselves develop in tandem with modern economies. It may be that the necessary point of transition from a customary to a formal legal system occurs later in this process than many Western observers have thought. But relatively little is known about the historical dynamics of that transition, and thus there is too little by way of theory to guide contemporary developing countries as they seek to implement a rule of law.

Source: Francis Fukuyama for WDR 2017.

a. See North, Wallis, and Weingast (2009).

main governance mechanisms matter for improving security outcomes: power sharing, resource redistribution, dispute settlement, and sanctions. Power sharing and resource redistribution are highlighted in the illustrations that follow.

*Power sharing and resource redistribution can reduce exclusion and the incentives to engage in violence.* Just as exclusion may lead to violence, mechanisms that encourage power sharing—such as legislatures that

guarantee the representation of all factions—can reduce the incentives to engage in the use of force by raising the benefits of security. Power-sharing arrangements are especially relevant for societies divided along ethnic and religious identity lines, such as in Bosnia and Herzegovina, Northern Ireland, Kenya, Lebanon, and South Africa, but also in countries in which the conflict is a legacy of opposing ideologies. Power-sharing bargains that lead to peace

and security typically take place between elites. Such bargains encourage cooperative behavior by providing elite groups with the incentives to compromise with one another and to inspire inclusion among their followers, and by offering alternative avenues for contesting power.

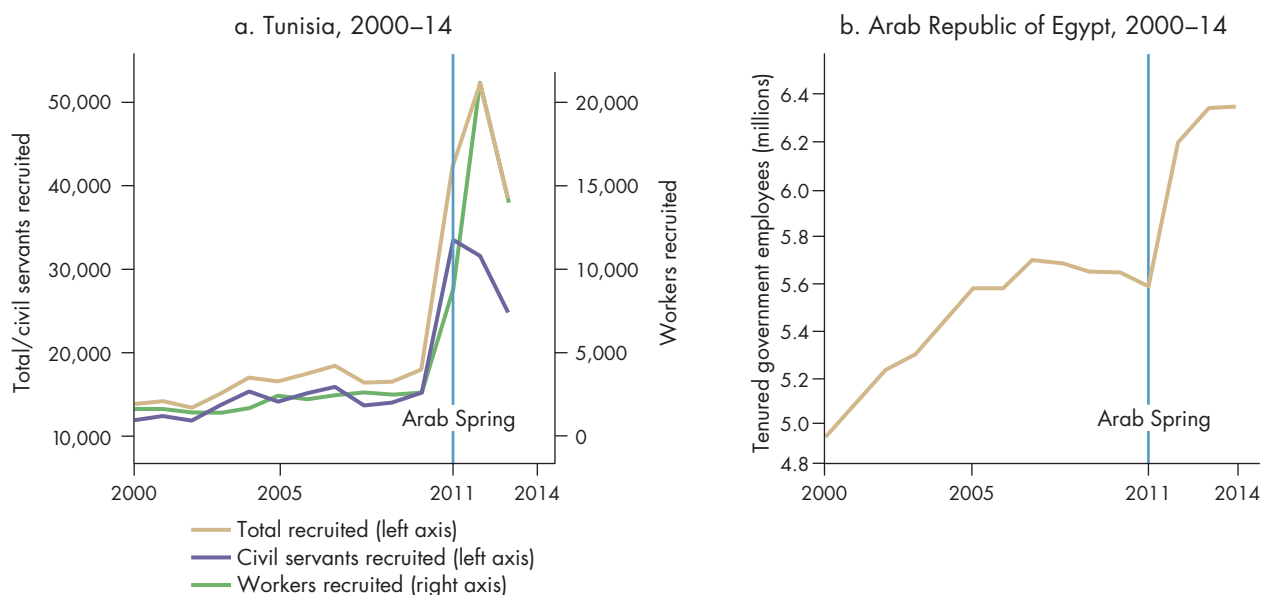
Mechanisms to redistribute resources can also reduce violence by reordering power and changing incentives. Redistributive arrangements include budget allocation, social transfers, and victim compensation schemes. Some government interventions to reduce urban crime in Latin America follow a common pattern of increasing security by reducing poverty and inequality. Employment in the public sector could also bring about stability by ensuring the loyalty of key constituencies. An example is the dramatic increase in the numbers and salaries of public employees following the uprisings in the Arab world in 2011 (figure O.5). Although this kind of political patronage can solve the first-order problem of violence, it can also lead to corruption and can have ruinous effects on budgetary sustainability and administrative efficiency.

*Implementable policies can help reduce capture, enhancing growth.* Security is a precondition for prosperity, but it is not enough; economic growth must follow. When it comes to growth, if the possibility of capture looms large, policies that are first-best on the basis of economic efficiency may be less implementable

than second-best ones. Adopting an implementable second-best design could therefore be more effective than choosing the seemingly first-best policy prone to capture. Moreover, when considering alternative policy designs, the possibility of future capture can be reduced by anticipating the possible effects of a policy on the balance of decision-making ability among the actors involved.

The experience of the Russian Federation and eastern European countries in their transition to market economies is illustrative.<sup>26</sup> Compelled by the then-dominant economic argument that the privatization of state-owned enterprises (SOEs) was of first-order importance in enhancing economic efficiency, Russia and many eastern European countries focused on rapid, large-scale privatization of their SOEs. Although this approach may have made sense on purely economic grounds, the way in which the privatization wave was implemented created a new class of oligarchs that resisted the next generation of pro-competition reforms. As a result, many of these economies are still struggling with inefficient, oligopolistic industries. This is consistent with the view that reforms that create an initial concentration of gains may engender strong opposition to further reform from early winners.<sup>27</sup> By contrast, Poland chose to focus first on reforms that made it easy for new firms to enter, and to privatize the existing firms more gradually. This sequencing created a class of young firms

**Figure O.5** Recruitments of civil servants increased exponentially in Tunisia and the Arab Republic of Egypt in the aftermath of the Arab Spring uprisings of 2011



Sources: Tunisia: Brockmeyer, Khatrouch, and Raballand 2015; Arab Republic of Egypt: Bteddini 2016, based on figures from Egypt's Central Agency for Organization and Administration (CAOA).

that were collectively interested in further reforms, while preventing the sudden emergence of an influential group of large firms that could block reforms.<sup>28</sup>

Better design of public agencies can help expand the set of implementable policies. How public officials are selected for service, for example, and the incentive structure they face within their organizations matter, as does accounting for existing norms of behavior. Establishing and maintaining greater accountability in public agencies can also help in balancing influence in the policy arena. Mechanisms that help give less powerful, diffuse interest groups, for example, a bigger say in the policy arena could help balance the influence of more powerful, narrow interest groups. However, participatory mechanisms in regulatory institutions are still relatively uncommon in low- and middle-income countries (figure O.6).

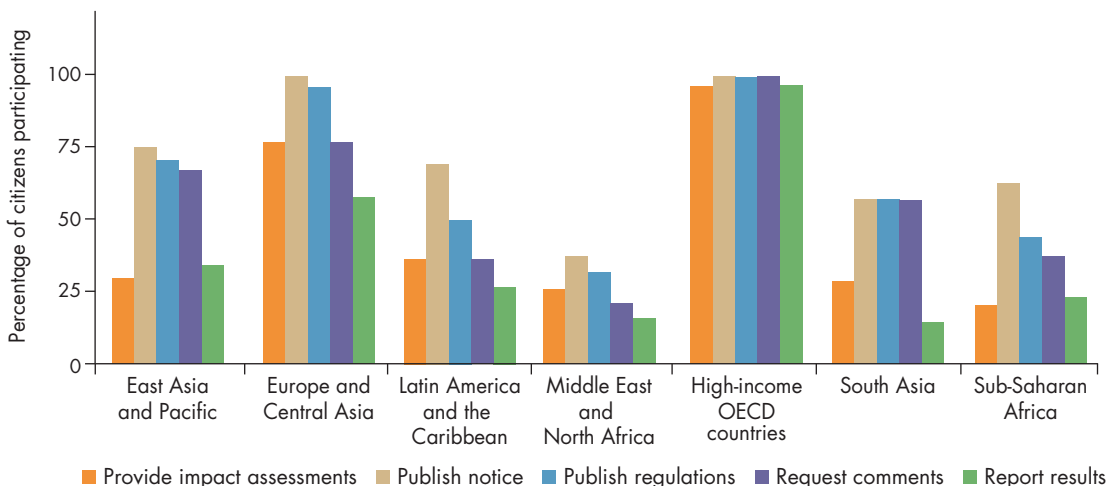
Private interests can at times undermine policy effectiveness, but capture is not an inevitable outcome of close business-state ties. As long as influence and incentives are balanced through robust public agency design and accountability mechanisms, firms and business groups can have a positive influence on policies aimed at economic growth. Contemporary case studies suggest that business associations have helped governments improve various dimensions of the business environment—such as secure property rights, fair enforcement of rules, and the provision of public infrastructure—through lobbying efforts or better monitoring of public officials.

*Controlling clientelism can help solve commitment problems related to delivering on redistributive policies.*

Mechanisms that control clientelism can enhance equity by making commitment to long-term objectives credible in the political arena. At times, the incentives of elites may be aligned with taxation and public spending reforms in favor of the poor. For example, the first antipoverty programs in 19th-century Great Britain were pushed by the top 1 percent of landed elites. Against the backdrop of the French Revolution, and possible fear of revolts, these programs aimed to keep labor in the countryside and prevent it from migrating to urban areas.<sup>29</sup> At other times, an increase in the participation of disadvantaged groups is needed to help change the incentives of actors who bargain over policies. Increasing the direct representation of disadvantaged individuals in legislative assemblies and other political bodies can improve policy makers' commitments to reforms that improve equity. Direct participation in decision making can also improve cooperation. For example, in Ghana, when businesses are involved in the design of tax policies they are more likely to pay their taxes.<sup>30</sup> Greater transparency and better information can also help to change incentives by monitoring the actions of political elites and service providers. For example, an intervention designed to strengthen local accountability and community-based monitoring in the primary health care sector in Uganda was remarkably successful in improving both health services and outcomes in the participating communities.<sup>31</sup> However, reforms are often complex and involve frequent setbacks.

Over time, policies that effectively improve equity also reduce power asymmetries, making the policy

**Figure O.6** Formal avenues for broad-based participation in regulatory decision making are limited in low- and middle-income countries



Source: WDR 2017 team, using data from the World Bank's citizen engagement in rulemaking data.

Note: OECD = Organisation for Economic Co-operation and Development.

arena more contestable. After a period of inclusive growth with greater income mobility, the growing middle class in Latin America began demanding better-quality services and demonstrating in the streets for better governance.<sup>32</sup> Conversely, inequitable growth and the concentration of wealth in the hands of a few led to consolidation of power and a perception of unfairness, and thus to weaker incentives for cooperation and coordination by those excluded from the benefits of development. It is thus necessary to understand how existing inequalities can be modified by reforms.

The nature of the policy arena is crucial to gauging whether actors will be able to reach and sustain agreements to enact welfare-enhancing policies. The actions that a proposed reform will trigger from other players in the arena are particularly important. The process of how reforms take place is embedded in the framework of the *World Development Report 2017* (WDR 2017) and is discussed in box O.8 from the perspective

of game theory. The discussion highlights how development reform involves playing “games” at two different levels, and actors in the quest for change often tend to neglect the game that really matters.

Figure O.7 synthesizes the conceptual framework presented in this Report. It illustrates the dynamic interaction between governance and development. At its center is the policy arena, the space where actors bargain and reach agreements about policies and rules. Given a set of rules, the right-hand side of the framework shows how commitment, coordination, and cooperation among actors lead to specific development outcomes (the *outcome game* in box O.8). But actors can also agree to change the rules, which is illustrated in the left-hand side of the framework (the *rules game* in box O.8). Both changes in development outcomes (such as the composition of growth or the concentration of wealth) and changes in rules (both formal and informal) reshape the power asymmetries manifested in the policy arena.

### Box O.8 The “rules game”: Paying attention to where the action is

The framework described in this Report uses game theory—the branch of social sciences that studies strategic behavior—to understand the dynamics of power, policy, and reform. Although policy makers may not consciously think in terms of game theory, they play strategy games every day, and their actions can be understood using the precision and objectivity of game theoretic models. The framework laid out in this Report aims at understanding how governance affects development over time. For that purpose, the framework involves games played at two levels. The first-level game (the *outcome game*) takes place when, given a certain set of rules and policies, actors react by making decisions about investing, consuming, working, paying taxes, allocating budgets, abiding by the rules, and so on. Those decisions lead to the realization of outcomes (security, growth, equity). The framework suggests that there is, in addition, a second-level game (the *rules game*) in which actors bargain to redefine the policies and rules that shape subsequent reactions by actors in future realizations of the games.<sup>a</sup>

In the abstract, the rules and policies chosen should lead to the socially desired outcomes. Economists refer to the case in which someone can pick the ideal rules for the outcome game as the “mechanism design” approach, and the rules selected are those that a “benevolent dictator” or “social planner” would pick. Although this is a useful

way to specify the ultimate *goal* of development, it is an insufficient guide to understanding the actual *process* of development. Mechanism design suggests that a reform is a once-and-done jump that takes place when someone imposes the “ideal” rules. It ignores the second-level rules game, the diversity of preferences and incentives, and the fact that different actors can have very different influences in the *rules game*. Moreover, in the process of reform and development, the *rules game is where the action is*.

Indeed, the *rules game* is where power asymmetries are manifested, whereby some actors have more direct influence (elites) and others have only indirect influence such as through voting (citizens). It has long been recognized that power is an important determinant of how a society functions and how the gains of economic activity are shared within and across nations. With game theory, one is able to formalize some of these difficult concepts and, in particular, the idea that, in the end, power depends on the circumstances, beliefs, and mores of ordinary people.

A key lesson that emerges from this approach is that rules that let players commit, coordinate, and cooperate tend to enhance efficiency in the outcome game. Ultimately, commitment devices allow actors to transform the game so that their incentives are aligned. To achieve coordination, policies need to create common knowledge that everyone will take the desirable action. Sometimes, this requires

(Box continues next page)



## Box O.8 The “rules game”: Paying attention to where the action is (continued)

providing incentives for some actors to take the desirable action first so others will follow. To induce cooperation, policies need to put forth a credible mechanism of reward or penalty conditioned on players’ actions to prompt other actions yielding the jointly preferred outcome.

Over time, repeated play of the rules game can lead to the establishment of a government that is better able to enforce the rules impersonally—for example, by employing legislators, judges, and police officers who can administer a formal legal order, in particular by administering a system of contract law. Contract law is a system of formal rules that

improves the efficiency of the outcome game by letting players commit to specific future actions.<sup>b</sup> When actors agree to a contract voluntarily, the result of a noncooperative interaction can lead to better outcomes for all. This analysis is also closely related to the concept of a “social contract” that goes back to ancient Greek thinkers. Social contracts that induce actors to abide by the rules voluntarily tend to be more efficient and sustainable. Underlying all stable societies is some form of social contract, which enables individuals to anticipate the behavior of others and react accordingly.

Source: WDR 2017 team.

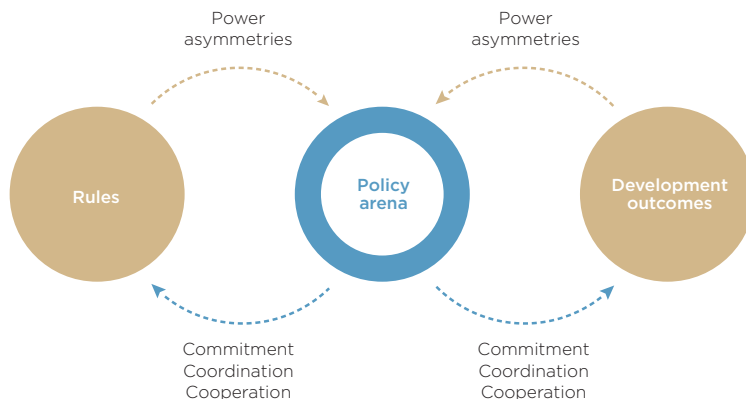
- a. In the WDR 2017 framework depicted in figure O.7, the right-hand side of the figure refers to the outcome game and the left-hand side to the rules game.  
b. In a small social group, an informal system of rules can also encourage commitment. For example, if actor 1 does not follow through on an agreement with actor 2, actor 2 can punish actor 1 by gossiping about how actor 1 cheated.

## Drivers of change: Elite bargains, citizen engagement, and international influence

Changes in contestability, incentives, and preferences and beliefs are the key levers for correcting power asymmetries in the policy arena, leading more effectively to commitment, coordination, and cooperation. But how can these changes be brought about? This Report identifies three encouraging drivers for bringing about significant changes conducive to development: elite bargains (which take the distribution of power in the policy arena as a given); citizen engagement (which tries to change the distribution of power in the policy arena); and international interventions (which indirectly affect the distribution of power in the policy arena)—see box O.9.

All countries, regardless of their level of economic and institutional development, are subject to elite bargains. Change is unlikely to occur unless powerful actors—elites—in the country agree to that change. When influential actors resist change, suboptimal policies and governance institutions that are detrimental to development tend to persist. Under certain circumstances, however, elites may voluntarily agree to limit their influence in their own self-interest. Citizens can also organize to bring about change, playing an important role in applying pressure to influence the

**Figure O.7 WDR 2017 framework: Governance, law, and development**



Source: WDR 2017 team.

Note: Rules refers to formal and informal rules (norms). Development outcomes, in the context of this Report, refers to security, growth, and equity. The actors in the policy arena can be grouped into elites, citizens, and international actors.

outcome of favorable bargains in the policy bargaining process. Moreover, governance does not occur solely within the boundaries of nation-states. Although international actors cannot engineer development from the outside, these transnational actors play an important role in influencing the domestic bargaining dynamics by strengthening (or weakening) local coalitions for reform.

Change occurs over time as coalitions are formed among different actors, but this is often a long and

### Box O.9 Elites and citizens: Who is who in the policy arena?

Participants in the policy arena can be grouped into elites and citizens, according to their relative degree of influence in the policy-making process. What distinguishes elites from citizens is elites' ability to *directly* influence the design and implementation of a certain policy. Elites can vary from one policy to another. For example, a group that is an elite in the area of health care may not be an elite in the area of crime control. The source of elites' ability to influence policy comes not only from formal rules such as delegated authority (de jure power), but also from other means such as control over resources (de facto power). Thus even if the government changes, those who are able to influence decisions may stay the same; they keep their seat at the table. A few years ago, an entertainment magazine in a Latin American country captured this dynamic in an interview with an unlikely political observer, the chef of the presidential residence. After a tight election, the new president and his family had just moved into the residence. The interviewer asked the chef whether it was difficult for him to adjust the menu to the new presidential family's tastes. "It is really not that problematic," he reflected, "because

even though the presidents change, the guests are always the same."

Certainly, the dichotomy between elites and citizens is imperfect because it does not account for different degrees of relative power among individuals within those groups (elites or citizens), nor does it capture how their relative power differs from one policy to another. As Stephen Jay Gould notes in his classic text *Time's Arrow, Time's Cycle: Myth and Metaphor in the Discovery of Geological Time*, "Dichotomies are useful or misleading, not true or false. They are simplifying models for organizing thought, not ways of the world."<sup>a</sup> The reality is much more complex and nuanced.

This Report views individuals as being on a continuum with respect to their position of power in the policy arena, and thus its definition of elites and citizens is a positive (rather than a normative) one. Elites are not necessarily bad or self-interested, and citizens are not necessarily good and public-spirited. Both groups exercise their influence as people do in other spheres of life. Understanding their motivations is what matters to anticipating their conduct.

Source: WDR 2017 team.

a. Gould (1987, 8–9).

self-determining "endogenous" process. For example, success at achieving security in Somaliland arose from the collective action of a wide range of tribal and clan leaders. Sharing power among these actors helped reduce the incentives for violence by raising the benefits of security. In Nigeria, Muhammadu Buhari won the 2015 election by creating a broad coalition through a campaign platform focused on tackling corruption, potentially indicating an enhanced ability to overcome corrupt vested interests that benefit from oil rents. And in India, the Right to Information and Right to Education Acts, pushed through by grassroots coalition movements over many years, have helped poor citizens demand better services and education for their children, improving living conditions within slums.

#### **Elites may adopt rules that constrain their own power**

In December 1976, a year after the death of Gen. Francisco Franco, who had been in power since the late 1930s, a referendum was held in Spain to introduce a political reform that would allow previously banned

political parties to participate openly in Spain's political life. To the surprise of many, the Cortes Generales—Spain's parliament, which was led by members appointed by Franco—allowed this referendum, even though it would surely constrain their power and likely imply the end of the existing regime. Analysts have argued that members of the Cortes accepted the referendum because it was within the existing legal setting, which they had to protect. Gen. Pita Da Veiga, a conservative, minister of the navy, and personal friend of Franco, publicly declared, "My peace of conscience is rooted in the fact that the democratic reform is being made within the *Franquista* legality."<sup>33</sup> However, the *Franquista* legality he was praising was coming to an end precisely because of that reform, which received overwhelming public support: 97.4 percent of Spaniards voted in favor, with a turnout of 77 percent of registered voters.

Just as in the Spanish transition, elites frequently choose to constrain their own power. Changes to the "rules of the game" often reflect bargaining outcomes that result from elites acting in their own interests (box O.10). While seemingly counterintuitive, reforms



## Box O.10 Who are elites, and what do they do? Results from a survey of elites in 12 countries

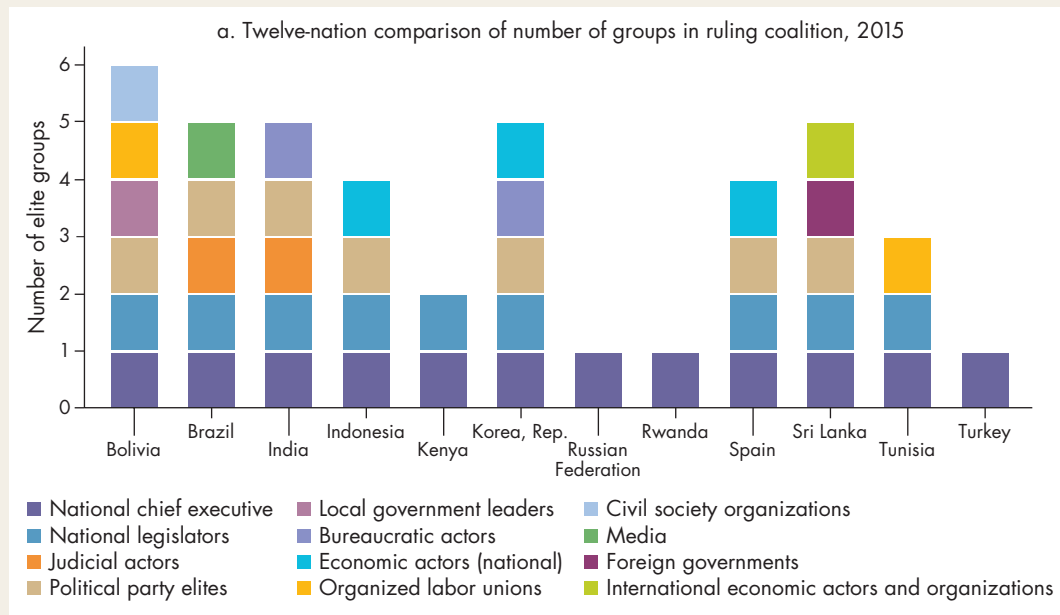
All social science disciplines and development practitioners recognize the importance of elite actors in determining development outcomes—from Aristotle’s “oligarchy,” to early 20th-century “elite theorists,”<sup>a</sup> to recent ambitious theories of economic and institutional coevolution.<sup>b</sup> The international community is increasingly looking at the consequences of different “political settlements,” which can be understood as elite bargaining equilibria that emerge at critical junctures in a country’s development.<sup>c</sup> Yet, the set of conceptual research tools available to scholars of elite bargaining and to development practitioners remains limited, as does agreement on exactly who are elites.

To help fill this gap, as part of the *World Development Report 2017*, the World Bank, in collaboration with the V-Dem Institute, has conducted expert surveys to generate cross-national indicators that enable comparison of who holds bargaining power and how they wield this influence. The surveys cover more than 100 years of data in 12 countries across six regions. The data help identify how the distribution of elites maps onto the national structure of bargaining power and the formulation and implementation of laws governing the exercise of power.

The survey reveals that the identity of the influential actors within a ruling elite coalition that decides policy at the national level differs greatly over space, time, and issue area. For example, although national chief executives are part of the elite ruling coalition in all 12 countries surveyed as of 2015, the other actors vary greatly in both number and representativeness (figure BO.10.1, panel a). With the exception of the Russian Federation, Rwanda, and Turkey, where the national chief executive monopolizes decision making, the ruling coalition in the other countries surveyed is quite varied. For example, in Bolivia the ruling coalition consists of legislators, party elites, local government leaders, organized labor unions, and civil society organizations.

Ruling elites also differ within countries over time. In the Republic of Korea, during the Park regime (1963–79), the bargaining strength of military actors, bureaucratic actors, and economic actors was relatively high (figure BO.10.1, panel b). The transition to democracy after 1987 resulted in greater strength for new actors, particularly political parties, legislators, and the judiciary, but economic and bureaucratic actors remained highly empowered. By contrast, Brazil has experienced much more volatility in empowered elites, particularly before the 1990s (figure BO.10.1, panel c).

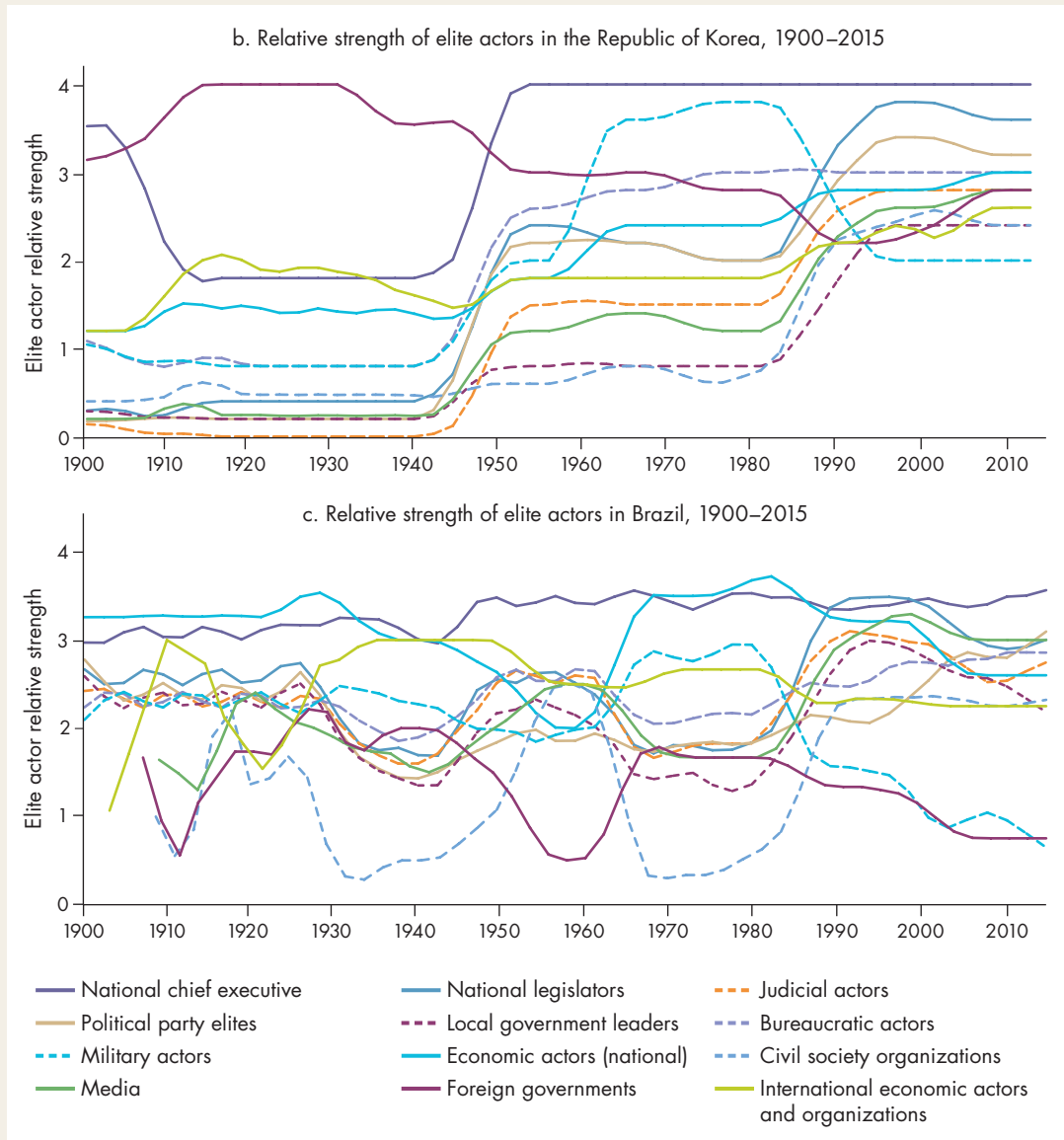
**Figure BO.10.1** Elite actors within national ruling coalitions vary greatly across countries and over time



(Box continues next page)

**Box O.10 Who are elites, and what do they do? Results from a survey of elites in 12 countries (continued)**

**Figure BO.10.1 Elite actors within national ruling coalitions vary greatly across countries and over time (continued)**



Source: WDR 2017 team.

Note: In this figure, relative strength is measured on a 0–4 scale, ranging from 0 (no power to influence decision making) to 4 (group has a lot of power to influence decision making on many issues). Panel a shows the number of elite groups that have relative strength greater than 3. For more information on specific variables and survey methodology, see World Bank and V-Dem (2016) and Coppedge and others (2015).

Source: WDR 2017 team.

- See Michels ([1911] 1966); Pareto ([1927] 1971); and Mosca (1939).
- See North, Wallis, and Weingast (2009) and Acemoglu and Robinson (2012).
- Di John and Putzel (2009); Khan (2010); Parks and Cole (2010).

that limit the arbitrary exercise of power today may be necessary for elites to maintain or enhance their power or to provide insurance against a loss of power tomorrow. Formal institutions—moving from deals to rules—can enhance the credibility of commitments, overcome coordination challenges among elite actors, and strengthen the stability of elite bargains. In cases of long-term successful transformation, elite actors have adapted to changing circumstances by generating more capable, contestable, and accountable institutions, and these institutions themselves have helped enable further development.

To maintain their own power and influence, coalitions of decision makers may have incentives to broaden the policy arena, including adding new actors to formal decision-making bodies and increasing accountability to other elites (*horizontal accountability*). Despite a preference for keeping coalitions small, elites may choose to broaden them to improve stability when the potential for conflict rises. Bringing new actors into credible institutions for contestation may be less costly than repressing them, and expanding the formal accountability space may help provide internal commitments that facilitate agreement.

Institutionalizing accountability to citizens (*vertical accountability*)—for example, through the introduction of elections or electoral reforms—may also be a rational elite strategy to maintain privilege, particularly in the face of rising demands from the opposing elite. When splits develop among elite actors, the introduction of vertical accountability mechanisms can enhance the bargaining power of one faction. Moreover, when bottom-up citizen movements threaten elite interests, elites may choose to introduce preemptive vertical accountability mechanisms to respond to societal demands before such pressure reaches a tipping point. In Europe in the 19th century, the extension of suffrage was heralded by the threat of revolution and social upheaval in the form of revolutionary activity in neighboring countries<sup>34</sup> and strikes in the home country.<sup>35</sup>

Although elites often choose rules to maintain their position of power, sometimes—when acknowledging threats to their continued dominance—they may adopt rules to constrain their own influence as a type of political insurance. The hope is that those rules will bind not only them but also their successors. The adoption of cohesive and constraining institutions increases with the likelihood that the incumbent government will be replaced. This is an institutional variation on American philosopher John Rawls’s “veil of ignorance”: design institutions without knowing whether you will be subject to or master of them

in the subsequent period.<sup>36</sup> Fiscal transparency, for example, ties not only the hands of current elites but also those of successors. This is consistent with the actions of certain states in Mexico: although access to information and transparency laws was strengthened at the federal level after the political change in 2000, and more recently in 2016, such laws were more likely to be passed at the state level when opposition parties were stronger and when there was greater executive office turnover.<sup>37</sup>

Leaders can also spur elite-driven change by solving coordination challenges or by transforming the preferences and beliefs of followers. *Transactional leaders* use an array of bargaining tactics and strategies to promote coordination among elite actors and reach positive-sum outcomes (win-win solutions). These leaders change the incentives of other elites by taking into consideration who wins and who loses over time. By overcoming information and coordination challenges through political strategy, they can help find areas of agreement among conflicting parties without necessarily shifting norms or preferences. In the 1960s, U.S. president Lyndon Johnson’s deals, trades, threats, and ego stroking—political strategy—helped the U.S. Congress overcome a natural aversion to risk and pass civil rights legislation, a clear example of transactional leadership. *Transformational leaders* can, in addition, actually change elite preferences or gain following by shaping beliefs and preferences. They are entrepreneurial in coordinating norms and can effect large changes in society by changing the environment in which politics plays out, often by reducing the polarization of elites. In the 1990s Nelson Mandela provided a vision for South Africa based on charisma and moral persuasion, using powerful symbols to motivate and inspire his fellow citizens during the transition away from the country’s apartheid policies.

### **Agency and collective action: Citizens influence change by voting, organizing, and deliberating**

Individual citizens may not have the power to influence the policy arena to generate more equitable development on their own. However, all citizens have access to multiple mechanisms of engagement that can help them overcome collective action problems—to coordinate and cooperate—by changing contestability, incentives, and preferences and beliefs. Modes of citizen engagement can include elections, political organization, social movements, and direct participation and deliberation. Because all of these expressions of collective action are imperfect, they complement, rather than substitute for, one another.

Although elites often choose rules to maintain their position of power, sometimes—when acknowledging threats to their continued dominance—they may adopt rules to constrain their own influence as a type of political insurance.

Elections are one of the most well-established mechanisms available to citizens to strengthen accountability and responsiveness to their demands. When effective, they can help improve the level and quality of public goods and services provided by the state by selecting and sanctioning leaders based on their performance in providing these goods.<sup>38</sup> This effect can be particularly strong at the local level, where voters might be better able to coordinate and shape the incentives of local politicians to deliver—including by curbing corrupt behavior. For example, evidence from Kenya suggests that multiparty elections successfully constrained the ability of leaders to divert public resources for partisan goals.<sup>39</sup> However, elections alone are an insufficient mechanism to produce responsive and accountable governments. Although they have become the most common mechanism to elect authorities around the world, elections are increasingly perceived as unfair (figure O.8), and they are a limited instrument of control.

Political organization can serve as a complementary mechanism to represent and articulate citizens' collective interests, aggregate their preferences, and channel their demands in the policy-making process. For example, through parties, political organization can help solve citizens' coordination problems and integrate different groups into the political process, encouraging a culture of compromise. According to the evidence, *programmatic parties*—those organized

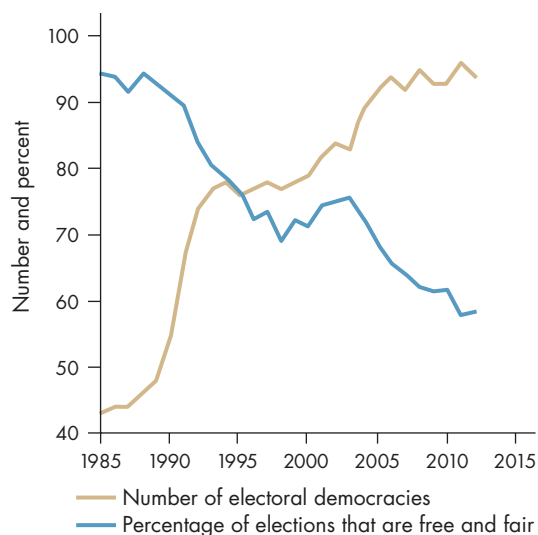
around a well-defined agenda of policy priorities—are associated with a higher likelihood of adopting and successfully implementing public sector reforms.<sup>40</sup> However, ordinary citizens and marginalized groups sometimes find political parties unwilling to represent and articulate their demands, acting instead as “gatekeepers” to protect vested interests and existing power structures. This may help explain the disenchantment of citizens with political parties, which rank globally as the least trusted political institution.

Social organization can also help solve collective action problems by mobilizing citizens around specific issues. This mobilization can bring new demands and interests into the bargaining space, reshaping the preferences of actors and expanding the boundaries of the policy arena around previously neglected issues. Box O.11 explains how pressure from social organization by international and domestic women's groups contributed to the achievement of female suffrage in Switzerland, which led in turn to other important policy changes for gender equality. Actors in civil society and the media can play a key role in fostering policies that strengthen transparency and more widely disseminate information. Increasing the availability of reliable information—such as generating evidence on the performance of public officials—and increasing the accessibility of that information—such as strengthening the independence of media outlets or aligning the targeting and timing of information with the political process—can be fundamental first steps toward promoting greater accountability and government responsiveness.<sup>41</sup> However, global trends reveal that after its continual expansion over the past decades, civic space has shrunk in the past few years (figure O.9). Many governments are changing the institutional environment in which citizens engage, establishing legal barriers to restrict the functioning of media and civic society organizations and reducing their autonomy from the state.

Although social organization may succeed in giving voice to powerless groups and putting pressure on public authorities, trade-offs can be associated with the proliferation of competing interests in the policy arena. Public institutions may be quickly overloaded with multiple pressures, undermining the coherence and effectiveness of public policies. Moreover, not all social organization is necessarily motivated by a vision of a more equal and just society. In some cases, social organization can be used by narrow interest groups for exclusionary or violent purposes.

Public deliberation—spaces and processes that allow group-based discussion and weighing of alternative preferences—can also help level the playing

**Figure O.8 Electoral democracies are spreading, but the integrity of elections is declining**



Sources: WDR 2017 team, based on Center for Systemic Peace, Polity IV (database), various years (for number of electoral democracies), and Bishop and Hoeffler 2014 (for free and fair elections).

### Box O.11 Direct democracy delayed women's voting rights in Switzerland

Most European countries enfranchised women during the first decades of the 20th century. However, it was not until 1971 that Swiss women were first allowed to vote in federal elections, 65 years after the first country in Europe—Finland—did so. And yet Switzerland has had a tradition of direct democracy for centuries. What explains the late enfranchisement of Swiss women?

To change the constitution, the political system required a national referendum in which only men were allowed to vote. Several petitions and motions initiated by women's groups in the first half of the 1900s were unsuccessful in achieving women's suffrage. Who participated in the process to change the rules was thus an important determinant of which rules persisted. But so were the existing social norms and the lack of incentives for change. Reflecting those deeply held norms, Switzerland also lagged behind most Western countries in removing other legal gender inequalities, notably those preserving the legal authority of the husband.

Under heightened international pressure, Switzerland was close to a breakthrough in guaranteeing women's rights in 1957, when, for the first time, the Swiss Federal Council called for a national referendum on women's suffrage. "If Switzerland had not been a direct democracy, women's right to vote would have taken effect immediately," one

study notes.<sup>a</sup> The mandatory national referendum took place in 1959 when 69 percent of the entirely male electorate voted against the constitutional amendment. Still, women gained the right to vote on cantonal affairs in three Swiss cantons (Geneva, Vaud, and Neuchâtel) in 1959–60. It was not until 1971 that the majority of Swiss men voted in favor of women's suffrage. Reform coalitions among many actors played a significant role in bringing about this change, including international influence and domestic action by women's groups such as the Swiss Association for Women's Suffrage.

The change in female suffrage in Switzerland made it possible for new actors—women, in this case—to participate in the process of policy design and implementation, changing the incentives of politicians to be responsive to their preferences and interests. It also reflected a change in societies' norms with respect to women's rights. This led to further important policy changes in the 1980s. An amendment to the constitution to guarantee equal rights of all Swiss men and women was approved in a referendum in 1981. A few years later, in 1985, women were granted equal rights in marriage to men, eliminating legal requirements such as wives' need to have their husbands' permission to work outside the home, or to initiate legal proceedings, or to open a bank account.<sup>b</sup>

Sources: Stämpfli 1994; World Bank, Women, Business, and the Law (database), 2015.

a. Stämpfli (1994, 696).

b. World Bank (2016a).

field in the policy arena. Citizens' participation in local governance can be instrumental in improving the quality of deliberation and the legitimacy of decisions by clarifying the needs and demands of local constituencies. However, participatory approaches to development sometimes fail to consider the possibility of *civil society failures* in which, in weakly institutionalized environments, the poor are less likely to participate, and participatory mechanisms can be captured by local elites.<sup>42</sup> Such failures are not necessarily ameliorated by the availability of new technologies. As discussed in WDR 2016 on the digital divide,<sup>43</sup> information and communication technologies might actually reinforce socioeconomic inequalities in citizens' engagement. In Brazil, for example, the use of internet voting on municipal budget proposals revealed stark demographic differences between online and offline

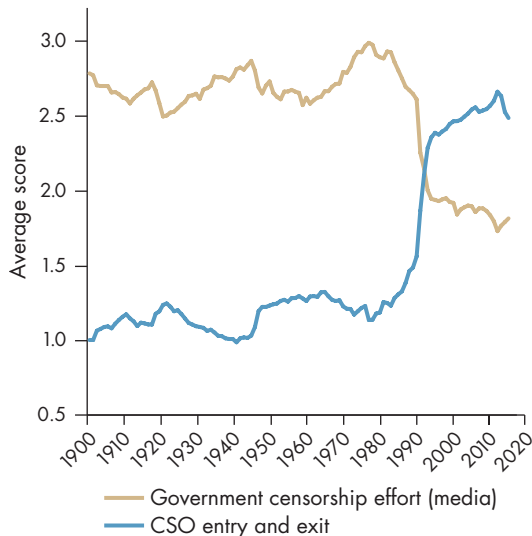
voters; online voters were more likely to be male, university-educated, and wealthier.<sup>44</sup>

Ultimately, all expressions of citizens' collective action, including voting, political parties, social movements, civic associations, and other less conventional spaces for policy deliberation, are imperfect. Therefore, citizens, to strengthen their influence in the policy arena, need to engage through multiple mechanisms designed to solve collective action problems. This strategic combination can maximize the chances to effectively bring about changes in contestability, incentives, and preferences and beliefs.

### Change with outside support: International actors enter the domestic policy arena

The dynamics of governance do not occur solely within the boundaries of nation-states. Countries

**Figure O.9** After decades of progress, civic space is shrinking globally



Source: WDR 2017 team, using data from V-Dem (database), 2016.

Note: The average is based on a sample of 78 countries for which there is consistent data for all years presented. The “CSO entry and exit” variable is measured on a 0–4 scale, ranging from 0 (more constrained) to 4 (less constrained). The “government censorship effort (media)” variable is reversed and measured on a 0–4 scale, ranging from 0 (less censorship) to 4 (more censorship). More information on specific variables and survey methodology can be found in World Bank and V-Dem (2016) and Coppedge and others (2015). CSO = civil society organization.

today face an interconnected, globalized world characterized by a high velocity and magnitude of flows of capital, trade, ideas, technology, and people. The world nowadays is very different from the one in which today’s developed countries emerged: in those days, cross-border flows were low; the countries received no aid; and they were not subject to a proliferation of transnational treaties, norms, and regulatory mechanisms. For developing countries, the era of globalization and “global governance” presents both opportunities and challenges.

As the flows across borders expand, so too do the instruments and mechanisms that are used to manage these flows. To influence domestic policies and governance, international actors can introduce transnational rules, standards, and regulations (hereafter referred to as *transnational rules*). These rules can help induce credible commitment to domestic reform through trade and regional integration incentives. They also can help achieve international cooperation on global goods by changing incentives—such as preventing *races to the bottom* when countries compete to attract investment and gain access to markets, leading to reductions in corporate tax or environmental and

labor standards. And they can serve as focal points for domestic actors to shift preferences and improve coordination by changing ideas and diffusing norms.

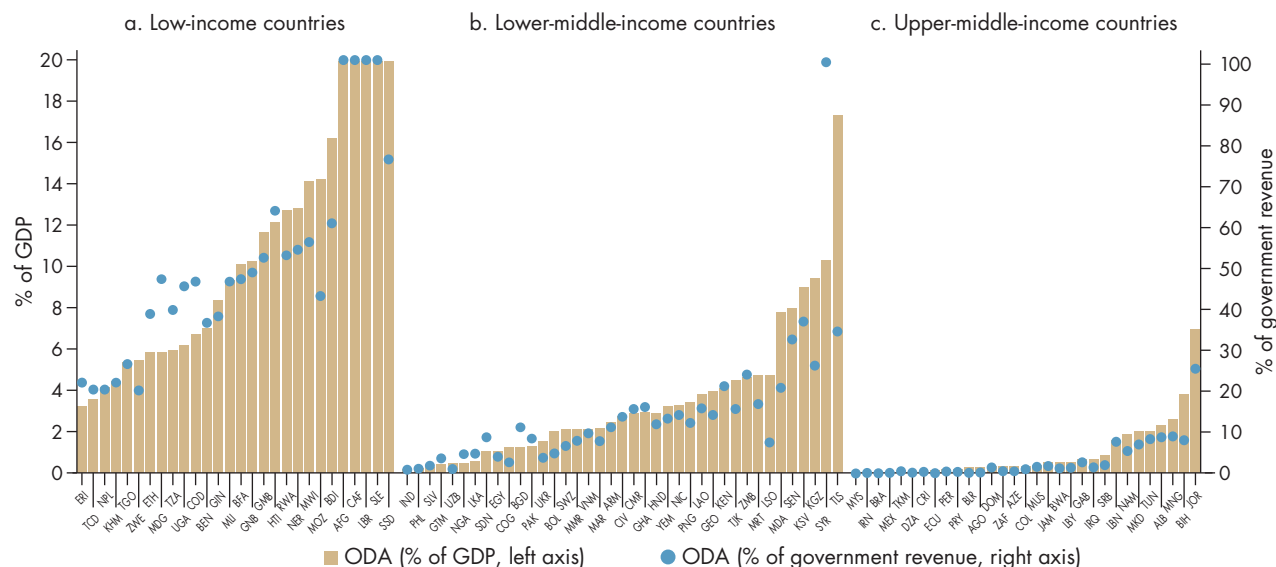
International agreements on economic integration can provide credible commitments that domestic actors will follow through on economic reforms. The success of the European Union integration process demonstrates the power of these types of inducements. Prospective member countries must change domestic rules to abide by the 80,000 pages of regulations in the EU’s *acquis communautaire*. For the countries that decided to undergo these changes, the potential economic benefits of joining the EU outweighed any loss of domestic autonomy in specific areas, and the benefits of accession were used by elites to overcome domestic resistance to the required reforms. Moreover, for member countries, accession helped change elite incentives by changing the relative power of domestic actors because some parties benefited much more than others. Meanwhile, EU membership contributed to the institutional consolidation of former dictatorships in the European periphery, such as Greece, Portugal, and Spain in the 1980s. It also played a role in the transition in central and eastern Europe after the elimination of the communist regimes in the 1990s and 2000s.

Since the end of World War II, official development assistance (ODA) or “foreign aid” has been one of the most prominent policy tools used by advanced economies to induce security, growth, and equity outcomes in developing countries.<sup>45</sup> Although the literature on aid effectiveness is voluminous, it tends to be inconclusive. Ultimately, the literature suggests that aid is neither inherently good nor inherently bad for development; what matters is how aid interacts with the prevailing power relations and affects governance.

In some cases, donor engagement supports the emergence of more accountable and equitable governing arrangements that become embedded in the domestic context. For example, evidence from a community-driven reconstruction program in Liberia suggests that introducing new institutions at the local level can have an effect on social cooperation that will persist beyond completion of the program.<sup>46</sup> In other cases, aid can undermine the relationship between the state and its citizens by making the state less responsive to their demands. For example, the more that states rely on revenues from the international community, the fewer incentives they have to build the public institutions needed to mobilize domestic revenues through taxation. And the less



**Figure O.10** Aid is a large share of GDP and government revenue in many developing countries



Sources: WDR 2017 team. Official development assistance (ODA) data: Organisation for Economic Co-operation and Development; government revenue data: IMF, *World Economic Outlook*, various years.

Note: The graphs show ODA from all donors to all recipients in low- and middle-income countries with a population of at least 1 million. Figures for ODA (percent of GDP) are capped at 20 percent of GDP for the sake of visualization. The underlying uncapped data are Afghanistan, 24.1 percent; Central African Republic, 35.4 percent; Liberia, 37.0 percent; and Malawi, 21.8 percent. Figures for ODA (percent of government revenue) are capped at 100 percent for the sake of visualization. The underlying uncapped data are Afghanistan, 105.2 percent; Central African Republic, 260.6 percent; Liberia, 126.0 percent; and Sierra Leone, 143.2 percent.

that states rely on their domestic tax base, the more state-citizen accountability erodes.<sup>47</sup>

Currently, aid represents more than 10 percent of GDP for half of all low-income countries and over 30 percent of total revenues for 26 countries (figure O.10). The empirical evidence linking aid flows to decreased taxation is mixed (box O.12). Aid has thus been likened to a natural resource curse: a windfall of unearned income that may enable inefficient government spending, unconstrained by the kind of state-citizen social contract that engages citizens in policy discussions and makes the policy arena more contestable.<sup>48</sup>

For a long time, the need for intervention was justified on the basis of classic market failures in which governments intervene to produce socially desirable outcomes that cannot be achieved by relying solely on markets. Later, the literature revealed the existence of government failures in which government interventions also failed because of lack of capacity, informational asymmetries, or distorted incentives.<sup>49</sup> One of the issues that this Report analyzes is the difficulties faced by the international community when trying to influence change in the presence of government failures. Indeed, many times well-intentioned interventions become ineffective because they reinforce

an equilibrium that sustains the outcome the intervention attempted to change. These situations can arise from interventions that do not take into account the existing power balance.

Such development assistance challenges are not unavoidable or intractable. Like market failures and government failures, they can be addressed. Development assistance can be more effective when donor engagement supports the emergence of more accountable and equitable governing arrangements that become embedded in the domestic context—for example, by making relevant information available to citizens to strengthen their capacity to hold political leaders accountable.<sup>50</sup> When and how these positive effects emerge, however, is difficult to predict in advance because of the web of intersecting and evolving factors that determine how donor initiatives engage with local political dynamics.

The development community has recently been engaging in efforts to “think politically” about aid. However, many of the operational imperatives that arise from greater attention to development assistance challenges—such as the need to increase flexibility of implementation, tolerate greater risk and ambiguity, devolve power from aid providers to aid partners, and avoid simplistic linear schemes for

### Box O.12 Domestic resource mobilization, foreign aid, and accountability

There is a growing consensus that increasing domestic resource mobilization can enhance accountability, particularly if such efforts are explicitly linked to the provision of public goods. If ruling elites need to depend on broad-based taxation, they are more likely to include citizens and other elites in policy bargains. But does foreign aid undermine domestic resource mobilization—and thus accountability to citizens?

Studies testing that hypothesis initially showed a negative correlation between the two.<sup>a</sup> More recently, these studies have been refuted by the adoption of different data sets<sup>b</sup> or different econometric techniques.<sup>c</sup> Although the behavioral effect of aid flows undermining accountability has been tested and isolated in experimental settings,<sup>d</sup> in reality the relationship is more complex and seems to depend on three factors: the type of aid (for example, whether grant or debt, budget support, or project-specific); the contemporaneous effects of conditional policies associated with the aid; and, more important, the governance setting specific to each country. Moreover, even if aid were to reduce incentives to mobilize domestic resources, the removal of aid may result in societally suboptimal taxation policies to raise revenues, leaving the poor worse off.

The effects of domestic resource mobilization on accountability depend on how domestic funds are mobilized. Many available taxes may not have the capacity to enhance accountability, such as resource taxes, or may have strong distortionary effects, such as trade taxes. International corporate tax competition and trade liberalization have also diminished states' capacity for domestic resource mobilization (a race to the bottom). In settings with low savings rates or the potential for capital flight

and tax evasion, consumption taxes are the most likely to be effective, but also the most likely to be regressive. Frequently in these cases, domestic resources are mobilized in ways that may increase poverty—for example, by increasing consumption taxes—without enacting specific offsetting mechanisms of compensation for the poor. Indeed, based on household survey data for 2010, fiscal policy itself increased the US\$2.50 per day poverty headcount ratio in 9 out of 25 countries analyzed.<sup>e</sup> In other words, more poor people were made poorer through the taxing and spending activities of governments than benefited from those activities.

Notwithstanding the importance of mobilizing domestic resources to expand responsiveness and accountability to citizens, many countries may be too poor to have the capacity to collect enough revenues to address important development goals; they may harm the poor in the process of collecting domestic resources; or they may be politically unable to pass reforms to increase revenues. In countries in which poverty rates are higher than 65 percent (mainly in Sub-Saharan Africa), for example, there is no feasible redistribution scheme that allows eradicating poverty only by transferring resources domestically from the rich to the poor.<sup>f</sup> Moreover, in many developing countries poor individuals are often impoverished by the fiscal system when both government taxation and spending are taken into account.<sup>g</sup> Finally, political power might be concentrated in the hands of a few rich individuals whose interests collide with those of the poor. In such instances, where there is need to mobilize a larger set of individuals to counterweigh the political influence in the hands of the few, domestic resource mobilization might be very difficult to achieve.<sup>h</sup>

Source: WDR 2017 team.

a. Most notably, Gupta and others (2004).

b. Morrissey and Torrance (2015).

c. For example, Clist and Morrissey (2011) invalidate the contemporaneous negative correlation found in Gupta and others (2004) by introducing a lagged effect of aid and taxation. They conclude that the relationship is negligible.

d. Paler (2013); Martin (2014).

e. Lustig (2016).

f. Ravallion (2010); Ceriani, Bolch, and López-Calva (2016).

g. Lustig (2016).

h. Ceriani, Bolch, and López-Calva (2016).

measuring results—run up against long-established bureaucratic structures, practices, and habits. The way forward may require a more adaptive or agile approach in which strategies are tried out locally and then adjusted based on early evidence. Moving

beyond technocratic approaches and learning how to take into account the openings and constraints presented by shifting politics are key to the ability of foreign aid to induce and sustain governance reforms that promote development.



## Rethinking governance for development

More than 70 years after the Bretton Woods Conference that launched the World Bank and the International Monetary Fund, the international community continues to recognize that promoting sustained development requires taking seriously the underlying determinants related to governance. Future progress will require a new framework and new analytical tools to harness the growing evidence on what has worked and what has not.

Policies do not occur in a vacuum. Rather, they take place in complex political and social settings in which individuals and groups with unequal bargaining power interact within changing rules as they pursue conflicting interests. This Report shows that taking into account how the distribution of power in the policy arena enables or constrains institutions to effectively promote commitment, coordination, and cooperation is critical to ensuring progress toward achieving security, growth, and equity.

Past *World Development Reports* have shed light on how to solve some of the most challenging problems in key areas of development, such as jobs, gender equality, and risk management. This WDR is part of a trilogy of recent reports, alongside *Mind, Society, and Behavior* (2015) and *Digital Dividends* (2016), that examine how policy makers can make fuller use of behavioral, technological, and institutional instruments to improve state effectiveness for development. This Report starts by acknowledging that policies such as those to strengthen labor markets, overcome gender barriers, or prepare countries against shocks are often difficult to introduce and implement because certain groups in society who gain from the status quo may be powerful enough to resist the reforms needed to break the political equilibrium. Successful reforms thus are not just about “best practice.” They require adopting and adjusting institutional forms in ways that solve the specific commitment and collective

action problems that stand in the way of pursuing further development.

### Three guiding principles

The WDR 2017 proposes three simple principles to guide those thinking about reform. First, it is important to think not only about what form institutions should have, but also about the functions that institutions must perform—that is, think not only about the form of institutions but also about their *functions*. Second, it is important to think that, although capacity building matters, how to use capacity and where to invest in capacity depend on the relative bargaining powers of actors—that is, think not only about capacity building but also about *power asymmetries*. Third, it is important to think that in order to achieve the rule of law, countries must first strengthen the different roles of law to enhance contestability, change incentives, and reshape preferences—that is, think not only about the rule of law but also about the *role of law* (table O.2).

When one is facing a specific policy challenge, what do these principles mean in practical terms? This Report identifies four key insights. Box O.13 offers a simple diagnostic road map for bringing these insights more concretely into development programming in an effort to enhance effectiveness.

The first challenge is to identify the underlying functional problem. Diagnostic approaches should home in on the specific commitment, coordination, and cooperation problems that stand in the way of achieving socially desirable outcomes, and on the ways that power asymmetries in the policy arena constrain these functions. In addition to constraints that are typically considered—such as physical and administrative capacity—policies may still be ineffective if groups with enough bargaining power have no incentives to pursue adoption or implementation. Taking into account power asymmetries means focusing on implementable (if not necessarily ideal) policies that can generate incremental progress toward inclusive growth and equitable development.

**Table O.2** Three principles for rethinking governance for development

Traditional approach	Principles for rethinking governance for development
Invest in designing the right <b>form</b> of institutions.	Think not only about the form of institutions, but also about their <b>functions</b> .
Build the <b>capacity</b> of institutions to implement policies.	Think not only about capacity building, but also about <b>power asymmetries</b> .
Focus on strengthening the <b>rule of law</b> to ensure that those policies and rules are applied impersonally.	Think not only about the rule of law, but also about the <b>role of law</b> .

Source: WDR 2017 team.

### Box O.13 What does the WDR 2017 framework mean for action? The policy effectiveness cycle

This Report argues that policy effectiveness cannot be understood only from a technical perspective; it is also necessary to consider the process through which actors bargain about the design and implementation of policies within a specific institutional setting. The consistency and continuity of policies over time (commitment), the alignment of beliefs and preferences (coordination), as well as the voluntary compliance and absence of free-riding (cooperation) are key institutional functions that influence how effective policies will be. But what does that mean for specific policy actions?

Figure BO.13.1 presents a way to think about specific policies in a way that includes the elements that can increase the likelihood of effectiveness. This “policy effectiveness cycle” begins by clearly defining the objective to be achieved and then following a series of well-specified steps:

Step 1. *Diagnose*. Identify the underlying functional problem (commitment, coordination, cooperation).

Step 2. *Assess*. Identify the nature of power asymmetries in the policy arena (exclusion, capture, clientelism).

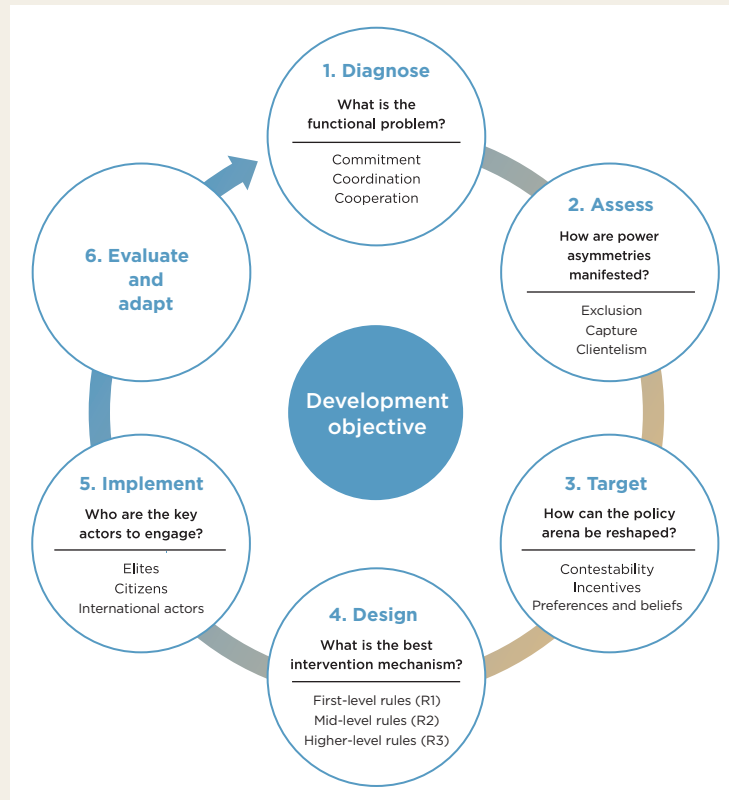
Step 3. *Target*. Identify the relevant entry point(s) for reform (contestability, incentives, preferences and beliefs).

Step 4. *Design*. Identify the best mechanism for intervention (R1, R2, R3).

Step 5. *Implement*. Identify key stakeholders needed to build a coalition for implementation (elites, citizens, international actors).

Step 6. *Evaluate and adapt*.

**Figure BO.13.1 The policy effectiveness cycle**



Source: WDR 2017 team.

Source: WDR 2017 team.

The second challenge is to identify the different levers of change that can help reshape the policy arena to expand the set of policies that can be implemented. Instead of taking the existing policy-making environment as a given, reformers would analyze how to lift the existing constraints to expand the space of what is politically feasible. Different levers of change can contribute to this shift. In looking at the contestability of the policy arena, reformers would take into account that incentives, as well as the preferences and beliefs of actors, are instrumental to understanding what agreements are feasible.

The third challenge is to identify the relevant interventions or changes in rules that best solve the specific functional challenges. When thinking about potential reforms of policies, actors will find it

helpful to consider three “levels” of rules.<sup>51</sup> First-level rules, or R1, refer to specific policies (for example, the percentage of budget allocated to health care). Mid-level rules, R2, refer to organizational forms—such as the independency of the judiciary and central bank. Higher-level rules, R3, relate to “rules about changing rules”—namely, constitutional and electoral law. The “form” of policies is certainly not to be ruled out, but it is also crucial to think about their “function.” For example, beyond what a fiscal rule looks like, is commitment to the rule credible? Some functional challenges may require a combination of reforms at all three rule levels. Finally, when designing and evaluating policies, anticipating opposition and considering potential unintended consequences must be part of the process (box O.14). Particularly when

### Box O.14 Lessons for reformers from the “rules game”: How is legitimacy ultimately built?

This Report encourages reformers to pay attention to the details of the *rules game* so they can avoid two basic mistakes.

First, an act of reform undertaken by one player in a rules game can backfire if the player does not consider the actions the reform will trigger in other players. For example, an outsider might advise the legislature on the benefits of contract law. In response, the legislature might pass a law that tells the courts to enforce contracts; the executive head of government might promise to promote judges who follow the executive’s instructions to favor some people in court cases; wealthy elites might pay the executive to receive special treatment in the courts; the executive might use the money from the elites to finance an upcoming political campaign; and, as a result, citizens might not trust the courts to enforce contract law. Ultimately, this reform did not produce the anticipated benefits, and it may have made matters even worse. The courts, which previously offered equal protection under criminal law, may no longer be able to punish wealthy offenders who commit crimes.

Second, even if it produces better payoffs today, a reform could also backfire if it generates worse outcomes for the *rules game* that will be played in the future. This can be particularly important in terms of what political scientists call *legitimacy*, whose manifestation is voluntary

acceptance of the rules and compliance with them. The citizens of a nation may be willing to delegate enough power to their government to make it a dominant player in the rules game for the nation, but only as long as they feel that the government’s use of that power is legitimate.

The functional approach in this Report allows a clearer understanding of the concept of legitimacy. The legitimacy of a government can be derived from three sources. Repeated commitment builds legitimacy in terms of *outcomes*.<sup>a</sup> When a government repeatedly delivers on its commitments, it legitimizes itself, such as by reliably providing public services. Legitimacy can also come from a perception of fairness in the way in which policies and rules are designed and implemented—that is, *process* legitimacy. Finally, legitimacy can also be *relational*, where sharing a set of values and norms encourages individuals to recognize authority. Outcome, process, and relational legitimacy form the three types of legitimacy identified in this Report. Legitimacy matters for cooperation and coordination because it implies voluntary compliance with an act of authority. Even if a government delivers on its commitments and is able to coerce people into complying, there may be “legitimacy deficits” if the process is perceived as unfair and people may not be willing to cooperate and would rather opt out of the social contract.

Source: WDR 2017 team.

a. Outcome legitimacy is related to the notion of trust, which is defined in this Report as the probability that an actor assigns to other actors of delivering on their commitment, conditional on their past behavior.

thinking about evaluation, it must be understood that trajectories may not be linear and thus assessment requires complex methods. Anticipating the changing balance of power around the reform process and adopting an adaptive approach, such as building coalitions in anticipation of the reform, can reduce the risk of reversal. Driving sustainable change requires considering the potential opportunities presented by elite interests, the opportunities for citizen collective action, and the role of international influences.

### Creating conditions for adaptability

When can meaningful changes be made in the nature of governance? The development path is bumpy: shocks (such as terms of trade shocks and natural disasters) and gradual developments (such as urbanization or a growing middle class) alter the bargaining influence and preferences of actors, often benefiting one at the expense of another. In the face of these changes, governance arrangements that cannot accommodate new actors or demands may collapse. For example, *violence traps* are unstable bargains in which elites are highly polarized and the costs of losing control are great—when the stakes are sufficiently high—leading to violent conflict. *Middle-income traps* are situations in which interest groups, currently benefiting by extracting rents, have incentives to oppose new economic conditions and thus prevent efficiency-oriented reforms from happening, leading to an unproductive equilibrium. And *inequality traps* are a vicious cycle in which a high concentration of wealth translates into a disproportionate ability of those at the top of the distribution to influence the policy process in their favor and weakens the perception of fairness of those at the bottom of the distribution, who decide to opt out and not to contest in the policy arena.<sup>52</sup>

Adaptability to changes in the relative bargaining power, incentives, and preferences of different actors matters.

Adaptability to changes in the relative bargaining power, incentives, and preferences of different actors matters. Although the conditions that determine whether countries will adapt in ways that allow for more security, growth, and equity are contingent on history and are highly specific to context, there are a few circumstances that make such adaptability more likely. In particular, when elites have reasons to find common ground, bargains can expand and adapt. When national institutions produce more effective leaders, countries are more capable of long-term development. When countries have more balanced, diversified, and organized business interests, they may be more capable of reforming institutions to adapt to changing economic conditions. Bargains that can adapt to evolving elite interests

may nevertheless struggle to adapt to growing citizen demands. Regimes may lose legitimacy when decision-making processes are insufficiently inclusive, even when other development outcomes appear successful. For example, even effective growth policies may alienate the population if public voice is lacking in the policy process. Overcoming delegitimation necessitates greater inclusion in the political process.

A focus on creating conditions, like those discussed in this Report, that prepare societies to adapt as their needs and demands change over time is critical to ensuring inclusive and sustainable development progress. Traditional development orthodoxy has so far emphasized the centrality of three assumptions in improving governance for development: the form of policies, the capacity to implement them, and the impersonal application of the rules. These assumptions have shaped the conventional solutions of the international community to the problem of policy failure in developing countries: first, invest in “good” laws and policies; second, build organizational and technical capacity to implement them; and third, strengthen the “rule of law.” This Report moves beyond these approaches and emphasizes that, although it is important to look at forms that have worked in other contexts, gauge what capacity is needed, and stress the importance of the rule of law, these aspects are not enough.

## Navigating this Report

### Part I. Rethinking governance for development: A conceptual framework

Part I of this Report presents a conceptual framework for rethinking the role of governance and law in development. Chapter 1 motivates by unpacking critical questions facing the development community today: in particular, what are the underlying determinants of policy effectiveness? Chapter 2 proposes a new analytical approach to answering these questions, using a game theoretic approach to argue that the functional role institutions play in ensuring credible commitment, inducing coordination, and enhancing cooperation is fundamental to the effectiveness of policies to promote development. The framework presented in the chapter explores how the unequal distribution of power in society (power asymmetry) is a key factor underpinning the effectiveness of these functions. Chapter 3 approaches the conceptual framework from the perspective of law, explaining the different roles that law plays in shaping and

reshaping the policy arena in which actors bargain over policy design and implementation.

## Part II. Governance for development

Part II of this Report applies the framework presented in part I to better understand three core development outcomes: security (chapter 4), growth (chapter 5), and equity (chapter 6). Commitment, coordination, and cooperation fundamentally underlie the effectiveness of policies to promote these outcomes, but the unequal distribution of power can constrain policy effectiveness. Moreover, characteristics of development itself—such as the composition of growth or the level of inequality—influence the relative bargaining power of certain actors. Enhancing contestability in the policy arena, effectively changing incentives, and reshaping the preferences and beliefs of different actors—for example, through leadership—can make development policies more effective in achieving their objectives.

## Part III. Drivers of change

Part III of this Report explores the dynamics of how change occurs from the perspective of elite bargains (chapter 7), citizen engagement (chapter 8), and international influences (chapter 9). As discussed in part II, to improve policy effectiveness and ultimately expand the set of implementable policies, it is necessary to reshape the policy arena where actors bargain. This can be accomplished by enhancing contestability—that is, by enabling new actors to enter the bargaining space, by changing the incentives of the actors involved, or by reshaping their preferences and beliefs. Although the dynamics of governance can be very persistent and are highly endogenous, change is possible over time. In the end, change is manifested by bringing about new formal rules that reshape *de jure* power.

## Spotlights

This Report contains 13 spotlights, which apply the conceptual framework described in the Report to key policy areas of interest, ranging from service delivery to corruption and illicit financial flows.

## Notes

1. The chapters of this Report focus on the specific question of policy effectiveness for achieving these outcomes. The framework, however, can be used to address broader questions about social dynamics.
2. See Rosenstein-Rodan (1943). Murphy, Shleifer, and Vishny (1989) model a more recent version of this idea.

3. Hoff (2000) reviews models of coordination failures in a wide range of contexts, including social norms and corruption. Cooper (1999) reviews macroeconomic models of coordination failures, and Rodríguez-Clare (2005) reviews microeconomic models of coordination failures.
4. Barr (2001); Lindert (2004).
5. Including at the subnational level. Preventing crime, for example, can be explained from the functional perspective as part of what local governments provide for the public, as shown in part II of this Report.
6. What distinguishes elites from citizens in this Report is their ability to directly influence the design and implementation of a certain policy. In this way, elites are defined in a positive (as opposed to a normative) sense. See box O.9 for further detail.
7. A similar approach has been developed in a pioneering work, *The Politics of Policies*, in the context of Latin America (IDB 2005).
8. However, lack of access to state power is not the only determinant of violence; the capacity to mobilize against governments also matters (Cederman, Wimmer, and Min 2010), as does the opportunity to mobilize. On the former, see Fearon and Laitin (2000).
9. Wimmer, Cederman, and Min (2009).
10. Platteau (2000a).
11. Suharto was the second president of Indonesia. He held the office for 31 years, from the ousting of the first president, Sukarno, in 1967 until his resignation in 1998.
12. Khwaja and Mian (2005).
13. Stokes (2009).
14. Khemani and others (2016).
15. Bold and others (2012).
16. Ferreira and others (2013).
17. World Bank (2015).
18. Collective action problems include those solved through *coordination* (the coordinated actions among actors based on a shared expectation about what others will do) and *cooperation* (the cooperative behavior among actors, whereby opportunistic behavior—free-riding—is limited). Throughout this Report, the term *collective action problems* refers to these two different types of problems.
19. Acemoglu and Robinson (2012).
20. Social norms are the beliefs shared by a group or community. In this way, norms can be understood as “commonly shared beliefs.”
21. See Aaberge, Langørgen, and Lindgren (2010) and Lustig (2015).
22. See Besley and Persson (2014).
23. The evidence for how some of these mechanisms lead to better outcomes, however, is mixed, as further discussed in chapter 8.
24. Hart (1961).
25. Basu (2015); McAdams (2015).
26. Roland and Verdier (1999).
27. Hellman (1998).



28. Jackson, Klich, and Poznanska (2005).
29. Lindert (2004).
30. Joshi and Aye (2009).
31. Björkman and Svensson (2009).
32. Ferreira and others (2013).
33. Preston (2003).
34. Aidt and Jensen (2014).
35. Kim (2007).
36. Rawls (1971) proposes that citizens in an original position behind a Kantian “veil of ignorance,” ignorant of their lot in life—such as class, race, social status, distribution of assets, gender—would opt for a society that maximizes the level of welfare achieved by the worst-off person in society (Maximin principle) as the accepted social contract.
37. Berliner and Erlich (2015).
38. Khemani and others (2016).
39. Burgess and others (2015).
40. Keefer (2011, 2013); Cruz and Keefer (2013).
41. Khemani and others (2016).
42. Devarajan and Kanbur (2012); Mansuri and Rao (2013).
43. World Bank (2016b).
44. WDR 2017 team, based on Spada and others (2015).
45. Foreign aid refers to official development assistance as defined by the Organisation for Economic Co-operation and Development (OECD).
46. Fearon, Humphreys, and Weinstein (2009).
47. Moore (2004).
48. The “aid curse” argument is made by Moss, Pettersson, and van de Walle (2006); Collier (2007); and Djankov, Montalvo, and Reynal-Querol (2008).
49. Devarajan and Khemani (2016).
50. Devarajan and Khemani (2016).
51. Acuña and Tommasi (1999).
52. Levy and Walton (2005).

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# Contents of the *World Development Report 2017*

Contents

Foreword

Acknowledgments

Abbreviations

## **Overview: *World Development Report 2017: Governance and the Law***

### **Part I: Rethinking governance for development: A conceptual framework**

#### **1 Governance for development: The challenges**

#### **2 Enhancing governance for development: Why policies fail**

*Spotlight 1: Corruption*

*Spotlight 2: The governance challenges of managing risks*

#### **3 The role of law**

*Spotlight 3: How do effective and equitable legal institutions emerge?*

### **Part II: Governance for development**

#### **4 Governance for security**

*Spotlight 4: Wartime governance*

*Spotlight 5: Crime*

#### **5 Governance for growth**

*Spotlight 6: The middle-income trap*

*Spotlight 7: Public-private partnerships*

#### **6 Governance for equity**

*Spotlight 8: Service delivery: Education and health*

### **Part III: Drivers of change**

#### **7 Elite bargaining and adaptation**

*Spotlight 9: Decentralization*

*Spotlight 10: Public service reform*

#### **8 Citizens as agents of change**

*Spotlight 11: From transparency to accountability through citizen engagement*

*Spotlight 12: The media*

#### **9 Governance in an interconnected world**

*Spotlight 13: Illicit financial flows*

## ECO-AUDIT

### *Environmental Benefits Statement*

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## GOVERNANCE *and* THE LAW

Why are carefully designed, sensible policies too often not adopted or implemented? When they are, why do they often fail to generate development outcomes such as security, growth, and equity? And why do some bad policies endure? *World Development Report 2017: Governance and the Law* addresses these fundamental questions, which are at the heart of development.

Policy making and policy implementation do not occur in a vacuum. Rather, they take place in complex political and social settings, in which individuals and groups with unequal power interact within changing rules as they pursue conflicting interests. The process of these interactions is what this Report calls *governance*, and the space in which these interactions take place, the *policy arena*. The capacity of actors to commit and their willingness to cooperate and coordinate to achieve socially desirable goals are what matter for effectiveness. However, who bargains, who is excluded, and what barriers block entry to the policy arena determine the selection and implementation of policies and, consequently, their impact on development outcomes. Exclusion, capture, and clientelism are manifestations of power asymmetries that lead to failures to achieve security, growth, and equity.

The distribution of power in society is partly determined by history. Yet, there is room for positive change. This Report reveals that governance can mitigate, even overcome, power asymmetries to bring about more effective policy interventions that achieve sustainable improvements in security, growth, and equity. This happens by shifting the incentives of those with power, reshaping their preferences in favor of good outcomes, and taking into account the interests of previously excluded participants. These changes can come about through bargains among elites and greater citizen engagement, as well as by international actors supporting rules that strengthen coalitions for reform.

## Global Governance, Human Needs, and Values

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### Abstract

*The anthropological literature has given us a key to understanding life in a very elementary community. Life revolves around human beings energized to satisfy human needs. Anthropologists also identify the structures that emerge from society which are specialized in whatever degree of efficacy to facilitate securing those needs. When we map needs onto institutions, we emerge with a social process\* that is based on the interaction of energies directed at securing needs through institutions. These institutions direct human energies, in some degree, to the satisfaction of those needs. We can now begin to identify basic human needs as the goods, services, honors, and gratifications that people in society desire or need. Moreover, we can classify these desires/needs in terms of the basic values that the individual social participant pursues to secure for himself and those dependent on him. Thus, we may emerge with a model of social process in which human beings pursue values through institutions based on resources. Now, this is a purely descriptive inquiry, but it is possible to observe that the needs/values and the institutions specialized to secure them are, generally speaking, identifiable. What are these values and what are the institutions specialized to secure them in any social process? This essay concludes with an overview of some of the central global governance issues of the climate change crisis.*

### 1. Human Perspective and Consciousness<sup>†</sup> in the Evolution and Interdetermination of Values in the Human Social Process

In this representation, values and institutions are represented descriptively in order to describe the system of community order as it is. It should, however, be understood that the social process of the community is a dynamic process in which there is an energy flow between the participators, values, institutions and the results. Some of the results are generative of conflict. Other results are generative of the success of institutions functioning optimally. What is important is that social process is a generator of problems, and these problems are about the acquisition and distribution of values. This means that the dynamism of society requires a decision process<sup>1</sup> that is frequently challenged to produce a solution to the problems of

\* Winston P. Nagan, *Contextual-Configurative Jurisprudence The Law, Science and Policies of Human Dignity* (Vanderplas publishing) 2013

† Philip Perry, *Harvard researchers have found the source of human consciousness*, <http://bigthink.com/philip-perry/harvard-researchers-have-found-the-source-of-human-consciousness>

value conflict, value deprivation, or value over-indulgence. Thus, the community's response to the problems that values pose for community order invariably must implicate a normative dimension about the optimal allocation of values in society. Indeed, some political scientists describe political science as concerned with the authoritative allocation of values in society. The intimate link between the politics of power and the political economy of wealth is this: power may serve as a base of power to get more power. It may serve as a base to get more of all the other values extant in social process. Even more importantly, every value may serve as a base of power to get and keep power. Wealth may serve as a base of power to acquire power and keep it. It may serve as a base to get more wealth. It may serve as a base to get a lion's share of all the values extant in social process. Thus, *homoeconomico-politicus* is an intimate association influencing the production and distribution of value needs in the social process.

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*"The authority for the international rule of law, and its power to review and supervise important global matters, is an authority not rooted in abstractions like 'sovereignty', 'elite', or 'ruling class' but in the actual perspectives of the people of the world community."*

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In reviewing this map of values and institutions of social process, it is important to keep in mind that it is the human perspective that gives meaning and life to the values and institutions in society. The human perspective comes with the perspective of identity, ego-demands, and the value ideals of expectation. These perspectives are driven by deep drives for self-actualization, self-realization and psycho-social fulfillment. In this sense, the private motives of personality, even when displaced on public objects and rationalized in the public interests, still represent an underlying force that moves the personality in all social relations. This underlying force may be the force of self-affirmation for self-determination and is the most foundational energizer of the demand for human rights and dignity. The relationship between personality and value achievement may itself generate a sense of inner-fulfillment, which, in turn, becomes the driver of still greater levels of value creation and achievement.

## **2. Consciousness in the Identification & Allocation of Values in Society**

The problem of the allocation of values implicates the idea that there may be different standards which justify one form of allocation over another. Historically, at least in law, there has been an assumption that legal interventions are meant to discriminate between the claims for values that are just and those that are unjust. It is this challenge that has given rise to the great traditions of jurisprudence and, most importantly, the jurisprudence of natural law<sup>2</sup>. Natural law, however, could only generate procedures, not substantive rules, to facilitate the use of right reason in the resolution of value conflicts. Two of the most enduring of these natural law-based rules have survived and are essentially matters of procedural justice: *audi*



*alteram partem*\* [the obligation to hear both sides] and *nemo iudex in causa sua*† [no one should be a judge in his own cause]. However, we had to await the aftermath of the tragedy of the Second World War before we got a kind of official code of natural law in the form of the Universal Declaration of Human Rights‡. Although couched in the form of rights, the Declaration may be reduced to nine fundamental value-needs categories. The adoption of a code of moral priority, intended to bind all participants in the international system, limited the speculation about the role of values in the social process. Although most intellectual and scholastic speculation stresses the notion that values are somewhat opaque, difficult to distill, and even more difficult to clarify, the adoption of the United Nations Charter has served as a political impetus for the development and clarification of values. As a starting point, therefore, we may reduce the Charter [a legally binding instrument of global salience]³ to several comprehensible and clearly articulated keynote precepts. We list them as follows.

### 3. Global Values, the UN Charter§: the Normative Value Guidance for Science and Society

1. The Charter's authority is rooted in the perspectives of all members of the global community, i.e. the peoples. This is indicated by the words, '[w]e the peoples of the United Nations.' Thus, the authority for the international rule of law, and its power to review and supervise important global matters, is an authority not rooted in abstractions like 'sovereignty,' 'elite,' or 'ruling class' but in the actual perspectives of the people of the world community. This means that the peoples' goals, expressed through an appropriate forum (including the United Nations, governments and public opinion), are critical indicators of the principle of international authority and the dictates of public conscience.
2. The Charter embraces the high purpose of saving succeeding generations from the scourge of war. When this precept is seen in the light of organized crime syndicates' involvement in the illicit shipment of arms, the possibility that they might have access to nuclear weapons technologies and chemical and biological weapons, the reference to 'war' in this precept must be construed to enhance the principle of international security for all in the broadest sense.
3. The Charter references the 'dignity and worth of the human person'. The eradication of millions of human beings with a single nuclear weapon or policies or practices of ethnic cleansing, genocide and mass murder hardly values the dignity or worth of the human person. What is of cardinal legal, political and moral import is the idea that international law based on the law of the charter be interpreted to enhance the dignity and worth of all peoples and individuals, rather than be complicit in the destruction of the core values of human dignity.

\* See "audi alteram partem" James Edelman, *Why Do We Have Rules of Procedural Fairness?* <http://www.fedcourt.gov.au/digital-law-library/judges-speeches/speeches-former-judges/justice-edelman/edelman-j-20150904>

† See "nemo iudex in causa sua", James Edelman, *Why Do We Have Rules of Procedural Fairness?* <http://www.fedcourt.gov.au/digital-law-library/judges-speeches/speeches-former-judges/justice-edelman/edelman-j-20150904>

‡ UN General Assembly, *Declaration of Human Rights* <http://www.un.org/en/universal-declaration-human-rights/>

§ UN General Assembly, *The UN Charter* <http://www.un.org/en/charter-united-nations/>

4. The Preamble is emphatically anti-imperialist. It holds that the equal rights of all nations must be respected. Principles such as non-intervention, respect for sovereignty, including political independence and territorial integrity, are also issues that remain under constant threat of penetration by alienated terrorists or organized crime cartels.
5. The Preamble refers to the obligation to respect international law (this effectually means the rule of law) based not only on treaty commitments but also on 'other sources of international law'. These other sources of law include values, which complement efforts to promote ethical precepts built into expectations of the universal ideals of morality.
6. The Preamble contains a deeply rooted expectation of progress, improved standards of living, and enhanced domains of freedom and equality for all human beings on the planet.

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*"Politics and economics are intimately connected to the critical questions of the nature of global governance."*

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Based on the keynote precepts in the UN Charter, the world community also adopted an International Bill of Rights. The central challenge to a scholastic understanding of the International Bill of Rights is the need to clarify and distill its basic, underlying values. It may now be stated with confidence that we can distill at least nine functional values that underlie the entire international bill of rights. In a general sense, these rights, when considered collectively, represent the integrated, supreme universal value of human dignity. The central challenge then is that those charged with decision-making responsibility must prescribe and apply a multitude of values in concrete instances and hope that their choices contribute to the enhancement of human dignity and do not, in fact, disparage it. At an abstract philosophical level, distinguished philosophers such as Sir Isaiah Berlin have maintained that it is futile to attempt to integrate these values with the abstract principle of human dignity because fundamentally, these values are incommensurable<sup>4</sup>. Not everyone agrees with this. Specialists in decision- and policymaking acknowledge that human dignity based on universal respect represents a cluster of complex values and value-processes<sup>5</sup>. Therefore, the challenge requires that ostensibly conflicting values be subject to a deeper level of contextualized social insight and a complete sensitivity to inter-disciplinary knowledge, procedures and insights. Thus, decisions in these contexts are challenged with the task of broader methods of cognition and a better understanding of abstract formulations of value judgments. Disciplined intellectual procedures have been developed to provide better guidance in particular instances of choice to approximate the application and integration of values in terms of the human dignity postulate. Does the ethic of universal respect and human dignity demand absolute, universal compliance at the expense of other universally accepted values? Ensuring that the values of respect, democratic entitlement, and humanitarian law standards are honored requires fine-tuned analysis and great subtlety in the structure and process of decisional interventions.

Rules of construction and ‘interpretation’ are painfully worked out, which hold, for example, that even if a peremptory principle (*ius cogens*\*) of international law embodies an obligation *erga omnes*†, it should be evaluated, appraised, and construed to enhance rather than disparage similar rights, which may also have to be accommodated. The currency behind the universal ethic of essential dignity and respect is that it provides practical decision-makers with goals, objectives, and working standards that permit the transformation of law and practice into a greater and more explicit approximation of the basic goals and standards built into the UN Charter system itself. This prescribes a public order committed to universal peace and dignity for the people of the entire earth-space community.

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The most important thing to keep in mind here is that from a global perspective, politics and economics are intimately connected to the critical questions of the nature of global governance. In short, they are critical to an understanding of the allocation of basic value needs in the planetary social process as it is and the challenges concerning the allocation of values for an improvement of the human prospect. This requires a challenge to scientific consciousness as well as a challenge to the consciousness of *homoeconomico-politicus*⁶.

### **3.1. Consciousness, Values and Public Order**

It is useful to approach the questions of value in terms of the nature of the public order that the rule of law system seeks to promote and defend. The system of public order secures the complex values that it is committed to defend by making an essential distinction between the minimum-order aspects and the optimum-order aspects of the system of public order.

### **3.2. Consciousness, Values and the Minimum Order**

The problem of scientific responsibility, values and the prospect of at least realizing a system of minimum order in the global governance of humanity now represents a critical challenge for scientific consciousness. We may understand the relationship between community, minimum order, and values by imagining a society without an expectation that agreements and exchanges made in good faith and according to law will be honored; that wrongs (delicts) inflicted upon innocent parties will be compensated; that basic interests and expectations of entitlement [as in fundamental norms of right and wrong] shall be sanctioned by a collective community response; or that basic structures of governance and administration will respect the rules of natural justice such as *nemo iudex in sua causa* or *audi alteram partem*, and will in general constrain the abuse of power and thus the prospect of caprice and

\* “*Ius cogens*” Bassiouni, M. Cherif, ed. *International Criminal Law, Volume 2: Multilateral and Bilateral Enforcement Mechanisms*. Brill, 2008.

† “*erga omnes*” Bassiouni, M. Cherif, ed. *International Criminal Law, Volume 2: Multilateral and Bilateral Enforcement Mechanisms*. Brill, 2008.

arbitrariness in governance. The necessity of minimum order in a comparative, cross-cultural, historic reality is that human beings interact within and without community lines. In doing so, they commit wrongs intentionally or unintentionally, they require some security over their possessions and entitlements, and their systems of governance aspire invariably to constrain the impulse for abusing power. These are the minimum values of social co-existence. It is in this sense that law as minimum order confronts the idea of justice and potentiality. It is commonly thought that minimum order is a critical, but not absolute condition of a more just, more decent, more optimistic human prospect. The rule of law precept is uncontroversial in the sense of minimum order and its 'boundaries'. Peace, security, and minimal standards of human rights are reflections of these values in international, constitutional, and municipal law. Fundamentally, the quest for the maintenance of a minimum order in society would appear to be an essential condition for the individual or aggregate of individuals to evolve toward a social process that maximizes value production and distribution. It is possible to see in this an evolutionary idea of progressive change relating to production and distribution, optimally for all social participants. It is imperative that in the education of scientists and technology innovators, their sense of social responsibility is at least minimally influenced by the global values of a minimum sustainable system of world order.

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*"Scientific consciousness, driven by a commitment to scientific social responsibility, will have to carry a significant level of commitment in utilizing social power so that the results of technology serve human purposes that are constructive and avoid those that are destructive."*

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### **3.3. Consciousness, Values and the Optimum Order**

This challenge to the public order raises the question of the production and the distribution of values beyond the minimum for social coexistence. This is an insight that is more challenging to the question of scientific responsibility and the values that ought to guide it. Clearly, a great deal of science will have an imprint that goes beyond minimum order and will be let loose in the domain of optimal possibilities and prospects. Here, it is critically important that value clarification be a component of the definition of scientific social responsibility. This is the challenge of the unequal distribution of opportunities or results. Human beings exist not only spatially, but also in terms of the duration of time and events. There is hopefully a tomorrow, a next week, next month, next year, and next century. Human beings, such as scientists, are also transformative agents who make things happen, and in doing so underline the question embedded in the nature of law and community that we can change things for better or worse, for the common good or the special interests, for the sense of expanding human dignity or the prospect of a negative utopia, the rule of human indignity. This is a critical challenge for scientific consciousness<sup>7</sup>. The central challenge for values posed by the optimum order precept is the problem of the procedures and methods

for producing values as well as the procedures, methods and normative ideas about the fair distribution of the values that are produced in society. At the back of the concern for human values is the belief in human capacity for the essential, energized generation of value at every level of the social process and the human resource as a producer of ideas, insights, and values of exponential salience. At the back of the human dignity idea is the belief that widespread human dignity flourishes when the dignity of the individual flourishes and reproduces values of exponential importance for the common interest of all. Fellows of the World Academy of Art and Science have suggested that the nine values embedded in the International Bill of Rights [power, wealth, respect, rectitude, enlightenment, skill, affection, health and well-being, and aesthetics] are the key to the notion of a public order of human dignity<sup>8</sup>. They postulate that the maximal production and distribution of these values on a universal basis are the key to improving the human prospect and approximating a public order of human dignity. This means that the prescription, application, and enforcement<sup>9</sup> of the fundamental values behind human rights remain a major professional challenge to *homoeconomico-politicus* and its focus on the importance of global governance remains for the global processes of governance charged with the defense of global public order. We may conclude that value needs are a condition and a consequence of focusing and directing the energy of the human perspective into *conc frete* operations that establish institutions concentrated on and specialized to value realization. In this sense, values and needs are incentives that generate a self-directed force, which ultimately evolves into institutions of effective power crucial to the allocation of values. It is possible to see these generalizations in the evolution of the sovereign authority of the nation-state and its own evolution from state absolutism to sovereignty rooted in people's expectations. Another insight of this model is found in the notion that the power process<sup>10</sup> itself is energized by human expectations, especially expectations of demand. Without demanding or claiming an aspect of social power, society would be static. Thus, we see in the power process, the social activist. In the United States, Rosa Parks resented segregation in public transportation, so she staked a claim to repudiate racial discrimination in public transportation. Gandhi was thrown off a train in South Africa because he was not white. He initiated a claim to challenge the power of the state to impose unjust discriminatory laws. His challenges to the power process<sup>11</sup> brought him to India as a leader of the Indian Independence Movement. Nelson Mandela challenged apartheid and indicated in open court that he was committed to human dignity and democracy and that these ideals were ones that he was prepared to die for. Therefore, it is important that we have a clear understanding of the process of effective power, and what the limits and strategies are of mobilizing bases of power, to effect meaningful social change. It is quite obvious that scientific consciousness, driven by a commitment to scientific social responsibility, will have to carry a significant level of commitment in utilizing social power so that the results of technology serve human purposes that are constructive and avoid those that are destructive. As Einstein suggested, the development of science and technology should be a blessing and not a curse on humankind.

From the perspective of an enlightened *homoeconomico-politicus* concerned with science, consciousness and values, the following framework is provided as value conditioned guidance for the technological innovators of our time and the immediate future.

#### 4. Value Frameworks to Guide Scientific Consciousness and the Social Responsibility of *Homoeconomico-politicus*

1. The value of life: This is centrally valued human subjectivity. It is referred to not in the “pro-life” sense (that a pregnant woman must bear a child), but in the Bill of Rights sense (that a person has the right to personhood and autonomy). The value of life, therefore, includes the respect and deference given to the individual in the global community.

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*“The problem with regulating science is the problem that it will be regulated by a politically ignorant constituency, which may seek to appropriate technology with selfish special interests.”*

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2. The status of the value of power and security: Should it be narrowly or widely shared? Is the common interest of all honored in a system that seeks to secure the widest possible participation in all key areas of the power process? One of the central values identified in the Atlantic Charter was the freedom from fear. This concern for freedom has evolved so much that today no one denies that there is a critical interdependence between the concept of peace as a human right and all the other values in the UDHR. Peace and security might well be included under the functional category of power. However, peace is recognized as a complex peremptory component of the human rights value system. It is of value to again recognize that there are complex ways in which all human rights values have an influence on peace and security, recognizing as well that peace and security at all levels are critical conditions for the effective mobilization of human rights values. A central aspect of the values of peace and security relates to the connection between the mobilizing force of strategy for the realization of human rights goals and the realization of these goals themselves. For example, is it appropriate to deploy violent strategies of action to achieve human rights objectives? Is it appropriate to disengage the value discourse involving strategy and struggle on the one hand and idealistic value objectives on the other hand? Gandhi, for one, insisted that the morality of struggle was even more important than the morality of distant idealistic objectives<sup>12</sup>. Indeed, he also insisted that a disconnect between struggle, strategy, and goals was morally indefensible.
3. The status and value of economic and wealth processes: Is the common interest of all better secured by optimizing the capacity to produce and distribute wealth or is it the opposite?
4. The status and value of respect and equalitarian values: Should invidious discrimination be fully prohibited (covering all areas of race, gender, alienage, etc.)? Can equality be meaningful if it is only a formal, juridical idea without regard for the legacy of exploitation, repression, and discrimination? The repression of equal opportunity is also an invidious denial of liberty.

5. The status and value of educational and enlightened values: Should these values be widely produced and distributed or narrowly experienced? In the context of science, the critical value that secures scientific innovation and the liberation of scientific consciousness is the freedom of inquiry. The challenge posed by dramatic technological innovation is that further scientific consciousness will generate an internal process focused on scientific responsibility and a deeper sense of the value implications and consequences of technological innovation. The problem with regulating science is the problem that it will be regulated by a politically ignorant constituency, which may seek to appropriate technology with selfish special interests. *Homoeconomico-politicus* has a critical role to play in the transmission of shared enlightenment.
6. The status and value of skills and labor values: The centrality of skills and labor values to the human condition indicates that these are central and fundamental values implicated in the rights and expectations of those who seek to create and sustain these rights and labor values. Should these rights and expectations be widely shaped or narrowly shared? The global crisis of massive unemployment would seem to impose a special responsibility on *homoeconomico-politicus*.
7. The status and value of health and well-being values: The delivery of reasonably formulated and accessible healthcare and social services to all is now widely regarded as a crucial entitlement, if the most basic standards of decency in politics and society are valued. Today, unemployment aid, social security, Medicare, and other social services are considered crucial to a society that cares for its people.
8. The status and value of the family and other affective values: Because the family is the basis of collective existence and is central to the human rights of children, the public policies of a society that destroys family (and other affective ties) pose a problem for a wide generation of affective values, including the loyalty values of patriotic deference.
9. The status and value of moral experience and rectitude: A system that endorses the centrality of moral experience to the legal and political culture and seeks to maximize the spiritual freedom of all is yet another of the central themes of human rights. Rectitude should never be a foundation for sectarian and ethnic conflict.
10. The status and value of cultural and aesthetic experience: The term “cultural” includes the concept of the aesthetic. In fact, the word “cultural” could encompass all the value preferences that we might extract from the UDHR. There is, however, a narrower meaning that the term “culture” might carry. That meaning ties in with the notion of human rights as also emblematic of the diversity of human experience, experience that reflects the cultural richness of humanity as a global community. There is great controversy about the issue of culture and tradition, culture and creativity of the present, culture and the elaboration of the aesthetic, which may capture and nurture the cultural narrative of creativity and beauty which may in fact be the critical psychological view of how the glue of social solidarity promotes creativity. The boundaries of this discourse are controversial. Sensitive matters of sexual regulation which may differ widely may be justified by culture and yet here the culture of tradition may not be compatible



with the culture and creativity of the present or the future in human rights terms. For example, female genital mutilation justified by cultural tradition is not justified by either religion or by the science of human sexuality. Human rights thus provide a process by which these boundaries may be appropriately protected and expanded according to the normative challenges of human dignity. The current discourse often suggests that universality trumps cultural relativity or vice versa. This is not necessarily helpful unless one sees these ideas as only the starting point for value clarification and application from a human rights perspective. Aesthetics should never be a foundation for demonizing vast sectors of humanity.\*

11. The status and value of the ecosystem: Today, we recognize a complex right to a viable eco-system on what theorists have seen as Spaceship Earth<sup>13</sup>. The values embedded in the protection and promotion of a healthy ecosystem are, like many other values, issues of complex interdependence and interdetermination. However, implicit at least, in the concern for the integrity of the ecosystem, is clearly the notion that there are no human rights if there is no environment in which human beings can survive and possibly even improve the human prospect. But this insight suggests an even higher level of moral consciousness in the sense that the ecosystem (with its plant life and animals, wild and domesticated) is part of a complex cycle, in which human beings are both custodians and also utterly dependent as individuals and as society. This means that we now see in nature not something irresponsibly exploited and destroyed but something that is central to our identity as a sentient species. To take a simple example, for all the vaunted technology of human progress and human egotism, no one has seen a dog or a cat or a rat or indeed the most elemental of recognizable life forms outside of this lonely and unremarkable planet called Earth. Thus, as humanity, we now look at life even in its most humble forms as not only indispensable to the interconnected chain of life on this planet but we see in it something new and utterly connected to the very consciousness of being human and being alive. In short, we know that our dogs identify with us. We may now know those ordinary pets in terms of how they and all other living forms have shaped our identity both psychologically and physiologically. The integrity of the ecosystem requires a form of identification from *homoeconomico-politicus* that is sufficiently comprehensive to cover the entire Earth Space System.

## 5. *Homopolitico-economicus*, Governance, and the Challenge of a Green Economy as a Critical Ecosystem Value

In this paper we seek to clarify the salience of *homoeconomico-politicus* and the challenge of climate change. Climate Change is a good tool to better understand the idea of *homoeconomico-politicus*, consciousness and social responsibility for values. Climate change floundered at the Copenhagen conference because of the determined efforts of the climate change deniers lobby. Among the former spokesmen of that lobby were right-wing Republican senators, fanatically moved by the idea that climate change would require

\* Haddad, Aitza M., and Nagan, Winston P. "Aesthetics and Human Rights". *Montenegrin Academy of Sciences and Arts*, Proceedings: International Conference on Humanities and the Contemporary World (2012).



the mandatory regulation of corporate polluters. It is a maxim of modern Republican politics to oppose governmental regulation and in particular, the governmental regulation of environmental matters. The most vocal voice in the United States was the Republican senator from Oklahoma, Senator Jim Inhofe. The senator came with a record challenging the integrity of the entire climate-science community; this community he felt, was a self-interested one and uncommitted to genuine science. The senator himself is an ignoramus on science, any science. According to Oil Change International, Inhofe has received over \$1.3 million dollars in contributions from the oil and gas industries\*. His attacks on climate change were sheer political opportunism. He remains unrepentant and continues to lead the charge in the American congress to undo the environmental regulations of the Obama administration.

*“With all of the hysteria, all of the fear, all of the phony science, could it be that man-made global warming is the greatest hoax ever perpetrated on the American people? It sure sounds like it.” – Senator Jim Inhofe*

Indeed, he has demanded that the climate change agreement be brought before the Republican-controlled congress in order for the congress to kill it. Inhofe is unduly influenced by the fossil fuel industry. This industry is, in effect, responsible for the overwhelming contribution of greenhouse gases to the looming crisis of climate change. Inhofe is an excellent example of the political-power oriented personality type. His private motivations driving his antagonism to climate change are rooted in the financial support he receives from the fossil fuel industry to secure his position in the Senate of the United States. Of these industries, ExxonMobil remains the world’s largest oil and gas company. According to Forbes Magazine, Exxon is the most profitable publicly traded company in world history<sup>14</sup>. The company generated revenue of over \$1.6 trillion dollars from 2009-2012 alone. Exxon is a notorious climate change denier, so notorious in its actions that Greenpeace has created a website detailing the company. Other republican senators are also beholden to the plutocratic establishment and its infusion of money into American politics.

Apart from the right-wing lobby, the concern for the development of a global mandate on climate change through the good offices of the UN had to confront a longstanding global problem: the division of the world community of states between the rich and the impoverished. Since a lion’s share of the carbon emissions in the atmosphere was generated by the rich industrialized countries, there was a lingering concern about the price and distribution of the price for reducing carbon emissions in the world community. Since the poor states made a negligible contribution to greenhouse gases in the atmosphere, a question of justice and fairness seemed to emerge. Why should they share in the cost of the reduction of greenhouse gases when they are not responsible for the crisis? More than that, the predictions of the crisis could spell catastrophe for poor states.

Perhaps these states should be the beneficiaries of financial assistance from large states to convert themselves to green economies, and to compensate for the damages they suffer. Clearly, in attempting to move forward there needs to be some formula for allocating

\* Matt Maiorana, *Hypocrite Alert: Senator Inhofe Complains about Money in Politics*, <http://priceofoil.org/2014/06/03/hypocrite-alert-senator-inhofe-complains-big-money/>, June 3, 2014

responsibility as fairly and as universally as possible. Perhaps the most important outcome of the Paris Accord\* is that every country is a stakeholder in the problem and must commit itself to a constructive role in reducing greenhouse gases in the future. Most countries were persuaded to come up with plans as to how the economy would respond to cutting carbon emissions through 2025-2030†. In this context, every state is required to come up with a plan without a specification of the extent to which individual countries would cut emissions.

The agreement is not in the form of a treaty. It will only become technically and legally binding as an international treaty when at least 55 states which together represent 55 percent of global greenhouse emissions adopt the agreement within their own legal systems as a form of treaty ratification‡. Even assuming that this happens, the question would still remain as to what the legal responsibilities are of the other approximately 100 states. We would contend that the agreement as it now exists is not without an element of a juridical *imprimatur*. In effect, the agreement contains in terms of its background, the core elements of the creation of a form of international soft law. This would appear to have an approximation to the development of a form of customary international law. The reasoning is as follows.

This agreement depends upon the good faith obligation that international law imposes on states, which establish public declarations of the nature and scope of their duties. The good faith obligation implies that these will be legally binding on the states. Thus, the binding effect of the agreement is not in the agreement itself but a matter of the customary international law dealing with the rights and duties of states. The agreement contains a legal expectation that states are required to reconvene in good faith every five years starting in 2020 indicating in good faith their updated plans to strengthen their emissions cuts. States were also required to reconvene every five years starting in 2023 to publicly report how they are achieving their emissions cuts, compared with their stated plans. Moreover, the agreement requires states in good faith to monitor and report the state of their emissions levels and reductions using a universally accepted counting system. This approach was achieved largely because the Obama administration did not want an agreement specifying specific levels of emissions reductions. Of course, such an agreement would in effect resemble the form of a treaty and the U.S. administration would have to submit it to the senate for its advice and consent. There are at least thirty nativistic and ideologically driven right-wing Republican nutcases in the senate of the United States. That is all that is needed to kill the treaty if its jurisdiction was submitted to them. The Obama Administration would therefore want to avoid the Senate at all costs.

In short, the standard of emissions set in good faith by states is voluntary but there is a legal requirement that they publically monitor, verify, and report on their progress. This model seems to work on the principle of transparency as a foundation for global peer pressure on states. States therefore will not want to be embarrassed by falling short of their own

\* United Nations General Assembly, *The Paris Agreement*, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

† IEA. World Energy Outlook 2017. Organisation for Economic Co-operation and Development, *OECD*, 2017 [https://www.iea.org/media/weo/website/2017/Chap1\\_WEO2017.pdf](https://www.iea.org/media/weo/website/2017/Chap1_WEO2017.pdf)

‡ Alex Gray, *What is the Paris Agreement on Climate Change?*, <https://www.weforum.org/agenda/2016/09/what-is-the-paris-agreement-on-climate-change/>

commitments. It is by no means clear that these steps are both necessary and sufficient to avert continued disasters triggered by the climate change process. In the United States itself, various states have experienced massive floods, including the states of major climate change deniers. To get the poorest countries onboard, the preamble of the agreement indicates that \$100 billion dollars is promised to help the poor countries adapt to a desirable green economy and to mitigate some of the damages of climate change\*.

The principal feature of the climate change agreement is the target of holding the average global temperature to a figure below 2 degrees centigrade above pre-industrial levels<sup>15</sup>. In practical terms this means that the temperature increase on the planet should not increase above 1.5 degrees centigrade above pre-industrial levels. The idea of limiting the global temperature to 1.5 degrees above preindustrial levels means that there is a concrete goal to stay well below 2 degrees. Scientists believe that this would likely ward off the worst effects of climate change. No one is exactly sure what the triggering point is that would melt the entire Greenland ice sheet as well as the West Antarctic ice sheet. It is possible that staying below 2 degrees centigrade would trigger such a catastrophe. However, the odds are much better if we stay at 1.5 degrees centigrade. It is not necessarily clear that the 1.5 target will be achieved by purely relying on voluntary state action. Even if it is achieved, it is only a scientific guess that this will be sufficient to avert the worst consequences of climate change. The position of this economic forum is that the target of 1.5 is a bare minimum to be attained and if it could be improved upon, it would secure a greater safety net for humanity. Additionally, the fact that the agreement is not a treaty of hard law does not mean that it has no juridical effect whatsoever.

In this regard to this target, the target temperature aspiration is not mandated as a matter of international treaty law. It therefore does not have the status of hard international law. However, it does have important juridical characteristics, sometimes defined as international soft law. The idea of soft law means that the binding character of the agreement is a matter reinforced by indirect methods designed to give the agreement the force of international obligation. First, the agreement comes with a consensus of 150+ states. It comes with strong support from the international scientific community as well as important scepters of learned societies of the international social process. It comes with a strong support of a multitude of organizations constituting the civil society of the planet committed to environmental integrity. The agreement is supported not only by states, but also by civil society, learned societies in the arts and sciences, specialist communities in the sciences, and those committed to environmental integrity.

Additionally, the agreement comes with the institutional support of the foundations of authority of the United Nations system itself as well as other organizations of nation-states at different levels of global society. Specialist aspects of civil society concerned with human rights and humanitarian values are also lined up in support of this agreement. This adds up to considerable strength in the foundations of the authority component, which is a critical part of the dynamics of international lawmaking. The other important component of international

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\* John Upton, The \$100 Billion Climate Question *Climate Central* <http://www.climatecentral.org/news/the-100-billion-climate-question-19726> November 25, 2016

lawmaking is the component loosely described as the controlling intention designed to give prescriptive force to the obligation. Here, the controlling intention is reflected in part in the good faith expression of intent to abide by the agreement of at least 190 sovereign states. In general, the good faith expression by a sovereign state that it intends to respect a prescription that it has openly supported or advocated is enough to secure the notion that the agreement has sufficient controlling intention, which along with the authority signal gives it the force of law. Additionally, the agreement requires a public commitment to the scope of the obligation with regard to emissions reduction that the states openly subscribe to. This public commitment includes a threshold publication of the state's plan of action in the future, and a reporting of the results of its action, which requires global transparency. This provides an additional lever to support the seriousness of the controlling intention of the sovereign states' commitment to emissions reduction. The active monitoring of the process by the United Nations itself, as well as a vast constituency of members of civil society including specialists in local politics, environmental advocacy, scientific expert knowledge, human rights organizations, and highly respected learned societies, reinforces the controlling intention of states.

Finally, international law making does require clarity in the expression of the specific prescriptive expectations that the agreement entails. Since the states have stated what the prescriptive expectations are, this provides a degree of clarity in terms of the prescriptive expectations that a state is obliged to honor. Thus it would seem that at least in the context of the specific objectives of state action in reducing carbon emissions there is without a doubt a binding obligation on the part of states and their subjects to respect their agreements that the states have agreed to as having the force of binding international soft law.

The most important aspect of giving the human efficacy is the recognition that within states major corporate and industrial enterprises are largely responsible for greenhouse gases. This puts the controlling intention of the state against the self-interest of the corporate and industrial sectors within a state. This is a challenge that has to be confronted. The most significant cause of pollution lies with the fossil fuel industry. Modern society owes progress to energy. To change this confronts not only corporate interests, but also the interest of workers dependent on the fossil fuel industry. There has to be an alternative and that alternative would depend in part upon radical new thinking, envisioning new economic thinking behind the policy and progress of the global sustainability movement. The fundamental challenge lies in the shift on a global basis from the total dependence on the fossil fuel process to an alternative approach to meeting global energy needs as well as producing energy that eliminates the flow of greenhouse gases into the atmosphere. Experts maintain that the fundamental challenge of stabilizing global climate via green economic growth is a matter of fundamental policy choices. Those policy choices have to be made on the basis of new economic thinking which makes as its fundamental postulate, the vital importance of human capital. Green growth can be achieved by the recognition of human capital's basic resource, human creativity. We must therefore creatively take stock of how to make buildings, transportation systems, and industrial processes energy-efficient. This would have to extend to offices, homes, residences, cooking equipment, automobiles, and public transportation.

The recognition of human creativity must be sustained by a commitment to major investments in clean and renewable energy. This includes solar, wind, geo-thermal, and various scales of hydroelectric power. If we are willing to recognize the genius of human creativity in creating a carbon-neutral environment, experts estimate that an investment of 1.5 percent of the global GDP will generate effective and alternative energy policies for all countries at any level of development. Such large-scale investment in clean energy would help raise efficiency standards in buildings, expand public transportation, and replace fossil fuels with clean and renewable energy. It is further estimated that such investments will pay for themselves in 3-5 years. These investments will have to come from both the public and private sectors. The attractiveness of green energy would mean that energy costs would be reduced for all. If a carbon tax is placed on fossil fuels, then the price of fossil fuels will be far more expensive than green energy<sup>16</sup>. A policy commitment to green energy would enormously expand job opportunities. It is estimated that if the U.S. spent \$200 billion a year on the green energy economy, the country's emissions would drop by 40 percent in 20 years and there would be a net increase of 2.7 million jobs. If India spent 1.5 percent of its GDP on the economy, a 20-year program with these investments would create more than 10 million jobs a year. Other illustrations are equally impressive.

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*"Scientific leadership must be more articulate in the defense of values that sustain a creative, dynamic, and responsible scientific, economic and political culture as an indispensable foundation for an improved world order based on human rights and human dignity."*

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The real losers will be the fossil fuel industry and the mega-corporate giants that own it. It is estimated that they stand to lose \$3 trillion in values over the next 20 years. Clearly, the petroleum industry will not take this lying down. Hence, the real problem is with green energy and greed energy. The losses of the fossil fuel sector may be somewhat tolerable if the losses are averaged out over 20 years coming to about \$150 billion a year. One major issue that the mega-giants of the fossil fuel industry must consider is that the holdings of the largest 200 corporations in the fossil fuel sector hold assets, which indicates that 60 percent of those assets are unburnable. This is an important issue for investors and already some 456 institutions investing some 2.6 trillion dollars have committed themselves to this investment, or to reinvestment in clean energy. Others have already looked at diversification of their investments. For example, Warren Buffett, a famous corporate investor, doubled his holdings in solar and green energy companies in the amount of some \$50 billion\*. It is important that this economic forum use its good offices to illustrate to the major players in the fossil fuel industry the importance of them diversifying their energy enterprise in the direction of green clean energy<sup>17</sup>.

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\* Zacks Equity Research, Invest Like Buffett with These Top Ranked Solar Stocks- Stocks in the News, <https://www.nasdaq.com/article/invest-like-buffett-with-these-top-ranked-solar-stocks-stocks-in-the-news-cm360536>, June 10, 2014

## 6. Conclusion

This paper has sought to clarify the salience of the difficult concept of scientific consciousness and its implications for *homoeconomico-politicus*, and the importance of cultivating that consciousness not only in creative ways but in ways that are morally and ethically compelling. This means that consciousness should be alert to the dynamics of positive and negative sentiment in the shaping of the technological paradigm of the future. Even more importantly, it is crucial for scientific consciousness to self-regulate itself by being better informed about the values it seeks to promote and defend. Successful self-regulation of science avoids the danger of control and regulation by forces completely ignorant of the implications of science and technology. This means that scientific leadership must be more articulate in the defense of values that sustain a creative, dynamic, and responsible scientific, economic and political culture as an indispensable foundation for an improved world order based on human rights and human dignity. This issue is made practically relevant by the challenges demanded for an economics and politics equal to the challenge of climate change for the earth-space community.

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## **Constitutional and Legal Culture, Social Culture and Human Rights**

*By Winston P. Nagan and Samantha R. Manausa*

The central point to emphasize is that modern legal culture, influenced by 19<sup>th</sup> century science, sought to develop law as a discipline insulating it from social and political forces. It also sought to insulate law from values, and, by implication, human rights. Because law is not purely an academic discipline, its insulation is sustained by professionalism that seeks to secure the autonomy of law, illusory as this is, from social and political forces.

Alongside the idea of law rooted in formalist isolationism, was the insight of Oliver Wendell Holmes, who stated that the life of the law is not based on logic but on experience. The idea of law as an approach rooted in social experience continues to be a struggle between the law as experience and law as formalism.

Experience is rooted in the challenges of the culture of society in general, and the extent to which it is shaped by legal and constitutional culture. The fundamental problem with social culture is that we need an adequate description of what it is. The most important efforts at description include efforts to define social culture in terms of stratification. This has given rise to class-analysis. Others have sought a description with a focus on elite-analysis. A further theory of society is the theory based on the idea of group-analysis; in short, the focus on social dynamics must be the group basis on which a society is maintained.

The most modern analysis seeks to integrate elite theory, class theory, and group theory into an analysis that focuses on the dynamics of the individual in the larger social process universe. The great challenge here, if we look at social process from a global point of view, is to understand the position of the individual in the constellation of multiple groups that comprise the global social process. This means that all abstractions about society must also account for the position of the individual and the human rights of the individual in these processes. The definition of this approach is that human beings as individuals and aggregates of individuals act to secure basic values and desirable objectives through the institutions specialized in the global and local society to facilitate value-realization.

The importance of understanding social process is that we have to understand that the individual, acting alone or in groups, is the important driver for accretion of human values. The problem with the focus on the individual is that, in some form or another, groups are still instruments of power, and the struggle for an adequate position of the individual in the larger aggregate, whether it be local or global, is one of the important tasks of the advancement of human rights on a global basis. The focus of WAAS is on the revolutionary idea of the centrality of human capital in social process. It is also one of the central components of the universalization of human rights.

### **National Governance in a Global Society**

*By Winston P. Nagan and Samantha R. Manausa*

The theme of national governance in a global society has a simple designation, but is in fact quite complex. Today, national governance is largely a matter of national constitutional sovereignty. For the last three hundred years, the issue of sovereignty has been controversial in the global sphere, because of the implicit understanding that sovereignty, and therefore national governance, is an absolute matter. Even today, the idea of national constitutional sovereignty is still ideologically contested. Regardless of the importance of national constitutions constraining sovereign absolutism, sovereign absolutism in the twentieth century resulted in the idea of total war, unconstrained by national limits. The disaster of the Second World War occasioned the creation of the war aims of the allies, the Atlantic Charter, and its famous Four Freedoms: freedom of speech and expression, freedom of conscience and belief, freedom from fear, and freedom from want. These principles became the cornerstones of the development of the first recognizable global constitutional system in history: the United Nations Charter. The Charter seeks to moderate state sovereignty, but the scope of state sovereignty, and the scope of international obligation, is still contested. To work on changing the system requires a far better understanding of the national social process, the national process of effective power, and the national constitutional system. Even these matters are highly contested in academic and practical circles.



What these matters require is, in the first instance, intellectual and scientific clarity. This means we need to have a clear map of the national social process (see the Appendix I of this introduction). The most important outcome of the national social process is the process of effective power—we need to map this. The most important outcome of the process of effective power is the national constitutional process. This process also has to be mapped. The importance of mapping is that we are able to identify the operational actors, the problems they require to be solved, the strategies they use to solve them, and the consequences of their interventions. The outcomes of the national constitutional process reflect the emergence of public orders that are connected with the important value claims of the operative actors in social, power, and constitutional processes.

In our own time, the great challenge is to map the public order incorporated in the 17 UN Goals for Sustainable Development. In what follows, I have abstracted the mapping aspect of these processes from my book, *Contextual-Configurative Jurisprudence*. The national constitutional process must be compared and contrasted with the global governance and constitutional process. The global constitutional process reflects problems when they confront the national sovereignty claims of the states. The central issues in the global constitutional process are how global power is managed. Unfortunately, effective power is limited and constrained to the competence of the Security Council. However, the Security Council cannot act if a single permanent member of the Council exercises the veto. Clearly, there is a need for a reform of the Security Council so that the veto may be less discretionary and more attuned to matters of international concern. For example, you could expand the Security Council and require the concurrence of two or three permanent members before the Council is stopped in its tracks.

Another arena of concern for governance is the competence of the General Assembly. The General Assembly comprises all sovereign states admitted to the UN. To a large extent, they make non-binding resolutions. This limits its efficacy. One early solution to this problem was the so-called Uniting for Peace Resolution. If the Security Council was blocked by a veto, the General Assembly could convene a special session, and by an overwhelming majority

vote, could assume some of the competencies of the peace and security of the Council. This is an issue that should be revisited with the possibility that Uniting for Peace may be modified to include Uniting for Action to defend the institutional competency of the entire UN Charter. It will be obvious that modifications of Security Council powers, and the expansion of General Assembly powers, will be ferociously resisted by national sovereigns. The possible solution to this would be to formulate a program whereby populations within national states can be mobilized to modify their internal constitutional arrangements to be more consistent with the vital importance of the global governance role of the UN system.

VALUES IN CONTEXTS		OUTCOMES BY SPECIFIC VALUE INSTITUTIONAL INTERACTIONS		AUTHORITATIVE AND CONTROLLING DECISION MAKING				
Wealth Participation Perspectives Situations Bases Strategies Outcomes	Claims	Participants		Participants at any level (regional community, national community, etc.)	Constitutive Process	Major outlines		
		Perspectives				Specific Authority Functions (intelligence, etc.)		
						Participation Perspectives (power, respect, enlightenment, wealth, well-being, skill, rectitude, affection)		
		Types of Claims				Situations		
						Bases		
						Strategies		
						Outcomes		
		Relating to features of constitutive process				same as above		
						Deprivations		
						Private Allocations		
Wealth Association								
Relating to features of public order		Association by Non-Wealth Values						
		Allocation						
		Planning and Development						
		Use or Enjoyment						
Respect same contexts as above		same institutional interactions as above		same processes of authoritative and controlling decision making as above				
Enlightenment same contexts as above		same institutional interactions as above		same processes of authoritative and controlling decision making as above				
Well-being same contexts as above		same institutional interactions as above		same processes of authoritative and controlling decision making as above				
Skill same contexts as above		same institutional interactions as above		same processes of authoritative and controlling decision making as above				
Rectitude same contexts as above		same institutional interactions as above		same processes of authoritative and controlling decision making as above				
Affection same contexts as above		same institutional interactions as above		same processes of authoritative and controlling decision making as above				

Table 5: Value and institutions map

Table 5: Value and institutions mapped onto the community process

We might sharpen our understanding of one of the important outcomes of a community's power process. We do this by following the six markers and asking the critical questions implicit in these markers about constituting power in society. For example, who participates and what is the level of participation in the particular constitutional order? Is the constitutional order directed at inclusion or exclusion? Does the constitution incorporate generally accepted standards of good governance such as responsibility, accountability, and transparency?

Our second marker touches on the questions of the perspectives of the critical actors and normative foundations of the constitutive process. This represents a kind of 'we (the people)' instead of 'we (the intellectual or economic or power elite).' The marker designating *arenas* touches on the level of institutionalization of constitutional expectations including individual civil, political and human rights.

The marker underlining bases of power touches on the critical issue of the nature of authority and ultimately its power to constrain brute force by the rule of law. The strategies of decision according to constitution and law are critical to the foundations of freedom and justice under law. The outcomes reflect the outcomes of the power process and, to some extent, mirror those results. Effective constitutional decision making attempts to enhance the virtues of the public order; whereas ineffective constitutional decision making stimulates the drift to tyranny, governmental lawlessness, and, ultimately, community anarchy.

#### **SPECIALIZED COMPONENTS OF LAW AND SOCIAL PROCESS USING VALUE INSTITUTIONAL ANALYSIS**

Using the same contextual markers that are part of contextual mapping, we may orient ourselves to particular aspects of the map for the purpose of doing narrow specialized research. For example, we may use phase analysis to outline critical and specialized aspects of context by organizing the map of community process according to values. In the table below, the markers relate to specific features of different value processes.

# MAPPING CONSTITUTIVE AUTHORITY AT ALL LEVELS

ADDRESS THE...	AND SPECIFY...			
<b>Participants</b> (consider Inclusivity / Exclusivity and Responsibility / Freedom from Obligation)	Individual(s)?			
	Group(s)...	Governmental...	National?	
		Non-governmental...	Transnational?	
			Political parties?	
			Pressure groups?	
			Global & national civil society?	
<b>Perspectives</b>	Demands...	Directed toward clarification of common interests?		
	Identifications...	In rejection of special interests?		
		With what community?		
	Expectations...	To what degree?		
		Contextual?		
<b>Arenas</b>	Interests? (complementary character plus supporting expectations)			
	Establishment...	Institutionalization...	Legislative?	
			Executive?	
			Judicial?	
		Geographic...	Administrative?	
			Central?	
		Temporal...	Peripheral?	
	Occasional?			
	Access...	Continuous?		
		Crisis?		
		Open?		
<b>Bases of Power</b>	Compulsory?			
<b>Strategies</b>	Authoritative?			
	Controlling?			
	Diplomatic?			
	Ideological?			
<b>Outcomes</b>	Economic?			
	Military?			
	...by Intelligence?			
	...by Promoting?			
	...by Prescribing?			
	...by Invoking?			
	...by Applying?			
	...by Terminating?			
<b>Effects</b>	...by Appraising?			
	Consequences for public order?			
	Changes in participants?			

Table 4: Suggested topics to consider when ...

Table 4: Suggested topos to consider when mapping constitutive authority.

instruments of internal governance and external recognition leads to the creation of sovereignty with independence and international legal personality.<sup>25</sup>

The term *sovereignty*, by itself, gives us no clues as to its creation, how it is maintained, its changing character, or, indeed, how it is terminated.<sup>26</sup> Contextual mapping may provide a useful bridge between the different disciplines and cultural contexts in which the term is used, often abused, and certainly misunderstood. My aim in this section has been to point the way to the application of contextual mapping to this subject.

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<sup>25</sup> Scholars disagree about the extent to which recognition is required to establish legal personality, or if legal personality can indeed exist independently of recognition. If legal personality can exist without recognition, recognition is transformed into a legal duty possessed by the state. See PETER H. F. BEKKER & T. M. C. ASSER INSTITUUT., *THE LEGAL POSITION OF INTERGOVERNMENTAL ORGANIZATIONS: A FUNCTIONAL NECESSITY ANALYSIS OF THEIR LEGAL STATUS AND IMMUNITIES* 74 (M. Nijhoff 1994).

<sup>26</sup> The technique of contextual mapping provides indicators that locate sovereignty within the interpenetrating regional, national, and global constitutive processes. The mapping technique permits an inquiring scholar to locate sovereignty within an appropriately comprehensive social and power context and permits us to mark out areas of stability and change the sovereign influence on global public order and civil society as a scholastic agenda. The idea that sovereignty is a central element of whatever is meant by constitutional law is neither new nor remarkable. The mapping technique seems to confirm this in a more objective way. More importantly, however, the technique permits us to look behind the *Grundnorm* realistically and dynamically.

clearest example yet of a global compact representing the parties' common interest is the U.N. Charter.<sup>23</sup>

The world power process includes claims to become sovereign, to remain sovereign, and to change or realign sovereign competence. Mapping this process requires the identification of operative participants in the world social and power processes, their perspectives, demands, and expectations, their bases of power, the situations in which they operate, their general strategies for action, and the basic outcomes and effects of politically conditioned action. One of the major outcomes of the process of effective power has been the creation and maintenance of the institutions of authoritative decision making.<sup>24</sup>

Placing the concept of sovereignty within the map of the social, power, and constitutive processes, we find that sovereignty reflects the allocation of fundamental decision-making competencies about the basic institutions of governance itself. Within a nation-State, it is the authorization and recognition of persons or institutions competent to make basic decisions about governing power at all levels. On the international stage, the stabilization of expectations in bodies politic with effective control over populations, territorial bases, as well as over the

<sup>23</sup> For example, the UN Charter identifies authoritative decision-makers and procedures by which decisions might be made because it articulates a framework of practices created to facilitate decisions in the interest of "[maintaining] peace and security," which, as Professor W. Michael Reisman puts it, "[requires] more and more cooperation between large and small states." See W. Michael Reisman, *The Constitutional Crisis in the United Nations*, 87 AM. J. INT'L L. 83 (1993). Professor Reisman goes on to assert that "[t]he United Nations Charter is only a part of [the] ongoing world constitutive process...." *Id.* at 100. The New Haven School, on the other hand, is not concerned with formal structures of government. It instead remains focused on policy so that it can explore the interplay between law and the world community through the lens of social processes. Specifically, the New Haven School explores the processes of decision-making with specific regard to the "legal process, by which...[McDougal and Lasswell meant] the making of authoritative and controlling decisions." See Myres S. McDougal and Harold D. Lasswell, *The Identification and Appraisal of Diverse Systems of Public Order*, 53 AM. J. INT'L L. 1, 9 (1959). The School's lead scholars suggest that international law is a "world constitutive process of authoritative decision," and not simply a conventional set of regulations, perhaps referring to existing legal regimes such as the UN Charter. The goal of international law, the School's founders argue, is the establishment of world public order by instituting regimes of effective control and moving away from existing regimes of ineffective control. See generally Myres S. McDougal et al., *The World Constitutive Process of Authoritative Decision*, 19 J. LEGAL EDUC. 253 (1966-67).

<sup>24</sup> McDougal and Lasswell offer a configurative conception of jurisprudence that is the final product of an authoritative decision-making process. See Harold D. Lasswell & Myres S. McDougal, *Criteria for a Theory About Law, in JURISPRUDENCE FOR A FREE SOCIETY: STUDIES IN LAW, SCIENCE AND POLICY* 3, 24-25 (New Haven Press 1992). They argue that a scientifically grounded answer to any policy-oriented problem can be reached that might promote the common interest to achieve a world order based on fundamental principles of human dignity. *Id.* at 34-36. Scholars and policymakers regard their approach to decision-making as a rigorous one embedded in a social context. *Id.* See also MYERS S. MCDUGAL, et al., *The World Constitutive Process of Authoritative Decision, in INTERNATIONAL LAW ESSAYS: A SUPPLEMENT TO INTERNATIONAL LAW IN CONTEMPORARY PERSPECTIVE* 1265 (Myres S. McDougal & W. Michael Reisman eds., 1981).



collaboration to establish and maintain the basic political and juridical institutions of effective and authoritative decision making.<sup>21</sup>

One of the most important outcomes of the power process is the patterns of communication regarding conflict and possible collaboration. The understandings generated by power brokers in their contestations for power frequently involve communications and understandings about the limits, constitution, and uses of power for collaboration rather than conflict. From an observer's point of view, a central feature of what is called *constitutional law* is its way of institutionalizing expectations relating to the management of power in the basic institutions of authoritative and controlling decision making. The understandings that emerge from the power process reflect the development—however imperfect—of cultural forms that seek to constrain excessive, destructive conflicts and to structure conflicts productively.

Practical frameworks of communication and collaboration are generated, wherein basic human expectations may reveal, upon scrutiny, a 'living' constitutional arrangement—a design of decision-making expectations that is fundamentally interwoven with social organization and that is actually or behaviorally constitutionalized.<sup>22</sup> This might happen without a written constitution and still be an effective instrument of constitutive authority. Alternatively, the outcomes of social conflict, such as civil war, anti-colonial wars, or agitation for self-determination, might lead to the formulation of written expectations about the management of basic decision-making competences in the political culture. In short, conflict sometimes provokes the creation of a written constitution. On the international stage, wars and multi-State conflicts have historically stimulated the development of regional compacts and mutual understandings; indeed, perhaps the

<sup>21</sup> From the perspective of the New Haven School, international lawmaking, or prescription, is seen as a process of communication involving a communicator and a target audience. The substance of this communication functions as signs or symbols of policy content, symbols of authority, and symbols of controlling intention. These three signs or symbols are: 1) the 'policy content', which is the prescription, 2) the 'authority signal', which is the legitimate basis from which to prescribe, and 3) the 'control intention', which is the enforcement power. In other words, a core philosophy of the School is that in order to count as law, international law must have a prescriptive policy content, it must be accompanied by symbols or signs indicative of widespread community acceptance (because the community is the notional basis for authority in international law), and it must be accompanied by a conception that some institutionalized control exists to ensure that the prescribed law is real. See Myres S. McDougal et al., *The World Constitutive Process of Authoritative Decision*, 19 J. LEGAL EDUC. 253 (1967); see also W. Michael Reisman, *International Lawmaking: A Process of Communication*, 75 AM. SOC. INT'L L. PROC. 101, 108-10 (1981) (discussing three aspects of prescriptive communication that essentially convey legal norms because they designate policy that both emanates from a source of authority and creates an expectation in the target audience that the policy content of the communication is intended to control.)

<sup>22</sup> See Walter O. Weyrauch, *The "Basic Law" or "Constitution" of a Small Group*, 27 J. SOC. ISSUES 49, 56-58 (1971) (documenting an experiment in which several Berkeley students were locked in a penthouse for three months. The focus of this experiment was the evolutive character of law).



To illustrate, any community exhibits contestations for power. These contestations may take the form of violent rebellions or a revolution. Suppose one side in the conflict wins. The winners will seek to 'constitute' or institutionalize their authority. They may have won a battle, but winning the peace and stabilizing their power basis may require more concrete formulations of the 'authoritative' and 'controlling' aspects of power. Even if no clear winner emerges from the conflict, the contesting parties may see that stabilizing their claims and expectations about power is in their mutual self-interest.<sup>17</sup> This is because stabilizing expectations about how the basic institutions of decision are established and continuously sustained are vital to the constitution of power and its concurrent and subsequent 'recognition'.<sup>18</sup>

From an empirical rather than a formal point of view, constitutions—written or otherwise—are nothing but codified expectations of authority and stability in contradistinction to the prospect of continuous (even violent) conflict over how power and authority are to be constituted and exercised. Realistically, conflict and its polar opposite, collaboration, are present in all forms of social organization; indeed, they have ever been ubiquitous in States and societies. Even when authority is provided for in a formal constitution, there shall always be conflict regarding the precise allocations of power and competence. This means that even when the high intensity violent conflict is contained, the settlement will be fraught with contestations for power. Conflict cannot be banished from human relations, but its form can change. Often, post-conflict settlements might generate situations of constructive conflict. Thus, some forms of conflict may be socially beneficial. For example, economic competition (as any capitalist knows) is a form of conflict<sup>19</sup> that is regarded as indispensable to economic development in market systems.<sup>20</sup> Similarly, non-violent competition in democratic governance is indispensable, not only to facilitate openness, but also to further progress and change in society.

The constitutive process is continuous. But it does not render irrelevant the similarly continuing process of conflict in accordance with the constitution. There is an intuitive, ongoing relationship between contestations for power and the constituting and stabilizing of such contestations. Accordingly, the continuing constitutive process shapes communication regarding conflict management and

<sup>17</sup> Notwithstanding this process of vying for sovereign power over a community, it has been argued that at least to some extent the beliefs of individual members of that community are reflected in each act of their sovereign ruler. See generally Harold G. Maier, *Extraterritorial Jurisdiction at a Crossroads: An Intersection Between Public and Private International Law*, 76 AM. J. INT'L L. 280 (1982).

<sup>18</sup> See H. L. A. HART, *THE CONCEPT OF LAW* 97, 110-11 (Clarendon Press 1961).

<sup>19</sup> JOHN STUART MILL & STEFAN COLLINI, *ON LIBERTY; WITH THE SUBJECTION OF WOMEN; AND CHAPTERS ON SOCIALISM* 251-54 (Cambridge University Press 1989).

<sup>20</sup> See SUSAN STRANGE, *THE RETREAT OF THE STATE: THE DIFFUSION OF POWER IN THE WORLD ECONOMY* 46 (Cambridge University Press 1996) (arguing that "the world economy ... has shifted the balance of power away from states and toward [competitive] world markets"); see also WILLIAM GREIDER, *ONE WORLD, READY OR NOT: THE MANIC LOGIC OF GLOBAL CAPITALISM* 11-26 (Simon & Schuster 1997) (discussing the emphasis on competitive global capitalism).

contestations and conflicts about power at all levels of social process from the local to the global.

The marker defined as *strategies* asks the critical question about the strategic assets an actor may use or deploy in managing the critical bases of power to achieve the value demands that the actor desires. These strategies could run the gamut from diplomatic modalities of communication, through effective propaganda and marketing, through economic incentives and threats of deficits, and by military strategic deployments or interventions.

One of the most important outcomes of a system of power relations is designated by the marker outcomes. In order to use power, the participant must have some capacity to make decisions about power. These decisions will encompass the dynamics of cooperation.

What is distinctive about this map is the identification of seven discrete though interrelated functions that make up decision making at any level. For example, the decision to get married, to go to war, or to embark on a career in higher education such as law or legal studies. The final marker in this unpacking of power as a process is the marker we designate *effects*. How power is produced and allocated is enhanced by the process of contextual mapping. This provides a clearer picture about the nature of the society and the public order upon which it is based.

This brief explanation of the power process is now further developed because *law itself is one of the outcomes of the power process*, in the sense that law is a process of decision making that has a power component to it. Law, however, is meant to be more than power. It is also meant to carry the mantle of authority, and legal decisions are meant to be both authoritative and controlling to count as law. To understand these relationships between society, power, decision, and legal decision making that is authoritative and controlling, requires us to focus on the essence of this chapter: the relevance of contextual mapping to understand relationship between society, decision, and decision according to law.

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### CONTEXTUAL MAPPING OF THE CONSTITUTIVE PROCESS

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To recap the framework for inquiry outlined above, the focus on contextual mapping essentially means that we seek to map three dynamic interrelated processes: the *social process*, the *power process*, and the *constitutive process*. The social process is simply the activity of human beings seeking through institutions (such as the family) to promote their values. The power process is a specialized aspect of the social process. It is the activity of human beings pursuing power through institutions. The constitutive process is an aspect of the power process. It is the process by which institutions for the management of power are effectively and authoritatively developed; or, more precisely, the constitutive process is the creation of reasonably predictable expectations about the allocation of fundamental decision-making authority within the nation-State or body politic.

For example, the first marker is the identification of critical players (participants). This will obviously pose one of the basic questions about who is included and who is excluded from power arenas in society. The perspectives of the participants poses the question of what their perspectives are about power in terms of identity, claiming, or demanding values and their rational or reasonable expectations. The question of the arenas of power poses the question of who has access to those arenas and who is denied.

The next marker focuses on bases of power available to the participants. The approach I present is distinctive in this regard in that it presents itself as the most radical and realistically descriptive component of the definition of power in any context and any level of social organization. All values may be sought for their own sake as claims or demands. All values may as well serve as bases of power to achieve other values. In short, power may be used to gain more power, wealth, respect, rectitude, health and well-being, education, skill, or indeed love and affection. Similarly, any other value may be used to acquire power or any other articulated value. For example, wealth may be used to leverage power or respect, or affection. Respect may be used to leverage power, rectitude, health and well-being, etc. Thus, we see that 'power,' as a radically contextualized outcome of social organization, requires the guidance of mapping and markers to facilitate inquiry into law and policy.

The marker describes as *situations* or *arenas* reflect the element of problems that implicate the spatial and temporal aspects of power in society. The critical power problems, which generate claims of importance about the power process, include the geographic aspect of power. Territory or control over territory is a major resource of the idea of territorial sovereigns, important participators in the global power and constitutional order. The jurisdictional reach of sovereign power is often delimited by the understandings of the territorial reach of its governing competence.

The *temporal* markers indicate the role of duration of power over spatial resources. A simple illustration of this principle is the role of duration of time as an indicator of "title" as reflected in the legal idea of prescription – possession over time. Such possession, which is over time uncontested, tends to vest title in the possessor. Additionally, occupation of some duration may also vest title in the occupier.

The marker of *institutionalization* is a vital marker that reflects the element of governance, which is organized as distinguished from one that is unorganized in the expression of sovereign power, in particular, claims and settlements.

The marker identified as *crisis* is only omnipresence in all interactions implicated by the contestations in the social process about power. Contestations about power invariably have the potential to gravitate to the condition of crisis, as for example in expressions of high intensity violence. Low intensity contestations invariably have the potentials of gravitating to high intensity levels of violence and crisis. The marker of *crisis* points to an omnipresence condition that accompanies

## CONTEXTUAL MAPPING OF THE EFFECTIVE POWER PROCESS

ADDRESS THE...	AND SPECIFY...		
Participants	Individual(s)?		
	Group(s)...	Governmental...	National?
		Non-governmental...	Transnational?
			Political parties?
			Pressure groups?
			Global & national civil society?
Perspectives	Demands for...	Participation in the shaping and sharing of power?	
		Maintenance of the processes of authoritative decision-making?	
	Identifications?		
	Expectations?		
Situations/Arenas	Geographic?		
	Temporal?		
	Institutional?		
	Crisis-Centered?		
Base of Power	(all values)		
Strategies	Diplomatic?		
	Ideological?		
	Economic?		
	Military?		
Outcomes	...by Intelligence?		
	...by Promoting?		
	...by Prescribing?		
	...by Invoking?		
	...by Applying?		
	...by Terminating?		
	...by Appraising?		
Effects	Consequences for public order?		
	Changes in participants?		

Table 3: Suggested topics for consideration when producing a contextual map of the effective power process.

One of the most important outcomes of social interaction at any level is the problem of conflicts about power, its appropriate management, and its possible uses for improving or possibly depreciating the value expectations of the community. Power is thus one of the most important outcomes of social organization, and the precise scope of these outcomes may most effectively be described (and more precisely defined) in terms of problems about power. The conceptual map outlined above may thus be understood as providing markers for understanding the problems posed by power outcomes in social process.

outline is that in general the emphasis on decision making is to identify and map decision making in the context of society and the problems, which it produces. As a technical matter, decision making is an outcome of power; and authority is an outcome of constituting power as a pattern of established and recognized authoritative practice. What we mean by decision making may be seen in unpacking seven interrelated and sequential functions of decision making and choice. At whatever degree of actual skill and efficacy decision making will involve an *intelligence* predicate, a focus on *promoting* its efficacy, its dynamic of *prescription*, *invocation*, *application*, and *termination* as well as the self-appraisal by the decision maker.



## CONTEXTUAL MAPPING OF THE COMMUNITY PROCESS

ADDRESS THE...	AND SPECIFY...		
Participants	Individual(s)?		
	Group(s)...	Governmental...	National?
		Non-Governmental...	Transnational?
			Political Parties?
			Pressure Groups?
			Private Associations?
Perspectives	Demands for...	Power?	
		Respect?	
		Enlightenment?	
		Security?	
		Well-being?	
		Skill?	
		Rectitude?	
		Affection?	
	Identifications?		
Expectations?			
Situations/Arenas	Geographic?		
	Temporal?		
	Institutional?		
	Crisis-Centered?		
Base Values	(when values perform a power/value function)		
Strategies	Diplomatic?		
	Ideological?		
	Economic?		
	Military?		
Outcome-Generated Problems	...of Production?		
	...of Conservation?		
	...of Distribution?		
	...of Consumption?		
Effects	(implicate all values, especially those critical to power, decision making, and organizing formalized authority, which will then affect the production and distribution of all values other than power)		

**Table 2: Suggested topics for consideration when producing a contextual map of the community process.**

From the point of view of legal policy, a general map such as is provided for the guidance of inquiry will inevitably lead us to the analysis of the dynamic interrelationship between the processes of effective power, the processes of effective decision making conditioned by power, the management of power through institutions of authority and authorized decision making. What we can now briefly

# **Who should Govern on What Principles: The Future of Decision Making Combining Nudge with Scenarios to reach Eutopia**

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## **ABSTRACT**

The main aim of this paper is to discuss the theories of decision making, the problems of predictions and how to improve the tools of decision making at macro level for policy makers in our postnormal times.

Decision making is the process of identifying and choosing alternatives based on the values and preferences of the decision maker from several perspectives (psychological, cognitive, normative).

Decision theory (or the theory of choice) is the study of the reasoning underlying an agent choices. It can be broken into two branches: Normative (prescriptive) decision theory, which gives advice on how to make the best decisions given a set of uncertain beliefs and a set of values (how people ought to make decisions) and descriptive (positive) decision theory which analyzes how existing, possibly irrational agents actually make decisions (Grunig and Kuhn, 2013).

Political decisions or governmental policies are the part of normative decision theory. The values, beliefs and ideas of policy makers will have a great impact on the formulation of policies. “What is right” and “what is wrong” can have different answers of different individuals and groups. So how governments or institutions especially international ones should be governed is a very complex question.

Making decisions is the most important job of executives and policy makers. It is also very tough and risky. Researchers have been studying the way our minds function in making decisions for half a century.

The problems of our time- energy, the environment, climate change, food security, financial security-cannot be understood in isolation.They are systemic problems, which mean that they are interconnected and interdependent (Capra and Luisi, 2014).

In many cases political leaders are unable to connect the dots. They fail to see how the major problems of our time are all interrelated. They do not see that their so-called solutions affect future generations. Even if they can see the problems in a holistic way they will face another important threat of “how to distribute power”. Sometimes global decisions may contradict with national ones or sometimes populism may dominate the decisions of policy makers.

There are big diverse groups in the world so the governance of humanity is not very easy.



Most people in our modern society especially in our large social institutions, use the concepts of an out-dated worldview, a perception of reality inadequate for dealing with our overpopulated, globally interconnected world.

The age that we are living is named more frequently as “postnormal times”. Postnormal times have been characterized by complexity, chaos and contradictions (Sardar, 2010).

The main aim of this paper is to discuss and show the need of new alternative decision- making systems which could eliminate the basic deficiencies of the current systems in an era which is called postnormal times. What are the main reasons behind the necessity of formulating new ways of thinking and using them in the formulation of new policies is another aim of the paper?

In post normal times we need to teach or nudge people on “how they can be more anti-fragile and enjoy the complexity of our daily life”. Modernity has brought significant quality improvements into our daily lives but also it has brought lots of problems with it. Citizens and consumers of today are experiencing a growing sense of alienation, loss of values and loss of flexibility (Zajda, 2009).

This is another attempt to show that we need a reconsideration of the relevance of the certainty and stability of the Newtonian paradigm in the decision making or governance process.

Key words: postnormal times, governance, complexity, systems view of thinking, irrationality, chaos, foresight.

## **1.INTRODUCTION**

On the one side it is believed that globalisation is creating the conditions for faster economic growth through access to ideas, technology, goods, services and capital on the other side many believe that globalisation causes rising levels of inequality and poverty. Half the world nearly three billion people live on less than two dollars a day.

Eighty-two percent of the wealth generated last year went to the richest one percent of the global population, while the 3.7 billion people who make up the poorest half of the world saw no increase in their wealth, according to a Oxfam Report (Richest 1 percent, 2018).

The UNDP defines “human development” as a “process of enlarging people’s choices”. So how we can increase the choices of people through sustainable development-more democratic- more humanistic way is one of the most important topics of the current and future global political agenda. Being a humanist means building bridges between north, south, east and west and strengthening the human community to take up our challenges together.

Today’s societies are interconnected and cannot act in isolation. So if there are conflicts among national and global priorities how the problem could be solved is still out of the main agenda of main powers. There are some very serious problems of the modern World that none of the countries or institutions can manage to solve by itself.

Poverty, disease (the Ebola virüs, Tuberculosis, HIV etc), wars, terrorism, racism and the like.

Famine in parts of Africa, depletion of natural resources, the proliferation of nuclear weapons, deterioration in human rights and democratic freedoms, problems of business life brought with technological change are some other problems that may require common, collective and participatory solutions.

Also it is very difficult for national decision makers to prioritize different interests of different groups within the same country. Decision makers will rely on their beliefs, ideas, values and sometimes to their ideological camp. It is very likely that they will formulate their decisions under the attraction of populism.

Even at individual level there are serious problems in terms of formulating our decisions. According to Kahneman, Utility Theory makes logical assumptions of economic rationality that do not reflect people's actual choices and does not take into account cognitive biases (Kahneman, 2012). Cognitive biases are tendencies to think in certain ways that can lead to systematic deviations from a standard of rationality or good judgement, and are often studied in psychology and behavioural economics. Anchoring or focalism, availability heuristic, bias blind spot, cheerleader effect, conjunction fallacy, focusing effect, framing effect, hindsight bias, omission bias are some of them.

As Thomas Hobbes marked perhaps we are selfish and driven by fear of death and the hope of personal gain, perhaps we all seek power over others (Warburton, 2012). Even if we don't believe in Hobbes's picture of humanity still it is true that there could be a serious difference between individual good and social good. But could it be possible to take some important decisions both at national and international level by collective action. This view not necessarily will be against of sovereign states. In this postnormal times national states are becoming weaker. This is sometimes named as the globalization of individuals. The people of the world are more connected now. This is not very bad as it is claimed by Hobbes in Leviathan.

Richard Thaler in his book titled "Misbehaving" also lays out that our decisions deviate from the standards of rationality, meaning we misbehave. Thaler and Sunstein in their book titled "nudge" criticize the homo economicus view of human beings "that each of us thinks and chooses unfailingly well, and thus fits within the textbook picture of human beings offered by economists. It seems reality is different than theory.

David Orell in his book titled "Economyths" also tries to show how the science of complex systems is transforming economic thought. He claims that the main assumptions of economic theory must be replaced with more realistic ones. The economy is unfair, unstable, and unsustainable and economics needs a scientific revolution.

Empirical studies proved the fallacy of "rationality" assumption of the traditional economic theory. Behavioural economics, a branch of economics, is challenging long-standing economic theory and reshaping the making of public policy.

Leaders, policy makers, CEOs are not, or at least they are no more rational than most human beings in their judgments and the choices that they make.

Kahneman says that human beings rarely meet the criteria of rationality even when they are reasonable. People could be irrational and make lots of errors. So, if we take our nationalistic, religious, gender or race-based and cultural differences into consideration, rational decision making could be even more problematic.

When these errors are predictable, decision-makers could design policies that “nudge” us toward better choices.

In the formulation of their policies governments and international institutions can incorporate human factors into design and by using scenario planning methods they could become “choice architectures”.

Through this way we can create credible and sustainable organizations that serve society’s interest simultaneously with their own.

There is no Pareto-dominant policy and no single policy ensures that all individuals in society will be better off than they would be under any other policy. Different policies have different repercussions on different groups within society (workers versus financial markets, domestic creditors versus foreign creditors; borrowers versus creditors). Moreover, different groups are bearing different risks (Stiglitz, Ocampo, Spiegel, Davis, and Nayyar, 2006). Finding a common solution could be a very difficult task. In this stage scenario planning through the use of information technologies could be used as a decision-making tool.

There are different but similar definitions of scenario planning.

Scenario planning technique exploits the remarkable capacity of humans to both imagine and to learn from what is imagined (Bawden, 1998). It is an effective futuring tool that enables planners to examine what is likely and what is unlikely to happen, knowing well that unlikely elements in an organization are those that can determine its relative success (....., 1998).

Foresight has different definitions but at a very simple level hindsight means understanding the past insight means understanding the present and foresight is used as understanding the future.

In foresight studies generally three of them are used together but the impact of the past should not dominate the image of the future. The conduct of different surveys to determine future policies or strategies can be used at global or national level. Then an international or national authority similar to that of today’s ombudsman can lead the process. Combining results with the evaluation of scientific committees the decisions can be taken. It may solve credibility and time inconsistency problems of the processes in which decisions are taken by privileged minorities either politicians or managers.

The larger organizational units concomitant with economic growth are more likely to lead to bureaucratization, impersonality, communication problems, and the use of force to keep people in line.

Economic growth usually requires greater job specialization, which may be accompanied by greater impersonality, more drab and monotonous tasks, more discipline, and a loss of craftsmanship (Nafziger, 2006).

To have a wealthier happier healthier future we need to design new ways of thinking and also decision making tools. Decision takers can be transformed into decision makers.

Governments may use the contributions of these studies in their policy making and implementation process. We need a novel thinking in decision and policy making process. We need to change the understanding of the way we think and choose.

Every difference in the future (change) is a combination of what the world does and what individuals, governments and corporates do, or do not do, over time. So individuals cannot control the future because the world has a role, but they are not completely powerless either because they can influence the future.

If prediction and probability are limited ways of thinking about the future so could it be possible to use scenario planning at macro decision making level and what could be possible advantages of using scenarios? By designing multi-round decision making process similar to the Delphi technique how the combination of scenarios and nudge can improve the success of policies must be designed to work practically as well. We need a new economic model in line with a system design. We need to think about non-profit businesses, non-market, non-managed, non-money based activities, networks beyond the price system (such as sharing and collaboration).

Delors report also asserted that “Learning to live together, by developing an understanding of others and their history, traditions and spiritual values and, on this basis, creating a new spirit which, guided by recognition of our growing interdependence and common analysis of these risks and challenges of the future, would induce people to implement common projects or to manage the inevitable conflicts in an intelligent and peaceful way” (Living to Learn Together, 2014).

How a better (more democratic-wholistic-humanistic) global governance can be designed and could work in practice should be the most important agenda of all nations. We need national sovereign states but by changing the design of the united nations could we create wealthier healthier happier world order requires lots of effort and brave actions.

## **2. GOVERNANCE and MANAGEMENT**

The state has become increasingly dependent on organizations in civil society and more constrained by international linkages.

Governance differs from government both theoretically and empirically. In theoretical terms, governance is the process of governing. It is what governments do their

citizens. But it is also what corporations and other organizations do to their employees and members. Government refers to political institutions, governance refers to processes of rule wherever they occur (Bevir, 2012).

According to Chhotray and Stoker, governance is about the rules of collective decision-making in settings where there are plurality of actors or organisations and where no formal control system can dictate the terms of the relationship between these actors and organisations (Chhotray and Stoker, 2009).

So what is global governance? It is defined in the following form by the IMF.

*The ideal of global governance is a process of cooperative leadership that brings together national governments, multilateral public agencies, and civil society to achieve commonly accepted goals. It provides strategic direction and then marshals collective energies to address global challenges. To be effective, it must be inclusive, dynamic, and able to span national and sectoral boundaries and interests. It should operate through soft rather than hard power. It should be more democratic than authoritarian, more openly political than bureaucratic, and more integrated than specialized* (Global Governance, 2018).

Management could be defined as getting things done through other people or working with and through other people to accomplish the objectives of both the organization and its members.

How the system should be governed is still very disputed topic. The disputes between economic thought schools is still very deep. The debate is far from over.

Friedman who is known as the founder of monetarist school which is a successor of classical school once said “A society that puts equality -in the sense of equality of outcome-ahead of freedom will end up with neither equality nor freedom”. Following the ideas of Karl Marx communist regimes set out to create a state of uniformity among their citizens through programmes of social engineering and centralized economic management.

Many economists from all sides of economic thought schools have made significant contributions on the economic and political regimes of countries.

But our time is totally different than their time. Solutions to the major problems of our time require a radical shift in our perceptions, thinking and values. Postnormal times (characterized by complexity, chaos and contradictions), postnormal science (characterized by uncertainties, systems view of thinking, alternative perspectives, unknown unknowns, values) and human economy are the concepts that we need to take into consideration to define a new role for science (Cepni, 2017).

In many countries in many sectors senior managers are future illiterate or decisions are taken by using given, expert-oriented (expert-predicted) futures. But the future is not an extrapolation of the past?

Policy making and decision making and other aspects of the management of complex systems are becoming increasingly difficult. Management philosophies, approaches, and techniques were developed during simpler times. However, complex systems are dynamic rather than static, evolve or are driven into domains of instability, and emerge into new structures. There is now a growing gap or loss of fit between our systems-management capabilities and the real world.

Complex adaptive systems consist many diverse and autonomous components or parts (called agents) which are interrelated, interdependent, linked through many (dense) interconnections, and behave as a unified whole in learning from experience and in adjusting (not just reacting) to changes in the environment (CAS,2018).

So in such areas simple mechanistic view cannot be a solution to predict the future. We need new ways of thinking and making decisions.

At micro level in many commercial and non-commercial institutions still traditional strategic plans are used to foresee and reach to this foreseen future.

Strategic Planning is an organizational management activity that is used to set priorities, focus energy on resources, strengthen operations, ensure that employers and other stakeholders are working toward common goals. But now it is widely accepted that good management guards against anything that encourages the standardisation of thought and support original thinking. We need to see the world differently.

We are living in a new era of uncertainty for organisations to cope with. To respond to the interconnected threats the world currently faces (the human family are today interconnected as never before) is not anything that any state can do by her own.

Also at micro level organisation's "strategic readiness" to the challenges of an uncertain world is far from sufficient. A fear of not knowing is always with us and will be with us but we can design better decision-making models and could use it at micro and macro level.

### **3. CHANGING the WAYS of THINKING in the GOVERNANCE PROCESS- WE NEED EUTOPIA**

A line between what is natural, universal, and constant in humankind and what is conventional, local and variable is extraordinarily difficult (Modern Mind,2002).

Systems thinking is a fundamental perspective of future studies. It embodies some of the foundational principles of foresight, such as: every entity (thing) is a system that consists of parts (subsystems) and which is also a part of larger systems- a holon- Arthur Koestler's term popularized by Ken Wilber.

The new emphasis on complexity, networks, and patterns of organization is slowly emerging. The new conception of life involves a new kind of thinking- thinking in terms of relationships, patterns, and context.

In science, this way of thinking is known as “systemic thinking” or “systems thinking”, hence, the understanding of life. A central characteristic of the systems view of life is its nonlinearity: all living systems are complex-i.e-highly nonlinear-networks, and there are countless interconnections between the biological, cognitive, social, and ecological dimensions of life.

The new scientific conception of life can be seen as broad paradigm shift from a mechanistic to holistic and ecological worldview. A shift of metaphors- a change from seeing the world as a machine to understanding it as a network.

We are surrounded by complex adaptive systems. The stock market, the world economy, society, the biosphere and the ecosystem, the brain and the immune system, management teams, traffic and more are the examples of complex adaptive systems.

Business dictionary gives a detailed definition of complex adaptive systems:

*Entity consisting of many diverse and autonomous components or parts (called agents) which are interrelated, interdependent, linked through many (dense) interconnections, and behave as a unified whole in learning from experience and in adjusting (not just reacting) to changes in the environment. Each individual agent of a CAS is itself a CAS: a tree, for example, is a CAS within a larger CAS (a forest) which is a CAS in a still larger CAS (an ecosystem). Similarly, a member of a group is just one CAS in a chain of several progressively encompassing a community, a society, and a nation. Each agent maintains itself in an environment which it creates through its interactions with other agents.*

The new decision making process or governance should take culture-ethics-complexity issues into consideration and by using today’s information technologies should be more participatory, fair and credible.

There is one truth; our decisions are heavily affected by our cultural heritage. Although there is no common definition of “culture” it may be defined as “the unique combination of expectations, written and unwritten rules, and social norms that dictates the everyday actions and behaviours of people”.

In the decision making process we consider how the future could be different from the present. We consider and explore how the rules might change?

Strategic foresight is most interested in “what will change”. We would prepare contingency plans for surprises. We would be proactive. We work on “what if” types questions.

Generally our emotional energy is blind to probability but even if it is not we can not predict the occurrence of extreme events from past history. Risk is in the future, not in the past.



Ethics can be defined in different ways but if we define it as the rules by which people agree to live together then in this age of complexity we may even define these rules again to adjust our universal rules to the changing conditions of our time.

Also ethics shows us the relationship between “individual good” and “social good”.

Catastrophe theory, chaos theory and the problems posed by incomplete information, “fracta” is changing the meaning of the world knowledge. It is producing not the known but the unknown.

The fundamental values of humanity we may use education, science, culture and communication as the pillars of a new science and decision making or governance system.

To construct a united human community and making development a sustainable one we need a new management tool to differentiate growth and development.

In many countries in many sectors senior managers are future illiterate or decisions are taken by using given, expert-oriented (expert-predicted) futures. Is the future is an extrapolation of the past? How can a planner anticipate what will be “good” and “right” and “proper” tomorrow? The values of planners perhaps are narrow and are today’s values, not those which will be held by people in the future. This is a form of tyranny-the tyranny of the present as mentioned by futurist Alvin Toffler.

Growth is a quantitative whereas development is a qualitative concept. By using nudge and choice architecture tools (through scenario planning and other foresight methods) we can compare short term gains long term losses of all decisions.

Modern economies today have undergone a dramatic change. There has been a shift from large-scale material manufacturing to the design and application of new technology with R&D and human capital. The new information age has introduced significant productivity gains through increasing returns and learning by doing. This has challenged the traditional growth models based on competitive market structures.

A complex decision problem is present, if two or more of the following conditions are fulfilled: The actor pursues several goals simultaneously. Some of these goals are not very precisely defined, and it is even possible that contradictions exist between them. As Morieux shows, CEOs in 1955 pursued 4–7 goals. In 2010, 25–40 goals are pursued simultaneously (Grunig and Kuhn, 2013).

To what extent the creation of new especially shared knowledge is used in companies, in public and private institutions, in NGOs etc (from fixed to autonomous management) is not known very well.

The use of flexible methods in working groups, flexible utilization of open discussion and brainstorming, participant empowerment, future-oriented workshops on selected themes facilitated by experts are getting popular but at the final stage who takes decisions is getting us back to traditional top to bottom decision making model.

There are two differing conceptions about rationality of decision making.

Substantial rationality, on the one hand, demands that the goals pursued are the right ones, that is, the goals are rational. Additionally, the decision-making procedure must have a rational course. Formal rationality, on the other hand, requires only that the decision process be rational. As goals generally represent subjective values, they cannot be considered as right or wrong. Thus substantial rationality is not possible. Management science is therefore oriented towards formal rationality.

To have formal rationality we need to use future in a better way. Instead of shorttermism we may use very long time horizon. We may use wholistic view-economic-political-institutional-sociological-technological-environmental aspects together. We may use multi-discipline approach to foresee main changes of the future.

The Discipline of Anticipation can be used as a base of new decision making process.

Prediction does not work very well in the world of human affairs, because there is not good scientific theory of human behaviour.

In fact, there are many theories in psychology, anthropology, sociology and the like. All work to some extent, but they fail just as often. So there is uncertainty when predicting the outcome of a process involving human beings.

The objective would be not to be too right (which is impossible), but rather not to be wrong-not to be surprised. Surprise means, inadequate preparation, late response, risk of failure, even chaos or panic.

The power for people to influence their future is related to the quality of their vision and a vision is a concrete image of a preferred future state.

To have a vision, to be a visionary, or to change the part of the world no need to be a grand historical leader. We can use better tools of decision making for today's complex world (post-normal times).

Scenario Planning is inherently a learning process that challenges the comfortable conventional wisdoms of the organization by focusing attention on how the future may be different from the present (Wilson,2000).

Scenarios are a management tools used to improve the quality of executive decision making and help executives make better, more resilient strategic decisions.

Back-casting is one of the scenario techniques where you start with an imagined future and then create a path to it. The path could be constructed through analytical methods or through more creative methods such as "future history writing".

Foresight is different than forecast. "Forecast" is used as a term for predictions, foresight is a term that describes a more open perspective on futuristic thinking.

It focus on the identification of possible futures, potential issues, tendencies, and uncertainties, often using scenario method. It is similar to the term prospective analysis.

There some pitfalls of scenario planning too. There are prejudices, wishful thinking and blind spots that could lead to lousy analysis. There can be other traps; process design, selection of participants, communication format and the others. But these deficiencies can be eliminated through well-designed procedures.

In this stage the online voting systems and suggestion collection method could be used.

A scenario is the full description of a future state and the path to that future. Some scenarios may include wild cards in it to show the possible future results. Of our current decisions. Wild cards are unlikely future events that would have great impact if they occurred.

To study the future is to study potential change-unveiling what is likely to make a systemic or fundamental difference over the next 10-25 years or more and it is not economic projection or sociological analysis or technological forecasting, it is a multidisciplinary examination of change in all major areas of life to find the interacting dynamics that are creating the next age (Giaoutz and Sapio,2013).

The emerging new scientific conception of life involves a new kind of thinking-thinking in terms of relationships, patterns, and context which is known as “systems thinking”. A central characteristic of the systems view of life is its nonlinearity: all living systems are complex- highly nonlinear-networks; and there are countless interconnections between the biological, cognitive, social, and ecological dimensions of life.

We may start thinking about “Could it be possible to change our ideas about “what is possible”? Is the wisdom of crowd (collective genius) possible? But of course Wisdom of the crowd requires trust, support by the government, enforcement.

Crowds can be mad as well. To be wise it needs to be diverse in its membership (Goddard and Eccles, 2013). We live in a turbulent world. Plans, strategies and policies are based on fixed goals. But the environment that we live and the conditions are changing very rapidly.

Corporate and government responsibilities are changing very rapidly. We the human beings own better social capital and can use collective intelligence in a better way.

#### 4. HOW THE GLOBAL GOVERNANCE THROUGH COLLECTIVE INTELLIGENCE CAN BE DESIGNED-

The theory cybernetics was the result of a multidisciplinary collaboration between mathematicians, neuroscientists, social scientists, and engineers- a group that became known collectively as cyberneticists.

To deal with the complex problems of postnormal time we need postnormal science which could bring many disciplines together.

If an international organization is established to govern the complex global issues could it be practical? Many radical changes started with utopic ideas.

By using today's information technology, the people of the world can vote to choose the governor of this institution. Let us call her "supra-national ombudsman" and she will act as the ombudsman of the earth and all living things on it.

Then if decision's degree is simple the problem will be well structured and consequences can be predicted quite easily so the decisions can be formulated through the direct votes of all people living on earth.

If the problem is complex than a detailed order can but into effect.

Scientific committees chosen through direct votes by all the people will work on the issues.

The suggestions and solutions of interested people and invited experts will be received. In the second stage possible scenarios and their possible consequences could be shared through online videos to all people governments and institutions.

Richard Thaler and Cass Sunstein suggested that if a particular unfortunate behavioral or decision-making pattern is the result of cognitive boundaries, biases, or habits, this pattern may be "nudged" by public policy makers toward a better option by integrating insights about the very same kind of boundaries, biases, and habits into the *choice architecture* surrounding the behaviour.

So if the problem is totally divergent and does not contain only quantitative aspects then the problem and the decision to be taken to tackle with this will be brought to the supra-national ombudsman. The collection of scenarios and suggestions of scientific committees will be combined (if nudging is necessary this will be added too) and will be listed again to people through direct online surveys.

The choices will be empowered by national governments. Of course in such a global order like the sovereign states limited their sovereignty in some issues through international agreements again states should come together to write the charter of this new institution.

What will be the sufficient majority to take a decision and how any country who does not obey the decision will be forced are the details that can be determined.

But it seems in today's postnormal times we need to destroy the world in theory before we destroy it in practice to make the world order more credible. Through this way the ability of governance systems to cope with change and uncertainty will be easier. Governments created bureaucracy-the rule of no one has become the modern form of despotism as Mary McCarthy described.

Regardless of how we describe the present-the digital epoch-the fourth industrial revolution age-second machine age-the new world order could be designed by the nations especially on complex problems. Trust must be brought back to the global governance. We live in a VUCA (Volatility-Uncertainty-Complexity-Ambiguity) world. Actors with different forms of authority and with different interest can not find common solutions to complex problems.

It is better to start working on the governability of such collective-participatory-

inclusive system. Thinking the unthinkable one is not a utopia. **Utopia** is a Greek word meaning “no place”. But it may be combined with Eutopia which means “good place”.

The similar system can be designed with in corporations. Andrew Chakhyan calls it “intrapreneurship” which means creating new ideas from within organisations. This utopic idea may bring us to eutopia.

## 5.CONCLUSION

The modern world individuals are isolated and helpless. Basic anxiety is characterized as a feeling of “being small, insignificant, helpless, endangered, in a world that is out to abuse, cheat, attack, humiliate, betrays, envy.

A new solidarity or new humanism, to reintegrate all countries in the universal community may be named as utopian by some decision makers or politicians. The meaning of utopian is misused. Utopic never means something which is unrealistic or unreachable. It means by choosing difficult road which requires a paradigm shift and radical changes (which may seem unrealistic or unattainable) we can shape the future in a better way. The history is full with the success stories of these kind of utopic ideas.

Changes in the world call for the development of a new humanism that is not only theoretical but practical, that is not only focused on the search for values – which it must also be – but oriented towards the implementation of concrete programmes that have tangible results.

The Italian philosopher Pico della Mirandola (1463-1494) expressed this point at the tender age of 24, when he developed the central concept of humanism in his famous *Oration on the Dignity of Man*, written in Florence in 1486: “God the Father, (...) taking man (...), set him in the middle of the world and thus spoke to him: ‘we have made you a creature neither of heaven nor of earth, neither mortal nor immortal, in order that you may, as the free and proud shaper of your own being, fashion yourself in the form you may prefer’.”

Global crises raise challenges that cannot be resolved by any single country. Societies are interconnected and cannot act in isolation. It is up to every one of us to bind the community of humanity together, to build a common space that excludes no one, regardless of continent, origin, age or gender.

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.“

We need new global governance model to assess the impact over the next decades of multimedia, the human genome project, biotechnology, artificial intelligence, organ transplants, superconductivity, space colonization, and myriad other developments.

How can a planner anticipate what will be “good” and “right” and “proper” tomorrow?

The values of planners perhaps are narrow and are today's values, not those which will be held by people in the future. This is a form of tyranny is was called -the **tyranny of the present** by the futurist Alvin Toffler.

As Nassim Nicholas Taleb states in his new book having the title "Skin in the Game"; we cannot control other people we can only control our own reactions to them. He also adds that the curse of modernity is that we are increasingly populated by a class of people who are better at explaining than understanding (Taleb, 2018).

The world is like the human body, if one part aches, the rest will feel it; if many parts hurt, the whole will suffer. The nature and character of nation's future development should therefore be a major concern of all nations irrespective of political, ideological or economic orientation. As we look toward the next centuries there can no longer be two futures, one for the few rich and the other for the many poor.

Every ecosystem, every species, very thing that happens in the air, or the water or on the land is affected by what people do or have done. This is why many scientists believe that it is time to proclaim an end to Holocene Epoch, which began some ten to twelve thousand years ago with the end of the last Ice Age, and recognize that we have now entered a new epoch, the Anthropocene in which human activity has come to rival nature as a force in the evolution of life on Earth (Anderson,2016).

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

As Spinoza said "If facts conflict with a theory, either the theory must be changed or the facts". And Seneca said "Every new beginning comes from some other beginning's end".

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OCTOBER 2017

## Planetary Security and Anticipatory Governance

### Climate Change and Other Apex Challenges

The central question of planetary security is this: will the Earth continue as a habitat suitable for the indefinite existence of a flourishing, advanced technological civilization, without which the physical survival of the human species is in doubt? This paper takes the position that governance will be a critical factor in determining the answer to that question. It focuses on practical ways by which governance can be upgraded so as to provide more comprehensive and effective responses to complex issues. It asserts, however, that governance as it is universally practiced today is not up to this task; that it needs to be upgraded at every level up to – and especially – the global; that the technical means for accomplishing this exist; but that the political will do so is problematic; that this impulse may finally be engendered by a new class of meta-challenges – with climate change as *primus inter pares* – but that the later we begin, the higher the costs and the greater the risk that events will overtake us.

#### Governance and complexity

Governance as we know it is a legacy system, reflecting political thought and industrial experience carried over from the 19th and 20th centuries. These experiences are based on the assumption that issues can be broken into sub-units which can be resolved in isolation, and then combined in a serial process resembling an assembly line. In the “real” world, however, major issues are not merely complicated but **complex**: parts of systems within which all elements are mutually interactive, such that a change at any one point generates effects that are

expressed simultaneously across the system as a whole, often resulting in discontinuities up to and including catastrophic failure.

The prevailing view in government is that the existing approach reflects inherent limits to what we can know about the future, and, therefore to what we can do – as a practical matter – to manage uncertainty and risk. Unfortunately, the pace of societal change, which is a function of the hyperbolic rate of technological innovation, is accelerating beyond the adaptive capacity of governance as currently practiced. There is an urgent need to step up our game.

## Anticipatory governance

Dealing with complex societal issues requires a form of anticipatory governance, which, I believe, requires three interlocking systems, each with its specialized output, as follows:

- more intimate linkage between foresight and policy;
- lateral networking as the basis for executing policy for complex issues; and
- “feedback” for gauging and responding to the effectiveness of policies once they have been put into action.

The foresight/policy system would promote awareness of long range trends and possible events, as matters deserving attention even in the immediate present. It would counter-balance pressures to think and act only in the relatively short-term, often making problems worse for those who will be affected by them in the longer term. To a considerable extent, this is a “cultural problem.” There are experts in government who speculate about longer range challenges, and there are experts who deal with action in the present. These communities do not communicate well with each other, and the purpose of a foresight/policy system would be to cultivate constant interaction.

A networked management system would promote the integration of the resources of all relevant parts of government into composite plans of action addressing specified objectives, including their budgetary requirements. The term of art for this is “whole of governance,” and its goal is to bring about “management to mission” as opposed to “management to mandate”. It offers a way to overcome the traditionally vertical organization of agencies of government, without requiring their deconstruction – which would be impractical. At the Federal level of government in the United States, the basis for this can be found in the existing inter-agency arrangement. This system, however, remains a work in progress, often producing nothing more than coarse aggregate of bureaucratic interests rather than a true alloy.

Feedback is a concept familiar to engineers, as a way to limit error in mechanical or electronic systems by providing the means

for their continuous adjustment. As applied to governance, feedback would provide the means to adjust policies and programs in time to correct for ongoing error, and/or to exploit emerging opportunities. The objective would be to prevent the “zombification” of policies that remain in effect too long, without benefit of ongoing review and adjustment.

So-called “case-studies” can provide perspective at the level of history and its lessons – but not the kind of information needed for real-time action. What is needed, however, is a feedback process that continuously monitors the effects of policies in comparison to their promised results, producing information that would reach policy makers in time for adjustment, taking into account realities such as the inertia and momentum.

In the United States’ government, the sub-systems needed for anticipatory governance are in existence. These are very powerful analytic tools for generating alternative projections about the future; proficient organizational techniques based on networking; and procedures for using data as a method to objectively test the efficacy of policies that are in force.

The problem is that these systems do not come together in any single area of governance. Rather, they exist in scattered locations and are not part of the locus of policy-making at the national level. This shortcoming impairs the ability of the United States to deal with policy issues that are complex, especially with an emergent new class of challenges that have the potential to disrupt social, economic and political structures. These issues are not only present in the United States, but are in fact global, where legacy approaches to governance are too slow and fragmented.

## Anticipatory governance as an adaptation to climate change

Climate change is an apex example of a complex societal issue with severe implications for national well-being and

international security. The requirements for managing climate change include: (1) slowing the rate of onset of climate change to allow time for an effective response; (2) holding environmental and societal damage to levels from which it is possible to recover; (3) managing emergency responses that are properly scaled to anticipatable, near-term impacts of climate change; (4) establishing a long-term equilibrium between human needs, and the requirements of a stabilized climate system; and (5) sustaining this equilibrium by means that are compatible with prospects for continued societal advancement at the national and global levels.

Attaining these goals will require unprecedented levels of collaboration. For example, there will need to be global agreement on: (1) the underlying or base-line rate of warming, which will have to be re-assessed periodically; (2) measures to constrain emissions of green-house gases; (3) the effects of such constraints; (4) the implications of new technologies on mitigation and adaptation to climate change; (5) the early identification of impending crisis-level issues relating to climate change; and (6) advance funding at regional, national and global levels.

These (and other) requirements clearly exceed the capabilities of even the most powerful states. There is already an agenda of climate-driven changes that are insoluble at any level of effort that does not include a form of anticipatory governance at the global level, for example: the intensifying destructiveness of tropical storms and monsoons; the increasing intensity and destructiveness of forest fires; the collapse of coral reefs on a world-wide basis; accelerating desertification; and increasing urban temperatures that are pressing the upper limits of survivability. Moreover, these represent the primary onset, rather than the ultimate cresting, of threats generated by climate change. They are already crises in the “Now”, but they point towards much worse levels of disruption later, arriving at such speed as to require action to address not only the immediate effects of climate change, but – at the same time – its fundamental causes. To achieve this,

there would have to be a transition towards governance in which states would – under the pressure of threats to survival – respond to internationally binding agreements, in exchange for more rapid progress towards re-stabilization of climate in balance with human economic and social aspirations.

The Paris Agreement has provisions for periodic reviews which may become venues out of which will emerge ideas for an integrated system of anticipatory governance, to manage a global response to climate change. Such a progression may seem improbable, but this process has already been occurring in other domains such as conflict avoidance and conflict termination, by means of UN Security Council resolutions that are mandatory under Chapter VII of the Charter.

## Potential impact of a changed political environment

The Paris process faces a dual challenge: to keep the international community pointed towards compliance; and to create the basis for a follow-up agreement (or series of agreements), involving much deeper and faster reductions in emissions of carbon dioxide and other green-house gases. It will, moreover, have to accomplish this in the absence of positive support from countries who have supported the agreement but who have since changed from leaders to laggards, notably The United States.

The present US Administration's opening moves regarding climate change have been hostile. Along with this, its general approaches to the conduct of foreign policy are shifting away from broader international engagement, which, in turn subtracts from the ability of governments and international systems to focus as tightly on climate change as might otherwise have been the case. Moreover, the US Administration's determination to put sovereign interests ahead of collective security, provides a doctrinal basis not only for a sea-change in US behaviour within the international system, but for other nations to follow suit. Nevertheless, there is reason for hope

that technological, economic, and political momentum behind measures to combat climate change are such that despite political changes domestically, the goals that were set under different political circumstances can still be met – in the US as well as in other countries.

It would be wise, however, for international planning to be based on scenarios involving delayed, less effective and more expensive responses to climate change as the result of this changed political environment.

### Beyond climate change: escaping the fate of Prometheus

Climate change belongs to a new class of highly disruptive trends, emerging out of the technological brilliance of our civilization, including consequences such as: the creation of whole classes of pathogens that are resistant to antibiotics; the chaotic modification of the existing stock of living things through totally unregulated, opportunistic applications of genetic engineering; the wholesale liquidation of many forms of human employment, as the result of robotic substitutes for low-skill labour in the absence of workable plans for a societal transition; simultaneously accompanied by the depreciation of higher levels of human creativity as a by-product of the introduction of radically advanced forms of machine intelligence.

Legacy systems of government do not at present have the “bandwidth” to sustain the kind of policy-making required to deal with the complex challenges that will be the hallmark of this century. We must change these systems in order to be able to create and manage the new policies that will be needed. But even if every individual government were to be well positioned, there is no *collective* capacity in existence able to handle policy for the emergent, massive, complex, global issues that are coming towards us. The elements of such a capacity include systems to provide policy makers with continuous use of foresight methods to scan trends and possible events, especially those likely to have the strongest long-term

impact, and the use of feedback systems to examine whether policies in force are producing results in line with expectations at the time of their adoption.

We will also have to deal not only with shortcomings in the design of systems of governance, but with problems arising from human nature, for example:

- A strong tendency to focus on short-term problems, and to disregard long term consequences – often justified on grounds that the latter are unknowable, although the true reason may be that it is politically inconvenient to deal with them.
- A policy-making “culture” comprised of activists who build their reputations by propounding unitary visions of the future, versus a foresight “culture” comprised of scholars who aim to explore multiple futures, each with approximately the same level of plausibility. And,
- The tendency of substantive experts and policy elites to short-change democratic processes, thereby leaving the people out of discussions that profoundly influence their futures, which has the effect of starving these policies of legitimacy and staying power.

### Role of the policy-makers

We often conflate the roles of the many in government who work as professionals in formulating and implementing policies, with separate roles of the few who actually decide among these choices, in the knowledge that they bear personal political responsibility for the consequences. The latter actually make policy, and if they lack vision, courage and tenacity, then all the expertise of those who support them will count for little. Those American leaders who have presided over periodic major reforms of *systems* of governance in the United States, have not done so out of a fascination with process. Rather, they understood that the times demanded new kinds of solutions to unprecedented problems, and that these solutions could neither be devised, nor implemented without upgrading legacy systems of governance. Today’s emergent meta-issues require that policy-makers must now think in similar terms about the reform

of global systems of governance. They must, in other words, take on the responsibility for taking the systems and processes of governance to the level needed in order to meet the requirements of planetary security in the twenty first century.

### **Establishing anticipatory governance at the planetary level: practical steps**

Anticipatory governance is a scalable process, meaning that it can be designed and operated at every level from municipal to global. At every level, however, there is a common requirement for political leadership, without which nothing will be accomplished no matter how much time and effort might be expended by experts. Political leaders must not only commission experts to do their work, but must also involve themselves in the process as true

participants, bringing genuine questions to the table rather than pre-conceived ideas. One way to start this process would be to introduce the question of governance for the management of meta-issues, as agenda items at international fora that already exist to deal with complex meta issues. In other words, governance methods for meta-issues would become a topic for consideration at the highest levels, in addition to the normal agenda comprised of specific policy issues. I would suggest that this process could be triggered by the UN Secretary General, although it should definitely not be allowed to become part of the United Nation's normal bureaucratic process. Rather, the Secretary General should recruit participants at the political level, to be facilitated by a sherpa-like process. The primary objective of this process would be to work on measures to combine systematic foresight for longer range issues, with ongoing policy work dealing with near term demands for applied governance.


## About the Planetary Security Initiative

The Planetary Security Initiative aims to help increase awareness, to deepen knowledge, and to develop and promote policies and good practice guidance to help governments, the private sector and international institutions better secure peace and cooperation in times of climate change and global environmental challenges. The Initiative was launched by the Netherlands Ministry of Foreign Affairs in 2015 and is currently operated by a consortium of leading think tanks headed by the Clingendael Institute.

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## About the author

**Leon Fuerth** served for eight years as Vice President Gore's national security adviser, in the course of which he regularly participated in discussions at the national level dealing with security, economic and technological issues. Before that, he held senior policy-related positions as a Foreign Service Officer in the Department of State; then as a senior member of staff for committees in both the House and Senate; following which he taught courses on the role of foresight in governance as a professor at the graduate level in the Elliott School of International Affairs at the George Washington University, and at the National Defense University.

For more of Leon Fuerth's work on Anticipatory Governance please visit [www.forwardengagement.org](http://www.forwardengagement.org).

# Foresight and anticipatory governance

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## Abstract

**Purpose** – *The purpose of this paper is to lay a theoretical basis for discussion of the ways by which organized foresight can be employed in the service of pro-poor objectives. This is in line with the fundamental mandate of the Rockefeller Foundation, dating from its establishment.*

**Design/methodology/approach** – *The objective was to capture concepts that the author has been developing and teaching under the heading of "Forward engagement". Forward engagement is a particular approach to anticipatory governance, drawing upon complexity theory for assessment of issues requiring government policy; network theory for proposed reforms to legacy systems of governance to enable them to manage complexity under conditions of accelerating change; and cybernetic theory to propose feedback systems to allow ongoing measurement of the performance of policies against expectations. For more detail, visit [www.forwardengagement.org](http://www.forwardengagement.org).*

**Findings** – *The paper sketches out some core elements of a system for anticipatory governance.*

**Originality/value** – *In addition to the primary findings of forward engagement (see web site), this paper argues that foresight and anticipatory concepts can play a vital role, not only for governance in the United States, but for governance in developing countries: perhaps even more so, because such countries have narrower margins for response to significant changes of circumstance.*

**Keywords** *Governance, Complexity theory, Forward planning*

**Paper type** *Conceptual paper*

## 1. Prospectus

In this paper, I offer views on the nature and uses of foresight as an undervalued, but vital part of governance[1]. These views draw very heavily on my experience as a working practitioner in government, and they are of course saturated by my identity as a citizen of the United States and a product of its culture. My ideas may or may not seem relevant to persons whose experiences of the world are much different than mine.

The Pro-Poor Workshop at Bellagio left me with the impression that practitioners of diverse origins actually do share at least one conviction, in the midst of many probable differences. This would be a shared belief that humanity has the wisdom needed for anticipatory governance[2]: that we can shape the future based on foresight combined with practical action. Assuming we have this much in common at the start, we probably also agree that ours is a very bold prospectus.

Many would say that a belief in foresight and anticipatory governance vastly overstates our capacity for understanding and shaping the forces that govern our destinies. But the alternative is to continue to practice governance that 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. This reactive approach might be viewed fatalistically as the cost of doing business in the real world – a world of unintended

This paper was commissioned by the Rockefeller Foundation to serve as a foundational document for the March 2009 meeting on the subject of anticipatory governance and the pro-poor agenda.



consequences that humble our grand plans. Yet it is precisely in that real world where the costs of business as usual are becoming insupportable at a frightening rate of speed.

As we look around at the state of the world economy, who will say that existing systems of governance are a sufficient basis for lasting prosperity? As we take note of the increasing rate of environmental disequilibrium, who will say that proceeding as per normal is a sane course of action? As we observe the accelerating gap between what science and technology can do in the physical world on the one hand, and what the world's systems for self-regulation can do to regulate these forces, who believes that the interests of this and of future generations are well protected? And, as we note the increasingly powerful interactions among these factors, who is confident that decision-making can stay ahead of events?

In particular, events over this past year profoundly challenge the very idea of "anticipatory governance". We are in the midst of events that force us to question the practical limits of foresight. In the presence of such a challenge we need to reboot, reexamine, recalibrate. If our premise is that anticipatory governance is both needed and workable – what is our case, and what do we have on offer to a world riding the edge of chaos?

#### *Note on organization*

The second section of this paper provides a brief history of my interests and activities relating to foresight and anticipatory governance; the third section sets an agenda by considering critical unanswered questions; the fourth section discusses foresight as compound skill, resulting from the interaction of a number of "tributary" ways of "seeing"; the fifth section presents Anticipatory Governance as a complex system of systems; the sixth section discusses a number of approaches to the design of Anticipatory Governance including and in addition to Forward Engagement, which is my own; the seventh section discusses the still-deepening economic crisis as a challenge to foresight and to anticipatory governance; and eighth and ninth section present my conclusions and final remarks.

## **2. The short personal history of an idea**

My interest in foresight and in the concept of anticipatory governance did not begin as matters of theory. On the contrary, they started as urgent practical requirements in the course of my work for former US Vice President Al Gore: first as a senior member of his senate staff, and then as his National Security Advisor. It should be kept in mind that at the outset of the Clinton/Gore administration, an entire world order lay in collapse. The abrupt liquidation of the Cold War removed a central organizing force from world affairs. We had the exhilaration of possible new beginnings, tempered by a sense of vertigo. And so, for much of this time, my work consisted of efforts to deal with these circumstances by means that would be innovative, long-range, complex, and future-oriented.

The common denominator among these experiences was foresight: a quality which set Mr Gore apart from his colleagues from an early date, and which ultimately earned him a Nobel Prize for his work on climate change. It was not an accident that long before he and I met, Mr Gore had joined with Newt Gingrich, as younger members of the House of Representatives in the US Congress, to establish the Congressional Clearing House for the Future. And it was therefore not an accident that my experiences working with Mr Gore would lead me to an interest in the application of foresight to governance.

In the eighth year of this association, I began to talk to the vice president about a set of emergent issues which, it seemed to me, were not classically related to the physical defense of the United States – but which clearly represented a threat to its safety, especially in the longer term. Mr. Gore spoke about these matters at the UN Security Council, just after New Year's Day, 2000, presenting them as a new, parallel security agenda. At that point, it comprised: international networked terrorism; international networked crime; the rapid spread of technologies for weapons of mass destruction; the appearance of new pandemic diseases; and the emerging threat of environmental chaos.

Forward engagement is the name I suggested, and which the Vice President accepted, to identify this emergent class of new threats. It was a term derived from the Cold War concept



of Forward deployment, which had been the core operational concept for NATO forces. Forward engagement echoed this concept, pointing out the need for early recognition of major new challenges and for speedier mobilization of responses in order to maximize our chances for success. It proposed to rely on the use of foresight methodologies as a means to help identify new challenges when these were still nascent

Upon the end of the Clinton/Gore administration, I retired from government and accepted an offer to teach at the George Washington University's Elliott School of International Affairs. With carte blanche to create my own agenda, I decided to continue to pursue the concept of Forward Engagement, essentially by developing it into a teachable process.

Sometime later, I decided to reach outside the lecture hall and to establish contact with like-minded scholars and government practitioners. For that purpose, I established The Project on Forward Engagement, with funds provided by the university and by the Rockefeller Brothers Fund. See section VI for further discussion on the Project.

### 3. Questions for defining an agenda

In my experience, it is necessary first to find the right set of questions. In that spirit, I offer the following set of questions to establish context:

#### *What is the premise of anticipatory governance?*

- What do we believe should be the purpose of foresight in governance?
- What do we mean by the term “foresight?” What are the implications of complexity for foresight-based governance? What do we believe is the potential social utility of foresight?
- Is it possible to design whole systems of governance that combine the policy process with foresight? To what extent is it theoretically possible for governance to become anticipatory?
- What kind of operational relationship should exist between foresight and governance? Is the term “anticipatory governance” useful as a way to refer to governance systems that integrate policy and foresight?

#### *Where are we now?*

- How realistic are our objectives, in light of experience?
- Is economics a forecasting methodology? Has economic theory collapsed?
- What examples are there, anywhere in the world, of ongoing efforts to achieve anticipatory governance? Can anticipatory governance be applied internationally? By what means?

#### *What is the way forward?*

- Does the field of foresight research need to redefine its own horizons, in terms of methods and organization? In particular, what can foresight research offer in terms of concepts for integration of foresight, policy, and policy execution?
- What can organization theory provide to help? Are there practical mechanisms for early identification of error and symptoms of systems failure? Has the long-range agenda collapsed into the present emergency: will global economic collapse, be followed by planetary-scale environmental disorder? And will these two issues collide not only with each other, but with the collapse of security on a world-wide basis?

### 4. Foresight – a systems analysis

Foresight is the capacity to anticipate alternative futures, based on sensitivity to weak signals, and an ability to visualize their consequences, in the form of multiple possible outcomes. It is a means to visualize, rehearse and then refine in the mind, actions that would

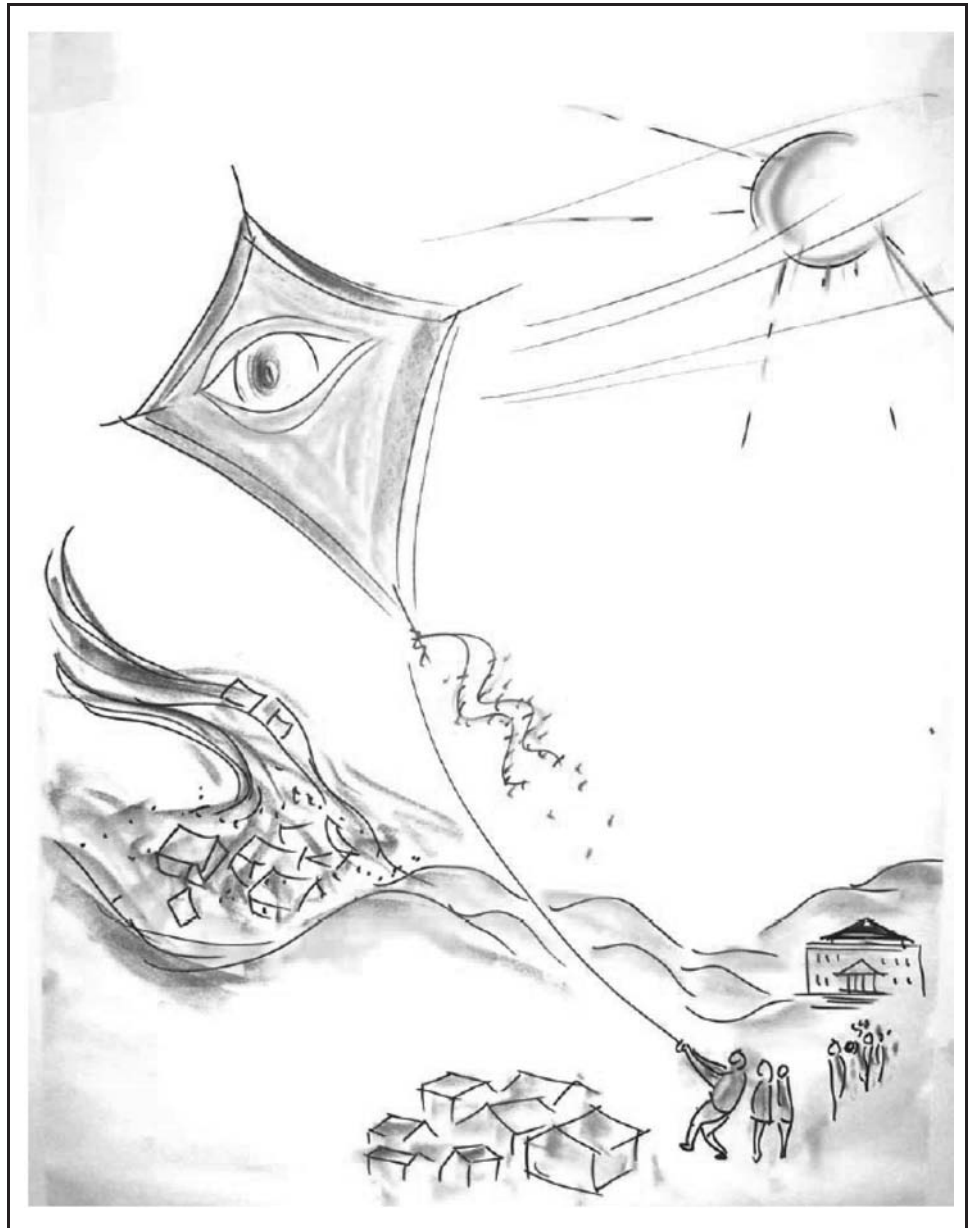
otherwise have to be tested against reality, where the consequences of error are irrevocable. As a factor in governance, the purpose of foresight is to enhance the ability of decision-makers to engage and shape events at a longer range and, therefore, to the best advantage of the citizens they serve.

### *Properties*

The concept of foresight is often used interchangeably with the idea of 'vision,' since it describes an ability to "see" ahead. But foresight and vision are not products of the same mental processes.

Vision tends to be a fixed image of the future, often presented as a kind of secular version of divine prophesy, involving a strong element of faith. Foresight, on the other hand, is based on assumptions that are always understood to be in flux and which are therefore treated as conditional (see Figure 1). Vision tends to be inflexible. Foresight is a continuous effort to

**Figure 1** Foresight and vision



reflect upon a range of possibilities as a means of informing choice. It involves a deliberate process of “scanning” for contingencies as a basis for making decisions.

Those who possess Vision have a tendency to be intolerant of alternative conceptions of the future, while those who practice Foresight welcome them as essential resources. Vision launches great ventures, while foresight is concerned with their possible consequences. Vision cannot be taught, while foresight can be cultivated. Vision is fundamentally an individual attribute; while foresight can be either individual, or collaborative. Vision makes predictions. Foresight makes estimates. Vision tends to be teleological and deterministic. Foresight is experimental and empirical.

### Components

*Foresight.* Foresight is a compound or synthetic skill, based on an integration of several, tributary streams of knowledge (see Figure 2). With apologies for some novelties in the use of terms, I identify these tributaries as follows.

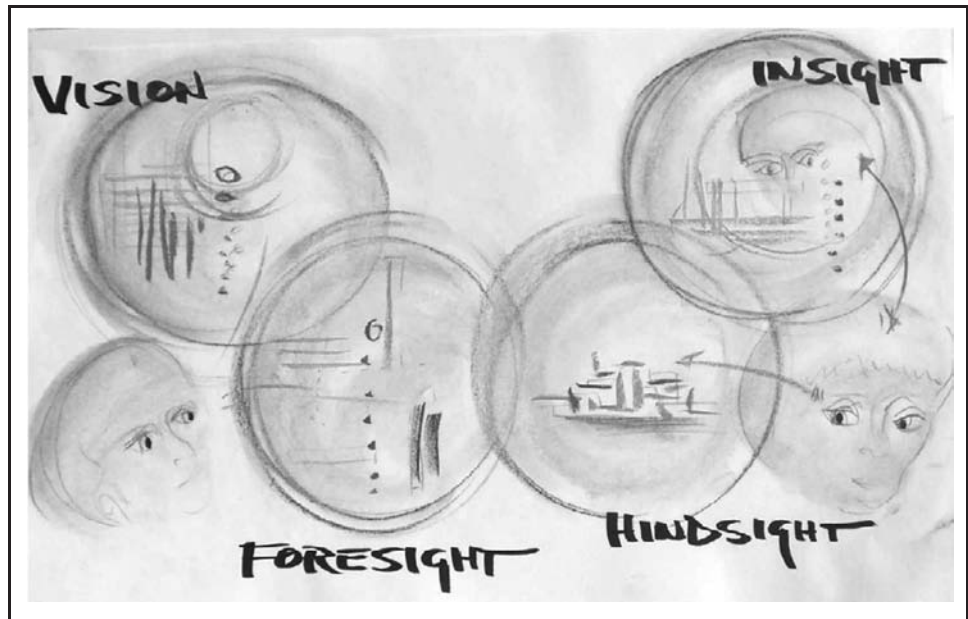
*Hindsight.* Hindsight is an awareness of forces that originate in the past, carry through the present, and (in modified form) persist into the future. The past is said to be “prologue”, but it is not destiny. Learning from the past and applying its “lessons” to the future may seem like wisdom. All so-called laws of history are at most temporary and local.

*Example.* Any assessment of future developments among states in the Middle East requires an understanding of the history of these regions since the end of the First World War, when imperially drafted boundaries created permanent human displacement. The same applies to an effort to assess the future of the Balkan states, where as a Greek diplomat – whose government was maneuvering to prevent the emergence of Macedonia as an independent state – once said to me, “In the Balkans, even the stones know history”.

*Insight.* Insight is knowledge of oneself and one’s own purposes, awareness of social and philosophical biases. These can unconsciously permeate our thinking and destroy efforts to achieve objectivity. The consequences of inattention to this factor have been disastrous for the development of foresight-based policy.

*Example.* In the case of the United States, whole policies have been conceived in error by projecting American attitudes onto other peoples. The United States’ intervention in Viet Nam

**Figure 2** Components of foresight



comes to mind immediately. So, too do gross mistakes that were committed by the United States in preparing to invade Iraq and especially in estimating the course of its post-war development.

*Topsight.* Topsight is a “supra-system” perspective of a complex system; an awareness of how all the parts work together to create a whole, and how specific events relate to each other to shape the evolution of the system. In any given period of time, seemingly distinct realms of human activity – art, science, technology, economics, politics – are interlinked and interactive (see Figure 3).

*Example.* The spread of cell-phone technology in China is building towards the point where spontaneous forms of public organization will outrun the central government’s efforts to dominate access to information, and to control political action.

*Prescience.* Prescience is an intuitive sense of the possible forms of the future, an attunement to weak signals that faintly hint at what may be possible. It is a mysterious quality, originating from unknown sources, much like creativity in the arts or breakthroughs in pure science. It is not possible to engender this quality in persons who do not have it. But it is possible to encourage it. To get to that threshold, it is possible to draw upon machine assistance in the form of increasingly sophisticated computer-driven models. But there is still a gap that can only be filled by acts of prescience.

*Example.* There is no imaginable group or machine process to replace whatever process of the mind produced the conceptualizations of persons such as Jules Verne, H.G. Wells, Karel Capek, Alvin and Heidi Toffler, etc. We are likely to find the most challenging examples of prescience in literature and art.

### *Engendering foresight*

Foresight can be the inspired product of a solitary individual. However, as is the case with so many other activities in the modern world, foresight is evolving towards highly organized forms, involving a blending of many talents. It is therefore making the transition from personal

**Figure 3** Topsight



talent to professional discipline. But it is an uphill process. In the United States, there are numerous private ventures organized as consulting services to provide foresight and long-range “visioning”. But the field of foresight analysis, though vigorous, is not well recognized as a discipline either in the academic world, or by officials in government. In the academic world, foresight studies are handicapped by restricted access to teaching posts, funding, and top-ranked students. In the world of affairs, foresight specialists are not routinely incorporated into policy-making systems, and are at a disadvantage – as compared to the other, conventionally accepted social sciences – in the competition for government funding.

The United States’ intelligence community is a middle case. Its analytic branches are heavily populated by classically trained social scientists, who tend to be very much bound to incremental analysis. There is an exception to this in the form of a foresight process under the direction of the National Intelligence Council (NIC). The NIC has been producing a rolling series of long range forecasts (e.g. The World in 2020). These products are unclassified and freely circulated. They involve the work of sometimes hundreds of scholars over a period of years, in addition to the work of a small inner core of intelligence analysts.

The results of these studies do not, however, appear to have had much impact on the thinking of officials in the executive branch.

## 5. Anticipatory governance – a systems approach

Our legacy systems for the formation of policy are based on the expectation of linearity. Linearity distorts our notion of cause and effect. Under its influence, we tend to expect that for every problem there is a unique solution; and that proportionate changes of circumstances will produce proportionate changes of outputs. We believe that it is possible to disassemble (“unpack”) compound, conglomerate issues, without destroying their coherence. We divide government into “vertical” hierarchies which neatly align legal mandates, bureaucratic boundaries, and the selection and training of personnel – all in the expectation that in the end, the result will be actions that are fully integrated and part of a properly functioning whole.

Complexity theory offers a much more realistic description of the flow and interplay of events. It brings to the study of human affairs, the sense that everything is indeed related to everything else, however inconvenient that may be for established disciplines, or for organizations based on bureaucratic insularity. It warns us to disregard the claims of ideologists and propagandists that there are unique, permanent solutions to major issues. It trains us instead to view issues, policies and the consequences of policies as parts of an unceasing interaction. It alerts us to the constant potential for abrupt, discontinuous forms of change. It helps us to understand why only the Law of Unintended Consequences stands intact over the ruins of policies based on single concepts and rigid plans (see Figure 4).

Complexity therefore has profound implications for the design of anticipatory governance.

Anticipatory governance would, in principle, be designed to employ foresight in the creation and execution of plans of action. As the result of this fusion, one would expect to find government that is able to sense and execute changes ahead of the cusp of major events; the better to blunt threats and harvest opportunities.

Anticipatory governance would be a system of systems, involving four basic components:

1. a foresight system;
2. a networked system for integrating foresight and the policy process;
3. a feedback system to gauge performance and also to manage “institutional” knowledge; and
4. an open-minded institutional culture.

**Figure 4** Complex interactions demand a systems approach



#### *The foresight system*

Foresight is a composite of various qualities (see above), whether it is expressed through the talent of an individual or the output of a large organization. Regardless of the scale, however, similar organizational and social factors are critical to success. Foresight requires an environment which offers the following conditions:

- readiness to listen to foresight and to consider action;
- ability to maintain a “protected space” within which analysts feel empowered to present their views; and
- rich exchanges between producers and consumers of foresight. The quality of the information you get is a function of the quality of the questions you ask.

The difference between foresight as an organized discipline and as an individual talent is that at the larger scale it will have access to socially organized research (e.g., forecasting, futuring, scenarios, modeling, horizon-scanning systems for detecting weak signals, Delphi surveys, issue matrixes, etc.). The power of these foresight tools are now amplified by the rapidly growing impact of computers and the internet on the speed and scope of human collaboration.



### *The policy integration system*

In the United States government, there are many foresight mechanisms. All of these systems are linked to policy-making, but the means for accomplishing this vary across agencies, and are especially weak at the national level – meaning, in the White House.

This is not to say that the White House lacks mechanisms for generating and applying foresight. They exist, but they operate in separate domains, and come together, only episodically. The White House is dominated by furious improvisation to deal with emergent crises. In this atmosphere considerations of the longer term are often forced aside (“kicking the can down the road”), and expedient decisions taken in the near term often are at the expense of viable options for the future.

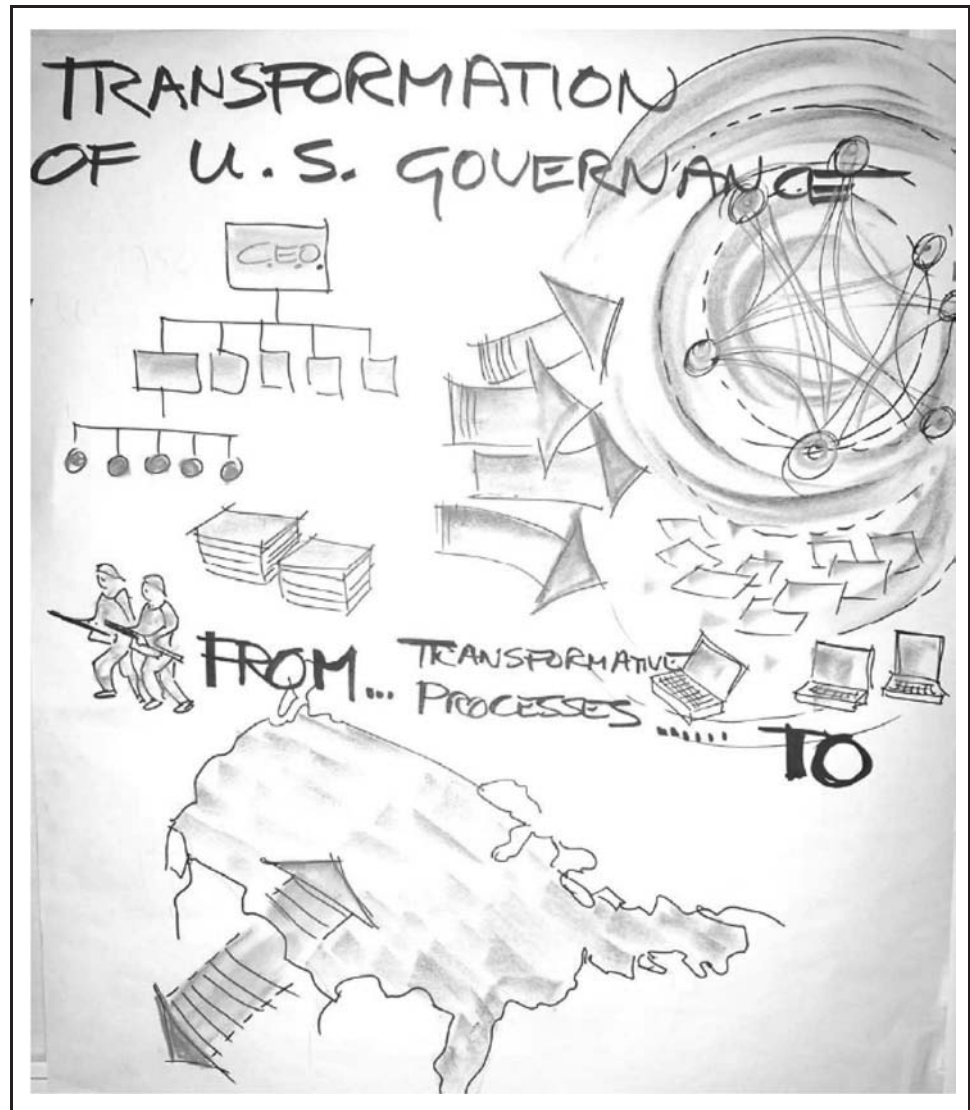
Problems therefore accumulate and the escalating costs for dealing with them inspire a sense of political defeatism, which in turn feeds the problem. Or such it has been until the present (Obama) Administration, which comes to office in the midst of a crisis that is crushing orthodoxies and opening the way for more radical ideas.

The Obama administration has inherited not only a legacy of crises, but an administration system that does not have the requisite complexity to deal with them. A deep, long range change in the structure and “culture” of our governance is needed (see Figure 5). The Administration recognizes this and is taking action in the form of early steps to upgrade the National Security system, by redefining its scope and improving its capacity to act.

In effect, the government of the United States is embarking upon an effort to bring governance into line with 21st century conditions, which are complex and global. This departure is “ragged,” and not guided as yet by any explicit overall strategy. But I believe that there is in fact an emergent pattern, and if I am right, its dominant features may be as follows:

- The reform process will begin in the executive branch, at the White House level.
- At the White House level, there will be an effort to more fully integrate existing systems into an overall system of systems to help formulate and execute coordinated strategy. The existing systems that I have in mind include operations run by the Chief of Staff, the National Security Advisor, the national council of economic advisors, the council of environmental advisors, the office of the Science Adviser, and others.
- The objective will be to create the means to define and execute “whole of government” responses to complex issues that cut across conventional jurisdictions, and which demand a level of integration which the present inter-agency system is inherently unable to provide.
- There will be a shift away from the present system, towards forms of governance that are networked, flexible, task-oriented, and designed to be added to the present system as a kind of supra-organization, allowing more time for transformation to penetrate more deeply.
- The key will be to organize bureaucratic form around function, by creating task forces that are organized according to mission, rather than jurisdiction.
- There will be much greater flexibility for moving resources into place behind evolving mission requirements: a shift that will require new legal and procedural arrangements with Congress.
- The operational definition of “national security” will expand so that this concept is no longer a synonym for “defense,” but a whole- of- governance approach for maintaining America’s wellbeing and resilience as a society. This, in turn, will sustain America’s ability to work with other nations towards forms of global development that promote social equity and environmental sustainability as interlocking requirements for survival.

**Figure 5** A paradigm shift for government and governance



*The feedback system (feedback loops)*

US policy making has until now (we shall see what the new administration does) not used sampling and feedback systems to measure the performance of policies. As a result the United States often does not detect early signs of failure. Typically, awareness of malfunction comes only after it has become patent and costly. To counter this, every policy sent to the President for approval should be part of a package including: information streams to be monitored; preset indicators of performance; and periodic “audits” of performance by teams that will independently report their conclusions to higher levels for consideration.

*The cultural system of anticipatory governance*

Changes of the sort described above can be initiated by executive directive, and when necessary, by new statutes. But these are changes that will not thrive unless the culture of governance in the longer term. As we have learned from experience with military reforms, formally networked command and control systems are essential, but so, too, is a culture of jointness: the capacity – based on both formal training and constant practice – to plan and operate seamlessly across jurisdictional lines.



I speak here not merely of organizational culture amongst those who would be responsible for this in anticipatory governance, but about “cultural characteristics” of a system as a whole. It would do no good to create an excellent foresight system within a system of governance that is insensitive to its value. What this means, is that anticipatory governance must display the following qualities:

- open-mindedness;
- curiosity and constant questioning of assumptions; and
- willingness to examine alternative possibilities.

These are qualities that can only be developed over time because they involve a culture-shift toward foresight. In the United States, means to encourage this shift could include:

- a revised promotional and incentive structure to emphasize collaboration across disciplines and bureaucratic boundaries.
- reform of the security clearance system
- social networking across agencies

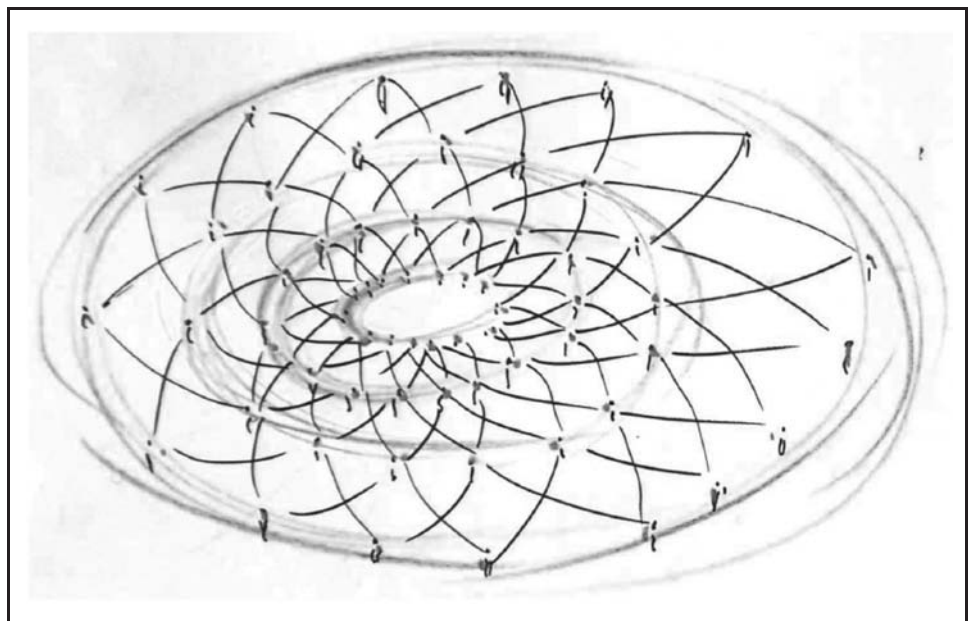
In the United States, the uniformed military has devoted a tremendous amount of effort to instill this mode of thinking as a way of promoting a full integration of its capabilities. No such effort exists on the civilian side of government, and this has become a glaring deficiency.

#### *General system characteristics*

As a complex system, anticipatory governance is not the mere sum of its components, but is also its own environment with its own set of characteristics. These characteristics would represent the interplay of sub-systems for foresight, networking, and feedback systems. Anticipatory governance would be a scaleable process, with similar relationships displayed at every level of governance, from the bureaucratic base to the political apex (see Figure 6). A fully operational form of anticipatory governance would:

- Cultivate foresight by creating networks of organizations, both public and private, employed to bring together forecasting, futuring, and modeling.

**Figure 6** Networked organization and culture



- Employ specialized systems whose purpose would be the identification and subsequent tracking of weak signals.
- Hand off these weak signals for constant evaluation, and use them as drivers in the development of alternative scenarios, including the testing by analysis and by simulation, of alternative policy responses and their first and second-order consequences.
- Use feedback systems for reassessment of policies, and recalibration.
- Develop networked processes for collection and assessment of intelligence, and for policy analysis. Evaluation would be a rolling, continuous process. So too, would checks for signs of systems failure.
- Make a substantial commitment to forming a culture of governance, better adapted to the requirements of action within the framework of complexity.

## 6. Specific design approaches for anticipatory governance

To my knowledge, there exist only a handful of groups that explore whole-of-governance approaches to foresight and anticipatory governance. Singapore's Risk Assessment and Horizon Scanning (RAHS, 2009) program studies these matters at the theoretical level and applies them operationally in a whole-of-government system. In Finland, the Finnish Parliament's Committee for the Future uses foresight methodologies to evaluate parliamentary initiatives, to assess technological development and societal effects, and for developing models of the future. At the global level, there is the highly influential work of the The Millennium Project (2009), which produces the annual State of the Future report for the past 13 years, Futures Research Methodology Version 3.0, and performs other foresight research and scenario development to support 15 Global Challenges with support of 33 Nodes across the globe.

In the United States, there are a number of extremely creative efforts to develop foresight. Some of these efforts go beyond the question of foresight itself, to address the problem of incorporating foresight as an operational element of anticipatory governance, with direct implications for systemic reform. This is the objective of the Project on Forward Engagement. The work of David Rejeski at the Foresight and Governance Project (2009) at the Woodrow Wilson Center also comes to mind. Another such effort, with some unusual characteristics, is the Project on National Security Reform (PNSR, 2009), to which I will return in a moment.

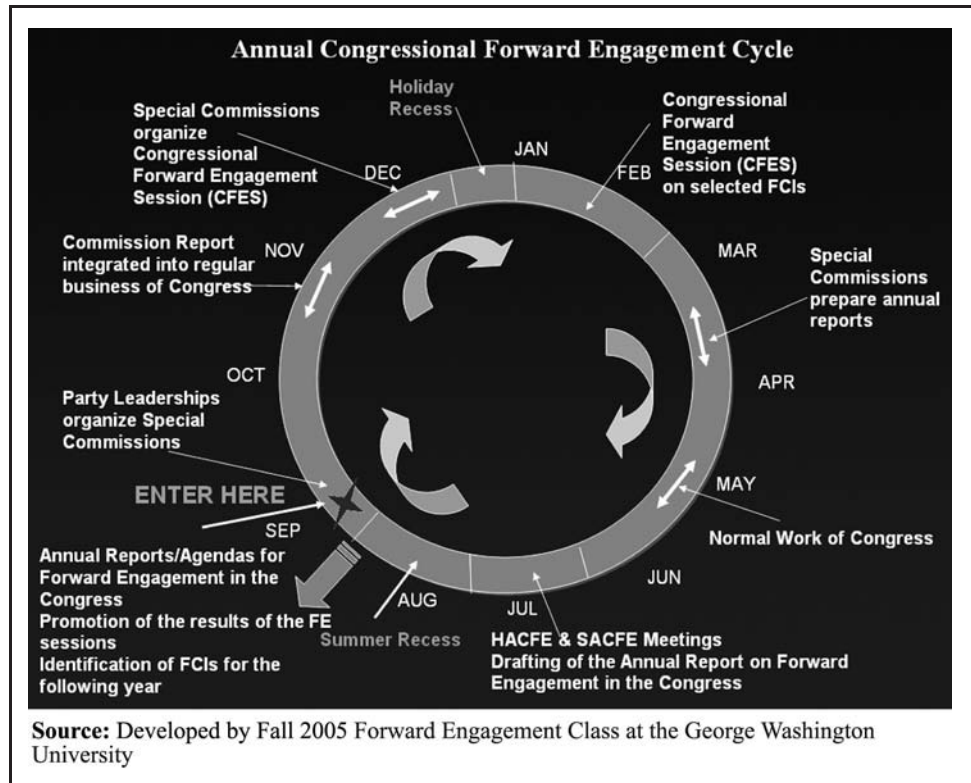
### *The project on forward engagement*

The Project on Forward Engagement is an effort to devise an operational, whole-of-governance approach to foresight in the United States. The Project incorporates three components:

1. a graduate seminar on long-range policy analysis;
2. expert seminars on unpacking Forward Engagement concepts; and
3. public outreach to US citizens through the World Affairs Councils of America, a nation-wide network of community groups, in an effort to create a constituency for apolitical long-range analysis and governance that is less reactive and more anticipatory (see Figure 7).

The objective of the graduate seminar is to accustom students of policymaking to think in a systematic way about potentially major, long-range events. A particular feature of the students' work is to consider adaptations not only of the Executive Branch, but in the US Legislature (Congress) as well. The parameter for these changes is that they must be fully compatible not only with the Constitution, but with deeply engrained legacy systems and patterns of operation. Figure 7 is a product of a class, whose mandate it was to focus on implementing Forward Engagement in the US Congress. The class syllabi, scenarios and student reports are available on the Graduate Seminar page of my website, [www.forwardengagement.org](http://www.forwardengagement.org)

**Figure 7** Adapting the Congress to inculcate foresight



### *The Project on National Security Reform (PNSR)*

PNSR is by far the largest, most comprehensive effort of its kind in the USA: one which may well catalyze major change in US governance, with important ramifications for the international system.

PNSR was established as a congressionally funded initiative in 2006. Its mission is to produce recommendations for reconstructing the US executive branch's organization for national security. By law, the PNSR's recommendations are to be accompanied by draft presidential orders and draft enabling legislation. PNSR's report "Forging a new Shield" was issued in December 2008, made available simultaneously to the Congress and to the President of the United States.

The PNSR effort is unique because of the scale of its activities, which have engaged dozens of experts for over a year, and because of the sheer ambitiousness of its mandate. PNSR was conceived as a successor to the Goldwater-Nichols Act of 1986, which fundamentally reorganized the US military. It proposes, however, to go much further than Goldwater-Nichols, with adjustments that take into account the rapidly increasing complexity of modern problems, and which reach far beyond the uniformed military services for resources.

What makes PNSR very noteworthy, however, is the prospect that many of its key conclusions are going to be incorporated into the practices of the Obama administration. One reason that this may be so, in addition to their inherent quality, is that a number of persons who were deeply involved in formulating them have now joined the US government in senior positions, including: National Security Advisor, Director of National Intelligence, Director of Policy at the Department of Defense, and others.

The major PNSR findings are:

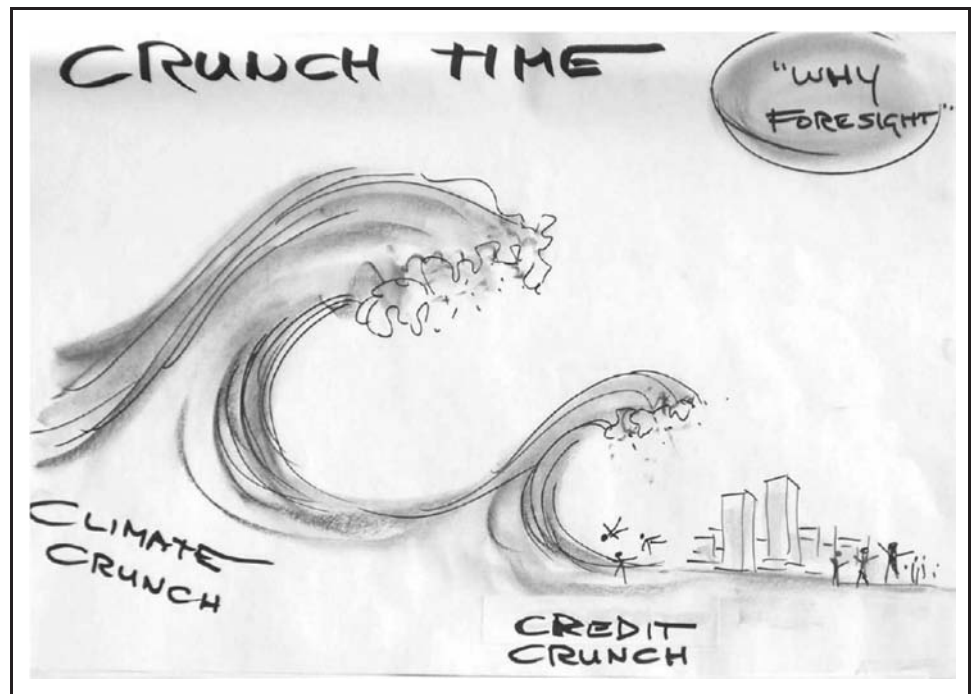
- we are facing complex problems that cannot be dealt with through conventional bureaucratic practices;
- we need a task-oriented, flexible approach to organization for national security;
- the organizational system must be based on networked relationships within and among the concerned executive branch agencies, up to and including the White House itself;
- long-range planning is an essential component;
- new forms of training and career development are needed to create a cadre of policy level officials with the necessary capacities; and
- the scope of national security begins with, but is not limited to the physical defense of the United States – extending to the long-sighted management of its economic and human resources.

When PNSR was conceived, one of its major objectives was to secure deeper integration between the external security of the United States, and its domestic security against terrorist attacks. The focal point of this concern quickly became, and remains, a proposal for integrating the National Security Council and the Department of Homeland Security Council. As PNSR proceeded, however, so-too did the world-wide economic crisis. It became apparent that the security of the United States was deeply engaged by this crisis, and that an approach centered on physical defense alone, had to be broadened.

During the same period of time, opinion in the United States government regarding climate change began to shift. Regardless of the static approach taken by the Bush administration, it became increasingly clear to policy elites in and out of government that climate change would shortly become a serious, negative force acting upon international systems at every level. These views also found their way into PNSR recommendations concerning the elements of security, and methods of organization for dealing with them (see Figure 8).

On February 13, 2009, the contents of the first national security memorandum of the Obama administration were released. It is clear that the administration is moving towards a broader,

**Figure 8** The crisis of now might obscure the crisis of tomorrow



more inclusive definition of the elements of national security, and of organizational processes that will be needed to manage them.

## 7. Major challenge to anticipatory governance: the failure of economics

The repeated economic crises of the past are all of the same sort: the role of speculation as a means to inflate value, abetted by a financial system that cannot control its own impulses; goaded by political cheer-leaders; sanctified by choirs of academic experts; followed by a collapse of an overextended financial system; leading to the collapse of the so-called “real economy”, in terms of physical production and employment; and ultimately paid for by the poorest.

Measures that were put into place in the United States in the aftermath of the Great Depression, were supposed to dampen these impulses and their consequences. The same was true for the Bretton Woods system of international measures put into place after WWII. In the ensuing half-century, the great majority of economists (in the developed world) have argued that these arrangements were able to moderate the risk of systems failure, while encouraging sustainable economic growth. The same principles – in the form of the Washington Consensus – were said to offer comparable benefits to the developing world. This was our orthodoxy.

So the collapse of the financial system as we have known it, really calls into question not just the adequacy of structures for governing them, but the entire body of economic theory that was summoned to build confidence in economic globalization. That theory is not a derivative of physical science as it intends to be, even though it may be expressed in abstruse mathematical language. It stands now as a discredited form of forecasting, because of a vulnerability at its core: it has yet to address the difference between the description of systems of inanimate objects and systems of human beings.

The economic crisis that has been unfolding over the last year is no mere market adjustment. It is a true “Black Swan”: an unanticipated event that demarks the end of one epoch and the beginning of another. The world’s financial system has been effectively nationalized, and no one knows how to reverse the process; the future has been deeply mortgaged to salvage the present, and no one knows how that debt can be redeemed; the balance of world power is rapidly shifting, and no one can be sure what kind of world order will emerge; and the elite leadership of the world has run through its repertoire of clichés and now confesses itself to be in unknown territory. That last one, at least, is a kind of blessing.

Economics purports to be a scientific discipline. If so, however, it asks for a huge dispensation: the right to use the whole of society as an experimental subject for its ideas, on grounds that there is no way to test them at any smaller scale. At this moment, unfortunately, it would appear that the experimental results are in, and they do not good look good for some of the most fundamental propositions that economics has advanced over the last generation.

Here is a partial list of doctrines in disgrace:

- the “real economy” is isolated from the stock market;
- the global economy is isolated from the US economy;
- the USA has, for practical purpose, an infinite capacity for debt;
- the US trade balance is irrelevant;
- the national debt is irrelevant;
- the benefits of globalization are universal and self-generating;
- the decline of major sectors of the US manufacturing sector is “balanced” or “offset” by growth of services, or that there is no net effect on the economy as a result;
- the market is self-correcting;
- deregulation removes useless impediments to wealth;

- cutting taxes reduces the deficit; and
- diversification, hedge funds, etc. reduce risk to the vanishing point.

What has been called into question here is more than the credibility of this or that bogus formula for eliminating risk in the market place. I think that these events are of such magnitude, and so “wild” that they put us on notice – yet again – that there are fundamental limitations to our capacity to manage the kinds of massive, complex processes on which our civilization depends. We have been on that kind of notice since the beginning of the age of nuclear weaponry; we are certainly on notice with respect to global climate change; our burgeoning ability to redesign life itself is bringing us to another inflection point. Moreover, these are converging crises – and the interactions among them have just begun to register.

Therefore, in my view, it is not just the economists who should do some soul-searching: I believe that all of us who make the case for “anticipatory” governance should regard our ideas as deeply challenged. There are fundamental questions that need to be addressed. Exactly what is it that foresight has to offer, beyond the axiom that one should always expect to be surprised?

## 8. Conclusions

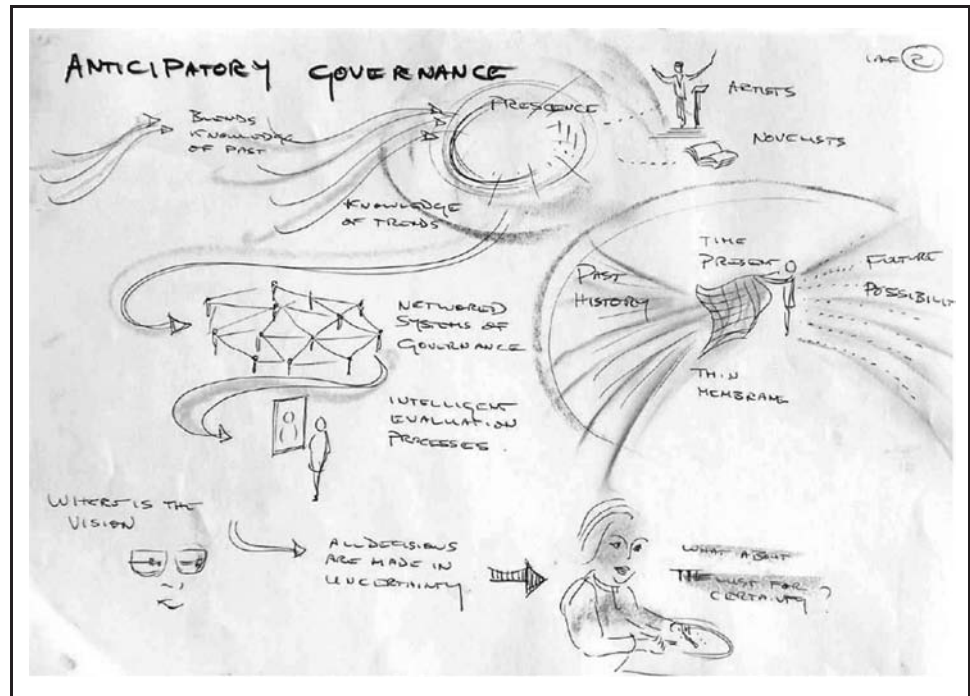
- The problems with which governance must now contend are no longer merely complicated, but complex. This means that problems are non-linear by nature, and that their interaction with policies leads to a progression of surprises.
- This (complexity) characteristic challenges fundamental assumptions about process and organization that are deeply engrained in governance as we now practice it.
- Failure to adapt governance to this fact of life exposes us to a series of costly errors, up to and including disastrous mischance.
- The ongoing economic crisis has many tributary elements, but at bottom what has happened reflects the failure of economics as a discipline to make the transition from the linear relationships upon which it is based, to the non-linear world in which reality is moving.
- Foresight is the instrument by which we can imagine alternative futures, and it is the means by which we can test courses of action in the mind, before we deploy them.
- Anticipatory Governance is 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 (see Figure 9).
- The basic elements of anticipatory governance are: a system for generating foresight in the form of alternative constructs about the future; a system for incorporating foresight into policy- making and policy – execution; and a system to provide feedback connections between results and estimates (see Figure 9).
- Anticipatory governance requires adjustments in the processes of the executive and legislative systems. These adjustments can at least begin in the form of relatively modest changes, rather than by means of draconian reorganization.
- In the core functions of government, there will be a need for “cultural” change, which can only be accomplished over time, on the basis of a redefinition of professionalism in government.
- The need for anticipatory governance exists at every scale from communal to global. At the global scale, however, we enter truly unknown territory since the subject matter extends all the way to the evolutionary course, and even the survival of our species.

## 9. Final comments

Most human misery arises from our own ignorance, rather than from the inherent organization of the natural world. Science and technology are ladders allowing us either to climb higher out of this condition, or to descend further. At the societal level, we express our



**Figure 9** Anticipatory governance components and process



choice through governance. But the default condition of governance is for the most part that it is myopic and fragmented.

We have attained the capacity to rapidly advance industrial civilization to new heights or to abruptly end it, with a diminishing margin of error between these two outcomes. Nuclear energy and nuclear war. Globalization of wealth, and global depression. Genetic interventions for the relief of hunger and disease, and genetic interventions running out of control, guided exclusively for profit or for war. Sustainable industrial civilization, or irretrievable environmental disorder. The polarities are very extreme, and thus the need for anticipatory governance is acute.

It is also true that wealth alone provides no more than temporary refuge from forces such as these. Nuclear war might be triggered by causes that have as much to do with desperate poverty as they do with wealth. Preventing catastrophic climate change will require consent and cooperation between both developed and developing societies, in equal measure. The rich will find themselves involuntarily bound to the destinies of the poor, and must therefore approach the concerns of the poorest with new urgency based on intense self-interest, which may in the end be more powerful than altruism.

Anticipatory governance is a mode of decision-making that perpetually scans the horizon for changes demanding adaptation in our plans and behavior. It can be regarded as a scalable system of systems, in which foresight is integrated at every level. The need for anticipatory governance is now common to us all at every scale of activity from local to global.

Following the Bellagio conference, three additional questions were posed that deserve response:

1. *Is foresight in countries of the "Global South" similar or different to foresight applied in the USA to national security issues?* In the United States, the concept of "national security" has long been conflated with the idea of "national defense", which means that the two expressions are used as synonyms for protection against physically violent forms of assault. There is increasing awareness in the United States, however, that "national security" is a much broader concept, extending to all matters that bear on the ability of the

United States to sustain itself in the world. At this level, national security extends to the exercise of stewardship over the fundamental sources of societal strength and national power. All societies have a similar need to protect and/or advance themselves by means of policies that integrate multiple factors, guided by efforts to detect early signals of major oncoming events. In this sense, foresight ought to play the same role in developing countries as it does in the United States: as a mechanism to identify future challenges and navigate complexity.

2. *Is the need for foresight the same across cultural and geographic contexts?* Foresight will clearly focus on different matters, according to the widely varying perspectives and circumstances of different peoples. But across these differences is the unifying need for anticipatory governance: i.e. governance that systematically combines foresight and policy-making, so as to shorten the time required for perception and response to major on-coming challenges. Given that all cultures increasingly must function as parts of an emerging global civilization, there is a need to: respect cultural norms; but to look for ways to harmonize these in order to enable global responses to global phenomena. Toward this end, the component of foresight that I identify as *topsight* becomes vital; there must be a willingness and capacity to try to look at the future from beyond one's cultural context, from a viewpoint at the top of the system.
3. *What distinguishes "pro-poor foresight" from foresight in the USA context?* The margin of error is often much narrower for the "global south" than it is for the United States: for example, the impact of a succession of bad harvest years would be higher consumer prices in the United States, compared to the prospect of hunger and even famine in other parts of the world. It takes less change, operating over shorter periods of time, to produce stronger impacts on developing societies. Awareness of critical forms of change is valuable only insofar as it comes soon enough to permit response. The responsiveness of government, however, is a matter that is separate from foresight itself – and is captured by the term "anticipatory," as used in this paper.

#### *And so: why foresight?*

Foresight is a survival tool by means of which we, as individuals, communities, and as a species can escape the bounds of present circumstances, and achieve a measure of freedom of choice about our destinies.

We live in a universe based on chance, probability, indeterminacy, and complexity. Foresight, as an organized discipline, is knowledge in the form needed for survival in that universe.

#### Notes

1. The author acknowledges the many helpful insights of his research assistant, Evan Faber.
2. The concept of "anticipatory governance" appears in various applications (e.g., use by Clem Bezold as "Anticipatory Democracy"; and in association with problems of managing nanotechnology). I use it here to connote a whole-of-government process incorporating foresight at every level of governance, visualized and structured as a complex process.

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Leon S. Fuerth is the former National Security Advisor to Vice President Al Gore. Following 11 years as a Foreign Service Officer, Fuerth joined then-Congressman Gore's staff as senior legislative assistant for national security, focusing on issues of arms control and strategic stability. As the Vice President's National Security Advisor, Fuerth served simultaneously on the Deputies' and Principals' Committees of the National Security Council, alongside the Secretary of State, the Secretary of Defense, and the President's own National Security Advisor. He helped establish and was responsible for managing five bi-national commissions, and led efforts to: develop the International Space Station; to marshal international support for sanctions against Slobodan Milosevic's regime; to raise awareness and take action to prevent the spread of HIV/AIDS in Africa; to denuclearize former Soviet states; to win China's cooperation in protecting the environment and reducing pollution; and to spur foreign investment in Egypt as part of the Middle East peace process. After retiring from government service at the conclusion of the Clinton Administration, Professor Fuerth came to The George Washington University to serve as the J.B. and Maurice C. Shapiro Professor of International Affairs from January 2001 to January 2003. He currently serves as a research professor at the Elliott School of International Affairs and leads the Project on Forward Engagement, which incorporates three components: a graduate seminar on long-range policy analysis; expert seminars on unpacking Forward Engagement concepts; and public outreach to US citizens in an effort to create a constituency for apolitical long-range analysis and anticipatory governance. In addition, Professor Fuerth is also currently: a consultant for SCITOR, exploring use of space-based sensors in the design of a monitorable climate agreement; a member of the National Academy of Science Committee on Climate, Energy and National Security; a member of the Guiding Coalition to the Project on National Security Reform (PNSR); a consultant to The Alliance on Climate Change; and a consultant to former vice president Al Gore. Fuerth holds a bachelor's degree in English and a master's degree in history from New York University, as well as a master's degree in public administration from Harvard University. Leon S. Fuerth can be contacted at: [esialsf@gwu.edu](mailto:esialsf@gwu.edu)

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# Anticipatory Governance

## *Practical Upgrades*



Equipping the Executive Branch to cope with increasing speed and complexity of major challenges

**LEON S. FUERTH**

with

**EVAN M.H. FABER**



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Speed and Complexity of Major Challenges

Leon S. Fuerth

*with* Evan M.H. Faber



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October 2012

Cover by Meaghan Charlton

Graphics and Design by Meaghan Charlton, Evan Faber, and Jocelyn Jezierny

### **Disclaimer**

The concepts presented in this report were developed by Leon Fuerth during the period 2001–2011 and refined during a series of workshops held at the National Defense University from April 2011–July 2011. The workshops convened experts from in and outside government to vet, validate, and build upon Anticipatory Governance concepts based on strict criteria for practical implementation. All workshops operated under the Chatham House Rule, meaning participants entered under agreement from all parties that the discussion would be private, comments would not be attributed to individual persons, and it would be assumed that participants spoke for themselves personally rather than for any institution. The initiatives proposed in this document represent a synthesis of the best ideas that emerged from the 2011 working group process. The concepts have also undergone supplementary scrutiny in a series of individual encounters with very senior officials from the present and past administrations that took place from September 2011–April 2012. The concepts described herein do not represent the views or opinions of The George Washington University, National Defense University, Department of Defense, Federal Government, or any other institutions associated with the Project on Forward Engagement.

## Endorsers

The following endorsements reflect a consensus within a group of exceptional public servants that—politics aside—our government systems and processes need to be upgraded to reflect the new realities of today’s complex challenges. These individuals have extraordinary credentials to pass judgment on what is practical and necessary for government. They have not lent their names casually: they have read this report and many of them have commented extensively on its contents. They do not all necessarily support each finding and every specific recommendation. *They do, however, endorse the basic spirit and thrust of the proposals.* While some of the steps suggested in the report have been tried by administrations in the past, endorsers agree that a more comprehensive and systematic approach is required. Fundamentally, endorsers agree that Anticipatory Governance identifies and addresses an important national problem and that the recommendations in this report are doable, affordable, politically neutral, and should be the basis for action.

Madeleine K. Albright	Former Secretary of State
Charlene Barshefsky	Former U.S. Trade Representative
Samuel R. Berger	Former National Security Advisor
Dennis C. Blair	Former Director of National Intelligence
Carol M. Browner	Former Administrator of the Environmental Protection Agency
Zbigniew K. Brzezinski	Former National Security Advisor
William S. Cohen	Former Secretary of Defense
Thomas A. Daschle	Former Senate Majority Leader
Stephen J. Hadley	Former National Security Advisor
James L. Jones	Former National Security Advisor
Michael “Mickey” Kantor	Former Secretary of Commerce; former U.S. Trade Representative
Thomas F. McLarty III	Former White House Chief of Staff
Thomas R. Pickering	Former Ambassador to the United Nations
R. James Woolsey	Former Director of Central Intelligence
Gordon Adams	Former Associate Director National Security Programs, Office of Management and Budget
Robert D. Blackwill	Former Deputy National Security Advisor for Strategic Planning
Thomas Fingar	Former Chair of the National Intelligence Council
Michèle Flournoy	Former Under Secretary of Defense for Policy
James R. Jones	Former Ambassador and Member of the U.S. House of Representatives
Robert M. Kimmitt	Former Deputy Secretary of the Treasury
Alan J. Kreczko	Former Legal Advisor to the National Security Council
James M. Loy	Former Deputy Secretary of Homeland Security
John E. McLaughlin	Former Deputy Director of Central Intelligence
Joseph S. Nye	Former Chair of the National Intelligence Council
Anne-Marie Slaughter	Former Director of Policy Planning, U.S. Department of State
Mary C. Yates	Former Senior Director for Strategic Planning, National Security Council
Dov S. Zakheim	Former Under Secretary of Defense (Comptroller)
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Robert Kagan	Senior Fellow, the Brookings Institution
Ellen Laipson	President and CEO, The Henry L. Stimson Center
Timothy C. Mack	President, World Future Society
Neera Tanden	President, Center for American Progress

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## About the Project on Forward Engagement®

The Project on Forward Engagement was established in 2001 by Leon Fuerth to explore methods for incorporating systematic foresight into the U.S. Federal policy process, and for configuring government systems to deal with challenges that are “complex,” rather than just “complicated.”

Leon Fuerth's career in the U.S. Government spanned more than three decades, including 11 years as a Foreign Service Officer, 14 years on Capitol Hill, and 8 years in the White House as the National Security Advisor to Vice President Al Gore. In the Clinton White House, Fuerth served on both the Principals' and Deputies' Committees of the National Security Council and the National Economic Council. Following government service, he became the J.B. and Maurice C. Shapiro Professor of International Affairs at The George Washington University's Elliott School of International Affairs. He presently holds simultaneous appointments as Research Professor at the Elliott School and as Distinguished Research Fellow at the National Defense University.

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Operating jointly at the National Defense University and the Elliott School of International Affairs at The George Washington University, the Project is supported by the John D. and Catherine T. MacArthur Foundation and the National Defense University, and has also been supported by The George Washington University and the Rockefeller Brothers Fund. Analysis, opinions, and proposals produced by the Project and contained herein do not represent the views or opinions of any of its supporting institutions.

The Project on Forward Engagement is nonpartisan, not for profit, and policy neutral. The Project is exclusively concerned with the systems and processes by which policy is produced and implemented.

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### Special thanks to:

- Neyla Arnas for dedicating extensive time and contributing wise counsel that was essential throughout the process of developing and promulgating this report
  - The late James N. Rosenau for his brilliant mind and creativity in applying complexity theory to international affairs
  - Rebecca Landis, Jillian Hayes, David Kay, Neil Sroka, Neil Padukone, and Justin Zorn for their valuable administrative and research support of the Project in its early stages, and to Joanna Nicoletti, Meaghan Charlton, and Jocelyn Jezierny for their support during the process of generating this report
  - Students of the Elliott School course on “Forward Engagement” from 2001–2011 for their research, ideas, questions, and open minds, which contributed profoundly to the development of the theoretical concepts underlying this report
  - VADM Ann E. Rondeau, USN (Ret.), Hans Binnendijk, Linton Wells II, Terry J. Pudas, and the National Defense University for their support and hospitality
  - Frank Hoffman and Jeff Smotherman at NDU Press for their publication guidance and for copyediting the report
  - The John D. and Catherine T. MacArthur Foundation, the Rockefeller Brothers' Fund, and Stephen Joel Trachtenberg for their generous financial support for the Project.
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The following individuals contributed significantly to the ideas in and formulation of this report; some participated in the NDU workshops on Anticipatory Governance held at NDU in 2011, others commented on drafts of the report, and many contributed as both workshop participants and commenters. Participants in the workshops were not representing the official views of the organizations with which they were affiliated nor the official views of the U.S. government or any of its agencies.

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*The term Forward Engagement originally appeared as part of Vice President Al Gore's foreign policy platform in 2000,<sup>1</sup> and was used in two of the Vice President's speeches: once at the United Nations Security Council in the course of its first session of the new millennium,<sup>2</sup> and once 6 months later at a speech in Boston before an international conference of newspaper editors.<sup>3</sup> It became the subject of the Project on Forward Engagement ® at The George Washington University in 2001.*

*The term Anticipatory Governance was inspired by an email message from former student and research assistant Neil Padukone in December 2008, writing about needed changes in the intelligence function in India, following the deadly Mumbai attacks,<sup>4</sup> and it also appears in various applications such as Clement Bezold's "Anticipatory Democracy," and in association with managing nanotechnology.<sup>5</sup> It is used here as a descriptor for proposed modifications to systems in the Executive Branch of the Government of the United States.*

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<sup>1</sup> "Al Gore. On The Issues—Foreign Policy," *4President.Org*, n.p., n.d. 2000, available at <[www.4president.org/issues/gore2000/gore2000foreign-policy.htm](http://www.4president.org/issues/gore2000/gore2000foreign-policy.htm)>.

<sup>2</sup> Al Gore, Remarks to the UN Security Council, New York, January 10, 2000, available at <[http://clinton3.nara.gov/WH/EOP/OVP/-speeches/unaid\\_health.html](http://clinton3.nara.gov/WH/EOP/OVP/-speeches/unaid_health.html)>.

<sup>3</sup> Al Gore, Remarks to the International Press Institute, Boston, April 30, 2000, available at <[www.acronym.org.uk/dd/dd46/46gore.htm](http://www.acronym.org.uk/dd/dd46/46gore.htm)>.

<sup>4</sup> Neil Padukone, "India's 'September 12th,'" *Observer Research Foundation*, n.p., December 10, 2008, available at <[www.observerindia.com/cms/sites/orfonline/modules/analysis/AnalysisDetail.html?cmaid=15513&mmacmaid=15514](http://www.observerindia.com/cms/sites/orfonline/modules/analysis/AnalysisDetail.html?cmaid=15513&mmacmaid=15514)>.

<sup>5</sup> Daniel Barben et al., "Anticipatory Governance of Nanotechnology: Foresight, Engagement, and Integration," *The Handbook of Science and Technology Studies*, ed. Edward J. Hackett et al., 3rd ed., 979–1000 (Cambridge: MIT Press, 2007), available at <[www.futures-studies.rwth-aachen.de/team/STS%20Handbook-Barben%20et%20al-Anticipatory%20Governance%20Nanotechnology-08.pdf](http://www.futures-studies.rwth-aachen.de/team/STS%20Handbook-Barben%20et%20al-Anticipatory%20Governance%20Nanotechnology-08.pdf)>.

# Contents

EXECUTIVE SUMMARY .....	1
FOREWORD .....	3
The Case for Upgrading Systems .....	3
Vetting and Validation of Concepts against Strict Criteria .....	5
Implementing Practical Upgrades .....	6
Overview of Anticipatory Governance .....	7
SECTION [A]: FORESIGHT-POLICY INTEGRATION .....	9
Discussion on Foresight-Policy Integration .....	10
Forward Engagement Process .....	15
Foresight Initiatives .....	17
[A-1] Organizing a Foresight System .....	19
[A-2] Brokering Between Foresight and Policy .....	23
[A-3] Incentivizing Foresight .....	25
[A-4] Training Professionals for Foresight .....	27
SECTION [B]: NETWORKED GOVERNANCE .....	29
Discussion of Networked Governance .....	30
Networked Governance Initiatives .....	33
[B-1] Networking the Strategy/Policy Planning Offices .....	35
[B-2] Leveraging the Deputies' and IPC Processes .....	37
[B-3] Engaging the Cabinet Strategically .....	39
[B-4] Networking Integrators for Cross-agency Missions .....	41
[B-5] Budgeting for Strategic Impact .....	43
[B-6] Synchronizing National Strategy .....	45
[B-7] Systematizing Strategic Priorities .....	49
[B-8] Reformatting the Dialogue with Congress .....	53
SECTION [C]: FEEDBACK FOR APPLIED LEARNING .....	55
Discussion of Feedback for Applied Learning .....	56
Feedback Initiatives .....	58
[C-1] Identifying Explicit Feedback Precepts to Track Policy Execution .....	59
[C-2] Establishing a Venue for Feedback .....	61
[C-3] Continuously Routing Triggered Indicators .....	63
[C-4] Diagnostic Reviews of Consequences .....	65
ANNEX .....	67
Response to Critiques .....	68
Fast-Tracking Implementation .....	70
Leveraging the GPRA Modernization Act .....	72
Precedents Set by Foreign Governments .....	75
Department Strategy/Policy Planning Offices (U.S. Government) .....	77
Illustrative Set of United States Strategy Documents .....	78
Foresight Methods .....	80
Acronyms .....	82



# Executive Summary

If we are to remain a well-functioning Republic and a prosperous nation, the U.S. Government cannot rely indefinitely on crisis management, no matter how adroit. We must get ahead of events or we risk being overtaken by them. That will only be possible by upgrading our legacy systems of management to meet today's unique brand of accelerating and complex challenges. *Anticipatory Governance* responds to this need by introducing three critical elements to existing Executive Branch functions: *foresight* fused to policy analysis; *networked governance* for mission-based management and budgeting; and *feedback* to monitor and adjust policy relative to initial expectations. This report suggests *practical upgrades* to Executive Branch systems that are light on resources, compatible with the existing structures and processes of government, and fully executable under customary Presidential authorities (requiring no congressional action).

**The Problem.** A well-functioning Republic needs time for deliberation, and the U.S. Constitution was designed to make sure that this time would be protected. On the other hand, challenges presenting themselves today are increasingly fast-moving and complex: they involve concurrent interactions among events across multiple dimensions of governance; they have no regard for our customary jurisdictional and bureaucratic boundaries; they cannot be broken apart and solved piece by piece; and rather than stabilizing into permanent solutions, they morph into new problems that have to be continually managed. This pattern profoundly challenges the adaptive capacity of our legacy systems of government, which are essentially modeled on the early industrial period: vertical, hierarchical, segmented, mechanical, and sluggish. Our 19<sup>th</sup>-century government is simply not built for the nature of 21<sup>st</sup>-century challenges.

This problem is increasingly manifesting itself in the growing perception at home and abroad that America is in decline. Decline is not inevitable, but we are at a moment of choice. That choice is not just a choice between this or that policy, but a choice as to whether we will seize this moment to upgrade government for the challenges and opportunities of this century, or continue to operate with a system designed for an era gone by. There is a feeling among Americans that we need to get ahead of the game, and it is imperative to find ways to resolve the tension between the need to accommodate differing perspectives on major issues and the need to act on them in time to achieve optimal effects for the resources that are to be expended.

**The Proposal.** Anticipatory Governance Practical Upgrades seek to address this tension with upgrades to existing systems in the Executive Branch. It proposes three basic sets of changes: integrating foresight and policy, networking governance, and using feedback for applied learning. Each section of this report is broken into concrete initiatives, and each initiative contains subsets of specific options.

- Section A [Foresight-Policy Integration] discusses the subject of *systematic foresight*—defined as the disciplined analysis of alternative futures—for the policy process, especially in terms of assessing consequences of actions we take in response to challenges and opportunities. It suggests 4 concrete initiatives broken down into 18 specific options for organizing foresight as an input into the policy process.
- Section B [Networked Governance] approaches the issue of how to organize government for more effective management of complex issues. It suggests 8 initiatives broken down into 38 specific proposals for improving the capacity of existing systems to mesh their activities for coherent effect, especially those at the most senior levels of an administration where strategic intent and strategic action must come together. It discusses ways to relate policies, priorities, and budgetary resources, and it discusses the problem of how to encourage a true strategic dialogue between the Executive and Congress.
- Section C [Feedback for Applied Learning] discusses the need for constant, organized monitoring of policies in action, and suggests five specific, sequential, initiatives to detect and respond to error and unintended consequences in mid-stream, before calamities occur. It also addresses how we can relate awareness of what has been done to new decisions about what needs to be done.

**Vetting and Validation.** These proposals were developed and intensely vetted by working groups (consisting largely of current mid- to high-level government officials) who were assembled for this purpose during the summer of 2011, operating in their personal capacities under the privacy of the Chatham House Rule. Subsequently, drafts of this report were circulated back to members of the working groups as well as to very senior sitting and former government operators. Comments have been carefully reviewed, and in many cases incorporated into the text. The list of contributors comprises only those working group participants and commenters who granted permission to have their names associated with this effort.

**Why Policymakers Should Pay Attention.** What is the case for making time to read this paper and for seriously considering taking action? Readers will already have noticed an unusual feature: a long list of “endorsers” with extraordinary credentials to pass judgment on what is a practical and necessary for government, as opposed to what would be theoretically “nice to have.” These endorsements are not casual; collectively, they are making a statement that (1) the Nation has a problem with its governance systems, with important implications for the its ability to thrive; (2) Anticipatory Governance identifies and addresses the sources of the problem; and (3) these recommendations are practical and should be the basis for action. The list of contributors makes a complementary statement: this report represents not only their collective judgment as to what could be useful, but also as to what is *practical*. These are measures that can be approached on a gradual, modular basis; they do not require legislative action and can be carried out under existing laws and Presidential authorities; they are designed to be carried out without requirements for new “brick and mortar” institutions or large expenditure of resources; and they intentionally leverage existing personnel and processes under new arrangements in order to strengthen the Executive Branch. In sum, the message is: don’t put this report on the shelf; make time for it on a flight somewhere, and if you conclude that these are real answers to real problems then, upon your return, become an agent of change. Ask yourself: “If not now, when?”

There is no way around the fact that this is the kind of document that often winds up in a stack of “guilt reading” that every busy person has: an accumulation of documents that look interesting and important, but which also look formidable and are therefore set aside “temporarily” for careful reading when time permits (but it never does). The same may be said for the central idea expressed in this paper: our systems of governance—especially at the level of the White House—need to be upgraded in order to be able to better comprehend and respond to powerful, complex forces that are forcing societal change at an accelerating rate. Flipping through the paper, hard-pressed readers may actually conclude that it contains ideas well worth considering and even implementing, but not just yet. Better to wait for calmer times, which are always due to arrive just after dealing with the current plateful of crises du jour. The calm interval for reflection and new departures never comes; meanwhile, the need for upgrades is urgent, and the opportunity for beginning it is now, not later. To delay is to miss—not merely postpone—the chance to better inform short-term decisionmaking about long-range consequences, and to navigate not only through each storm as it comes, but also toward the defining goals of our generation.

These upgrades are not a panacea, but they are short-cut approaches for beginning to adapt existing U.S. Government systems and processes to be more anticipatory, adaptive, and resilient. They cannot alone transform the culture, but the improvements to mechanism are a real and necessary step. They are not intended to be “swallowed in one gulp,” but they should at least be tried and tested in various combinations in a handful of policy areas in order to pave the way for broader implementation. The skills required to take these steps already exist in government, and regardless, *they can be taught*. At stake is not only much-needed improvement in conducting the business of government, but also a tremendous potential for legacy: to improve the government’s ability to think and act strategically in a vastly changed world.

# Foreword

## The Case for Upgrading Systems

The United States is confronted by a new class of complex, fast-moving challenges that are straining the capacity of national leadership to “win the future.” These challenges are cross-cutting: they simultaneously engage not only traditional national security systems, but also our social, economic, and political systems. “Legacy” methods of organization and operation cannot meet this kind of challenge, and government has been increasingly confined to dealing with full-blown crises rather than focusing on shaping events. Meanwhile, the Nation is losing confidence in government, and there is a widespread perception that America is in decline. Government needs to organize itself to extend warning time, improve coordination and agility, and learn rapidly from experience.

Time, money, and skilled human capital are the basic raw materials of strategy, and at least the first two of the three are now in very short supply. As a result, our margin for error has narrowed considerably, and we find ourselves in a crisis that extends not only to physical counters—such as the stability of the financial system, or systemic unemployment—but one that has also acquired a moral dimension in terms of public faith in the future. Government in and of itself must be part of the solution, but government as we have been practicing it has been a major source of the problem. Other countries have developed systems in their governments that enable them to plan and execute long-range policy,<sup>6</sup> but the U.S. Government continues to operate using institutions designed for an era gone by. The consequences are visible in terms of an increasing number of collisions with “unforeseeable events” and in terms of economic opportunities lost to rivals who are consistently pursuing their strategies.

This pattern is feeding an increasing conviction at home and abroad that the United States is in irreversible decline. Such a conviction feeds upon itself and can become a negative force. Faith in our ability to shape the future has been a constant factor in the development of the Nation, but if the public concludes that events are outpacing us, it will be increasingly difficult to find common cause among ourselves. This has a potentially devastating impact not only on our domestic existence as a state, but also on our behavior within the international system. There could be substitutes for American primacy in the world, but there is no substitute for American leadership. Our policies assume the desirability of a win-win approach for all competitors. Any other approach, based on zero-sum thinking, carries the risk of inhibiting rational international action to preserve the future of our species. The stakes actually are very high.

In chaotic circumstances, small actions can powerfully influence ultimate outcomes. It is clear that we are in such circumstances, whether we consider ongoing shifts in political dynamics around the world, in economics, or in the environment. **These are not matters where we can rely indefinitely on crisis management, no matter how adroit. We need to get ahead of events.** It is possible to win a series of important tactical victories but still lose the war for the Nation's future if we fail to visualize it and shape it from a strategic, long-range perspective.

The case for systems upgrade is not an easy sell, even if there is broad agreement on the basic need. The endless procession of near-term emergencies always distracts from the longer-term challenges that need to be shaped over an extended period of time. The question is how to achieve strategic coherence in a system that is continuously driven by very urgent shorter-term crises. Each administration quickly gets swept up dealing with the urgent problems of the day, and too much is happening that demands the constant attention of officials who—before taking their posts and often after leaving them—bemoan the absence of attention to the big picture and the longer range. The case for upgrading systems is not about this or that policy; the case is that the *inherited* systems of government for dealing with major issues are outmoded for today's kind of problems, which are “complex” rather than “complicated.” As new crises continue to gestate on the horizon, we simply can no longer afford to delay a system upgrade. We urgently need to begin focusing on how to bring our management processes up to par with the nature of the challenges we face.

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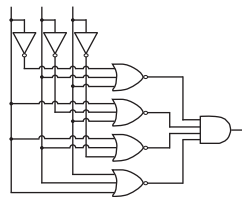
<sup>6</sup> Organized Foresight systems set up in foreign governments are described in the Annex on page 75.



“Acceleration” and “complexity” have become common catch phrases for describing today’s challenges, but they are real phenomena that have profound meaning—and technical implications—for the way we understand issues and organize policy responses.

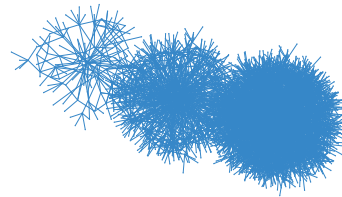
### “COMPLICATED” PROBLEMS

- Originate from isolated causes that are clearly identifiable and fall within distinct bureaucratic categories
- Can be dissected into isolated chunks addressed, and pieced back together
- Consequences are generally proportionate to their causes (for every input, there is a proportionate output)
- Fixtures can be put in place for permanent solutions.



### “COMPLEX” or “WICKED” PROBLEMS

- Result from concurrent interactions among multiple systems of events, and they erode the customary boundaries that differentiate bureaucratic concepts and missions
- Cannot be broken apart and solved piece-by-piece. They must be understood and addressed as a system
- Do not automatically stabilize, but intrinsically unravel into chaos if not systemically managed
- *Cannot be permanently solved.* Instead, they morph into new problems as the result of interventions to deal with them.



Anticipatory Governance offers ways to manage challenges (and opportunities) that are “complex” with adaptations to existing systems that are presently built for problems that are “complicated.” It involves institutionalizing three basic management systems into those that already exist at the White House level:

- (1) a system for integrating foresight into the way we create and execute national policies, including anticipation of upcoming challenges and opportunities as well as disciplined analysis of the long-range consequences of today’s decisions
- (2) a networked system for orchestrating whole-of-government management and budgeting to mission, including intensive coordination of our strategies and our assets applied over time
- (3) a feedback system to constantly measure consequence against expectations as a way to learn from experience and refresh policy.

In combination, these new systems should enable the U.S. Government to deal more effectively with today’s class of high-stakes, high-speed, complex issues on a more systematic basis, where we typically find ourselves acting short term, even though we are aware of the need to shape events over the long term. It would establish, in the White House, an enhanced capacity to mobilize and coordinate resources in a way that begins with a concept of managing-to-mission as the organizing principle for operations. It would also enable the White House to better keep track of the consequences of its own policies, so as to be more responsive to facts about what is happening, rather than projections of what was supposed to happen after decisions were made.

As theory, that has great appeal, but the reality is less clear. In order for a President to give this idea serious consideration, there needs to be clarity regarding: *what* “anticipatory governance” can do to help the White House develop and sustain a comprehensive approach; *why* the proposed new arrangements would be better than existing arrangements; and *how* this

system would be better at detecting, tracking, and then managing long-range developments as they move from the horizon line to the top of our agenda. This report attempts to provide the details that can produce that clarity. Anticipatory Governance is by no means a panacea, but modernizing government can begin with these practical upgrades to the processes and mechanisms of government.

## Vetting and Validation of Concepts against Strict Criteria

The obstacles to our government's ability to act are deeply rooted in its structures: the deliberately designed tension between the executive and legislative branches, the vertical and functional divisions of departments and agencies, and the extraordinarily cumbersome processes by which decisions such as budgeting are channeled. Reconfiguring the government to handle complex priorities—to be anticipatory, rather than reactionary—will ultimately require deep changes within the executive branch, involving new legislation and a lengthy period of organizational adjustment to new processes. As we know from experience with the Goldwater-Nichols Department of Defense Reorganization Act of 1986, once a new legal foundation is laid, it will be the work of a generation to integrate it completely into the processes and culture of government.

Supporters of the status quo can easily hold off any major change efforts until the drivers of that change rotate, leave, or another election occurs. Meanwhile, the Nation is immersed in multiple, ongoing crises, with more on the horizon. Something needs to be done in the moment, capitalizing on existing law and precedent, to upgrade system capacity. The pulse of government cannot be stopped while whole parts of the system are redesigned, and Congress is unlikely to produce a well-designed, bipartisan, omnibus bill providing for major alterations in the way government operates. **The best chance is to make limited improvements in the operation of executive branch systems at the White House level, and to leverage these changes to improve the performance of government as a whole and to open the door to broader transformation of government if and when that becomes possible.** This process can be initiated using existing Presidential authorities to adjust our processes, to make them more efficient and attuned to the long range. It can be accomplished by broadening government's aperture rather than linearly adding additional scaffolding and by redeploying existing personnel and resources rather than by adding people or new organizations.

A series of workshops held at the National Defense University (NDU) from April 2011 to July 2011 convened experts from in and outside government to vet and validate and build upon Anticipatory Governance concepts based on strict criteria for practical implementation. Participants were mostly from mid- to high-level positions in government, as well as former senior practitioners and some outside experts in subjects such as foresight and network theory. Consistent participation throughout the process came from individuals working at the National Security Staff (NSS), Department of State (DOS), Office of the Secretary of Defense (OSD), Joint Chiefs of Staff (JCS), Department of Homeland Security (DHS), Office of the Director of National Intelligence (ODNI), and the Government Account-

### Criteria for Implementation

To comport with reality, the initiatives contained in this report have been designed, vetted, and validated against the following criteria:

- very light on resources
- executable under existing Presidential authorities (requires no Congressional action)
- compatible with existing White House processes (adjustable arrangements for existing staff)

Additionally, initiatives are designed to be:

- ultimately compatible with longer-range, more profound reform involving the executive branch as a whole, if and when that becomes possible; and
- integrated with advanced methodological approaches, including methods potentially important to foresight generation and to systems operations.

ability Office (GAO). All workshops operated under the Chatham House Rule, meaning participants entered under agreement from all parties that the discussion would be private, comments would not be attributed to individual persons, and it would be assumed that each participant spoke for themselves personally rather than for any institution. These conversations *did not* address specific policies, but focused instead on how to improve systems that enable the executive branch to formulate and execute policies.

The initiatives proposed in this document represent a synthesis of the best ideas that emerged from the 2011 working group process on Anticipatory Governance held at NDU. The proposals have also undergone supplementary scrutiny in a series of individual encounters with very senior officials from the present and past administrations that took place from September 2011 to May 2012. All of these concepts can be put into place efficiently, quickly, and by means that *are specifically suited to Presidential authority*.

### Implementing Practical Upgrades

Implementing Anticipatory Governance would not be a matter of one-size-fits-all, and the total set of proposals herein should not necessarily be applied equally to every subject. Implementing these initiatives should not require expanded personnel, provided that the White House offices—EOP, OVP, NSC, NEC, DPC, etc.—leverage existing staff seconded from agencies and instill them with a sense of leadership in effecting common cause. An administration interested in implementing these initiatives would certainly have to identify priorities for implementation, and tailor new arrangements to the circumstances, in order to ensure that the new initiatives cumulatively do not place an additional call on resources. It would be a good idea to review division of labor with an eye toward moving certain day-to-day functions out to the periphery so as to lighten the load of the NSS, NEC, and DPC at the core. The President does have the authority to create new groupings immediately, provided they are centered within the White House.<sup>7</sup> Special attention would need to be paid to the skill sets needed among people who are drafted into these groupings, but these skill sets do exist in government, and regardless, they *can be taught*.

Typically, reports of this nature are long on the problems and short on the solutions; this report is quite the opposite—*by design*. Each section provides a brief overview of one element of Anticipatory Governance—[A] Foresight, [B] Networked Governance, and [C] Feedback—and the majority of each is devoted to concrete initiatives for establishing these elements as part of the existing processes of government. Each initiative is supplemented by specific options for implementation, describing discrete ways that the initiative could be operationalized under the existing authorities of a President. This report does not aim to provide a singular roadmap for the transformation of governance; the initiatives and their specific options are not designed as a package deal, nor are they mutually exclusive. Rather, the report details a comprehensive “menu of initiatives” that could be implemented in various combinations in order to adapt existing U.S. Government systems and processes to be more anticipatory, adaptive, and resilient. These are suggestions, involving multiple possible combinations, and they would certainly need to be adjusted as problems are identified. The key is to think big, start small, fail cheap, and make adaptations along the way.

Policymakers take their cues from the President. If this is prioritized at the top, it will be taken seriously. Transition periods between administrations can be used to inaugurate systems changes. The time between elections should be used to think them through and to experiment with new ideas. At stake is not only much-needed improvement in conducting the business of government, but also a tremendous potential for legacy: to improve the government’s ability to think and act strategically in a vastly changed world.

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<sup>7</sup> Congress caps the number of persons who can work at the EOP, based on both EOP direct hire caps and caps on the number of persons who can be seconded to the EOP at any one time. The initiatives herein do not propose hiring new staff, but they will require competition for the allocation of existing staff since it is a matter of moving around finite slots. Of course, if Congress does not like something, they could pass a personnel or appropriations limitation.

# Overview of Anticipatory Governance

Anticipatory Governance is a systems-based approach for enabling governance to cope with accelerating, complex forms of change. Anticipatory Governance is a “systems of systems” comprising a disciplined foresight-policy linkage, networked management and budgeting to mission, and feedback systems to monitor and adjust. Anticipatory Governance would register and track events that are just barely visible at the event horizon; it would self-organize to deal with the unexpected and the discontinuous; and it would adjust rapidly to the interactions between our policies and our problems.

## Section [A]:

### **Foresight** as a systematized and actionable component of the policy process

Foresight is the disciplined analysis of alternative futures. It is not prediction, it is not vision, and it is not intelligence; it is a distinct process of monitoring prospective oncoming events, analyzing potential implications, simulating alternative courses of action, asking unasked questions, and issuing timely warning to avert a risk or seize an opportunity. As a disciplined process, organized foresight offers a means to simulate actions that would otherwise have to be tested against reality, where the consequences of error are irrevocable. A foresight-generating and horizon-scanning system can help government detect trends and weak signals, visualize alternative futures, and foster better outcomes. The United States lacks such a system at the national level. There are multiple concepts for organizing foresight into a specific stream of information available to policymakers. The central problem is that no mechanism exists for bringing foresight and policymaking into an effective relationship. This problem is partly political, partly cultural, and partly a matter of inadequate systems-design. The political and cultural issues are very difficult to deal with, but mechanisms can be put in place to ensure that foresight and policy come together by design, rather than by chance. These initiatives focus on ways to institutionalize an “interface” that can integrate foresight into the policy process.



[A-1] Organizing a Foresight System



[A-2] Establishing Foresight as a Staffing Function



[A-3] Incentivizing Foresight



[A-4] Training Professionals for Foresight

## Section [B]:



### **Networked Governance** to support whole-of-government planning and execution

Complex challenges require organizational innovation, and networks are the organizational response to complexity. Government is presently organized on the basis of “best practices” from the age of the vertically integrated American corporation. This system is ill-suited for the successful management of policies that address complex issues. Flattened, networked organizational structures can facilitate rapid flow of information and can thus serve as the basis for a smarter and more prescient bureaucracy. Networks can help to engage the full resources of government in the form of adjustable groupings, and in arrangements that encourage a high degree of initiative, although responsive to overall strategic guidance from the President. Deep integration of the government would be a lengthy process requiring enabling legislation. Alternative approaches exist that would enable agencies to plan and operate more strategically based on “management-to-mission” as the organizing principle of policy formation and execution, and to apply much greater precision in bringing resources to bear by “budgeting-to-mission” rather than only by jurisdiction. Networked governance can also enable the President to acquire much greater situational awareness of the operations of government. These initiatives could be put into place rapidly by altering operations within the White House and the Cabinet.



[B-1] Networking the Strategy / Policy Planning Offices



[B-2] Leveraging the Deputies' and IPC Process



[B-3] Engaging the Cabinet Strategically



[B-4] Networking Coordinators for Cross-agency Missions



[B-5] Budgeting for Strategic Impact



[B-6] Synchronizing National Strategy



[B-7] Systematizing Strategic Priorities



[B-8] Reformating the Dialogue with Congress

## Section [C]:



### **Feedback Systems** to monitor performance and speed up learning from results

Every policy—no matter how impeccable or creative at the time of its creation—eventually deteriorates as circumstances change. At the national level, there is not a comprehensive system for monitoring the vitality or tracking the consequences of policies once they are in the process of execution.<sup>8</sup> Feedback systems can serve as a basis for ongoing evaluation, reassessment, and recalibration of policies in order to prevent breakdowns and system failures that routinely go undetected until it is too late. Applied to policy, feedback can have at least three basic functions:

- (1) Monitoring, evaluation, and adjustment of policy (to measure results against estimates, and to reassess/recalibrate policy as needed)
- (2) Accountability, control, and self-synchronization (to sustain accountability and control in a networked system)
- (3) Learning and promoting rapid self-evolution (to improve the conduct of ongoing policies and inject feedback into a foresight mechanism to improve the design of policy in the future).

These initiatives focus on ways to institutionalize these kinds of feedback as a continuous process.



[C-1] Identifying Explicit Feedback Precepts to Track Policy Execution



[C-2] Establishing a Venue for Feedback



[C-3] Continuously Routing Triggered Indicators



[C-4] Diagnostic Reviews of Consequences

<sup>8</sup> Some major policies (e.g., Afghanistan) are closely tracked, but feedback should be employed on a comprehensive basis.



# { A }

## Foresight-Policy Integration

**Foresight** is the disciplined analysis of alternative futures. It is a distinct process of monitoring prospective oncoming events, analyzing potential implications, simulating alternative courses of action, asking unasked questions, and issuing timely warning to avert a risk or seize an opportunity. As a disciplined process, organized foresight offers a means to simulate actions that would otherwise have to be tested against reality, where the consequences of error are irrevocable. A foresight-generating and horizon-scanning system can help government detect trends and weak signals, visualize alternative futures, and foster better outcomes. These initiatives focus on ways to institutionalize an “interface” that can integrate foresight into the policy process.



[A-1] Organizing a Foresight System



[A-2] Brokering Between Foresight and Policy



[A-3] Incentivizing Foresight



[A-4] Training Professionals for Foresight

## Discussion on Foresight-Policy Integration

There is nothing radical about “foresight” in concept, but it is not practiced systematically in the formulation of policy. Of course, policy is naturally about the future, and no policy is deliberated without considering its implications. There is, however, a definite distinction between common-sense thinking about the future on the one hand, and foresight as a structured process on the other. The former is innate: it is loosely structured and generally uses no defined procedure, it relies on intrinsic deductive reasoning by hurried operators often using predictions produced by subject-matter experts, and it hopes for a serendipitous alignment of the consequences that we were smart enough to predict amid the fury of decisionmaking, and the actual events that eventually transpire. Foresight, by contrast, is a disciplined and continuous visualization of alternative outcomes, based on a systems-operations perspective. It can be organized into a structured sequence, using rigorous methods to systematically ask the “unasked questions” and to test the implications of different actions and contingencies. Foresight does not offer prophetic prediction, but it can dramatically increase our preparedness for the inevitable surprises, and significantly reduce our likelihood of being blindsided by events and dilemmas that would otherwise never be considered. Foresight can also alert decisionmakers to major opportunities—especially at the first signs that combinations of events are coming together to open a window for action—that may otherwise either go unnoticed or be recognized only after the window of opportunity for action has closed.

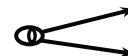
The policymaker’s universe is complex, meaning that events are simultaneously interactive, and therefore fraught with surprise and unintended consequences. Policymakers always want more certainty, not less. For that reason, foresight often engenders a strong allergic reaction because it deals with uncertainty, complexity, and contingency rather than with certainty. In a complex universe, however, the only certainty is surprise. Success goes to those who anticipate.

The acceleration of today’s events has the effect of compressing the time that policymakers have to respond, and government processes that are designed to be deliberate are challenged when the rest of the world is speeding up. Foresight provides the capacity to extend response time. Foresight can be converted into a unique stream of information to accompany deliberations about policy; it is the long-range component of what should be a complete system for maintaining awareness of important contingencies at the level of policymakers. It requires the engagement of skill sets that are broader than those demanded of the Intelligence Community (to produce short-range predictions), and it also requires a mandate to pursue understanding across all customary boundaries, be they organizational or functional. Inside the government, foresight is produced in stovepipes from a risk-based, subject-matter perspective. The alternative is to generate foresight from a structured methodical perspective relating to the direction of the Nation. This requires an institutional system to deal proactively with issues approaching over the long-range horizon, and with the effects of near-term decisions on the longer range.

Policymakers who are busy and overworked will have a reason—or at least the option—to prioritize foresight when it is fed into their inbox.

**Forward Engagement and Future Contingencies of Interest.** “Forward Engagement” is an analytic process designed to help policymakers anticipate future contingencies of interest (FCIs) that are still nascent and gestating on the horizon, so that their risks and opportunities can be assessed in time to take meaningful early action to shape events favorably. An FCI is a hypothetical (but plausible) trend or event that would have significant implications for U.S. policy. Properly formulated, an FCI is a hypothetical described in the present tense, and it does not presume certitude of form or timing (which is why an FCI is not a forecast). FCIs almost always give off early hints that they are coming, like tremors before an earthquake (what futurists refer to as “weak signals”). FCIs can be derived as a product of an individual or a group effort, based on a mix of intelligence, open-source information, and personal imagination.





**“Black Swans” and Mounting Challenges.** Often, when we are badly surprised by a major event, it is because we have not picked up weak signals that an FCI is approaching, or we have spent too much time disagreeing about what to do about them. The former category consists of those fast-moving and unexpected events termed “black swans.” Black Swans are very rare events, if they are defined as moments that *truly* emitted no warning signs, and the term should not be used as a way to avoid responsibility for the consequences of bad or outdated policy. Most calamities are preceded by warnings, even if these warnings are faint. Most calamities do emit plenty of warning signs. The least that should be expected of government is to have installed systems to scan for high-impact events—especially those that are not considered likely by the collective wisdom of experts—and to ensure serious consideration by policymakers as to what these possible events can tell us to consider doing, in advance, in our own interests. There is another category consisting of familiar slow-moving, inexorable challenges that are more obvious but also more difficult to act upon (and which tend to extend over several administrations in their development before they come to a head) such as: fiscal deficits, deteriorating infrastructure, resource scarcity and climate change, and loss of strategic competitiveness in education, technology, and manufacturing. Disciplined foresight is not a tool for crisis management, but it does at least make it possible to gain early strategic advantage over both the fast-moving and slowly-mounting challenges.

**Foresight as a Discrete Kind of Information.** Foresight is a discrete form of information about the future, and it has distinct characteristics. Foresight relates to—but is not a synonym for—existing methods of prediction, forecasting, vision, gaming, or intelligence. Here is why foresight is truly distinct from each:

- **Prediction** is a point statement of what will happen in the future. Life does not behave that way. Foresight wrestles with the potential consequences of contingencies, but it steers away from attempting predictive certainty. Prediction is unreliable, and the consequences of taking action on failed predictions can be calamitous.<sup>9</sup> Foresight is about ranges of possibilities, not point-predictions. Foresight acknowledges the ambiguity and uncertainty that accompanies all actions; prediction denies the existence of ambiguity and uncertainty. Prophecy is a form of prediction based on religion or magical thinking. Foresight should be systematically developed by rigorous methods, to be used as an input to policymaking; prediction should be excluded from that role whenever possible.
- **Forecasting** uses trends and statistical models to predict events and their arrival time. Forecasting is based on a closed set of assumptions, and it is particularly useful for predicting quantifiable outcomes (finance, demographics, employment levels, and so forth). While forecasting is useful for foresight, foresight considers a much broader

#### **“Black Swans” that need not have been:**

- **Katrina:** There was knowledge going back decades that the levee system protecting New Orleans was inadequate and the efforts to get attention paid to it were ignored.
- **The Financial Crisis of 2008:** This crisis took decades to put in place, and there were plenty of warning signs that went ignored.
- **BP Oil Well Failure:** Reports on the causes of the Deepwater Horizon spill indicate problems with safety and maintenance procedures involving BP and its subcontractors, which should have been picked up by government regulatory systems.
- **The Arab Spring:** We all knew about the youth bulge, unemployment rates, and rising commodity prices, but no mechanism exists to consider the convergence of such trends and to evaluate assumptions and alternative possibilities. The U.S.-Egyptian Partnership for Economic Growth and Development (1994–2000) was formed on the explicit premise that failure to reform Egyptian governance—particularly by fixing inability to encourage economic growth in the presence of an impending youth-bulge—would endanger the stability of that country and its region.
- **Fukushima:** No one can predict the particulars of a tsunami, but the safety systems in the reactors skimped on backup, and in effect had failure built into them under conditions more extreme than allowed for by the design.

<sup>9</sup> Of course, it is also possible that decisions made based on nonpredictive foresight do not pan out well, which is why a feedback process is needed.

context that includes questioning the assumptions on which forecasts are based and analyzing dynamics that are difficult to measure and do not lend themselves to quantitative estimates.

- **Vision** is the capacity to see that which is not yet clear to others and to translate it into a (typically singular) path to the future. Vision is often exclusive in its views about what should happen, and visionaries can be blind or outright hostile to alternative outcomes. Visionaries seek to knock out the competition. Foresight, to the contrary, is about openness to multiple futures and alternative possibilities. Vision can respond to alternatives as heresy. That does not mean vision is not useful as a mobilizing force, but it should be tempered with humility.
- **Gaming** is not the same as foresight, but it is one of many foresight tools that permits a decisionmaker to test in the mind (at minimal cost) what might otherwise have to be tested in reality (at incalculable cost). Unfortunately, senior policymakers rarely participate in gaming exercises, and therefore do not benefit from what they can best offer: the hands-on experience of stress-testing alternatives against a simulated complex environment. Gaming exercises are typically based on scenarios that can take months to create; they can thus be a vital tool for foresight, but are not particularly useful in the midst of ongoing crises. However, it is possible to accelerate the development of games and the scenarios on which they are based. Quicker design and playability on an as-needed basis would make games an accessible tool for policymakers. Ultimately, online videogames and massive multiplayer games may offer the potential for a “holodeck” for policy.
- **Intelligence** is concerned with providing policymakers accurate knowledge about real-world events. It focuses on what is known, and it is generally oriented toward short-range threats that need immediate attention. Intelligence has strict requirements demanding empirical evidence about things that have already happened in the past, and is generally more about collection than sense-making. Classification schemes for intelligence are arranged by topics and regions, which has the effect of jettisoning that which is deemed irrelevant because it is crosscutting. Foresight, to the contrary, deals with uncertainty, complexity, and contingencies. It is more focused on hypotheticals-based analysis of alternative possibilities, which need to be grounded in what is realistic, but not necessarily backed up by proof. Foresight focuses on opportunities as well as risks, and foresight requires openness rather than secrecy. The Intelligence Community (IC) can certainly generate foresight,<sup>10</sup> but foresight is not the same as intelligence, and the process for developing it is not the same as the process of intelligence analysis. Foresight is a much broader form of information, to which intelligence can act as a tributary—not the reverse.

**Foresight and Intelligence.** The IC has certain characteristics that account for the reasons why foresight—as a function of the policy process—must include but should not be limited to formal intelligence:

- **Overreliance on classified information.** Intelligence analysis generally relies heavily on information obtained from classified sources to the point where open-source information is undervalued.<sup>11</sup> The result is that critical facts and patterns can go unnoticed. Foresight, on the other hand, cannot be bound to a certain type of information source. Foresight is necessarily an open—not a closed—system.
- **Foreign-Domestic divide.** Intelligence analysis is forbidden—for good reason—to deal with domestic U.S. policy. It cannot, therefore, address the interactivity that exists between domestic events and international events. As a result, the Intelligence Community’s representation of the world suffers from a form of “macular degeneration”: a blind spot precisely at what should be the center of the field of vision, especially for policymakers at White House level. System-

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<sup>10</sup> The National Intelligence Council has published a series of reports since 1997 on “Global Trends,” which study the future in progressive 5-year increments: 2010, 2015, 2020, 2025, and 2030 (to date). These reports are genuine examples of government foresight. However, as intelligence documents, they face certain limitations and constraints—such a legal prohibition on domestic analysis—that non-IC based foresight would not.

<sup>11</sup> Much more serious attention is currently being directed toward open-source data, but it is still a young trend.



ic foresight, to the contrary, analyzes opportunities and risks as they interact across the domestic-international divide.<sup>12</sup>

- **Burden of proof.** Intelligence analysis has also been tightly bound—not necessarily for good reason—to requirements for direct evidentiary proof for every conclusion. *Intuition*—inexplicable flashes of insight—are essential to the intelligence process, but by their nature cannot be routinized in the intelligence process. The system, by its own internal standards, filters out what cannot be quantified or proven. This suppresses the creative, speculative analysis that is essential to foresight.
- **Short-range orientation.** The quality of the intelligence that a policymaker receives is a function of the quality of the questions one asks. It is also a function of the expectations set for the IC itself. Although it is understandable that policymakers are generally interested in near-term intelligence, they must also send a demand signal for foresight, if the IC is to adopt a proactive approach to asking the “right questions.” When foresight is not demanded, current intelligence trumps all other forms of activity inside the IC, to the extent that the IC is systemically distorted, with a major blind spot for the long-range. This is not necessarily for lack of tools, but rather the result of a lack of demand. It is possible that if policymakers made it a point to request long-range, deeper analysis, the IC would give greater weight to the basic skills to conduct foresight.
- **Overemphasis on “risk.”** The U.S. Government has offices dedicated to “risk” and “warning” (for example, in the IC). Skeptics of foresight might conclude that these offices sufficiently serve the government’s foresight function. However, while foresight is certainly about reducing risk, it is just as much about seizing opportunity. Often we are so preoccupied with thinking about vulnerability, threat, and warning that we miss timely indicators of oncoming “on ramps” and “off ramps” that could lead to game-changing opportunities for strategic advantages. The IC is, by law, focused on external threats to the United States, and the government is much better organized to avert risk than to seize opportunity. Foresight, however, should support a whole-of-nation approach for shaping the future, and must factor in threats and opportunities that could originate internally or externally. Therefore, while risk management is definitely part of foresight, emphasizing risk-avoidance comes at the expense of attention that also needs to be paid to identifying, tracking, and organizing to seize opportunities.<sup>13</sup> It is not enough to be superior at addressing risks because we will always inevitably be surprised. We must also be superior at seizing opportunities so that we can shape the terms of the game.

**Actionability.**<sup>14</sup> Foresight is not exclusively future-oriented; it is about *actionability*: the relevance of long-range information to today’s decisions. It is concerned with what will happen, but it is used primarily to inflect what we do in the present. Otherwise, we blunder forward with limited visibility. Foresight is about conceptualizing what may be happening and what needs to be done, in alternative models, to protect and further our interests. It is not a single statement, a single J-curve, an ideology or a doctrine; it is the capacity to rapidly formulate alternative constructs and examine the consequences of different forms of response. Its highest application, therefore, is to enable policymakers to experiment with different kinds of action in the mind, rather than to proceed immediately to action in the real world. The ability to experiment in a virtual setting safely, without suffering real-world consequences of trial-and-error, is an invaluable tool. *Reality has no “do over” function.*

<sup>12</sup> In general, American governance has historically viewed policy and management for external and affairs as separate domains and dealt with them as such. There are many exceptions to this observation, but they nevertheless prove the rule. America’s geographic isolation from potential enemies made this a reasonable approach, but that separation has been breached. America’s economic advantages over potential rivals also made it possible for us to be less mindful than we should have been about the existence of powerful cross-dependencies. That separation, too, has been breached. Disciplined foresight recognizes domestic and external policy as coequal, interactive, and fundamentally complex.

<sup>13</sup> Risk management offices have become “best practice” in the private sector since the 2008 financial crisis. In addition to reporting on how risks correlate, they typically have a component dedicated to identifying emerging risks and opportunities on the horizon for consideration by senior management.

<sup>14</sup> This concept of “Actionability” was explored in a series of expert workshops cosponsored by the National Defense University and State Department’s Bureau of Intelligence and Research. Neyla Arnas and Warren Fishbein, Actionable Foresight, NDU workshop series 2010.

**Defining “long-range.”** The length of time that constitutes “long-range” is not a set amount of time, but rather a function of at least three variables: (1) the speed at which the contingency is or may be approaching; (2) its “mass” or perceived impact (which is difficult to quantify, but can be assigned an index); (3) the amount of time needed to plan a coherent response; and (4) the resources needed at various levels of response. Foresight can have various “focal lengths,” meaning that it can be adjusted for clarity at desired points along a timeline, extending from the near present to the distant future.

**Linking long-range and current issues.** What is the handoff between long-range and current issues? At what point is an issue no longer prospective in the long term and active in the here and now? What is the boundary between foresight and operations? Any piece or set of information about the future that provides a basis for a tangible response is actionable foresight. Once a long-range contingency begins to have tangible or measurable impacts on present events, it has made the jump from a long-range to a current issue.

**Prioritizing Analysis.** Plausible future contingencies are too numerous for comprehensive study, and foresight practitioners have developed methods for prioritizing analysis of future contingencies, mostly using indicators related to probability and impact. “High-probability/high-impact” contingencies get plenty of attention, as do a familiar set of “low-probability/high-impact” contingencies (e.g., pandemics, physical attacks on the homeland). Foresight is a discipline, but it is also a craft. That is why—in addition to being responsive to the needs of policymakers—an ideal foresight operation will be able to set its own agenda and analyze contingencies on the basis of new weak signals detected by horizon scanning functions.

### Future Contingencies of Interest on the Horizon

- **Evolutionary Secession Produces Unintended Consequences.** Science and technology now permit us to dictate the evolution of our species and the planet. While regulatory regimes can respond to near-term risks, incremental advances are building in ways that pose medium- and long-range risks and opportunities for human destiny. Desired and undesired outcomes have direct relevance to immediate decisions in policy areas such as research and development, trade, regulation, and health care.
- **Environmental Disruptions Demand Sudden Adaptation.** Climate change poses a threat to the Earth’s ability to sustain human affairs as we have long practiced them. We may be either approaching or have already passed an irreversible threshold, and the window for preventative or adaptive action required across myriad aspects of governance is closing, while the debate continues regarding whether or not this even requires attention.
- **Labor Force Up-ended by “Disruptive Technologies.”** Watson, the *Jeopardy!* game show winner, changed the question from *if* to *when* automated machines will be able to replace “white collar” jobs previously only doable by humans. Meanwhile, additive (or “digital”) manufacturing promises cheap, durable, lightweight, custom-made products available instantly. We know from experience that automation can build (China) or disaggregate (U.S.) labor systems. How do the Watson and manufacturing revolutions impact U.S. strategy for the future of U.S. labor, commerce, and education?
- **Social Media Transform U.S. Governance.** Online social networks have catapulted countries into revolution, and the clock may be ticking on their breakout impact on U.S. governance. Social media give voice to anyone, thereby posing meaningful challenges to a representative form of democracy not built for direct participation. U.S. policy on information transparency abroad will have implications for our own domestic politics. Will we shape or be shaped by this technology?
- **Demographic Shifts Present New Market Opportunities.** Population profiles across the globe are shifting dramatically toward both old age and urbanization. These trends are more or less locked-in: they will play themselves out over several decades, impacting the goods and services that these societies will require (and who will supply them), and therefore the economic strategies of nations. There will be changed mixes of domestically created products and of needs for imports, including imports based on a combination of increasing disposable income and more sophisticated tastes for everything from food to furniture to health care. How will these changes bear on our future market opportunities for goods and services and on the robustness of present trade arrangements in the future?



## Forward Engagement Process

Anticipation has a dual nature: it is possible to anticipate consequences by visualizing alternative ways in which events play out in response to exogenous events; it is also possible to visualize the consequences of decisions you initiate yourself, including what is desired, acceptable, and undesirable. Functions of an actionable foresight process can either begin at the present and look outward, or begin from the long range and work backward.

### **Now ⇒ Future:** *The impact of near-term decisions on the long range.*

Decisions at the White House level are made with awareness that they may produce deep historical reverberations, yet the haste with which many decisions must be made restricts the time available for analysis of their potential long-range consequences. While it is impossible to imagine and study so many possible outcomes under such time constraint, it is possible to think rigorously about potentially major consequences of present decisions before choosing and implementing them. Methods for doing this include:

- **Identification of blind spots** by evaluating select unquestioned premises on which policies are based (for example, that housing prices will rise indefinitely), and using alternative sets of assumptions when making predictions and forecasts of the effects of a policy.
- **Delphi surveys** to rapidly collect predictions, assemble forecasts, and assemble the opinions of stakeholders (decisionmakers and/or analysts) about alternative policy options using automated (electronic) survey systems.
- **Scenarios** to evaluate potential consequences, employing alternative assumptions. Scenarios are case studies of the future: looking forward to possible events rather than backward to known events. They take a narrative form, providing a means to visualize outcomes of alternative courses of action, analyze their hypothetical consequences under different combinations of assumptions, and “back-cast”—that is, link logical sequences of hypothetical events backward from the imagined outcome to the present.
- **Structured brainstorming techniques** to quickly and methodically consider cause-and-effect relationships across categories.
- **Issues-analysis** to systematically identify whole sets of major questions and dilemmas relating to alternative policy choices and/or contingencies of interest.
- **Modeling** of behavior and decisionmaking (for example, computer-generated models) to simulate large sets of interacting variables and to gain insight into the range of possible outcomes based on probabilities.

### **Future ⇒ Now:** *The implications of long-range issues on near-term decisions.*

We have a tendency to discount the future, which means we postpone making decisions that are long-range in favor of dealing with what is very close to us in time. The trouble with that habit is that our near-term decisions have an effect on choices that will be available to us in the long term. There is always something new and consequential brewing. If potentially transformative or destabilizing developments are detected early, we can take action in the present while they are still nascent enough to be shaped for preferred future outcomes. Functions for this kind of foresight would include, on a continuous basis:

- **Scanning the horizon** to identify weak signals of prospective oncoming events.
- **Tracking trends** and analyzing plausible hypothetical Future Contingencies of Interest.
- **Monitoring development of weak signals** and tracking their interactions.
- **Using these trends as drivers** in the development of alternative scenarios and back-casting to identify key decision points that can be tested.
- **Testing alternative policy responses** (and their first-, second-, and third-order consequences) by analysis and simulation of plausible hypotheticals.
- **Correlating best and worst outcomes** with the simulated decisions, and matching the analysis with actual decisions presently being deliberated in the real world.
- **Developing national priorities and objectives** over multiple time periods—for example, the next 1–5 and 10–20 years—and tying aspirational outcomes to required near-term actions.



**Methods.** Futurists in business and academic communities use these and numerous other analytic techniques for conducting disciplined foresight, and the methods have advanced tremendously since the 1970s (a period during which an original burst of creativity arguably first gave rise to foresight as a discipline). Below is a sample set of foresight methods. A useful area of further study would be to pull together these various methods into a robust sequential process (although not all methods are useful/necessary for all circumstances). See Annex page 80 for definitions of these methods.

- |                             |                          |                                                                                      |
|-----------------------------|--------------------------|--------------------------------------------------------------------------------------|
| ■ Back-casting              | ■ Horizon scanning       | ■ Simulation/modeling                                                                |
| ■ Course of action analysis | ■ Implications Wheel     | ■ State of the Future Index (SOFI) <sup>15</sup>                                     |
| ■ Cross-impact analysis     | ■ Issues-analysis        | ■ STEEP implication analysis (Social-Technological-Economic-Environmental-Political) |
| ■ Delphi survey method      | ■ Morphological analysis | ■ SWOT analysis (Strength-Weakness-Opportunity-Threat)                               |
| ■ Environmental scanning    | ■ Real-time Delphi       | ■ Trajectory Analysis                                                                |
| ■ Futures Wheel             | ■ Roadmapping            | ■ Trend projection                                                                   |
| ■ Gaming                    | ■ Robust decisionmaking  |                                                                                      |
| ■ Historical analogy        | ■ Scenarios              |                                                                                      |

**Why does this process have to take place in the White House, where bandwidth is so limited?** At the White House, an ultimate responsibility exists to assemble the whole picture from a national perspective. That whole picture should include integration of things that are administratively separate at all other levels of the executive branch: economics and defense, domestic and foreign, short- and long- term. It is not possible to outsource that kind of foresight. It is possible to acquire inputs for it, but the composition and inspiration need to take place in the White House, *as a distinct function*. At the very least, a foresight function in the White House can ensure a higher probability that a timely exchange occurs between those responsible for producing foresight and those who can make good use of it. It does not need to be an operation. In fact, it should be kept small because enlargement leads to bureaucratization.

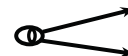
**American Foresight.** A frequent response to the challenge of proposing something “new” is to note that it has not been done before, implying that it should therefore not be attempted. The United States, to a unique degree, is a polity built on the rejoinder: “Why not?” The value of foresight for the United States is not theoretical: repeated acts of foresight have defined this country, as even a casual list demonstrates. We tend to view history linearly, but at the time of major decisions in our history, there were many possibilities under consideration, and the outcomes were very unclear. Each of these

#### Examples of American Foresight

- |                                    |                                               |
|------------------------------------|-----------------------------------------------|
| ■ Ratification of the Constitution | ■ Lend-Lease                                  |
| ■ Bill of Rights                   | ■ GI Bill                                     |
| ■ Louisiana Purchase               | ■ United Nations                              |
| ■ Lewis and Clark Expedition       | ■ Marshall Plan                               |
| ■ Transcontinental Railroad        | ■ Establishment of NATO                       |
| ■ Land Grant Act                   | ■ Interstate Highway System                   |
| ■ Emancipation Proclamation        | ■ Civil Rights Act                            |
| ■ Alaska Purchase                  | ■ Support for German Reunification            |
| ■ Establishment of Federal Reserve | ■ Support for the European Economic Community |

actions occurred in circumstances of deep controversy, at pivotal moments that were recognized to be such, and with reference to long-term consequences. The makers of these decisions did not stumble into them, and they were not predestined to happen; every one of them was based on an awareness, an *anticipation* (often Presidential) of an approaching fleeting moment when, by taking action, it would be possible either to avoid great risk or seize great opportunity on behalf of the United States. Skeptics might point out that these decisions were not decided based upon the kind of rigorous foresight proposed herein, but today's context is different: big decisions today often have immediate, cascading unintended consequences that can quickly become unaffordable. The big decisions of today and tomorrow that will eventually be added to this list require the kind of foresight only achievable by a disciplined process.

<sup>15</sup> Jerome C. Glenn, “The Millennium Project, *State of the Future Index*, The Millennium Project, 2009, available at <[www.millennium-project.org/millennium/SOFI.html](http://www.millennium-project.org/millennium/SOFI.html)>.



**Precedents by Foreign Governments.** Many foreign governments recognize the unique need for foresight for today's decisionmaking context. The governments of China, Finland, France, Singapore, South Africa, South Korea, Turkey, and the United Kingdom have invested in the creation of foresight units to promote foresight and whole-of-government policy integration. These governments do not necessarily grapple with the number, variety, and importance of the issues that the White House faces all the time. The existence of these institutions and their proximity to leadership underscore the seriousness with which foreign governments recognize that the nature of today's challenges requires a dedicated effort to think across categories and in a disciplined manner about the long range in a way that other kinds of government bodies are not equipped to do. Relatively new and ranging in sophistication, these foreign government foresight offices offer models that should be examined for their possible value if applied to our own needs and capabilities. A survey of foreign governments' foresight units is presented in the Annex on page 75.

### Foresight in Foreign Governments

China	Department of Policy Studies
Finland	Government Foresight Network
France	Strategic Analysis Center
Singapore	Risk Assessment and Horizon Scanning Programme
South Africa	Policy Coordination and Advisory Services
South Korea	Ministry of Planning and Budget
Turkey	State Planning Organization
United Kingdom	Foresight Horizon Scanning Centre

### Foresight Initiatives

This section contains four initiatives for integrating foresight and policy in the executive branch, each with a set of specific options for implementation. They are designed to satisfy all of the "Criteria for Upgrading Systems": no new resources, no consent or action required by Congress, compatible with existing processes, and implementable under conventional Presidential authorities.

- [A-1] Organizing a Foresight System
- [A-2] Brokering Between Foresight and Policy
- [A-3] Incentivizing Foresight
- [A-4] Training Professionals for Foresight

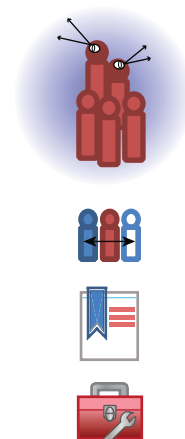






# A-1 Organizing a Foresight System

An organized, ongoing, and disciplined foresight process would supplement the short- and medium-term emphasis of the White House by incorporating a dedicated focus on the long term. This would bring into our line of sight what is developing outside of our immediate vision and the attendant implications of current actions on future outcomes. There are many sources of foresight available to decisionmakers originating both within and outside of the U.S. Government, but foresight is not methodical, continuous, or structured in a form that is useful for decisionmakers. An organized process based inside the White House could serve as a vital clearinghouse for the most important and *actionable* long-range information. This information can be applied both in terms of the long-range impact of present decisions and the implications for future events on today's decisions.



## Primary Functions

- Continuous scanning for weak signals of impending major events
- Analyzing alternative potential consequences
- Gaming out alternative courses of action
- Linking long-range assessments to ongoing policy formation.

## Secondary Functions

- Draw upon and maintain inventory of foresight streams produced within the U.S. Government, foresight originating from external sources (academia, private sector, open source, foreign allies, etc.), and feedback/learning streams (described in Section C-5)
- Convert these existing streams of foresight into actionable analysis
- Coordinate existing U.S. Government foresight operations in and outside the Intelligence Community
- Sustain a multinational foresight platform to promote shared situational awareness.

## Mandate

- Responding to instruction from policymakers on a topic of high priority (e.g., gaming out implications of policy options and/or supplying analysis of the implications of long-range factors on present decisions)
- Generating its own questions and setting its own agenda in order to analyze prospectively
- Ability to employ staff seconded from across the interagency (e.g., agency strategy or policy planning offices)
- Access to policymakers at very senior levels
- Authority to draw on highest level intelligence analysis and request that certain issues be tracked more closely.

## To remain viable and useful, the process also must

- be detached from day-to-day concerns: allowed to remain sufficiently independent to survive being drawn into the demands of day-to-day crisis management operations in the White House. Its resources must be insulated so that it can focus exclusively on issues related to the long range without bleeding into crisis operations<sup>16</sup>
- not be restricted to focusing on “risk” and the traditional “national security” domain, but also focus on opportunities
- be able to bridge the gap between intelligence and policy, assessing both jointly in its analysis
- be a protected system to protect honest analysis.

<sup>16</sup> Any tension between buffering and isolating foresight will need to be solved on a trial basis. A foresight system needs to be plugged-in, but leadership must give it sufficient independence to be able to conduct its work without being drawn in to the crisis of the moment.

## Options for Organizing a Foresight System

### A Foresight “Fusion Cell”

A foresight “fusion cell” inside the White House could resemble a “skunk-works”<sup>17</sup> operation with a very small staff (5 to 10), about the size of an NSS directorate. The office could be located within the EOP, OVP, or operating across the NSS/NEC/DPC, reporting to the Chief of Staff, the Vice President, or jointly to the heads of the NSS, NEC and DPC, respectively. In addition to producing original foresight and red-teaming on an in-house basis, the office could serve an aggregating function based on a hybrid organizational approach: cross-linkages to existing foresight activities taking place in various offices across the executive branch (policy/strategy/planning offices) with centralized distillation and conversion of insights into *actionable foresight* that is continuously looped in to the White House policy system. Staffers could be seconded from these offices to supply a broad range of disciplines and deep expertise. This idea depends for success on the selection of people with a special set of attributes operating with an explicit mandate from the President. That having been said, such networks can add tremendous value, if only in the form of offering the last place in government where it is possible to find and address critical “unasked questions.”

### Revised Role for the NSS Strategy Directorate and IPC for Strategy

Rather than serving as the “utility infielder” for the NSS—fielding any issue that demands strategic thought on a crisis-by-crisis-basis—the NSS Strategy Directorate could take on the foresight functions of a foresight fusion cell with the Senior Director for Strategy leading an Interagency Policy Committee (IPC) that (a) examines long-range future contingencies on an ongoing basis, and (b) develops strategic goals and alternative pathways for the Nation as a whole.

### Sub-IPCs for Topical, Regional, or Prevention-focused Foresight

Sub-IPCs could be stood up to conduct foresight on a topical or regional basis. Topical foresight could focus on national missions (such as the future of energy, education, or commerce); regional foresight could focus on alternative futures for America’s role in strategic areas such as the Arctic, Indian Ocean, or South China Sea. It would also be useful to have a dedicated standing interagency group focused on *conflict prevention* as opposed to ad hoc responses to ongoing conflict. Such a capability would bring an anticipatory approach to bear in time to deal with incipient (as opposed to actual) conflict. Such a sub-IPC would identify and track potential flashpoints for intra- or inter-state violence, consider possible approaches for squelching violence before the ignition point, and provide this information to the President and key stakeholders (State, Defense, etc.) by direct reporting.

### Virtual Organization

A virtual foresight group could comprise existing personnel, operating in their existing U.S. Government planning organizations, cooperating almost entirely remotely in a structured methodical approach to foresight at the national level, with participation and perspectives from each relevant agency. Centering this process at the White House (EOP, OVP, NSS/NEC/DPC, or Office of the Chief of Staff) would maximize the relevance and timeliness of the foresight generated by this network of operators. Populating the network with practitioners spread across the government is valuable not only for the sake of efficiency, but also in that it disseminates foresight deeper into the bureaucracy. A director based in the White House could serve as a catalyst to drive the system by ensuring analysis is relevant to present policy concerns and designating members of the virtual organization to serve in a “chief of contingency” capacity when major contingencies merit extra scrutiny. Someone assigned to be a chief of contingency would serve as a hub for foresight and intelligence relating to emerging issues of major potential consequence and develop actionable alternative plans for his or her assigned contingency (drawing upon existing agency capabilities). The system could also identify gaps and inadequacies within the U.S. Government as related to major future contingencies and recommend corrective action (i.e., a “GAO” function for foresight). Additionally, the system can take maximum advantage of extant foresight production by including a

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<sup>17</sup> The term *skunk-works* refers to a group within an organization whose mission trumps the rules, and which is therefore given a high degree of autonomy and is allowed to operate with relatively less interference from the normal bureaucracy.



series of “portals” where nongovernmental foresight producers (think tanks, academia, private sector, international perspectives, etc.) can deliver streams of foresight information and receive direction/suggestions for further study.

### **Presidential Advisory Council for Foresight**

A Foresight Advisory Council—in the model of the President’s Council of Advisors on Science and Technology, President’s Management Council, President’s Management Advisory Board, and President’s Council on Jobs and Competitiveness—could comprise a small group of operators and trusted outside experts who are detached from day-to-day policy concerns and have a mandate to examine policy implications of extraordinary contingencies coming down the road. Topics would be identified using a systematic prioritization method that weighs both administration priorities and oncoming future issues identified by this group as having greatest potential consequence. Reporting to the Chief of Staff, the Council would have access to the President on a quarterly basis to discuss long-range contingencies and implications for present decisionmaking. Rolling membership and staff rotations could ensure fresh perspectives as the agenda transitions from one issue to the next.<sup>18</sup>

### **Foresight Retreat for Principals**

A periodic retreat for NSC principals and deputies provides a forum to talk about long-term challenges and opportunities facing the country. For 1 day (annually or biannually), the President and his/her NSC principals and deputies could discuss a tightly prepared agenda. Insights and agreements would be recorded and converted by the NSA or Chief of Staff into an agenda for action.

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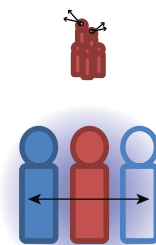
<sup>18</sup> Advisory councils/committees implicate the Federal Advisory Committee Act and likely additional open-government laws. There are exceptions to the law, such as advisory committees for intelligence matters and for classified matters—which is why the President’s Intelligence Oversight Board and Defense Policy Board can function—but depending on how they are stood up, such bodies could trigger these laws and/or litigation. Setting them up can be done and done right, but would authorizing language would have to be carefully crafted.





## A-2 Brokering Between Foresight and Policy

Although there are multiple ways to organize foresight into a specific stream of information available to policymakers, no mechanism exists for bringing foresight and policy into an effective relationship. Foresight-producers—especially those in the Intelligence Community—do not think like policymakers, and vice versa. There is inadequate exchange of information between these two communities as to what is available and what is needed. This gap is structural, in the sense that for good reason, each community avoids not only the reality but even the appearance of an arrangement that causes intelligence producers to ignore information that may not be palatable to policymakers.



Ideally, the relationship between foresight and policy is not one-directional, but interactive; immediate policy challenges dictate the kind of foresight needed while long-range considerations should also influence the design of policy. Long-range foresight is indispensable as a test for short-range decisions. Although foresight should ideally be a function of all analysts and decisionmakers (not just the IC), the reality is that most policymakers are unlikely to become deeply engaged by foresight, which—from their perspective—usually sheds no light on immediate risks to themselves, their goals, and their policies. Except for standard intelligence briefings, interactions between policymakers and foresight producers occur on a randomized—rather than systematized—basis. That is not a formula for success. An interface is needed to ensure a higher probability that a timely exchange occurs between those responsible for producing foresight and those who need to use it.



A dedicated foresight staffing function would create a critical missing linkage between foresight generators and policymakers. It is possible to track alternative future developments, and even to assign them probabilities of happening; it is much more difficult to understand whether today's plans will cover those alternatives, or whether today's plans are completely inadequate for some plausible contingencies. This kind of “stress-testing” of today's plans and policies against alternative futures requires a constant dialogue between foresight producers and potential consumers.

A “brokering function” could have the effect of making foresight much more relevant, useful, and therefore more “actionable” from the perspective of a policymaker by translating long-term matters into consequences relevant to the decisionmaker in the short and medium term. This would also help foresight producers gain a better understanding of current priorities so that the long-range insights they generate are meaningful and relevant to decisionmakers' needs. Meeting decisionmakers *where they are* helps them to see how long-range issues have near-term manifestations that connect to their immediate needs and priorities. This does not mean giving up on the long range; rather, it means connecting the long range to the here and now. This type of “translating” requires not only identifying current implications of long-range trends and possibilities, but also expressing foresight in short, policy-relevant bites, in addition to the big-think studies and reports. The nuances of future-oriented information are often best conveyed using imaginative presentational techniques designed to capture the attention of decisionmakers and to bring about “suspensions of disbelief.” These serve as aids to comprehension, using graphic shortcuts to communicate foresight findings. Examples include interactive charts, narrative illustrations, network maps, fake newscasts to make a future scenario more compelling, and short foresight papers building on hot items in the news. The purpose is to help decisionmakers “feel” the future and not only try to take it on board analytically, which supports uptake and sense-making by decisionmakers.

## Options for Brokering Between Foresight and Policy

### Translation Teams

Small, ad-hoc translation teams could serve a vital brokering function to improve communication between consumers (decisionmakers) and producers of foresight (including policy, scientific, academic, and intelligence analysts). The teams would be composed of foresight and policy specialists tailored for specific issues, but with broad experience in both domains (foresight and policy). Their job would be to serve as translators—translating to policy what is available from foresight sources; and translating for foresight producers what is needed by policymakers. Translation teams would be particularly useful for converting insights from highly technical computer modeling into language that decisionmakers can understand and that is relevant to policy decisions. Over time, these brokers could also help policymakers practice foresight methods. Such a function would bridge the “cultural” gap between policymakers and foresight producers who do not think in the same terms, and who do not understand each other’s approach.

### Establish a Staffing Function for Foresight

Assign individual staff members to maintain a stream of foresight-related information as part of the data flow to principal officials, and to be responsible for ensuring that foresight issues are identified and inserted into the agendas for Deputies’ and Principals’ meetings. An important part of this function would be to connect foresight to the “here and now,” and decide which day-to-day decisions require integrating longer-range consideration into the calculus. This staffing function could also include performing vital stress-testing of today’s policies and plans against future contingencies. The Chief Operating Officer as mandated by the Government Performance and Results Act Modernization Act (GPRA-MA) of 2010 could perform this function in each agency.

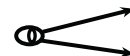
### Designate Key Gatekeepers for Foresight

Assign a high-level operator in the White House and in each department—Assistant Secretary or Deputy Secretary who has the ear of the President or Secretary—to be responsible for incorporating foresight analysis and long-range insights into briefings and decision memos. This person would be responsible for finding the right timing to brief the President on horizon issues (e.g., on Air Force One while traveling).

### Enlist Former Policymakers to Advise Foresight Producers on “Actionability”

Convene small teams of former senior policymakers with various groups of U.S. Government foresight producers (with teams selected on a policy-area basis). Facilitate this interaction in such a way as to encourage the former policymakers to respond to the following questions: “Do you see any impact on the design or execution of near-term policies and actions in light of these long-range views?” and “Are there long-range issues whose examination could illuminate short-term decisions about policies and actions?” Use these exchanges to *identify ways to process foresight in a way that directly contributes to near-term action*. This would generate new insights within the foresight production community as to how to make their products more relevant to senior policymakers, and how to get more traction out of our policy community and our very expensive intelligence bureaucracy. It would also demonstrate the way that exposing senior policymakers to long-range analysis triggers ideas for immediate actions that can be taken to advance short-range goals with an eye toward systematically producing desired long-range outcomes.



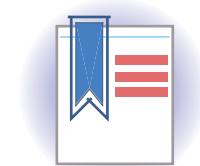


## A-3 Incentivizing Foresight

Foresight ultimately requires a demand signal.<sup>19</sup> When the President and senior officials ask for foresight, it will be valued. Otherwise, there is little incentive within the bureaucracy to produce foresight and integrate it with current analysis, and staff will revert to the routine of crisis management. Crises, by their nature, will demand Presidential attention. Strategic thought and Anticipatory Governance are unlikely to find time on the Principals' schedule unless the President and his senior staff encourage it.

Incentives need to be designed so that the bureaucracy values foresight, and individuals involved in foresight production must have protection in their career path equal to that afforded to individuals who are not engaged in analysis that is considered internally controversial.

Revised precepts for policy and intelligence analysis could be a starting point for institutionalizing systematic foresight by requiring or at least incentivizing long-range analysis to be factored into the work of the bureaucracy as a whole. Requirements for internal written documents typically emphasize short-term problem-solving based on empirical analysis. Foresight analysis, by contrast, is longer-range and employs assessment of hypotheticals. This kind of analysis is not regularly encouraged because it is speculative in nature and may appear at face value to have little bearing on immediate issues or decisions. As a result, analysis is often created “inside the box,” focusing on short-term fixes that do not synchronize with larger enduring goals, and may not hold up against major unanticipated events. Hypotheticals-based analysis should be mandated, rather than discouraged, and insights about the future should be tied to actions that can be taken to seize an opportunity or avoid a threat. Precepts for intelligence production and for major intelligence reports and new policy documents should mandate long-range, foresight-based analysis.<sup>20</sup> They should incentivize a stream of foresight-based reporting, tied to policy and to budget.



<sup>19</sup> The demand signal is simultaneously vital and elusive. It is a crucial factor that depends exclusively on qualities of leadership that may or may not always be online. That difficulty should be no reason to discount the importance of building anticipatory analysis into the system. It is far better to have a system for anticipation in being, even if it is not always well used, than to have no such system at hand when it is needed.

<sup>20</sup> Such a mandate would not necessarily extend to all (e.g., minor) issues. If too many well-intentioned “requirements” are added, the memos become less useful. The purpose should be to ensure that foresight and significant “un-asked” questions are included as often as appropriate.

## Options for Incentivizing Foresight

## Embed Precepts for Foresight into Terms of Reference for Policy Analysis

Mandate that major intelligence assessments and new policy recommendations include foresight-based analysis sections to acknowledge assumptions about the future and to consider relevant long-range factors. This would require analysts to go beyond purely evidence-based analysis and include disciplined assessments of plausible hypotheticals that could have major consequences. New precepts could incentivize a stream of foresight-based reporting (tied to policy and to budget) that is presently lacking. Insights about the future should be tied to actions that can be taken to seize an opportunity or avoid a long-range threat. *These requirements could be written into standards via supporting directives at the department or agency level.* Measures would have to be taken to prevent these requirements from being mechanically applied to so many documents as to destroy their value (or as a “box-checking” exercise), as well as to ensure that hypothetical analysis from the intelligence community does not become policy advocacy.

**MEMORANDUM**

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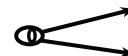
## Red Cell in National Intelligence Estimates and the President's Daily Briefing

A “red cell” could be installed in every NIE and President’s Daily Briefing to stress-test the analysis against long-range possibilities such as unforeseen contingencies and/or downstream contingencies of recommended actions. Quality foresight, as part of such a “red cell,” would contradict (or at least not fully agree with) the rest of the document since foresight deals with the hypothetical, not the probable.

## Revise Career Incentives to Encourage Long-range Analysis

Four kinds of incentives can encourage foresight:

- (1) Rewards could be issued for good foresight analysis, specifically for analysis that leads to seizing opportunities (in addition to averting risks).
- (2) Promotion standards could weigh individuals' use of foresight and reference to long-range considerations in their work.
- (3) Protection should be afforded to those who produce long-range assessments that challenge current thinking and offer tangible alternatives based on high quality analysis of hypotheticals and contingencies.
- (4) Explicit requests for long-range analysis from decisionmakers will create a demand signal that incentivizes high-quality foresight and establishes an organizational culture where it is an expectation.



## A-4 Training Professionals for Foresight



New sets of leadership competencies are required for 21<sup>st</sup>-century government professionals. Foresight is often considered a rare professional skill, but it can be inculcated.<sup>21</sup> Government needs leaders who are proficient in foresight and requisite skills such as collaboration, coordination, adaptability, and others that have always been “valuable to have,” but now have become “required to succeed.” Civil servants (including career civil service, FSOs, IC analysts, political appointees, etc.) are not trained to think across categories, and they are not equipped with methods for thinking in a disciplined way about long-range issues and future contingencies. We have a civilian governance about to retire in a block, and it is time to think about operational requirements of a future civil service. There should also be a revised approach to training at the academic level, stressing interdisciplinary study and exploring the relationship between theory and practice. This kind of training is necessary in order to give the next generation of civil service the capacity to operate under complex conditions. Methods of foresight generation and application should be formally taught to all civil servants and political appointees as part of training and qualification for government service.

The military’s systems-oriented education and joint service requirements mandated by Goldwater Nichols should be replicated in the civil service. U.S. military officers cannot advance in careers without education; the same does not apply to civil service, where the present policy is “you bring education to us and pay for it, and we’ll use it.” Additionally, exposure to joint planning and joint operations should be an expected element of professional development in the civil service.<sup>22</sup>

<sup>21</sup> Sample curricula for Forward Engagement (taught 2001–2010 at George Washington University) are available at <[www.forwardengagement.org/](http://www.forwardengagement.org/)>. (Click on “Graduate Seminar.”)

<sup>22</sup> **References:**

- Catherine Dale, *National Security Professionals and Interagency Reform: Proposals, Recent Experience, and Issues for Congress*, RL34565 (Washington, DC: Congressional Research Service, September 26, 2011), available at <[www.fas.org/sgp/crs/natsec/RL34565.pdf](http://www.fas.org/sgp/crs/natsec/RL34565.pdf)>.
- H.R. 6249, Interagency National Security Professional Education, Administration, and Development System Act of 2010, 111th Cong. (2010). Introduced September 28, 2010. Last Action: referred to committee on September 29, 2010. Available at <[www.govtrack.us/congress/billtext.xpd?bill=h111-6249](http://www.govtrack.us/congress/billtext.xpd?bill=h111-6249)>.
- H.R. 2314, Interagency Personnel Rotation Act of 2011, 111th Cong. (2011). Introduced June 23, 2011. Last Action: referred to committee on 20 July 2011. Available at <[www.govtrack.us/congress/billtext.xpd?bill=h112-2314](http://www.govtrack.us/congress/billtext.xpd?bill=h112-2314)>.
- S. 1268, Interagency Personnel Rotation Act of 2011, 111th Cong. (2011). Introduced June 23, 2011. Last action: October 19, 2011. Available at <[www.govtrack.us/congress/billtext.xpd?bill=s112-1268](http://www.govtrack.us/congress/billtext.xpd?bill=s112-1268)>.
- Nancy J. Bearg, *The Power of People: Building an Integrated National Security Professional System for the 21st Century* (Washington, DC: Project on National Security Reform, 2010), available at <[www.pnsr.org/data/images/pnsr\\_the\\_power\\_of\\_people\\_report.pdf](http://www.pnsr.org/data/images/pnsr_the_power_of_people_report.pdf)>.

## Options for Training Professionals in Foresight<sup>23</sup>

### Crash-course for Senior Officials, Political Appointees, and NSC/NEC/DPC Staffs

Many officials arrive for the first time at the White House with deep expertise on various subjects, but little feel for government operations and the demands of national-level strategy. As part of crash-course training for how to operate the system (including the vast resources available across the bureaucracy), disciplined foresight should be taught as an integral component of standard deliberation and decisionmaking procedure.

### Focus on Senior Executive Service (SES) and National Security Professionals (NSP)

The SES and NSP programs offer a high-level opportunity for bureaucrats to rise above specific institutional affiliations and think of governance as a whole. As a requirement, professionals who enter these cadres should be trained to understand what foresight tools are available and how to think in a systematic way about complex problems. SES education programs at the Harvard Kennedy School and Federal Executive Institute could teach a course on foresight and complexity. Joint Service/rotations could also be rewarded or required for promotion, à la Goldwater-Nichols.

### Insert into the Curriculum at Major Government Training Institutions

Create opportunities for Federal officials to acquire formal education in foresight generation and application using existing government educational institutions or outside consortia. Cross train civil servants to see beyond the current agenda and across the categories to consider the longer-term issues. Devise a set of learning objectives for U.S. Government training institutions to teach foresight.

### Write Foresight Proficiency into Promotion Standards

Proficiency in and use of foresight methods should be weighted as part of promotion standards for civil servants.

### Expose Senior Leadership to Foresight Through Workshops

A short-course training (perhaps 3-day workshops) in foresight methodology should be part of the experience of senior civil service, including SES and NSP, as well as military officials and political appointees.

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<sup>23</sup>These options would not require legislation if implemented on an ad hoc or TDY basis. To be sure, civil servants can be lawfully assigned to training under existing authority, but not in the numbers that a military model would suggest. Neither is the system staffed for the redundancy necessary to place a certain number of civil servants out of cycle. This is both a personnel cap (total numbers) and personnel authority (job status) issue. Most Federal employees are hired to perform a particular task, rather than to serve as assigned, like military officers or Foreign Service Officers. Therefore, legislation might be required to take a large number of these types of General Schedule personnel into an educational cycle, but most of this can be accomplished under existing authority with the right leadership push.



# { B }

## Networked Governance

**Networked Governance** structures can facilitate rapid flow of information and can thus serve as the basis for a smarter and more prescient bureaucracy. Networks can help to engage the full resources of government in the form of adjustable groupings, and in arrangements that encourage a high degree of initiative, although responsive to overall strategic guidance from the President. These initiatives focus on enabling agencies to plan and operate more strategically based on “management-to-mission” as the organizing principle of policy formation and execution, and to apply much greater precision in bringing resources to bear by “budgeting-to-mission” rather than only by jurisdiction.



[B-1] Networking the Strategy/Policy Planning Offices



[B-2] Leveraging the Deputies' and IPC Processes



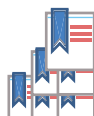
[B-3] Engaging the Cabinet Strategically



[B-4] Networking Integrators for Cross-Agency Missions



[B-5] Budgeting for Strategic Impact



[B-6] Synchronizing National Strategy Reports



[B-7] Systematizing Strategic Priorities



[B-8] Reformatting the Dialogue with Congress

## Discussion on Networked Governance

Modern policy issues erode the customary boundaries that differentiate bureaucratic concepts and the missions that are based on them. Executive branch legacy systems are based on vertical (stovepiped) hierarchies, an organizational concept hailing from best practices of industrial models that were appropriate in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, but are now obsolete because they derive from an understanding of events as linear and complicated rather than as interactive and complex. The interagency system is especially ill-suited for managing complex problems that involve strong interactions among formerly isolated policy domains: for example, the relationships among energy policy, trade policy, climate policy, fiscal policy, and defense policy. Complex problems must be constantly monitored and managed, and systems for doing so must be able to adjust as the contours of the problem continue to change. Vertical organization impedes responses to issues that are lateral and crosscutting, and linear processing blocks responsiveness to interactive issues. Adaptability is the cardinal virtue of organizational behavior in the digital age, and fluidity and flexibility must become characteristic of government processes if we are to shape events rather than merely react to them. The vertical nature of our legacy systems impedes the executive branch's ability to deal with complex challenges in a number of ways—many of which will be familiar to anyone involved in national security—all of which are actually rooted in the outmoded design of the system itself.

- **Stifled Information Flow.** The agencies are configured for secrecy rather than sharing. Jurisdictional boundaries prevent information about real-world conditions from traveling easily between field-level components of institutions and the policymaking levels, and it flows even less readily among the agencies. Classification of information varies across agencies and is often employed excessively, which prevents sharing among analysts and operators who desperately want to be able to collaborate to do their job more effectively. There are few institutional incentives to perform beyond strict immediate requirements or to connect across jurisdictional boundaries.
- **Unaffordable Sluggishness.** Authority to act requires detailed supervision from the top, mediated by dense procedural oversight and red tape. Momentum at the periphery stalls because overburdened supervisors are the ones with the authority to decide whether to authorize action, let it die on the vine, or punt to higher level decisionmakers who are more overburdened and often less familiar with critical details. The result is a systemic inefficiency, characterized by long lead times and missed opportunities to shape events as they unfold progressively faster than our ability to respond.
- **Disjointed Strategic Planning and Operations.** Strategy, planning, and operations are conducted independently and concurrently in each department—from a department-specific perspective, based on internal capabilities and resources—rather than collectively, based on a coherent view of national missions and the full spectrum of national capabilities and resources.
- **Darwinian Competition.** Like most institutions, agencies often prioritize survival, turf, and budget maximization, and the continuity of familiar procedures, rather than institutional change or even success. Self-preservation trumps creative change, and there is a tendency to purposefully withhold options and information that would benefit national-level missions if the internal implications include tightened resources, reduced influence/turf, reassessment of a favored (or “pet”) policy or project, or undesired changes to standard operating procedure.

A more subtle and continuous integration among policy, management, and budgeting is needed. The fiscal situation presents an urgent need for *strategic budgeting*: a deep and constant linkage between the budget process and the planning/operations process. There is a growing consensus that complex events demand the total engagement of government assets, but that what we have at best is a deeply flawed effort to link vertically organized systems (for example, the creation of the ODNI and DHS). We have left a period when our most serious security problems were by nature



“stovepiped” and hierarchical management was sufficient; we have entered a period when the problems we face are themselves networked: information about them is marked by complex interaction, and organization for dealing with them must become more flattened and integrated.

**Network Theory** offers an alternative way to organize governance. Networks facilitate relationships, interactions, interdependencies, and synergies. Networks expand the mandate of lower echelons to act, eliminate bottlenecks latent in middle layers of management, and radically improve the flow of information throughout the new system. The fundamental idea is that large organizations will—if organized in the form of networks that feed information to the periphery and enable the periphery to act toward broadly but clearly stated goals—display a capacity for rapid, internally generated responses that will consistently out-perform conventionally organized hierarchical systems. Models for networking civilian governance already can be found in the armed Services in the form of “net-centric warfare”: an approach to military operations pioneered by the late Admiral Art Cebrowski based on complexity and network theories and advances in command, control, and communications. We need similar processes for collection and assessment of intelligence and for policy analysis and implementation—not just in the military (where it is still a work in progress) but also on the civilian side of government.

**A Civilian Equivalent of the Military’s “Commander’s Intent”** would provide foundational statements of objective as the means to promote self-synchronization. Planning and operations would remain distinct but become interlocking functions, whereby both could employ networked structures with overlapping personnel. Networked planning means not only linking disparate government strategy units and managing-to-mission, but also routinely incorporating budgetary considerations in strategic development (and vice versa). Networked operations would be guided by commander’s intent, and should also have input into its formulation. Feedback systems (see Section C) would be required to ensure that the system is responding to the expressed guidance, to modulate the speed of implementation, to identify rogue behavior, and to redirect objectives and resources as needed. As has been the case in the military, networked civilian operations will require encouragement of a culture of governance adapted to the requirements of action within the framework of complexity.

**Management-to-Mission**—as opposed to traditional management-by-jurisdiction—would permit the system to harness existing resources and capabilities that are spread across the whole of government and to vector the full scope of what is actually required (rather than what is only available under a single authority) into coherent operations. Organizational boundaries are convenient for management and budgeting purposes, but they are ultimately artificial when real-world consequences ripple across them. Complex issues have no regard for the

### Complex National Missions

#### ■ Transnational Organized Crime and Terrorism.

Criminal and terrorist networks are interacting with each other, diversifying their activities and adapting their tactics fluidly and rapidly enough to keep us a step behind. The very legitimacy of formal governance as enterprise is at stake. The problems of drugs, terrorism, money-laundering, gang violence, and human-trafficking cannot be separated from each other. It takes a network to fight a network, and that requires a coherent approach among the scores of agencies involved (ONDCP, NCTC, DEA, DOS, DOD, DHS, IC, etc.), not to mention international partners. None alone has the resources or authorities to combat these threats’ myriad forms, and we can only be successful if our strategies, operations, and budgets are synchronized.

#### ■ Robust and Sustainable Economic Growth.

Defining a “new normal”—to include sustainability, secured lending, risk management, and deficit reduction—is a national mission touching every aspect of economic governance. Fiscal, trade, investment, research and development, labor and manufacturing policies must be integrated and synchronized to create an “economy built to last.”

#### ■ Infrastructure Modernization and Security.

America’s communications, energy, and transportation systems are foundational to the kind of nation we will be this century, and all three systems contain systemic vulnerabilities (physical, cyber, and otherwise) that are interconnected and can only be addressed by whole-of-nation planning and synchronized execution.



jurisdictional boundaries of government's vertical and sequential mechanisms for problem-solving. Today's national missions—such as lowering the national debt, improving health outcomes and living standards, ensuring our economy is sustainable in the face of change, etc.—require not just the resources and authority vested in a single agency or department, but the capabilities spread across government in various jurisdictions. Management can and must begin with the nature of the mission rather than with the boundaries and limitations of our legacy organizations. Rigid hierarchy must give way to protean networking. The purpose should be to focus the disparate programs within different agencies on commonly understood strategic goals consistent with the President's objectives. In practice, this means organizing adjustable groupings according to strategic requirements, either as ad-hoc interagency task forces or networked arrangements of existing subgroups within departments and agencies. It also means designing a budget around priorities and missions rather than by turf.

**Maintaining a Balance Between the Center and the Periphery.** Strategic behavior is the foundation of what is now commonly referred to as a “whole-of-government” approach, a concept that is perhaps more radical than the concept of foresight. Foresight means adjusting the existing process to accommodate a new stream of specialized information having to do with the interaction between potential actions in the present, and their consequences expressed as alternative future outcomes. The response to this proposition is skepticism about the value of foresight as a guide to action. Whole-of-government management, on the other hand, evokes other kinds of skepticism because it contradicts basic principles needed for hierarchical systems. Advocates of pushing decisionmaking “to the periphery” point to advances in data-handling that support this approach, although the very same advances also can support reconsolidation at the center. Today's communications make it possible to boomerang any issue to the White House and thereby to neutralize efforts to flatten decision-making efforts. It will be said that large organizations cannot be run unless executive power is totally vested at the top, and if the President is ultimately accountable for what is done by the executive branch, then it is wrong to push power down and outward. These objections will be raised even in the face of indications that legacy approaches are failing to match today's challenges. The White House cannot, however, create responsiveness across the executive branch by micromanaging from the center. It needs to set the course and monitor the consequences. In between, it needs a networked approach to knit together the administrative effort that converts policy into practice.

**Strategic Behavior.** The degree to which the United States is still in charge of its own destiny and is still a positive force in the world will depend not just on its ability to formulate *strategy*, but on the degree to which government can convert strategic knowledge (foresight) into *strategic behavior*. Acquiring strategic knowledge is something that can be done even in the midst of very negative trends and events. The political and organizational ability to strategically is the challenge, and this capacity is the subject of networked governance. Networked governance permits strategic behavior by enabling leadership to practice management-to-mission and budgeting-to-mission synchronized to the commander's intent. Without a network, it is possible to generate “actionable foresight” linked to policy and to visualize strategic behavior without being able to execute it. Strategic behavior has certain characteristics and enabling requirements:

- It has the ability to form and sustain relatively stable, long-range objectives.
- It has highly adaptive responses to shorter-term impediments.
- It has a very short turnaround time between new circumstances and revised action.
- It evaluates action in the short term within a long-term framework.
- Its visualizations of the future are not driven by ideology, but by facts and shared objectives.
- It treats alternative futures as either desirable or undesirable, and treats none as unthinkable.
- It insists on marrying means to ends, including tests for fiscal reality (not just “pay as you go,” but also “plan as you go”).
- It couples management-to-mission with budget-to-mission.
- It employs a broad-scope definition of “national security.”



Organizations cannot impose strategy; they can only execute it. Strategies are not meant to be updated weekly; they are for the duration. By contrast, strategic behavior absolutely requires extensive, synchronized action within and by a large organization, and it does require adjustment when and as indicated by feedback systems (described in Section C).

Strategic behavior for coping with increased complexity requires something like multiple concurrent networks. In fact, government already is a web of multiple concurrent networks; the question is how to make the output of these systems coherent in terms of ability to focus on a defined mission. The key is improvement of information and command and control systems at the White House and Cabinet level. Whole-of-government applied *literally* would be far too sweeping to be manageable, but the executive branch can move to a more flattened internal approach, aiming for faster adaptive behavior and self-synchronization around “complex operations.”<sup>24</sup> Along these lines, if there is such a thing as “wisdom of the crowd,” government had best learn how to tap it as part of a networked approach. The goal should be the ability to focus any and all government capabilities that are relevant to the accomplishment of a complex national priority—operating across conventional jurisdictional lines—by means that are consistent with the Congress’s constitutional authority to appropriate funds.

## Networked Governance Initiatives

This section contains eight initiatives for networked governance in the executive branch, each with a set of specific options for implementation. They are designed to satisfy all of the “Criteria for Upgrading Systems”: no new resources, no consent or action required by Congress, compatible with existing processes, and implementable under conventional Presidential authorities. They are designed to reinforce existing systems—not to circumvent them or add new layers—and they are adjustable in structure to reflect the goal of management-to-mission.

- [B-1] Networking the Strategy/Policy Planning Offices
- [B-2] Leveraging the Deputies’ and IPC Process
- [B-3] Engaging the Cabinet Strategically
- [B-4] Networking Coordinators for Cross-agency Missions
- [B-5] Budgeting for Strategic Impact
- [B-6] Synchronizing National Strategy
- [B-7] Systematizing Strategic Priorities
- [B-8] Reformatting the Dialogue with Congress

<sup>24</sup> *Complex operations* as applied to interagency missions are under study at NDU’s Center for Complex Operations, available at <http://ccopor-tal.org/>.





## B-1 Networking the Strategy/Policy Planning Offices

Although every Cabinet-level agency has its own dedicated strategy shop/policy planning unit,<sup>25</sup> these offices are generally not in communication with each other, and there is no venue for overall policy coordination at the top. The absence of such linkages means that government strategic planning is effectively disjointed. Strategic planning is conducted independently and concurrently in each department—from a department-specific perspective, based on internal capabilities and resources—rather than collectively, based on a coherent view of national missions and the full spectrum of national capabilities and resources. Arranging a network of the various policy planning offices across the executive branch would be simple and an important first step toward a more coherent whole-of-government approach to strategy.

There is a difference between successful crisis management and anticipatory policy planning. It is possible to think systematically through the multiple issues, implications, and alternative consequences of a policy, including long-term implications of short-range choices, indicators that a policy is meeting or deviating from expectations, etc. Major decisions sent up to Cabinet officials and the President can and should be enriched by this type of analysis. The policy planning offices—collectively and individually—can serve this need.

Systematized interactions among policy planning offices would create a space for obtaining and sharing information that is otherwise siloed, but which is essential to improving each department's "whole-picture" of major issues and the broad-based implications of various policy options.<sup>26</sup> A system for sharing information about capabilities would reveal specific instances where agencies' needs and capabilities overlap, enabling discussion of what can be shared. The center of gravity for this mode of integrated strategic planning needs to be at the White House, but as a means to define, guide, and empower, not to micro-control.



<sup>25</sup> List of U.S. Government Department Strategy/Policy Planning Offices is presented in the annex, page 77.

<sup>26</sup> President Dwight D. Eisenhower was known to use the planning offices in this way.

## Options for Networking the Strategy/Policy Planning Offices

### Revised Function for Policy Planning Offices

Policy planning offices have a unique potential value added that other parts of the bureaucracy do not. It is possible for these offices to focus not only on what the policy response should be to any given issue on the immediate agenda, but also on:

- long-range issues and unasked questions that need to be identified as part of creating policy
- how to organize effectively to define and pursue objectives (what pieces are in place, in what sort of arrangement, and if that arrangement is suitable to meet our objectives)
- strategic plans—roughly 5 years out—that clearly articulate objectives, capabilities, and resource alignments to those capabilities.

### Regular Meetings (e.g., monthly), chaired by Deputy NSA or Deputy COS

A single meeting of policy planning directors, convened by a senior White House official, would create a stir. What is needed is a pattern of activity. Persistent demonstration of high-level interest is key. Moreover, only a senior White House official has the convening authority to draw in the participants on a regular basis and to steer the discussion toward some collective activity in addition to information-sharing.

### Electronic Mission-management System

An electronic system for management of the issues could be used to help synchronize policy planning activities across departments. The system could be organized by mission and/or use tag-tracking of issues whereby when a policy planning team is working on an issue that crosses into the domain of another department. The system would apply a tag alert to that issue in order to alert the corresponding staff in the other department's policy planning bureau, as well as a set of questions about their operations to identify cross-links).

### Mission-based Teams of Policy Planners, chaired by Lead Agencies or Interagency Coordinators

Ad-hoc groups of policy planners could extend across agency barriers, aiming to draw together information and insight regarding complex advancing issues. These groups would be useful for early spotting, discussion, and first consideration of possible responses to events that are distant from action but advancing toward that threshold. The chair could be either the representative from the department designated as for the mission, or by interagency coordinators.

### Mission-based Teams of Regional and Functional Bureaus

Regional and functional bureaus across departments and agencies could likewise be coordinated in networks and organized according to mission in conjunction with a strategic or policy priority.



## B-2 Leveraging the Deputies' and IPC Processes

The Deputies' Committee (DC) is a unique space in government: it is a group that deals with national-level issues while simultaneously representing departmental viewpoints. The DC is a good place for incubation of foresight and mission-based management. The deputies are the most senior officials who combine in themselves responsibility for day-to-day operations of agencies (to support the principals) and full awareness of policy issues as seen from the top. When the deputies function well, the DC is not only the place where agency interests are represented, but also a network of associates where a creative synthesis of those interests and capabilities begins to take place in order to support Presidential decisionmaking. The same network is capable of absorbing information about longer-range concerns and integrating that information into its work on short-range matters. These are not theoretical observations about what is only possible in the ideal: they reflect experience of past-serving deputies. While such an arrangement depends tremendously on personality and "chemistry," it is an outcome of both the care that is given to selection of deputies and to the standards set for the way in which the system operates.

**The deputies could serve as a nucleus for cross-disciplinary policy formulation that is mission-oriented,** and which responds to and uses foresight. Their function could be to consider the intersection of multiple issues and match potential consequences to policy priorities. This would enable the exploitation of resources from a variety of bureaucracies while coordinating cross-bureaucracy policies. It would also be a lightweight way to add formal consideration of the foresight dimension to the White House policy process.

**The process has to be designed to continually bring the deputies back to strategy.** At the deputies' and senior directors' level, there is a tendency to get sucked into single issues and divert attention from strategy to focus on tactics. These issues become personally consuming for good reason, but the position demands a broader and longer view.

**"Packaging," not deciding.** Instead of channeling the Secretary and "deciding the answer" where major decisions are needed, deputies could focus on packaging issues adequately in order to clarify the full range and implications of policy choices. This would provide a systematic basis for executing big ideas.

**Delegating day-to-day operations.** Hands-on tactical and operational decisions could be pushed down below the deputies' level.



## Options for Leveraging the Deputies' and IPC Process

### Revised Role for the Deputies' Committee

Rebalance the agenda of the DC to enable its members to focus on long-term and mission-oriented complex priorities that relate to their day-to-day tactical and operational agenda items.

### Foresight into the DC Packet

The DC packet should include a section for foresight related to specific issues and decisions.

### Dedicated Strategy Meetings

**Foresight/Mission Meeting.** Schedule a series of meetings dedicated to foresight and mission-based planning that would take place over the course of the entire administration. Topics should be chosen using a systematic prioritization process based on a mix of major issues of the day that require long-range thinking and horizon issues that require proactive attention.

**Annual Priority Rebalancing.** Once (or twice) per year, deputies should meet for 2 hours to review and rebalance priorities (e.g., first Monday of October, before planning guidance and State of the Union preparations). An annual meeting with a set date: everyone knows when it is; it is linked to budgetary purposes; and it is part of the annual strategy cycle. For the agencies, that becomes the target date to engage with the White House about priorities.

### Deputy COS or Special Assistant to the President as “Chief Management Officer” for Complex Priorities

Since the deputies are often required to focus on day-to-day crises, a new Deputy for Complex Priorities can focus exclusively on long-range priorities and interactive issues management. The role would be akin to a “Chief Management Officer” for the EOP, focusing on converting interactive issues into coherent sets of priorities (that is, “complex priorities”), managing the priority-setting process, and walking priorities through the bureaucratic processes. This role would not be divested from policy but focused on its administration; it must be protected from being pulled into day-to-day crisis management and should function in a cyclical process through the budget processes.

### IPC for Strategy

The IPC for strategy should meet on a regular basis to serve as a “tiger team”: coordinating the broad scope of major interagency missions, priority-balancing, and incorporation of long-range considerations. IPCs do not have the same authority as the DC, but they have more specific knowledge that could make it the proper forum, chaired by the Senior Director for Strategy with agency participants at the deputy assistant level. Output could feed into a more senior venue (e.g., the DC or “foresight fusion cell” as described in the previous section). Representatives from each of the agency strategy/policy planning staffs and someone from the NIC should serve on the IPC for strategy in order to bring long-range issues to the table and to contextualize discussions with reference to longer-range issues.

### Foresight Broker at Deputies' Meetings

One or two people on the Deputies' Committee should be assigned responsibility for contextualizing the decisions of the day with reference to the long term. This person could feed information about what is on the current agenda to a standing body (e.g., foresight “fusion cell” or separate DC or IPC for strategy, which would include representatives from the agency strategy/policy planning staffs and the NIC) whose full time job is to perform foresight analysis on immediate issues. The foresight broker could bring this analysis back at the top of the next meeting, to contextualize major decisions within long-range strategic considerations.

### Retreat

Deputies should occasionally retreat (perhaps to Camp David) for a discussion of whole-of-government operation and long-range considerations.





## B-3 Engaging the Cabinet Strategically

The Cabinet can organize as leadership teams to promote synchronization of individual agencies on a mission-oriented basis by orchestrating horizontal coordination from top to bottom. Mission-based coordination would combine, at the top-level, the ability to coordinate planning and execution. The model for this form of collaborative approach exists in the Department of Defense, under way as of the Goldwater-Nichols Act of 1986, as well as under various concept headings including “net-centric warfare.” Ultimately, departments should be able to move away from “forced” integration and act that way reflexively.

Strategic cooperation among Cabinet secretaries does not require changing the internal management or structure of the departments. It does require changing patterns of operation and—over time—institutional “cultures.” Unfortunately, the congressional oversight system is designed to match funding, policy, and operations on an agency-by-agency basis, and therefore today’s challenges cut across not only the formal interagency boundaries, but also the jurisdictional boundaries within the congressional committee system. As a result, Congress does not systematically hold Cabinet secretaries accountable for how well they have interlinked their agencies or interacted with each other, no matter how much this mode of operation is needed to strategically maneuver the government. The Congress has sufficient flexibility within its rules to enable it to adapt, but that is ultimately a question of political will. In the meantime, only the President is in a position to assure that the executive branch combines strategic behavior and strategic thinking. Ultimately, the President must lay out expectations for how secretaries should operate. If the President wants the Cabinet to operate differently than it does, he or she must specifically articulate this change—and enforce it.



## Options for Engaging the Cabinet Strategically

### Establish Ad-hoc Interagency Task Forces at the Level of Cabinet Officers for Complex Priorities

The interagency system exists to develop policy up to the point of Presidential approval and to coordinate among agencies in the process of execution of policies. The Principals' and Deputies' Committees are the most senior elements of the interagency, operating in either mode. The Cabinet itself, however, is mainly a gathering of officials who have direct, legal responsibility for the management of their individual agencies. The suggestion here is to use the Cabinet, as such, as *the most senior management body in the government*, with special responsibility for assuring synchronization across agencies that have missions that represent components of broader complex priorities. Short of constantly referring back to the President, Cabinet-level task forces would work with a top tier of White House officials, who collectively would work to make sure that the President's intentions are translated into operations across government jurisdiction.

### Task Force Subgroupings

Create subgroups to ensure that government organizations are in alignment as they “maintain formation” on complex priorities. These subgroups would report to individual Cabinet members comprising a given task force.

### Use “Secretary’s Intent”

Use “secretary’s intent” (like commander’s intent in the military) to establish priorities and outline ends, ways and means.

### Offer Secretary’s Incentives

Secretaries can offer incentives for agencies to contribute to national-level missions in ways that otherwise deviate from their standard routines.

### Intradepartmental Linking

Link the analytic offices in the different agencies doing alternative strategic conceptualizations, so they are not just creating their own versions separately within the same department.

### Retreat for Cabinet Officials

A retreat for 1 day per year would afford NSC and Cabinet Principals a major opportunity—under circumstances that do not normally exist—to assess whole-of-government missions and explore alternative futures.



## B-4 Networking Integrators for Cross-agency Missions

Specialized coordinating functions in government compensate for the stovepiped nature of the existing Cabinet system, which was not designed to manage complex, cross-cutting priorities. One improvised response to this problem exists already in the form of approximately 35 officials distributed across the executive branch who effectively serve as coordinators for complex national missions. The press and Congress have labeled this set of officials “czars,” and the label has stuck. However, the term *czar* is a misleading concept, weighed down by a great deal of historical baggage. It unavoidably suggests vertical organization, rigid hierarchy, and an imperious style of decisionmaking. This obviously does not represent their intended role in an administration, which is to coordinate massive, difficult missions. Moreover, any effort to create such nodes of coordination can be perceived in the Congress as a means to circumvent its authorities. In any event, that kind of centralization of power could not be further from what is actually required: laterally networked organization, characterized by decentralized authority, operating with flexibility.

Officials operating in this capacity should be regarded as *integrators*, not czars, since they are effectively *coordinators*, not *autocrats*. As a group, they actually have tremendous collective knowledge about where the government is, where it is headed, and what specifically can be done to convert the concept of whole-of-government into operational reality in any given policy space. Such system-wide knowledge to coordinate planning and execution on a mission-oriented basis could be extremely important for helping the President achieve overall system coherence: an overall awareness of the operations of government, the interactions of policies with each other, and of the impact of these forces on our complex challenges. This collective knowledge can be tapped, but no system presently exists for that purpose. These officials have no venue for coordination and no way to talk to each other except “hub-and-spoke.” Their authority and access range widely: some report directly to the President, others report to Cabinet officers, and some have hybrid responsibilities with lines of responsibility running more than one way. Individually, they may somewhat improve coordination within and among various agencies, but cannot do so for the system as a whole. Collectively, however, the whole decisively can exceed the sum of its parts. Integrators—individually and corporately—could perform a crucial knowledge management function in the executive branch by connecting top-of-system awareness to political authority. They could generate situational awareness across the whole of government, during both the formation and execution of policy, and track policy implementation and needs for midcourse adjustment. Operating in this fashion—as a network instead of on an ad hoc basis—could also have the added bonus of easing strain on deputies for day-to-day coordination.

Integrators conducting issue- or system-management functions need not threaten the oversight authority of Congress<sup>27</sup> providing it is clearly established that responsibility for the execution of policy remains in the hands of Senate-confirmed officials. They would not substitute for the IPCs or the Principals’ and Deputies’ Committees, nor would they displace Senate-confirmed Cabinet officers from their authorities and responsibilities. They would simply augment the existing process by adding a critical missing element: the ability to visualize policy formation and execution in relation to mission as opposed to bureaucratic jurisdiction.



<sup>27</sup> It is important to acknowledge that the more de facto authority that these officials wield, the more likely the pressure from Congress to have them produce testimony. Purely advisory or not, “integrators” who perform foresight, whole-of-government, and feedback roles would have a greater and more important role, and thus more separation-of-powers pressure to step outside the White House’s protection in order to testify before Congress.

## Options for Networking Integrators for Cross-agency Missions

### Strategic Groupings of Integrators

Integrators could be organized into strategic groupings, forming a venue whereby they come together for systematic consultation and cross-fertilization of ongoing processes. The purpose of these groupings would be to create a network of officials with a collective responsibility to make sure that operations in their several agencies are focused on national priorities. Integrators might be able, operating through a network, to rapidly develop ways to work around impediments to coordinated action, both within their own organizations and among them. They would also serve as sources of insight and analysis that should be tapped by processes that staff the Deputies' and Principals' Committee as well as those that provide information to the upper tier of Presidential advisers who are charged with maintaining coherent executive branch responses to complex priorities. This arrangement would require an authority responsible for coordinating the groupings and rearranging them as the problem or priority on which they are focused inevitably morphs.

### Integrators as a Venue for Foresight

Integrators could take on responsibility for foresight and horizon-scanning within their policy domain and feed that foresight into the policy process (see Section A).

### Integrators as a Venue for Feedback

Integrators could take on responsibility for feedback within their policy domain and feed that foresight into the policy process (see Section C).



## B-5 Budgeting for Strategic Impact

One of the most important systems issues in government is the disconnect between strategy and the budget process. The Office of Management and Budget (OMB)—which conducts budget planning, budget response, and management performance review—historically administers the budget process more as arbiter of a zero-sum competition among agencies than as a coordinator for strategic resourcing on a whole-of-government basis. The result is a budget process that is divorced from long-range thinking rather than shaping the budget to enhance strategic priorities. OMB could serve as an active party to strategic planning and coordinating resources to achieve missions that cross agency jurisdictions. As a full-fledged part of the strategic process, OMB could be the gravitational field that aligns strategic planning with the budget. Careful attention would need to be paid to staffing these arrangements with budgeting experts who are also well-versed in strategic planning and foresight methods.



### Options for Budgeting for Strategic Impact

#### Regular Interface Between OMB and NSS/NEC/DPC

- Regular meetings should take place between OMB and NSS/NEC/DPC counterparts to clarify strategic priorities by translating them into budgetary terms. A “two-way street” is essential; it cannot be just OMB at NSS/NEC/DPC meetings, but has to work the other way, or OMB hierarchy could undo agreements made at a higher level.
- OMB and NSS/NEC/DPC should each invest at least one person to serve as the bridge between them. A deputy in each organization could be assigned to specifically facilitate integration.
- Every working group within the NSS/NEC/DPC should automatically include at least one resource specialist from OMB. This person should participate as a vested broker, not just as an observer. His or her role would be to inject budgetary considerations into the formulation strategy and to bring back insight to OMB about options under consideration.
- Representatives of the NSS/NEC/DPC should also be present at OMB discussions (about specific policies or programs) in order to shed light on strategic intentions and the implications that budget decisions have on the government's ability to coherently implement a strategy.
- The benefits of this would be to help OMB gain a sense of ownership in the strategic process and to provide a forum for brokering budget decisions at the right moment in the strategy process, instead of OMB just serving as the “pocket book” to say how things get funded.



#### Joint Mission-oriented Projects Between NSC/NEC/DPC Staffs and OMB

- To demonstrate the feasibility of a systems-approach to budgeting, the Budget Director and National Security Advisor should work together to prioritize a small number of joint projects dealing with national missions that cut across agencies. Two or three priorities could be used for the pilot (one each for the NSC, NEC, and DPC).
- These projects could center on outcome-specific or problem-specific sets of issues.
- The projects could serve as proof of concept toward enabling OMB's cultural shift toward a more strategically oriented organization.
- The output of such a project might be planning guidance issued jointly by an OMB deputy and respective deputy in NSS/NEC/DPC saying “here's what needs to be done, put your budgets together on this basis.”

**Pilot Projects** could be conducted with one security-related policy issue (e.g., combating transnational organized crime), one economics-related policy issue (international trade policy and practice), and one domestic policy issue (reducing homelessness).

### Create an Integrated OMB-NSS-NEC-DPC Strategic Shop

- A small strategy shop inside of OMB—integrated with the NEC, DPC, and NSS strategy offices—could provide OMB with a conscious capacity to look at what is coming and to think proactively about what will require resourcing.
- Its primary function would be to scan for signals of pending funding requests—e.g., based on major events or developments domestically or abroad, Presidential speeches, etc.—and begin the process of studying how responses could be funded. A regular staff retreat (perhaps every 2–3 months) could be used to call attention to the issues on the table and those coming down the pike.
- A secondary function would be to go beyond the annual budget process and take a longer-range (5–10 years) view of the budget, including analysis of alternative budgets based on alternative priorities (see below).

### Budget for Alternative Futures

- There are many possible futures—so why do we have one budget? If we have budgets that really do address the fiscal crisis, alternative approaches are going to mean alternative futures for how we live in the United States and how the United States relates to the international system. In its present form, the budget is a succession of single-image views of budget cuts and taxes, which are not adaptive enough to withstand a range of contingencies. America's destiny is shaped by its budget, yet there is no mechanism for converting alternative visualizations of the American future and alternative constructs of the budget.
- OMB already requires alternative budget proposals, but they ask for alternative decrements without considering alternative priorities or their long-term consequences that shape the country we become.
- Instead, OMB could use its leavers to enforce prioritization by requesting priorities-based budget alternatives.
- Alternative budgets could be used to model the effects of different decisions about prioritization, so you can see the benefits of alternative budgets (that is, “if you prioritize this, you invest here; if you invest here you prioritize this”).
- The effect would be to underscore choices about whether to “buy into” or “buy out of” alternative visions of where we want to be.
- It would be helpful to have a set of scenarios that show where we are supposed to end up after these transactions. Developing alternative budgets based on alternative strategies would provide for better informed decisions as to how to pursue and resource our national strategies.
- Technologies make it possible to make data more transparent (e.g., [grants.gov](http://grants.gov), [recovery.gov](http://recovery.gov), [cio.gov](http://cio.gov)), and applications exist that can generate alternative budgets based on alternative priorities (e.g., *the New York Times*' Budget Puzzles for the Federal Budget<sup>28</sup> and the military budget<sup>29</sup>).

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<sup>28</sup> “Budget Puzzle: You Fix the Budget,” *The New York Times*, November 13, 2010, available at <[www.nytimes.com/interactive/2010/11/13/weekinreview/deficits-graphic.html](http://www.nytimes.com/interactive/2010/11/13/weekinreview/deficits-graphic.html)>.

<sup>29</sup> “The Future Military: Your Budget Strategy,” *The New York Times*, January 2, 2012, available at <[www.nytimes.com/interactive/2012/01/02/us/you-cut-the-defense-budget.html](http://www.nytimes.com/interactive/2012/01/02/us/you-cut-the-defense-budget.html)>.



## B-6 Synchronizing National Strategy Reports

Any strategy is a plan for imposing a predetermined outcome on a complex system. Strategy necessarily intends to be comprehensive, meaning it purports to solve the problems of an entire set of issues. It needs to be durable enough to last until completion, and it should not be susceptible to disastrous failure in the almost certain event that it encounters conditions not foreseen in its premises. The term *national strategy* (or *grand strategy*) conveys the sense of sitting at the apex of all other plans and tactics, which should be regarded as tributary. That means that it should encompass the entire range of actions that may be required for execution: from maneuvers to tactics to operations to battles to diplomatic missions to trade negotiations to campaigns and upwards. Grand strategy is more than the sum of its parts. It is the high ground from which all of the parts and all of their interactions can be thought through, and employed as overall guidance for action.

It is not clear, however, that grand strategies are really available. Complexity theory challenges the notion at a basic level, since any action designed to solve a problem in a complex system simply causes the problem to mutate. Grand strategies do not end with permanent stability; history is a continuum in which every victory march leads on to the next set of problems that have to be dealt with and which therefore require that every strategy be revisited and adjusted. It is nonetheless possible to develop real strategic narrative,<sup>30</sup> and to use it to synchronize *strategic behavior* across the Federal Government.

Congress has mandated an array of reports on national strategy that can provide strategic direction for the government and the Nation. These reports—listed in the annex on page 78—range from the President's National Security Strategy to the Quadrennial Reviews conducted by heads of Federal departments, and to the scores of department and agency strategies. These strategy documents range widely in terms of their scale, mandate, time horizon, use of terminology, release dates, and myriad other factors. As a result of such variations, the U.S. Government's broad spread of strategic documents do not coherently reference or cross-relate to each other.<sup>31</sup> While each may stand on its own as an important strategy in a given domain, these documents are—as a whole—asynchronous and disjointed from one another. The effect is lack of mutual reinforcement emanating from the core explications of U.S. strategy.

The primary mandated national strategy documents—the President's National Security Strategy and the Quadrennial reviews for Defense, Intelligence, and Homeland security—are defense- and homeland security- oriented; Development and Diplomacy is a recent addition. National strategy, however, certainly encompasses many other domains—such as energy, environment, health care, labor, trade, industry—that are of vital importance to the security and prosperity of the Nation and account for a large share of our national budget and effort.



### National Strategies

(Detailed illustrative list in the Annex on Page 78)

- National Security Strategy of the United States
- Quadrennial Defense Review
- Quadrennial Intelligence Community Review
- Quadrennial Homeland Security Review
- Quadrennial Diplomacy and Development Review
- National Military Strategy
- National Intelligence Strategy
- National Strategy for Homeland Security
- National Export Strategy
- Strategy to Combat Transnational Organized Crime
- National Strategic Plan for Advanced Manufacturing
- National Nanotechnology Initiative

<sup>30</sup> Mr. Y. (Wayne Porter and Mark Mykleby), *A National Strategic Narrative*, (Washington, DC: Woodrow Wilson International Center for Scholars, 2011), available at <[www.wilsoncenter.org/sites/default/files/A%20National%20Strategic%20Narrative.pdf](http://www.wilsoncenter.org/sites/default/files/A%20National%20Strategic%20Narrative.pdf)>.

<sup>31</sup> Recent strategy documents (e.g., QDDR) indicate a step in this direction.



Although these elements are described in the most recent National Security Strategy<sup>32</sup> as vital to the national interest, they are not treated at the level of national strategy. The closest the United States comes to a codified national strategy in non-security-related domains (such as energy or education) is a set of departmental and agency strategy documents that define the mission of the departments, but do not lay out a national strategy. National strategy is broader than national security, and national security is a far broader concept than national defense; a comprehensive strategy for national security and prosperity needs to integrate, rather than spin off, thinking about the long-range sources of American stability and power.

Agencies' strategic plans should be reviewed and integrated into national-level strategy. In addition to providing coherent national-level strategy for subjects of national strategic importance, this kind of broad-based synchronization would contribute to the effort to break down silos in government by linking agencies' strategic planning activities more closely and providing an interagency forum for identifying unique and overlapping priorities and capabilities across agencies as part of the strategic planning process.<sup>33</sup>

National strategy documents should be synchronized, nested, and cross-linked to each other. They should incorporate a long-range perspective and specific goals (tied to budget) as guidance for short- and medium-term action, and they should be adaptive enough to withstand unforeseen contingencies. They should also reflect a broad-based perspective on the needs of the nation. This means ensuring that national-level strategy emphasizes not only national *security* but also national *prosperity*.

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<sup>32</sup> *National Security Strategy of the United States* (Washington, DC: The White House, May 2010), available at <[www.whitehouse.gov/sites/default/files/rss\\_viewer/national\\_security\\_strategy.pdf](http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf)>.

<sup>33</sup> The GPRA Modernization Act requires OMB to work with agencies to develop crosscutting goals and annual performance plans for achieving them. It also requires agencies to identify redundant reporting statutes. These requirements can be used as a vehicle for synchronizing whole-of-government strategy.



## Options for Synchronizing National Strategy

### Explicit Instructions for Synchronization

The strategy reports should be synchronized in the following ways:

- Cumulative impact toward a common goal, understood in common terms
- Direct relevance to each other, and treated as if “nested” one within the other
- Clear progression from broad strategy down to programmatic detail
- Aligned due dates to promote a strategic progression<sup>34</sup>
- Readily convertible into budgetary implications
- Parallel requirements for long-range analysis in each of these reports to establish the link between the national strategy and longer-range foresight
- Feedback process to track priorities and progress.

### White House Official to Coordinate Synchronization

- Run a process where participants from each department responsible for their strategy documents co-develop an outline for the components of whole-of-government strategy with spaces for the departments and agencies to fill in the gaps
- A Deputy Chief of Staff or Senior Director for Strategy could serve as a coordinator during the writing phase to review drafts and check for language and section match-up.

### Insert Parallel Requirements for Long-range Analysis

- Insert additional longer-range analysis in each report
- Establish a link between proximate (near-term) national strategy issues and longer-range issues and describe their interactions.

### Use Technology to Transcend the Old Style Industrial Process

- Eliminate hardcopies of these reports—instead, report quarterly, but *online*
- “Living documents” literally—rather than static documents—by updating them on a regular basis
- Use web hyperlinks to cross-reference the other documents
- Former versions published and preserved in an archive.

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<sup>34</sup> The GPRA Modernization Act of 2010 mandates new agency strategic plans and timing requirements: the strategic plans must cover four fiscal years and are due every 4 years (President's second year), the same day as the President's annual budget proposal to the Congress. Agencies are also required to report redundant and wasteful reporting. This is a step in the right direction. See Annex page 72 for more on the relationship between the GPRA Modernization Act and Anticipatory Governance.





## B-7 Systematizing Strategic Priorities

The objective of priority-setting in government is to make it possible to rationally allocate time and resources. In government, priority-setting can produce an artificial hierarchy, flattening real differences of relative importance. When multiple complex issues are evolving quickly, “serial processing” places back-end issues “on hold,” and they can suddenly spin out of control when no one is looking. On the other hand, without a sense of prioritized outcomes, attempting to deal with everything at once can result in a chaotic jumble of systems and programs where resources are wasted in efforts to accomplish objectives in piecemeal fashion, producing results that are only loosely (if at all) oriented around an overall strategy. Neither approach yields optimum outcomes.

What is needed is the means for *parallel processing* across government, synchronized around a common set of national priorities (as articulated by “Presidential Intent”) to incentivize cross-department budgeting and management-to-mission. Multiple strands of decisionmaking that interact with each other need to be kept in sync within a common scheme for government-wide action. Whole-of-government behavior is needed to drive complex policies into existence. But no single agency of government can impose this mode of operation on the other parts of the system. There needs to be a center of gravity at the core (in the White House) where it is possible to have total mission-planning based on a priority list. This could begin with a rank ordering of major national priorities and their linked elements, followed by a reckoning of the urgencies involved to drive relative rate and scale. There is no perfect balance because resources are finite, and tradeoffs are inescapable. Where issues cannot be prioritized, it may be possible to process them in parallel—at varying rates of speed and expense. It is possible to use a priorities process to think rigorously about these tradeoffs and the total effort of parallel action.

Opposition to this is to be expected within and between agencies. However, this opposition should be diminished by the need—at agency and especially at national level—to find ways to pursue large policy objectives under financial conditions that will be straightened for the foreseeable future.

### Options for Systematizing Strategic Priorities

#### Presidential Intent

Objectives could be clearly articulated as Presidential Intent, which in turn could serve as an organizing force to align missions, capabilities, and resources across the interagency, coordinated at the national level in the White House. The President should establish intent by laying major goals and priorities and assigning specific roles and management instructions. The President could present these at a Cabinet-level meeting or a series of internal meetings or speeches to the departments. The President makes his or her expectations clear: *“I expect you to come back to me with decision-quality materials to decide on these major issues. Don’t come back with a food fight over this or that. The top priorities are X, Y, Z.”* This could be codified in a Priorities Framework and interpreted on a day-to-day basis by a White House official (below).

#### Process for Priorities Synchronization

**[Tier 1] National Priorities Framework (NPF).** Top-tier national priorities should be established by the White House in the form of a short (1–2 page) framework document similar to the National Intelligence Priorities Framework used by the Intelligence Community. These could comprise national-level goals (roughly 5 years into the future) as articulated in the National Security Strategy and embedded in the framework. National priorities could be distilled by



NSS/NEC/DPC senior directors based on the National Security Strategy, major policy speeches, and other Presidential policy guidance, and the President could hold an annual Cabinet meeting (perhaps before the holidays) to lay out priorities for the term and define success, which drives the budgetary priorities cycle and becomes the strategic plan for the year.

**[Tier 2] National Priorities Review (NPR).** A review would identify and rank a comprehensive laundry list of major second-order priorities that fall underneath “national priorities.” The review should be led by department strategy offices and facilitated by a White House official or a joint OMB-NSS/NEC/DPC working group for strategic priorities. Once priorities are set and ranked, it is possible to comfortably distribute the solution space, having created the conditions for self-synchronization around outcomes. The more holistic guidance and priorities are drawn, the better sense of prioritization is achievable. The key is for the President to require this as the format in which he receives reporting and analysis.

- Step 1: Department strategy offices develop a department-specific rank-order list of second-order priorities nested within major priorities outlined in the NPF.
- Step 2: Facilitators distill, align, index, and cross-link agencies’ second-order priorities to create a uniform package of priorities and return the package to the agencies for review.
- Step 3: Agencies review the priorities in the whole-of-government context and return their wording and ranking modifications.
- Step 4: Facilitators build consensus on a final scheme of nested priorities.
- Step 5: Changes in priority ranking can occur on either a real-time basis (using software), a periodic/scheduled basis, or part of whole-of-government review following a major event (e.g., national election, military action, etc.).
- Longevity: The process should retain continuity from one administration to the next by handing off the priority sets to be reviewed and reordered by each new administration. This could be inserted as part of GAO’s mandated transition briefings.

**[Tier 3] National Priorities Guidance (NPG).** Detailed guidance for executing national priorities would be synchronized with the High-Priority Performance Goals (HPPG) and issued jointly by the OMB director and respective heads of the NSS/NEC/DPC. This guidance would contain:

- Translation of national policies into interagency allocations of resources (time, money, staff capacity, etc.) to be used as a quantitative basis for comparison and choice.
- Instruction to accommodate important priorities within a total “budget” of process time, cost, and capacity, and to integrate duplicate or competing concepts for implementation.
- Instruction to cost-out alternative tradeoffs (e.g., slow down a process because it cannot be fully executed within available time; but expect higher expenses as a result).

The respective heads of NSS/NEC/DPC have the final say in presenting alternative tradeoffs (working with their staffs and the executive agencies); the OMB director has the final say in presenting estimates of the costs of these alternatives. Both could collaborate in order to produce compound options that facilitate rank ordering of imperfect outcomes, ranging from the high financial cost of a “perfect” policy outcome to the policy costs associated with unrealistically low budgeting for implementation. The objective should be to identify a range of acceptable policy outcomes, linked to a range of affordable costs.



### Leverage GPRA-MA Priorities

The GPRA Modernization Act of 2010 requires agencies to identify priority performance goals and crosscutting managerial challenges. The priorities established by agencies as mandated by GPRA-MA can be fed as input into this kind of national priorities process, and the Chief Operating Officers for each agency (as mandated by GPRA-MA) can serve as the agency-level coordinators for priority ranking and pass back to OMB. In this way, GPRA-MA compliance could become a powerful tool for management.<sup>35</sup>

### Chief Management Officer (CMO) for Priority Management

To oversee a priorities process and to provide day-to-day guidance on synchronization to national priorities, a management official is needed who has authority to interpret Presidential Intent. Many agencies task this responsibility to their Chief of Staff or Deputy Chief of Staff. In the White House, the Chief of Staff has different responsibilities. A Chief Management Officer for Presidential priorities could serve as this authority (might be a Deputy NSA, Deputy Chief of Staff, Deputy Director at OMB, or wear multiple hats; alternatively, the NSC Executive Secretary could serve this function). In addition to overseeing a Priorities Synchronization Process, this person can interpret Presidential Intent on a day-to-day basis in order to prevent major issues from coming to the fore prematurely. This person would serve as a facilitator and would not be in charge of budgets.

### Priorities Synchronization and “Collective Intelligence” Software Platform

A software program could be designed to serve as a platform for priorities review and synchronization across the bureaucracy. This would provide a unified portal for all participants and offer the opportunity to collaborate virtually, track changes and evolution of priority statements, and update rankings in real-time.

The concept of “collective intelligence” is gaining currency as a way to use information technology to support decision-making.<sup>36</sup> *Collective intelligence* can be defined as groups of experts, information, and software that are searchable, interoperable, and that continually learn from feedback to produce *just-in-time knowledge for better decisions than these elements would produce acting alone*.<sup>37</sup> A simple collective intelligence system (CIS) would manage content, organize expertise, track comments and changes in documents, and support prioritization. A CIS would also provide continuity from one administration by making it easier to retain and transfer institutional knowledge that is essential for long-term strategic coherence, regardless of changes in policy or political philosophy. Models for this kind of software platform already exist (Wikipedia, Google, Facebook, Twitter, Microsoft SharePoint, etc.), and the design of such a system as an improvement to the existing White House intranet could be tasked by the White House to the government’s in-house computer program developers at DARPA, DISA, DIA, or other.

### Super Calendar

An inexorable “Super Calendar” could serve as a whole-of-government platform to:

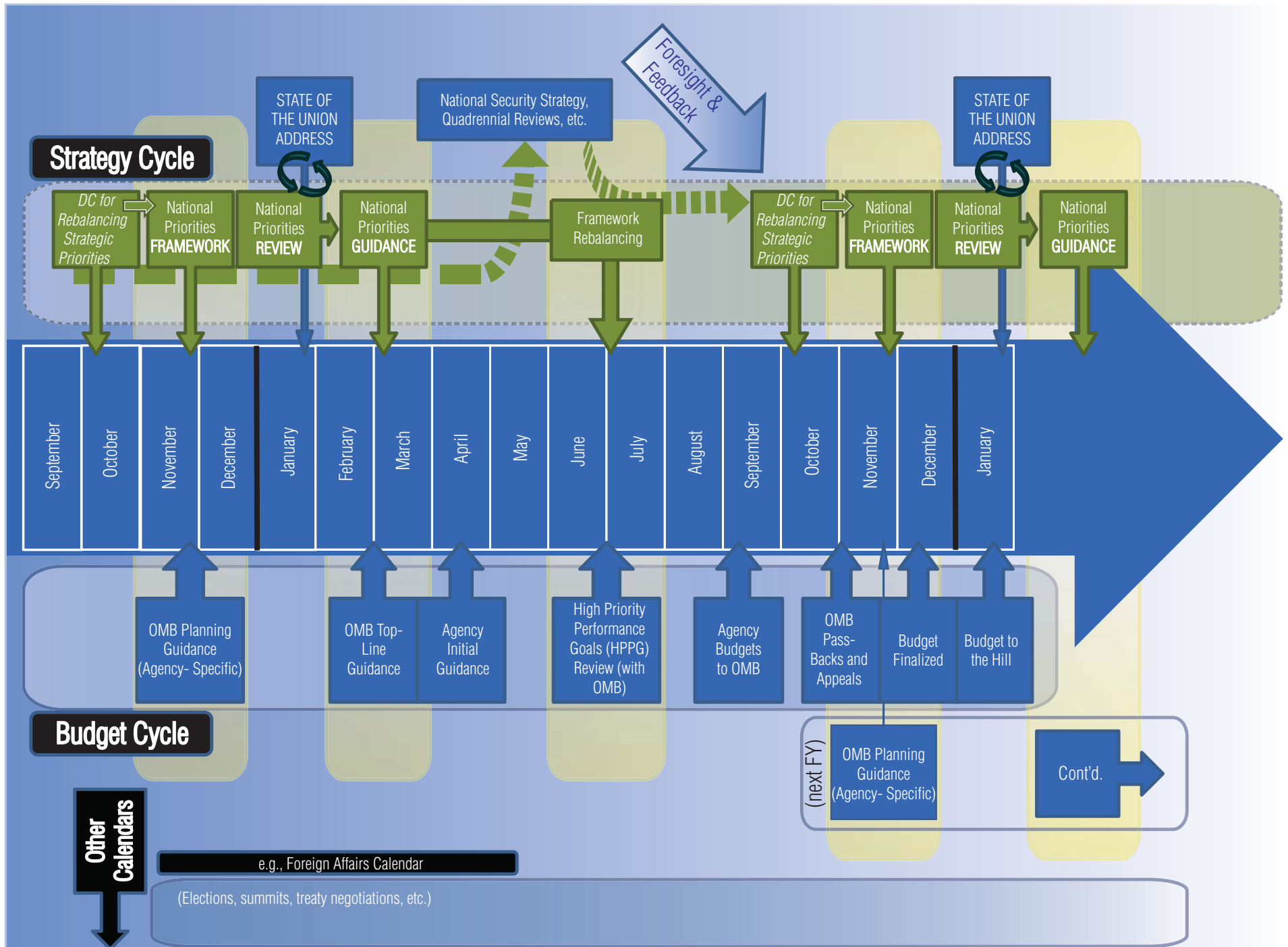
- visualize government activities and major relevant events along a timeline in order to encourage awareness of upcoming events and opportunities for synchronization. It could therefore also become a mechanism for imposing discipline including with regard to visible redundancies across jurisdictions
- regularize a disciplined foresight and feedback processes synchronized to other government processes
- align the strategy cycle (e.g., strategy reports, national priorities process, etc.) to the annual budget cycle run out of OMB [depicted on following page].

<sup>35</sup> See Annex page 72 for more on the relationship between GPRA-MA and Anticipatory Governance.

<sup>36</sup> Thomas W. Malone, “MIT Center for Collective Intelligence,” Massachusetts Institute of Technology, 2010, available at <<http://cci.mit.edu/>>.

<sup>37</sup> Jerome C. Glenn, “The Millennium Project,” Global Futures Collective Intelligence System, 2012, available at <[www.millennium-project.org/millennium/CIS.html](http://www.millennium-project.org/millennium/CIS.html)>.

# “Super Calendar” for aligning Strategic Priorities with the Budget Cycle (Notional)





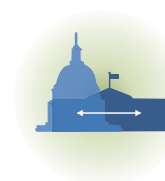


## B-8 Reformatting the Dialogue with Congress

The committee system in the Congress has co-evolved with the legacy systems of governance in the executive branch. They reinforce each other's authorities, and are resistant to organization based on overall mission as opposed to organization based on turf. This tendency is amplified by the effects of partisanship. While the President can order implementation of the initiatives described herein to encourage Anticipatory Governance without congressional approval, such changes are likely to arouse suspicion within Congress over matters of jurisdiction and oversight.

The new forms of information that these initiatives would generate are intended to strengthen the ability of the President and other senior officials to visualize present and possible future contexts within which policy must operate, but this reporting would not be required as inputs to the Congress. It should at least be possible, however, for the executive branch to be able to *offer* an alternative form of dialogue to Congress in the spirit of effectively organizing and budgeting for national-level, complex, long-range missions. Given political will, the existing rules of both the Senate and House offer sufficient flexibility to experiment with new approaches, designed to focus on areas where collaborative effort might be substituted for divisiveness.

A distinguishing characteristic of governance among our competitors is their capacity to remain focused on long-term goals and to marshal resources for that purpose. As Americans, we have to find our own approach to sustained effort, by means that are consistent with our political culture.



## Options for Reformatting the Dialogue with Congress

### Cross-linked Dual Reporting

The administration could offer two ways to communicate with Congress: one way is the traditional system organized around the budget as a compendium of funding requests expressed line by line speaking to multiple committee jurisdictions; another way is to communicate with Congress at the strategic level, where the resources needed for complex national priorities are analyzed in terms of strategy and organized according to mission rather than according to jurisdiction. This would allow legislators to consider the whole picture when conducting oversight and debating appropriations. The two versions would contain the same information in alternative formats, and a simple automated cross-linking software platform could be used to automatically translate mission-oriented figures into the traditional format for committee jurisdictions.

### Component-level Implementation Process (CLIP)

A new mode of communication would be especially vital where the President's objectives can only be accomplished by sustained effort over an extended period of time, perhaps longer in duration than two Presidential terms. Smart energy grids, catching up with the huge overhang of infrastructure needs, long-range support for research and development needed to create breakthroughs for business, long-range support for scientific research, etc.: these are all examples of this class of extended national commitment. Anticipatory Governance can help identify priorities and match requirements to means through the budget process, but only Congress is able appropriate funds over a lengthy period of time, and one Congress cannot bind another to its intentions even when these are expressed in "permanent" law. Willingness to make these appropriations for national missions, vis-à-vis the existing committee system, could be encouraged by a view of the full picture to lawmakers.

The Federal Government periodically will spend several billion dollars on long-term projects meant to shape the future, and then cancel them with nothing to show. Instead, long-term priorities could be translated into a series of short-term goals to be implemented in components. Proposals for large projects could be broken down into manageable chunks that are independently valuable but collectively aligned toward a larger goal. These chunks would be turned into policy recommendations, and then the recommendations would be translated into legislative language and timelines. Each component is valuable in its own right and can stand on its own so that benefits are achieved regardless of whether the final goal is achieved. Success depends on describing a desired long-term endstate and developing a series of short-term steps to achieve it. CLIP is a way to analyze the programmatic implications with terms that are in sync with congressional politics by breaking down the long-term goals into progressive short-term legislative steps that offer substantial stand-alone benefits. CLIP mitigates the political risk inherent in introducing legislation when the final results may not be seen for decades.

### Leverage the GPRA—Modernization Act

Implementing Anticipatory Governance should include steps to show consistency with performance mandates already written into law by Congress, particularly those comprising the GPRA-MA of 2010. White House reporting mandated by the GPRA-MA can be adapted to serve this purpose, and White House systems already operating within OMB as the result of the GPRA-MA can be used to help develop and monitor implementation of Anticipatory Governance initiatives. This would offer Congress an avenue to plug in to the process, while alleviating the administration of the extra burden of expending energy trying to convince legislators that the Anticipatory Governance initiatives are not designed to circumvent constitutional authority granted to the Congress.<sup>38</sup>

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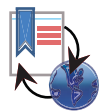
<sup>38</sup> See Annex page 72 for more on the relationship between GPRA-MA and Anticipatory Governance



# { C }

## Feedback for Applied Learning

**Feedback** can serve as a basis for ongoing evaluation, reassessment, and recalibration of policies in order to prevent breakdowns and system failures that routinely go undetected until it is too late. Applied to policy, feedback can be used to monitor and adjust policy, to maintain accountability and self-synchronization, and to promote resilience and rapid learning. These initiatives focus on ways to institutionalize feedback as a continuous process to maintain the vitality of policies and operations throughout the process of execution.



[C-1] Identifying Explicit Feedback Precepts to Track Policy Execution



[C-2] Establishing a Venue for Feedback



[C-3] Continuously Routing Triggered Indicators



[C-4] Diagnostic Reviews of Consequences

## Discussion of Feedback for Applied Learning

Feedback is the use of information to modify behavior. Feedback occurs when a portion of the information contained in a system is recycled into that system in a way that influences its outcome. Feedback is employed in engineering as a way to confine the performance of a system within specific bounds by detecting indicators of error and applying corrections sufficient to redirect the output. For example, a thermostat that regulates room temperature, feel-of-the-road circuits are built into power-steering in an automobile, and delicate feedback systems regulate nearly all aspects of airplane flight. Other examples, perhaps less familiar, are found in biological systems where organisms use information gained from sampling to adapt to their environment (e.g., self-regulation of body temperature or metabolism).

Feedback systems<sup>39</sup> exist in disparate forms throughout government, but the White House should make more systematic use of feedback at the national level as a routinized function of government. Without continuous sampling and feedback to measure the performance of policies, senior officials have no mechanism to detect early signs that a policy is deteriorating until it has become patent and costly. To counter this, we need to design systems for at least three applications in the policy process:

- (1) **Feedback for Monitoring and Adjustment of Policy** to regularize connections between estimates and results in order to support continuous reassessment and recalibration of policies
- (2) **Feedback for Accountability, Control, and Self-synchronization** to sustain accountability and control in a networked system
- (3) **Feedback for Learning** to promote rapid self-learning and evolution in the system (injected into a foresight mechanism where the information can be used to improve the design of policy in the future).

The function of feedback is to monitor actual events in order to help alert policymakers to the known consequences of actions already taken. In this matter, a feedback system should be regarded as consisting of sensors up front. These sensors provide the earliest evidence that events are following one particular course out of an infinite number of other possibilities. One is critically dependent here on the sensitivity of the sensor system, and on the way in which information is passed through from this detection mechanism for evaluation by other systems. Of course, it is not just receiving feedback, but *responding* to feedback, that makes the system smarter. To avoid information overload, feedback needs to be fed into the inbox in appropriate doses at propitious moments.

One obstacle to setting up a proper feedback system is political: administrations may be reluctant to create formal “report cards” that could sacrifice flexibility in a crisis. Nonetheless, routinized feedback can also provide useful political advantages: a way of demonstrating that policies are working, or opportunities to take proactive measures before a news-making calamity occurs. Ultimately, feedback is an extension of the rationale for foresight, and an answer to the question of how to deal with wicked problems in the first place. It may also provide a strong argument for continuity of policy across administrations in that it could guard against the tendency of incumbent administrations to discard even the most effective policies of their predecessors.

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<sup>39</sup> Internal standard management systems routinely used in the private sector function as feedback systems. These systems formally incorporate foresight, risk management, management accountability, and process control to innovate and adapt to changing circumstances in order to maintain globally competitive products and services. Many companies in industries such as automotive, aerospace, petrochemical, and information technology use such systems routinely and in some cases require such systems to be used by their supply chain providers (e.g. automotive industry). Widely used examples include American National Standards Institute/International Standards Organization (ANSI/ISO) 9000 series Quality Management Systems, ANSI/ISO 14000 series Environmental Management Systems, and Capability Maturity Model Integration process improvement approaches. These standards are available through the ANSI/ISO series and Carnegie Mellon University Software Institute series.



## (1) Feedback for Monitoring and Adjustment of Policy

All policies deteriorate and eventually fail under the pressure of changing circumstances. That is the nature of complexity: the world is always changing, and the problems that policies are meant to solve do not go away; they mutate. Just as it is impossible to predict how and when problems will mutate, it is impossible to predict when a policy will fail. It is possible, however, to monitor for signs of entropy. To do this requires the operation of a dedicated system. However, at the national level, no governance systems are in place to monitor the deterioration in the function of policies or of the governance systems that execute them. Thus, we typically learn not by foresight, but by costly hard knocks. It is impossible to know when a policy is deviating from expectations without identifying those expectations in advance and using some sort of feedback mechanism to keep track.

Feedback systems, if embedded as a regular function in the policy process, could serve as a basis for ongoing monitoring, evaluation, reassessment, and recalibration of policies. This kind of continuous loop is vital for preventing breakdowns and system malfunctions that routinely go undetected until it is too late. System-wide awareness gained from feedback could serve as a basis for proactive, instead of reactive, policy adjustments. Elements of this process should include:

- **Monitoring and Data Collection:** Monitoring the impact of a policy once it has been put into operation on a continuous basis. Regular, ongoing sampling for diagnostic information on a policy's performance as well as budgetary needs.
- **Detection of Error:** Diagnosing deterioration of a policy before it fails. This must be measured against expected performance of a policy, which must be clearly defined from the outset, and continuously adjusted to fit changing reality.
- **Correction of Error:** Eliminating deviations from expected policy outcomes by making minor adjustments continuously, and teeing up reviews for major adjustments when necessary.
- **Informing Strategy:** Government strategy cycles can use these data to track priorities and progress to maintain an overall sense of how the whole-of-governance is performing relative to national strategies and objectives. These data could also be fed back into a foresight process as described in section A.

In governance, as in any other system, designing a good feedback mechanism means:

- describing expected performance outcomes of the policy
- identifying and sampling data streams that should be used for feedback
- identifying the point where that data stream would be reintroduced in the policymaking cycle
- codifying protocols to guide the behavior of the system for responding to that information.

## (2) Feedback for Accountability, Control, and Self-synchronization

Networks have the advantage of increasing the speed and flexibility of a system by pushing authority to act to the periphery. However, without feedback systems to maintain accountability and control from the center, networked systems tend to “go rogue” since self-regulating behavior is not inherent (e.g., deregulation of the banking sector did not produce self-regulating behavior, but system failure).

Feedback can serve as a means to permit adaptive behavior in a large organization without losing accountability or the ability to provide strategic guidance. It can provide a basis for command and control of flattened networks by streaming real-time information about conditions at the periphery of the system. In this way, feedback allows more flexible relations between command systems on the one hand, and execution systems on the other. Thus, feedback could promote responsible complex adaptive behavior in networked systems, coupling accountability and flexibility.

This form of feedback could be implemented as a civilian equivalent of the uniformed military's Commander's Intent to provide foundational statements of objective as the means to promote self-synchronization. Feedback is not just a way to ensure orders are followed; it is a way to issue guidance in a new fashion and not lose control of the process. Feedback systems should be dynamic enough to achieve a flexible coupling between designed intent and behavior at the edges of a system.

In this way, feedback could be used to sustain a new form of goal-defined management, and feedback mechanisms could be applied for managing and budgeting to mission (addressed in prior sessions, on foresight-policy interface, and networks for whole-of-government).

### (3) Feedback for Learning

To keep pace with fast paced change, our government must become a learning organization. Feedback could speed up system-learning from experience to improve the conduct of ongoing policies and improve the design of policy in the future. Feedback can accelerate awareness of (and response to) best and worst practices in the operation of networked systems. The standard approach based on case-studies is far too slow. It tends to produce compendia of what is thought to have been true about action in a system which will already have been altered. Mark Twain said: "History does not repeat itself, but it does rhyme." If so, then learning from the past has to occur in time with the rhythm of the rhyme in order to be of operational value. Systems learning must be a continuous effort, which must be sustained by a dedicated system. Furthermore, learning must be institutionally supported and institutionally *rewarded*—all too often there are conflicts between interagency and home department incentives.

### Feedback Initiatives

This section describes five distinct but sequential initiatives for institutionalizing a feedback process in the executive branch. They are designed to satisfy all of the "Criteria for Upgrading Systems": no new resources, no consent or action required by Congress, compatible with existing processes, and implementable under conventional Presidential authorities.

- [C-1] Identifying Explicit Feedback Precepts to Track Policy Execution
- [C-2] Establishing a Venue for Feedback
- [C-3] Continuously Routing Triggered Indicators
- [C-4] Diagnostic Reviews of Consequences

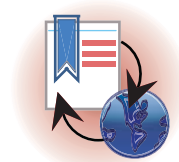


## C-1 Identifying Explicit Feedback Precepts to Track Policy Execution

Every policy sent to the President—or any senior decisionmaker—for approval should be part of a package that includes the following precepts, in explicit terms:

- **Statement of key assumptions** on the basis of which the recommendation has been made
- **Definition of expectations** including overall definition of success as well as specific key objectives to include dates, costs, and performance metrics
- **Information streams to be monitored** on an ongoing basis
- **Performance indicators** that would automatically trigger a review of the policy (i.e., what constitutes evidence of deterioration or of progress)
- **Sampling rate** with which monitoring will occur on a continuous basis
- **Points of responsibility and accountability** in the system for collecting and applying such information
- **Routing points** in the policymaking cycle where the information is reintroduced
- **Periodic “audits”** of performance by teams that will independently report their conclusions to higher levels of consideration
- **Provisional date for a diagnostic review of the policy** and its performance to occur even in the absence of a trigger (said date to be built into the White House calendar).

These precepts could be written into supporting directives at the White House and interagency level. Alternatively, the President and every Cabinet secretary could maintain an informal rule whereby every decision that comes to his/her desk must contain each of these elements—and if it does not, it does not get read.









## C-2 Establishing a Venue for Feedback



**White House Process Manager.** A senior White House official—with light staff support—could be assigned to oversee implementation of feedback processes for major policies. This individual would provide specialized support for the formulation of input metrics for feedback (i.e., defining expectations, selecting information streams to be monitored, identifying indicators that would serve as triggers, deciding sampling rates, assigning points of responsibility, etc.) as well as for coordination of output (audits/reviews and routing information back into the policy cycle). This person would function as a process manager to manage the vertical integration (a function that ought not require time-consuming meetings). This function would naturally fit in OMB, but could be bridged with NSS, NEC, and DPC to promote jointness.

Related to this function is the problem of overall awareness of system management and operations. The President has a National Security Advisor, National Economic Advisor, and Domestic Policy Advisor for insight and advice on security, economics, and domestic policy, but has no advisor specializing in management and operation of the system. There is no COO or Chief Management Officer (CMO) at the White House (other than the Chief of Staff, whose attention is continuously thrust away from management toward major policy matters). The White House needs a point-person whose job is not policy, but management—someone to maintain awareness of the full scope of government operations and to coordinate its assets and processes.<sup>40</sup> His or her function would be to focus on integration of processes such as feedback, but also other techniques used inside the agencies to assess their utility and potential applications in other areas where they are needed across the system.

**Coordinators.** Throughout the system, coordination points for feedback could fit under positions, such as:

- COO, CMO or Goal Leaders—positions recently mandated in each agency by the GPRA-MA<sup>41</sup>
- Chief Information Officer at the White House and various agencies
- Inspector General (IG)—*could create an IG for the national security system*
- Policy planning offices (see page 34)
- Executive branch “Integrators” (see page 40).

Their function<sup>42</sup> would be to:

- conduct (or oversee) continuous sampling and monitoring for detection of error (i.e., mismatch between expectations and results) as stipulated by the policy's feedback precepts
- determine whether triggered items indicate an error in policy or execution, or an instance of rogue behavior deviating from the commander's intent
- conduct an urgent inquiry to identify details about the nature of the problem
- route this information accordingly (including into a foresight venue).

Careful attention would need to be paid to the right kind of expertise needed for staffing these arrangements. That expertise exists in government and can be marshaled for this purpose. It can also be inculcated through training.

<sup>40</sup> While these duties fall under OMB's Chief Performance Officer, the EOP—including the NSS, NEC, and DPC—is exempted from OMB reviews.

<sup>41</sup> GPRA-MA mandates high-priority performance goals and management goals that are monitored quarterly and updated every 4 years in sync with the President's budget.

<sup>42</sup> Care would have to be taken to ensure that agency-level point-people for feedback are incentivized to run the process from the perspective of jointness and effectiveness of the overall mission. These incentives must supersede internal pressures on them to protect or ignore fault by their own agency. Integrity would have to be enforced from the top of the system, with consequences for biased assessments or failure to notify in accordance with a policy's feedback stipulations.





## C-3 Continuously Routing Triggered Indicators

**Indications of Deteriorating Policy.** When there is determined to be a pattern suggesting signs of deterioration (in either policy or circumstances preventing execution thereof), the coordinator in charge would route that warning into the policy system, either via the White House process manager or directly to the senior director (or whichever official initially took the lead on developing the policy in the first place). Given the pressures on senior directors, the utility of a White House process manager to ensure delivery becomes clear. The routing process should emphasize speed of warning, but must also contain sufficient information about the apparent mismatch between result and expectations; it could also suggest minor tweaks if those options have been identified or recommend a diagnostic review. The issue thereby becomes reintroduced, via the inbox, as an input to the regular decisionmaking process.

**Indications of Rogue Behavior.** If inquiry yields that the problem is not the policy but possible rogue behavior, that information can be routed to the proper supervisor in the chain of command.

**Indications of an Approaching FCI.** Where inquiry reveals weak-signals of a major contingency event, or identifies a trend or longer-range issue demanding further study, it can be routed to the proper foresight venue.







## C-4 Diagnostic Reviews of Consequences

Regardless of whether one is triggered, a diagnostic review of all major policies should be conducted routinely to check for signs of policy deterioration.

**Frequency** should not be the same for all reviews, but should instead be scheduled in line with each policy's predetermined sampling rate, outlined expectations, and indicators.

**Internal and external auditing group** should conduct the review in parallel (as is common practice in the private sector).

- A small independent staff (as described above) could be responsible for ensuring accountability in the internal auditing process.
- A unit inside of GAO could conduct the parallel external review.<sup>43</sup> Ongoing joint review and reporting would provide consistent tracking of progress, providing multiple opportunities to make adjustments along the way, potentially warding off policy failures for which major external reviews and hearings are required.

**A scorecard for self-reporting** should be maintained by each official in charge of implementation (e.g., each White House senior director) and would be submitted either at a standard frequency or as part of each periodic review.

**Format** should be standardized to promote jointness, with sufficient flexibility to account for the range of policy areas undergoing a feedback process. The overview format could resemble the “stoplight system” attempted under preceding NSC leadership:

- Green means the policy is on track.
- Yellow means it needs adjustment.
- Red means it is deviating from expectations and requires a review.

**A summary report** should be conducted—timed to preparations of the national strategy documents—detailing the evolution of the policy (or its execution) in response to feedback. To become a learning organization, feedback must not just influence one policy at a time, but national strategy as a whole. Summary reporting offers a way of tracking progress matched to priorities to get a sense of how the whole of government is performing. Feedback should also be routed to the proper foresight venue in government to promote learning. If assumptions or expectations as described at the onset of the policy proved faulty, generators of foresight must take that into account. This feedback can also help foresight generators and/or brokers keep pace as to what foresight information is useful and what overloads the circuits.<sup>44</sup>



<sup>43</sup> This suggestion may require a new entity and therefore may fall outside the scope of the “criteria.”

<sup>44</sup> This closes the loop on what can be described as a “Plan-Do-Check-Act” cycle.





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Response to Critiques

Fast-Tracking Implementation

Leveraging the GPRA Modernization Act

Precedents Set by Foreign Governments

Department Strategy/Policy Planning Offices (U.S. Government)

Illustrative Set of United States Strategy Documents

Foresight Methods

Acronyms

## Response to Critiques

The concepts and suggestions described in this report have undergone extensive review and vetting by dozens of serving and former government officials. Although the vast majority of the reactions have been overwhelmingly supportive, evidenced by the lists of endorsers and contributors presented at the front of this document, some raise issues that bear special response.

*Critique: The report is too detailed—too “mechanistic”—and offers too many recommendations. Implementation would be unfeasible.*

Comment: The report makes just three fundamental recommendations: (1) cultivate long-range foresight as a discrete form of information and couple it to policymaking, (2) use networked arrangements at the apex of the executive branch to achieve a higher order of policy synchronization across bureaucratic lines, and (3) establish a feedback mechanism that makes it possible to adjust in response to real-time information. The rest of the report consists of specific suggestions grouped into these three categories for upgrades that were stress-tested with experts over an extended period of time. The recommendations are a mix-and-match menu, not an inclusive formula. It is possible to develop a short-list of measures that would have the effect of establishing basic foresight, networking, and feedback systems. Ultimately, the people who carry out these systems changes should be directly involved in selecting measures so that they have buy-in to what is to be achieved. However, an illustrative version of such an approach—“Fast-Tracking Implementation”—is presented on page 70).

*Critique: Implementation would require an expensive new bureaucracy.*

Comment: The working group contributors filtered all proposals against strict criteria, including: no need for new legislative authority; compatible with existing forms of presidential authority; no need for expanded staffs; no budget impact.

*Critique: The report ignores what some say is the central requirement for reform: a new “leadership culture at the agency level.” Changing systems should not be the priority.*

Comment: Addressing bureaucratic culture is essential, but it is also a slow process.<sup>45</sup> Systems can be upgraded much faster than culture, and systems changes can have positive influences on culture. Systems-change and culture-change are best treated as “co-evolutionary.” They are complementary, not competing, propositions. There is no question about the need to improve leadership culture by initiatives that are customized by and for agencies, but no single agency—no sub-grouping of agencies—can fully execute its missions by operating on its own.<sup>46</sup> The case for Anticipatory Governance is that meaningful change can begin quickly by upgrading systems that operate at the interface between the White House and the interagency system.

*Critique: The real problem is the executive/legislative confrontation that needs to be fixed as a first priority.*

Comment: Even if the Congress were completely ready for reforms that would improve relations between the Executive and the Congress (such as the common sense “No Labels” approach<sup>47</sup>), the Executive Branch needs to improve its ability to present information in a strategic long-range format in addition to the traditional line-item approach. It does not presently have that capacity.

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<sup>45</sup> The military, for example, has been working on it for a generation following the Goldwater Nichols Act of 1986.

<sup>46</sup> The phrase “whole-of-governance” is important in this connection. That quality of “wholeness”—of full collaboration—requires maximum room for initiative at the periphery of a system, but it cannot come into existence without strategic direction from the center.

<sup>47</sup> “Make the Presidency Work!” No Labels: Stop Fighting. Start Fixing. Available at <<http://www.nolabels.org/presidency-work>>.

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*Critique: The Executive Branch system is not really broken. Do not try to fix it.*

Comment: Our leaders face a world in which old categories of thinking and organizing do not work well. Economics and national security, domestic and foreign policy, crisis management and long-term strategy are fiercely interactive. Systems of government should enable more strategically comprehensive leadership by upgrading an Administration's ability to create and implement complex policies.

*Critique: Changes of system that were similar to Anticipatory Governance have been tried before, but have not taken hold.*

Comment: This is true largely because the bureaucracy does not welcome change unless Presidents make clear that they are personally engaged. Nevertheless, changes of this sort were seriously needed at the time they were proposed and there have been costs to the Nation for not following through on them.

*Critique: The Intelligence Community exists to provide foresight, so why speak of it as a separate stream of analysis? Are we not already spending enough on intelligence?*

Comment: Foresight is designed to produce alternative constructs of the future for use by policymakers in considering courses of action. The bulk of intelligence work, on the other hand, is short-term and tactical. It also deliberately segregates the interactions between domestic policies and external consequences. The Intelligence Community therefore does not produce information suited for whole-of-government operations designed to handle major long-range issues, nor can it be directed to do so on short notice given that its structures, personnel, and even its culture are committed to other purposes. The very modest amount of money spent on what could be termed real foresight in the intelligence community is mostly directed toward the Global Trends series, which is produced by the NIC and updated on a 4-year cycle. More on the difference between foresight and intelligence is available in the "Foresight Discussion" on page 12).

*Critique: Could foresight have helped prevent the strategic surprise we have experienced in the Middle East or helped us deal with it better than we already are?*

Comment: The real purpose of foresight is to shape events over time. In ongoing crisis, foresight can help you avoid taking actions that "lock in" the next crisis.

## Fast-Tracking Implementation (An Illustration)

Implementation could begin on a fast-track basis with a White House level experiment to install rudimentary Anticipatory Governance systems as a test-bed for broader adoption down the road. Fast-tracking would involve selecting for early implementation key initiatives from each element of Anticipatory Governance (foresight, networked governance, and feedback) that are deemed by an administration most likely to improve coordination and decisionmaking, perhaps in one or a few particular policy areas. The objective would be to create early opportunities for proof of principle through direct application—with built in time for evaluation and modification based on experience—rather than attempting wholesale adoption all at once. Opinions will vary about the specifics and it is essential that the design of a fast-track approach reflect the views of those in government who operate the system. There are many different ways to approach fast-tracking; what follows below is an illustration.

**A fast-track approach could begin with a senior-level official assigned responsibility for coordinating a virtual venue for each element of Anticipatory Governance: (1) Foresight/Policy venue, (2) Networked management venue, and (3) Feedback venue.**

### Foresight/Policy Venue

Chaired by the NSA or Principal Deputy

Counterparts from OMB, NEC and DPC participate

Couple this process to the networking venue described below

- Assemble a small editing team comprised of seconded staff<sup>48</sup> to: collect foresight-based analyses from a variety of sources,<sup>49</sup> tailor analysis for relevance to White House level decisions, and ensure that this analysis becomes a part of the regular information stream used by the President, Vice President and their senior advisors. [See A-1 and A-2]
- Require that policy recommendations sent to the President incorporate foresight-based assessments to examine the interaction between proposed short-term actions and long-term considerations. [See A-3 and A-4]
- Assign the Deputies' Committee to establish and maintain a national agenda for complex, long-range policy concerns and priorities. [See B-2 and B-7]
- Allocate time for Presidential briefing and review of long-range policy concerns twice per year, including as part of the preparation of Presidential guidance issued for the legally mandated reports to Congress on national strategy. [See A-2]

### Networked Management Venue

Chaired by the Director of OMB or Principal Deputy

Counterparts from NSS, NEC and DPC participate

- Establish a dedicated working group comprised of senior coordinators and representatives of the department strategy/policy planning offices to: align overlapping areas of policy and operations, coordinate national-level missions across agencies, and synchronize the production of mandated national strategy documents. [See B-1, B-4 and B-6]
- Maintain a “super-calendar” to roadmap policy planning and operations against scheduled and expected future events and to correlate points at which Presidential priorities and the policy cycle can be matched to the budget cycle. [See B-7]
- Use statements of “commanders’ intent” (issued by the President or Cabinet officers on a case-by-case basis) to synchronize agencies around Presidential priorities and national missions. [See B-3 and B-7]
- Directly involve an OMB resource specialist in all White House-level working groups to maintain alignment of objectives, capabilities and resources; require that major policy recommendations for the President be translated into budget terms, and that alternative budget constructs be linked to alternative consequences for policy priorities. [See B-5 and B-8]

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<sup>48</sup> Three to six staffers staff seconded from White House offices or agencies

<sup>49</sup> Include inputs from the intelligence community, department strategy/policy planning offices and other foresight producers in government, as well as from foreign partners and the private and non-profit sectors (think tanks, academia, etc.)

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### **Feedback Venue**

Chaired by Chief of Staff or Principal Deputy

Counterparts from OMB, NSS, NEC and DPC participate

Couple this process to the networking and foresight venues described above

- Require that every policy recommendation to the President be accompanied by a description of expected results over specified periods of time, key performance indicators to track, and potential trigger points for reexamining the policy and its record of implementation. [See C-1]
- Assign a coordinator to monitor performance indicators and scan for deviations from expectations. [See C-2 and C-3]
- Conduct calendared reviews of major policies,<sup>50</sup> with a provision for intervention based on developments. [See C-4]
- Provide regular reporting to the President and senior advisors on the status of implementation of major policies; create a channel for reporting unusual consequences to take advantage of what may be working better than anticipated and what may be showing indications of deterioration [See C-4].

This approach to fast-track implementation of Anticipatory Governance initiatives could be established by Presidential Order and designed to run until such time as the directive is revoked or for a specified time subject to continuation after review by senior advisors.

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<sup>50</sup> Regular and triggered reviews should be conducted not just on national security matters (like a war) but also major economic and domestic policies and programs

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## Leveraging the GPRA Modernization Act to Implement Anticipatory Governance

The GPRA Modernization Act (GPRA-MA)<sup>51</sup> was signed into law on January 4, 2011 as an update to the 1993 Government Performance and Results Act, aiming for “a more crosscutting and integrated approach to focusing on results and improving government performance.”<sup>52</sup> A number of the law’s features parallel Anticipatory Governance, and they have been referenced throughout this report to show how they can be leveraged for the purpose of implementing Anticipatory Governance initiatives. There are nevertheless some important distinctions between the intent and mandates of the GPRA-MA and the focus of Anticipatory Governance:

GPRA-MA	Anticipatory Governance
Focuses on goals and priority setting within Executive Branch Agencies	Focuses on the role of the White House as a central coordinator
Focuses on what Congress wants to know about how the Executive Branch defines and manages priorities	Focuses on what a President and senior Executive Branch officials need to know in order to set and execute priorities;
Focuses on Congressional oversight	Focuses on Presidential leadership
Focuses on managerial and administrative performance and outcomes	Focuses on foresight and strategic coordination

Carrying out the mandates of the GPRA-MA and implementing the initiatives described in this report can be developed as complimentary, mutually reinforcing objectives. Its standing as law offers OMB and Executive Branch leadership an opportunity to leverage its management requirements as a vehicle to achieve Anticipatory Governance. This summary suggests some ways that could be achieved:

GPRA-MA Requirement	Implementing Anticipatory Governance
Long-term, outcome-oriented crosscutting federal government goals covering select policy areas and management improvement areas. These goals are developed or revised every 4 years (President’s second year), informed by consultations with Congress every 2 years, and may be adjusted due to changes in the environment.	<p>These crosscutting goals can and should be:</p> <ul style="list-style-type: none"> <li>■ developed and carried out using disciplined foresight analysis as described in Section A [See Forward Engagement Process on page 15].</li> <li>■ regularly monitored as part of the Deputies’ strategic process [see B-2].</li> <li>■ the subject of strategic budgeting [see B-5]</li> <li>■ primary elements of synchronized national strategy documents [see B-6].</li> <li>■ expanded and refined into a “national priorities process” along a “super calendar” [see B-7].</li> <li>■ used as part of an enhanced dual-reporting process to Congress [see B-8].</li> <li>■ used as case-studies for an expanded, disciplined feedback process as described in Section C [See C-1].</li> </ul>

<sup>51</sup> Pub. L. No. 111-352, 124 Stat. 3866 (2011). GPRAMA amends the Government Performance and Results Act of 1993, Pub. L. No. 103-62, 107 Stat. 285 (1993).

<sup>52</sup> J. Christopher Mihm, Testimony: *Managing for Results: GAO’s Work Related to the Interim Crosscutting Priority Goals under the GPRA Modernization Act*. May 31, 2012. Available at <http://www.gao.gov/assets/600/591283.pdf>.

Annual performance plans (for achieving the crosscutting goals) and Agency Strategic Plans, which must cover four fiscal years and are due every four years (President's second year) the same day as the President's annual budget proposal to the Congress.

Agencies must each designate a Chief Operating Officer (Deputy Secretary or Equivalent), a Performance Improvement Officer, and Goal Leaders

Quarterly progress reviews by OMB, PIC, and agencies for the designated crosscutting federal government and agency priority goals

Performance website ([www.performance.gov](http://www.performance.gov)) to provide information about all federal programs, government-wide performance, and agency performance

Consultation with Congress

The Annual Performance Plans and Agency Strategic Plans can and should:

- incorporate long-range analysis [see section A].
- incorporate strategic (including alternative) budgeting [see B-5].
- be aligned, nested and synchronized with other national strategy documents, such as department's quadrennial reviews [see B-6].
- be the output of a systematized national priorities process [see B-7].
- respond to explicit performance indicators established at the outset [see C-1 on page 58].
- be used as a case study for disciplined feedback reporting [see C-4].

These positions can and should be leveraged to:

- broker between foresight and policy [see A-2].
- integrate cross-agency missions (and existing integrators could be assigned these roles) [see B-4].
- coordinate strategic budgeting [see B-5].
- synchronize national strategy reports [see B-6].
- coordinate a systematic strategic priorities process [see B-7].
- manage dual reporting to Congress [see B-7].
- coordinate a venue for feedback [see C-2].

These quarterly reviews should:

- use a statement of expectations and performance indicators as described in Section C [see C-1].
- be conducted not just for priority goals, but as part of the implementation of all major policies and programs as the output of a dedicated feedback process [see C-2 and C-4].
- be used not just for reporting to Congress but by senior leadership to make mid-course adjustments to policy [see C-3].

This website can and should be used as a platform for:

- collecting and organizing foresight [see A-1]
- synchronizing whole-of-government national strategy [see B-6]
- systematizing strategic priorities [see B-7]
- feedback and performance improvement [see C-4]

The mandate that OMB and agencies consult Congress on priority goals should be used as an opportunity to present anticipatory and dual reporting [see B-8].



OPM and PIC must identify necessary skills and competencies and incorporate them into position classifications and employee training

Foresight methods should be an essential part of this process  
[see foresight discussion and A-4]

In conclusion, GPRA-MA can be used as a vehicle for achieving Anticipatory Governance, but is not it itself sufficient. The processes set out in the law help, but they are not self-executing. Making the most of the GPRA-MA processes depends on those who are responsible for implementing the law to treat its requirements as mechanisms for a broader effort to enhance government.<sup>53</sup>

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<sup>53</sup> **References:**

- White House Memo, April 14, 2011, available at <<http://www.whitehouse.gov/sites/default/files/omb/memoranda/2011/m11-17.pdf>>.
- J. Christopher Mihm, *Managing for Results: GAO's Work Related to the Interim Crosscutting Priority Goals under the GPRA Modernization Act*. May 31, 2012, available at <[www.gao.gov/assets/600/591283.pdf](http://www.gao.gov/assets/600/591283.pdf)>.
- J. Christopher Mihm, *A Guide for Using the GPRA Modernization Act to Help Inform Congressional Decision Making* (Washington, DC: U.S. Government Accountability Office, June 2012) available at <[www.gao.gov/assets/600/591649.pdf](http://www.gao.gov/assets/600/591649.pdf)>.
- Clinton T. Brass, "Changes to the Government Performance and Results Act (GPRA): Overview of the New Framework of Products and Processes," available at <[www.fas.org/sgp/crs/misc/R42379.pdf](http://www.fas.org/sgp/crs/misc/R42379.pdf)>.
- Government Performance Improvement Web site, available at <[www.goals.performance.gov](http://www.goals.performance.gov)>.

## Precedents Set by Foreign Governments

A number of foreign governments have invested in the creation of foresight units to promote foresight and whole-of-government policy integration. They can offer models for approaches that could—with suitable modification—work in the United States. Below is a brief survey<sup>54</sup> of some of these units and their functions.

<b>China</b>	<p><b>Department of Policy Studies</b>, National Development and Reform Commission (<a href="http://en.ndrc.gov.cn/">http://en.ndrc.gov.cn/</a>). China's "five year plans" (now called Guidelines, since the eleventh 5-year program set in 2006) are well known. The Department of Policy Studies drafts policies, releases information, and organizes studies on key national and international issues. It also formulates and implements strategies for national economic and social development, long-term plans, annual plans, and industrial policies and price policies.</p> <p><b>Organization:</b> National Development and Reform Commission</p>
<b>Finland</b>	<p><b>Government Foresight Network</b> (<a href="http://www.vn.fi/tietoarkisto/ennakointiverkosto/en.jsp">www.vn.fi/tietoarkisto/ennakointiverkosto/en.jsp</a>).</p> <p><b>Duties</b> of the Government Foresight Network include:</p> <ul style="list-style-type: none"><li>■ addressing major impact change factors, development trends, and weak signals in cooperation with other parties involved in anticipation activities, whenever possible</li><li>■ sifting through anticipation data and drawing attention to possible overlap between the ministries' anticipation work, variations in results and blind spots; introducing initiatives to promote cooperation between administrative sectors</li><li>■ improving the effectiveness of anticipation data in political decisionmaking</li><li>■ serving as a ministerial contact forum for the preparations of the Government Foresight Report</li><li>■ preparing a joint operating environment description to be used as background material for the ministries' future reviews.</li></ul> <p><b>Organization:</b> An interministerial forum for cooperation and exchange of information in issues relating to the anticipation of the future. Each ministry prepares development projections and related strategies under its own administrative branch. In addition, the Prime Minister's Office prepares a report on the long-term future once during each parliamentary term.</p>
<b>France</b>	<p><b>The Strategic Analysis Center</b> (<a href="http://www.strategie.gouv.fr">www.strategie.gouv.fr</a>).</p> <p><b>Mission:</b> To inform the government in defining and implementing its economic, social, environmental, and technological strategies. It conducts research at the request of the Prime Minister, produces annual reports, and funds teams to produce foresight studies.</p> <p><b>Organization:</b> A networked arrangement across four sectoral departments: Department of Economics, Sustainable Development Department, Department of Labor, and Department of Social Affairs</p>
<b>Singapore</b>	<p><b>Risk Assessment and Horizon Scanning Programme</b> (<a href="http://app.rahs.gov.sg/public/www/home.aspx">http://app.rahs.gov.sg/public/www/home.aspx</a>).</p> <p><b>Mission:</b> To enhance policymaking capabilities through engaging analyses, robust processes, and leading-edge systems. RAHS explores methods and tools that complement scenario-planning in anticipating strategic issues with significant possible impact on Singapore.</p> <p><b>Organization:</b> National Security Coordination Secretariat at the Prime Minister's Office</p> <p><b>Context:</b> Singapore identifies senior civil servants on their way to senior positions and creates a career path in which they are cross-trained as "black belt" bureaucrats in modeling, scenarios, risk analysis, and other foresight methodologies. The process is nested inside the office of the Prime Minister, infusing foresight into the conduct of Singapore's governance as a whole.</p>

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<sup>54</sup> Jerome C. Glenn, Theodore J. Gordon, and Elizabeth Florescu, "Government Future Strategy Units and Some Potentials for International Strategic Coordination," *2011 State of the Future* (Washington, DC: The Millennium Project, 2011), appendix D1, available at <[www.millennium-project.org](http://www.millennium-project.org)>.

- South Africa** **Policy Coordination and Advisory Services** ([www.thepresidency.gov.za/pebble.asp?relid=183](http://www.thepresidency.gov.za/pebble.asp?relid=183)).  
**Mandate:** To facilitate integrated strategic policy formulation and implementation across government.  
**Duties:** “PCAS monitors and evaluates the interpretation of policies and the implementation of programmes. It advises the President, Deputy President and Minister on any interventions necessary to ensure more effective and efficient service delivery. The mandate of PCAS is carried forward through collaboration with Cabinet and Cabinet Committees, the directors general clusters and national departments.”  
**Organization:** Within the Office of the President
- South Korea** **The Ministry of Planning and Budget** has a Strategic Planning Division within its Fiscal Strategy Office ([www.korea.net/detail.do?guid=28124](http://www.korea.net/detail.do?guid=28124)).  
**Duties:** The Ministry of Strategy and Finance plans and coordinates the mid- to long-term socio-economic development goals and sets economic policy direction on an annual basis, distributes resources effectively and assesses the effectiveness of budget execution, and plans and reforms Korea's taxation policy and system.
- Turkey** **State Planning Organization** (<http://mevzuat.dpt.gov.tr/khk/540/spo.html#object>).  
**Duties:** (*first 6 of 11 total duties listed*)
- to advise the government in determining economic, social, and cultural policies and targets of the country by taking into account every type of natural, human, and economic resources and possibilities of the country
  - to prepare long-term development plans and annual programs conforming to the targets determined by the government
  - to coordinate activities of the ministries and public institutions concerning economic, social, and cultural policies and to ensure efficient implementation and advise the government regarding policy issues
  - to develop future-oriented strategies by working closely with international institutions and to help reduce uncertainties in the medium and long term for the private sector by making policy recommendations in cooperation with the private sector
  - to put forward views and to advise on improving structures and activities of the relevant institutions and establishments and operations of local administrations so that development plans and annual programs could successfully be implemented
  - to monitor, co-ordinate and evaluate implementation of development plans and annual programs and if required to make the proper amendments.
- Organization:** Within the Office of the Prime Minister
- United Kingdom** **The Foresight Horizon Scanning Center** ([www.bis.gov.uk/foresight/about-us](http://www.bis.gov.uk/foresight/about-us)).  
**Mission:** To encourage longer term thinking and evidence-based analysis throughout government and to support the use of evidence-based futures thinking in developing more innovative government strategies and policies which are resilient to different future outcomes.  
**Organization:** Under the Department for Business, Innovation and Skills. The Centre works with departments to help them improve their futures capability.  
**Activities:**
- **Futures projects:** Short projects, looking at discrete issues 10–15 years in the future.
  - **Training and tools:** Foresight has published a toolkit based on the work of the Foresight programme since 2002. There is also an online version of Foresight's popular strategic futures training.
  - **The Sigma scan:** An online searchable set of research papers that look 50 years into the future. The Sigma scan covers the whole public policy spectrum of social, technological, political, economic, and environmental issues.

## Department Strategy/Policy Planning Offices (U.S. Government)

DEPARTMENT	OFFICE
State	Policy Planning Staff
Treasury	Office of Strategic Planning and Performance Management Office of Financial Research
Defense	Office of the Undersecretary of Defense for Policy
Commerce	Office of Policy and Strategic Planning
Labor	Office of Policy Research and Strategic Planning
Environmental Protection Agency	Office of Planning, Budgets, and Results
Energy	Office of Strategic Planning and Policy
Education	Office of Planning, Evaluation, and Policy Development
Homeland Security	Office of Strategy, Plans, Analysis, and Risk
Federal Emergency Management Agency	Strategic Foresight Initiative
Joint Chiefs of Staff	J5 Strategic Plans and Policy
Office of the Director of National Intelligence	ADNI/Policy and Strategy National Intelligence Council
U.S. Agency for International Development	Office of Policy, Planning, and Learning

## Illustrative Set of United States Strategy Documents

DOCUMENT <small>(click for hyperlink)</small>	ISSUED BY	MANDATE
National Security Strategy of the United States	President	Annually, same day as the budget (in practice, every 4–6 years: January 2002, January 2006, May 2010) as mandated by the Goldwater-Nichols Act of 1986
Strategy to Combat Transnational Organized Crime	President	Presidential Initiative (2012)
National Strategic Plan for Advanced Manufacturing	Executive Office of the President National Science and Technology Council	Builds upon <i>The Report to the President on Ensuring American Leadership in Advanced Manufacturing</i> (2011) as a response to Section 102 of the America COMPETES Reauthorization Act of 2010
National Nanotechnology Initiative Strategic Plan	Executive Office of the President National Science and Technology Council	Every 3 years, as called for by the 21 <sup>st</sup> Century Nanotechnology Research and Development Act of 2003
Quadrennial Diplomacy and Development Review	Secretary of State	Every 4 years (first delivered December 2010) as mandated by H.R. 2410 [111 <sup>th</sup> ]: Foreign Relations Authorization Act, Fiscal Years 2010 and 2011, Division A, Section Title III, Subtitle A, Sec 302 (June 2009)
Department of the Treasury Strategic Plan	Secretary of the Treasury	Every 4 years
National Defense Strategy	Secretary of Defense	"Every 4 years," 2 fiscal years after QDR (in practice, March 2005, July 2008)
Quadrennial Defense Review	Secretary of Defense	"Every 4 years, during a year following a year evenly divisible by four" (in practice, November 2000, February 2006, February 2010) as mandated by U.S. Code, 106 <sup>th</sup> Congress, 1999
Department of Defense Strategic Management Plan	Chief Management Officer, Department of Defense	Every fiscal year
Office of the Inspector General (DOD) Strategic Plan	DOD Inspector General	Undefined
Air Force Contracting Strategic Plan	Deputy Assistant of the Air Force (Contracting)	Every 5 years
Office of the Assistant Secretary of the Army for Installations and Environment Strategic Plan	Assistant Secretary of the Army for Installations and Environment	Every 6 years
Coast Guard Acquisition Directorate Strategic Plan	Admiral of U.S. Coast Guard	Undefined
Naval Science and Technology Strategic Plan	Rear Admiral of U.S. Navy	Undefined
Department of Justice Strategic Plan	Attorney General	Every 5 years as mandated by GPRA-MA (P.L. 111-352)
Department of the Interior GPRA Strategic Plan	Secretary of the Interior	Every 5 years as mandated by GPRA-MA (P.L. 111-352)
Department of Agriculture Strategic Plan	Secretary of Agriculture	Every 5 years as mandated by GPRA-MA (P.L. 111-352)
Department of Commerce Strategic Plan	Secretary of Commerce	Every 5 years as mandated by GPRA-MA (P.L. 111-352)
National Export Strategy	Trade Promotion Coordinating Committee	Initiated by the President in 2010

<b>DOCUMENT</b> <small>(click for hyperlink)</small>	<b>ISSUED BY</b>	<b>MANDATE</b>
<b>Department of Labor Strategic Plan</b>	Secretary of Labor	Published every 6 years and updated every 3 years as mandated by GPRA-MA (P.L. 111-352)
<b>Environmental Protection Agency Strategic Plan</b>	Administrator of the Environmental Protection Agency	Every 5 years
<b>Department of Health and Human Services Strategic Plan</b>	Secretary of Health and Human Services	Published every 5 years and updated every 3 years as mandated by GPRA-MA (P.L. 111-352)
<b>Department of Transportation Strategic Plan</b>	Secretary of Transportation	Every 5 years
<b>Department of Energy Strategic Plan</b>	Secretary of Energy	Every 4 years as mandated by GPRA-MA (P. L. 111-352)
<b>Department of Education Strategic Plan</b>	Secretary of Education	Every 6 years
<b>Department of Veterans Affairs Strategic Plan</b>	Secretary of Veterans Affairs	Every 5 years
<b>National Strategy for Homeland Security</b>	Secretary of Homeland Security	Has been delivered July 2002, October 2007, as mandated by Homeland Security Act of 2002
<b>Quadrennial Homeland Security Review</b>	Secretary of Homeland Security	Every 4 years (first delivered February 2010) as recommended by the 9/11 Commission Act of 2007 (May succeed NSHS)
<b>Department of Homeland Security Strategic Plan</b>	Secretary of Homeland Security	Every 5 years as mandated by GPRA-MA (P.L. 111-352)
<b>Immigration and Customs Enforcement Strategic Plan</b>	Director of U.S. Immigration and Customs Enforcement	Every 5 years
<b>Secret Service Strategic Plan</b>	Director of the Secret Service	Published every 6 years and updated every 3 years as mandated by GPRA-MA (P.L. 111-352)
<b>National Military Strategy</b>	Chairman of the Joint Chiefs of Staff	Every 2 years, February 15, of each even numbered year, followed up by "Risks under NMS" on January 1 of every odd numbered year (in practice, September 1997, March 2004, February 2011)
<b>Quadrennial Intelligence Community Review</b>	Director of National Intelligence	Every 4 years (in practice, 2001, 2005, 2009)
<b>National Intelligence Strategy</b>	Director of National Intelligence	Every 4 years (in practice, 2005, 2009)
<b>Department of State and Agency for International Development Strategic Plan</b>	Administrator of the U.S. Agency for International Development	Every 6 years as mandated by GPRA-MA (P.L. 111-352)
<b>Social Security Administration Agency Strategic Plan</b>	Commissioner of Social Security	As mandated by GPRA-MA (P.L. 111-352)

## Foresight Methods

**Back-casting:** a method of working backward from a hypothetical future event (typically a desired goal) to the present in order to visualize short- and medium-term steps, necessary and sufficient conditions, and possible sequences of events that would lead there.<sup>55</sup>

**Course of action analysis:** a method for assessing the cost, impact and risk associated with alternative action plans. Beginning with a set of alternative plans (courses of action or COAs), the costs, impact and risks of each alternative are expanded upon and then assigned weights that are then measured and compared against each other based on decision rules that reflect priorities.<sup>56</sup>

**Cross-impact analysis:** a method for forecasting the probabilities of events based on their potential interactions with each other. Each hypothetical in a set is assigned an initial probability; conditional probabilities are determined using a matrix to consider their potential interactions with each other.<sup>57</sup>

**Delphi survey method:** a method of forecasting by committee that uses a questionnaire to accumulate foresight analysis by experts whose responses are compiled and then recirculated (anonymously) in order to reduce the range of responses and close in on expert consensus about the future.<sup>58</sup>

**Environmental scanning:** systematic monitoring of an internal and/or external environment in order to detect opportunities and threats in advance so that early action can be taken.

**Futures Wheel:** a structured brainstorming technique that uses a wheel-and-spoke like graphic arrangement to consider the primary and secondary impacts around a central trend or hypothetical event.<sup>59</sup>

**Gaming:** a structured exercise for stress-testing decisions in a simulated complex environment based on a scenario, which permits participants to test in the mind at minimal cost what may otherwise have to be tested in reality at incalculable cost.

**Historical analogy:** a method of using the dynamics of events in the past to understand the dynamics underlying current and future events.

**Horizon scanning:** systematic monitoring and examination of current events (across categories) in order to detect early signs of potential major impending developments and how they may influence the future so that early action can be taken.

**Implications Wheel:** a structured brainstorming technique that arranges second, third and fourth order events around a central trend or hypothetical events, and uses probabilities to score potential implications.<sup>60</sup>

**Issues-analysis:** a method of systematically “unpacking” the dilemmas, cross-category implications, and unasked questions that arise from trends, hypothetical future events, and alternative policy choices.<sup>61</sup>

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<sup>55</sup> Backcasting. World Future Society, available at <[www.wfs.org/node/172](http://www.wfs.org/node/172)>.

<sup>56</sup> “A Policy Analysis Approach to Operational Level Course of Action Analysis,” Defense Science and Technology Organization, Australia, available at <[www.dodccrp.org/events/5th\\_ICCRTS/papers/Track2/018.pdf](http://www.dodccrp.org/events/5th_ICCRTS/papers/Track2/018.pdf)>.

<sup>57</sup> Theodore Jay Gordon, “Cross-Impact Method,” in *Futures Research Methodology Version 3.0*, ed. Jerome C. Glenn and Theodore J. Gordon (Washington, DC: Millennium Project, 2009).

<sup>58</sup> RAND Corporation, “Delphi Method,” available at <[www.rand.org/topics/delphi-method.html](http://www.rand.org/topics/delphi-method.html)>.

<sup>59</sup> Jerome Glenn, “The Futures Wheel,” in *Futures Research Methodology Version 3.0*.

<sup>60</sup> Joel A. Barker, “Implications Wheel,” *Implications Wheel*, 2011, available at <<http://implicationswheel.com/>>.

<sup>61</sup> “House Annual Commission on Forward Engagement Annual Report,” Fall 2006 Forward Engagement Class Report, available at <[http://forwardengagement.org/images/stories/pdfs/graduate\\_seminar/fall\\_2006\\_final\\_report.pdf](http://forwardengagement.org/images/stories/pdfs/graduate_seminar/fall_2006_final_report.pdf)>.



**Morphological analysis:** a method for structuring and investigating sets of relationships contained in multi-dimensional, non-quantifiable problem spaces.<sup>62</sup>

**Real-Time Delphi:** an online version of the Delphi questionnaire that harnesses expert opinion about the future on an accelerated basis.<sup>63</sup>

**Roadmapping:** a technique of planning that identifies a sequence of goals, prospective future developments, and future “on-ramps” and “off-ramps” for decisionmaking.

**Robust decisionmaking:** a method of relating short-term policy interventions to different clusters of long-term futures.<sup>64</sup>

**Scenarios:** case studies of the future that depict in detailed narrative how events might lead from the present to an envisioned future. Scenarios should come in sets covering a range of possible futures that provide a means to visualize outcomes of alternative courses of action, analyze their hypothetical consequences under different combinations of assumptions, and link logical sequences of events.

**Simulation/Modeling:** a quantitative method for understanding the interactions of a system using a prototype, computer program, or other simplified representation of a real system. Models and simulations permit decisionmakers to experiment with interactive variables (often with large data sets) for a specified duration so as to gain understanding about a system's behavior, probabilities, and range of possible outcomes.

**State of the Future Index:** an index that measures the 10-year outlook for the future based on key variables and forecasts that collectively depict whether the future promises to be better or worse.<sup>65</sup>

**STEEP Implication Analysis:** a method for systematically analyzing the social (S), technological (T), economic (E), environmental (E) and political (P) implications and issues<sup>66</sup> related to a trend, event, decision or policy.<sup>67</sup>

**SWOT analysis:** a method of analyzing and assigning weight to an operations' internal factors—strengths (S) and weaknesses (W)—and external factors—opportunities (O) and threats (T)—so as to strategically match resources and capabilities to the environment.<sup>68</sup>

**Trajectory Analysis:** a method of assessing the directionality of trends and oncoming events so as to create manageable pathways that can aid policymakers in identifying engagement opportunities.<sup>69</sup>

**Trend Projection:** an extrapolation of a current trend line into the future based on historical data, rates of change, and other variables.<sup>70</sup> Projections are based on an assumption that factors will be held constant with no looming discontinuities.

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<sup>62</sup> Tom Ritchey, “General Morphological Analysis,” General Morphological Analysis, June 2011, available at <[www.swemorph.com/ma.html](http://www.swemorph.com/ma.html)>.

<sup>63</sup> Jerome C. Glenn and Theodore J. Gordon, “Real-Time Delphi,” available at <[www.millennium-project.org/millennium/RTD-general.html](http://www.millennium-project.org/millennium/RTD-general.html)>.

<sup>64</sup> Robert J. Lempert, Steven W. Popper, and Steven C. Banks, “Shaping the Next One Hundred Years: New Methods for Quantitative, Long-Term Policy Analysis,” RAND, available at <[www.rand.org/content/dam/rand/pubs/monograph\\_reports/2007/MR1626.pdf](http://www.rand.org/content/dam/rand/pubs/monograph_reports/2007/MR1626.pdf)>.

<sup>65</sup> Jerome C. Glenn and Theodore J. Gordon, “State of the Future Index,” available at <[www.millennium-project.org/millennium/SOFI.html](http://www.millennium-project.org/millennium/SOFI.html)>.

<sup>66</sup> See “Issues Analysis.”

<sup>67</sup> STEEP Analysis Outputs, Glasgow and the Clyde Valley Strategic Development Planning Authority Futures Group, available at <[www.gvcvcore.gov.uk/downloads/futures/STEEPAnalysisOutputs.pdf](http://www.gvcvcore.gov.uk/downloads/futures/STEEPAnalysisOutputs.pdf)>.

<sup>68</sup> Quick MBA, “SWOT Analysis,” available at <[www.quickmba.com/strategy/swot/](http://www.quickmba.com/strategy/swot/)>.

<sup>69</sup> “First Annual Report to the Deputies Committee on Complex Priorities,” Fall 2008 Forward Engagement Class Report, available at <[http://forwardengagement.org/images/stories/pdfs/graduate\\_seminar/fe\\_fall08\\_final.pdf](http://forwardengagement.org/images/stories/pdfs/graduate_seminar/fe_fall08_final.pdf)>.

<sup>70</sup> “Trend Projection,” World Future Society, available at <[www.wfs.org/node/403](http://www.wfs.org/node/403)>.

## Acronyms

**ANSI/ISO** American National Standards Institute/International Standards Organization  
**CIO** Chief Information Officer  
**CLIP** Component Level Implementation Process  
**CMO** Chief Management Officer  
**COO** Chief Operating Officer  
**COS** Chief of Staff  
**DC** Deputies' Committee  
**DHS** Department of Homeland Security  
**DOS** Department of State  
**DPB** Defense Policy Board  
**DPC** Domestic Policy Council  
**EOP** Executive Office of the President  
**FCI** Future Contingency of Interest  
**FSO** Foreign Service Officer  
**GAO** Government Accountability Office  
**GPRA** Government Performance and Results Act  
**GPRA-MA** Government Performance and Results—Modernization Act of 2010  
**HPPG** High-Priority Performance Goals  
**IC** Intelligence Community  
**IG** Inspector General  
**INR** Bureau of Intelligence and Research  
**IPC** Interagency Policy Committee  
**JCS** Joint Chiefs of Staff  
**NDU** National Defense University  
**NEC** National Economic Council

**NIC** National Intelligence Council  
**NIE** National Intelligence Estimates  
**NPF** National Priorities Framework  
**NPG** National Priorities Guidance  
**NPR** National Priorities Review  
**NSA** National Security Advisor  
**NSC** National Security Council  
**NSP** National Security Professionals  
**NSS** National Security Staff  
**ODNI** Office of the Director of National Intelligence  
**OMB** Office of Management and Budget  
**ONDCP** Office of National Drug Control Policy  
**OPM** Office of Performance Management  
**OSD** Office of the Secretary of Defense  
**OVP** Office of the Vice President  
**PIC** Performance Improvement Council  
**PIO** Performance Improvement Officer  
**POM** Program Objectives Memoranda  
**QDDR** Quadrennial Diplomacy and Development Review  
**QDR** Quadrennial Defense Review  
**SES** Senior Executive Services  
**SOFI** State of the Future Index  
**STEEP** Social-Technological-Economic-Environmental-Political  
**SWOT** Strength-Weakness-Opportunity-Threat  
**TDY** Temporary Duty









The Project on Forward Engagement is based at The George Washington University and operated at the National Defense University. Funding for the Project is provided by the John D. and Catherine T. MacArthur Foundation and the National Defense University. Analysis, opinions, and proposals contained herein reflect the views of Leon Fuerth, Distinguished Research Fellow, National Defense University, and Research Professor of International Affairs, Elliott School of International Affairs, The George Washington University. They do not represent the views or opinions of The George Washington University, John D. and Catherine T. MacArthur Foundation, or National Defense University.

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# Would the Big Government Approach Increasingly Fail to Lead to Good Decision? A Solution Proposal.

## Abstract

**Purpose** – The present paper offers an innovative and original solution methodology proposal to the problem of arbitrary complex multiscale (ACM) ontological uncertainty management (OUM). Our solution is based on the postulate that society is an ACM system of purposive actors within continuous change. Present social problems are multiscale-order deficiencies, which cannot be fixed by the traditional hierarchical approach alone, by doing what we do better or more intensely, but rather by changing the way we do.

**Design/methodology/approach** – This paper treasures several past guidelines, from McCulloch, Wiener, Conant, Ashby and von Foerster to Bateson, Beer and Rosen's concept of a non-trivial system to arrive to an indispensable and key anticipatory learning system (ALS) component for managing unexpected perturbations by an antifragility approach as defined by Taleb. This ALS component is the key part of our new methodology called "CICT OUM" approach, based on brand new numeric system behavior awareness from computational information conservation theory (CICT).

**Findings** – In order to achieve an antifragility behavior, next generation system must use new CICT OUM-like approach to face the problem of multiscale OUM effectively and successfully. In this way homeostatic operating equilibria can emerge out of a self-organizing landscape of self-structuring attractor points, in a natural way.

**Originality/value** – Specifically, advanced wellbeing applications (AWA), high reliability organization (HRO), mission critical project (MCP) system, very low technological risk (VLTR) and crisis management (CM) system can benefit highly from our new methodology called "CICT OUM" approach and related techniques. This paper presents a relevant contribution towards a new post-Bertalanffy Extended Theory of Systems. Due to its intrinsic self-scaling properties, this system approach can be applied at any system scale: from single quantum system application development to full system governance strategic assessment policies and beyond.

**Keywords:** Big government, Self-organization, Post-Bertalanffy, CICT, IDB, impredicative control systems, OUM, Cybernetics, Education, Learning, Social change.

**Paper type** Research paper.



## 1 Introduction

Since the pioneering application of Cybersyn to the Chilean economy in the early 1970s (Espejo, 2014) to the recent revisiting of The Viable System Model (VSM), developed by the British operational research and management theorist Stafford Beer (Beer, 1972), there has been always a need to understand how complexity is managed in viable organizations (Espejo and Harnden 1989). Today, environmental conditions are quite different from the 1970s and they are continuously changing at an increasing rate. While the computer processing power doubles every 1.8 years and the amount of data doubles every 1.2 years, the complexity of networked systems is growing even faster, unfortunately. This is the main reason why the traditional big government approach will have to face higher and higher information overload and glut.

In past years, the term "information overload" has evolved into phrases such as "information glut" and "data smog" (Shenk, 1997). What was once a term grounded in cognitive psychology has evolved into a rich metaphor used outside the world of academia. In many ways, the advent of information technology has increased the focus on information overload: information technology may be a primary reason for information overload due to its ability to produce more information to disseminate to a wider audience than ever before and more quickly, contributing to ontological uncertainty creation in recent turbulent times.

Lane and Maxfield (2005) distinguish three kinds of uncertainty: truth uncertainty, semantic uncertainty, and ontological uncertainty, the latter of which is particularly important to deal with turbulent processes. According to them, the definition of ontological uncertainty depends upon the concept of actors' ontology or their beliefs about (1) what kinds of entities inhabit their world; (2) what kinds of interactions these entities can have among themselves; (3) how the entities and their interaction modes change as a result of these interactions.

We postulate that current societies are arbitrary complex multiscale (ACM) systems of systems of purposive actors within continuous change. Actors interact not only to select and implement policy, but also to design and change the rules under which that interaction takes place. Indeed, rules can be considered in terms of three different levels: rules as policies (such as budgetary allocations); rules as organizational forms (such as the independence of the central bank); and rules as mechanisms to change the rules themselves (such as electoral norms) (WBG, 2017). Sometimes the entity structure of actors' worlds change so rapidly that the actors cannot generate stable ontological categories valid for the time periods in which the actions they are about to undertake will continue to generate effects. In such cases, we say that the actors face "ontological uncertainty."

Ontological uncertainty, in contrast to truth or semantic uncertainty, resists the formation of propositions about relevant future consequences. The entities and relations of which such propositions would have to be composed are simply not known at the time the propositions would have to be formulated, that is, during the extended present in which action happens. For instance, in today fast-changing emerging market system technology, ontological uncertainty is an endemic situation. Sometimes, ontological uncertainty hovers around an unaware actor. Sometimes, though, market system actors are completely conscious that they are immersed in ontological uncertainty, which offers no particular help in dealing with it.

The Western fourth industrial and information technology revolution will reshape the virtual world, and the large amount of data available on the Internet will make more difficult to sift through and separate fact from fiction quickly (even with Big Data approach, unfortunately), contributing to the exponential grow of ontological uncertainty. Do not be tricked by words, this revolution will be a major cultural and social revolution than a technical one. A new age which has leading-edge technologies as its foundation is not necessarily on the extension of the current line. It is also an age full of "uncertainties." Because of its uncertainties, industry must create reform on its own initiative to lead the world. These policy recommendations are just a starting point toward the reform of economy and society. We assume that this is the main reason why the traditional big government approach will increasingly fail to lead to good decisions timely, as technology innovation, economic diversification and cultural evolution progress. From this perspective, it will be interesting to follow what is happening on the Eastern side of the world, to all the Japan's initiatives which fall under the "Society 5.0" umbrella name (Keindaren, 2016). Japan has its particular challenges and just as Industry 4.0 is the digital transformation of manufacturing, Society 5.0 aims to tackle several challenges by going far beyond just the digitalization of the economy, towards the digitalization across all levels of the Japanese society and the (digital) transformation of society itself.

Present planetary problems are multiscale-order deficiencies from the past, obsolete, Western reductionist worldview. They cannot be fixed by the usual, traditional, hierarchical approach alone, by doing what we do better or more intensely, but rather by changing the way we do. Too often, governments fail to adopt pro-growth or pro-poor policies. And even more often, when adopted, these policies fail to achieve their intended goals. In the process of designing and implementing policy, who is, and who is not, included at the bargaining table can determine whether policy makers deliver effective solutions. That process, which we call governance, underlies every aspect of how countries develop and how their institutions function. We need to find different solutions. Putting governance front and center of the development debate is therefore essential for promoting sustained economic growth and encouraging more equitable and peaceful societies. To be effective, policies must enhance commitment, coordination, and cooperation.

In real democracy, holistic governance requires the co-production of values between policy-makers and citizens to make visible political and expert guidance and people's interests and concerns. Transparency of communications between citizens and policy-makers is far more than making information available: it is building up effective co-organisational systems. From this perspective, next generation system need a new key fundamental component: a subsystem able to face the problem of multiscale ontological uncertainty management (OUM) effectively. To achieve this result and to design better, antifragile system (Taleb and Douady, 2013), we need a new understanding first. For this reason, Section 2 is devoted to analysing social communication complexity and purposive actors propositional fallacies. The final aim of present paper is to offer an innovative and original, fundamental solution methodology proposal to OUM problem.

## **2 Social Communication Complexity and Purposive Actors Propositional Fallacies**

Quite often, from an individual perspective, external events seem to be an entirely random series of happenings. But looked at over a long period of time, and tracking the branching changes in the planet that follow from it, all the chaos does produce a form of identifiable order. Patterns will appear from the chaos. And this, in its essence, is chaos theory: finding order in the chaos (Wheatley,

2008). Chaos theory falls into that category of scientific ideas that few actually understand but many have heard of, due to its expansive, epic-sounding principles and thoughts. Inherent to the theory is the idea that extremely small, weak changes produce enormous effects, but ones that can only be described fully in retrospect. Accurate prediction is somewhat impossible.

In other words, attempts to optimize hierarchical systems in the traditional top-down way will be less and less effective, and cannot be done in real time (Fiorini, 2016a). In fact, current human made application and system can be quite fragile to unexpected perturbation because Statistics by itself can fool you, unfortunately (Taleb and Douady, 2015). From this perspective, present most advanced "intelligent system" is a "deficient system", a fragile system, because its algorithms are still based on statistical "intelligence" or statistical knowledge only. They are lacking a fundamental property and key system component. We need more resilient and antifragility application to be ready for next generation systems. What Nassim Taleb has identified and calls "antifragility" is that category of things that not only gain from chaos but need it in order to survive and flourish, and proposes that things be built in an antifragility manner (Taleb and Douady, 2013). The antifragility is beyond the resilient. In turn, the resilient is beyond the robust. The robust fails when perturbations are out of its preprogramed range. The resilient resists shocks and stays the same; the antifragile gets better and better.

The logical answer is to add and use distributed (self-) control, i.e. bottom-up self-regulating systems. Advanced Cybernetics (i.e. extended system theory) and complexity theory tell us that it is actually feasible to create resilient, social and economic order by means of self-organization, self-regulation, and self-governance. "Governing the Commons" is a major theoretical contribution to the study of collective action and institutional design. It describes in clear language the problems arising from common pool resource (CPR) management and presents an uncompromising critique of existing approaches (Ostrom, 1990). Complexity science offers a way of going beyond the limits of reductionism, because it understands that much of the world is not machine-like and comprehensible through a cataloguing of its parts. It consists instead of mostly organic and holistic systems that are difficult to comprehend by traditional scientific analysis (Lewin, 1993). Nevertheless, to achieve reliable self-organization, self-regulation in a competitive arbitrary-scalable system reference framework, we need application resilience and antifragility at system level first.

In fact, decision theory, based on a "fixed universe" or a model of possible outcomes, ignores and minimizes the effect of events that are "outside model". Deep epistemic limitations reside in some parts of the areas covered in decision making. Unfortunately, the "probabilistic veil" can be quite opaque, and misplaced precision leads to incompleteness, ambiguity and confusion. In fact, as the experiences in the latest fifty years have shown, unpredictable changes can be very disorienting at enterprise level. These major changes, usually discontinuities referred to as fractures in the environment rather than trends, will largely determine the long-term future of organization. They need to be handled, as opportunities, as positively as possible (Taleb, 2015). In a continuously changing operational environment, even if operational parameters cannot be closely pre-defined at system planning and design level, we need to be able to plan and to design antifragile, self-organizing, self-regulating and self-adapting system quite easily anyway.

"Every Good Regulator of a System Must be a Model of that System" (Conant and Ashby, 1971). Therefore, we need system able to manage multiscale ontological uncertainty effectively. We need

anticipatory learning system (ALS) as a fundamental key system component. In fact, to behave realistically, system must guarantee both Logical Aperture (to survive and grow) and Logical Closure (to learn and prosper), both fed by environmental "noise" (better... from what human beings call "noise") (Fiorini, 2014b).

Current scientific computational and simulation classic systemic tools, and most sophisticated instrumentation system (developed under the positivist reductionist paradigm and the "continuum hypothesis", CH for short) are still totally unable to capture and to discriminate so called "random noise" (RN) from any combinatorically optimized encoded message, called "deterministic noise" (DN) by computational information conservation theory (CICT) (Fiorini, 2014a). This is the information double-bind (IDB) dilemma in current science, and nobody in the traditional scientific arena likes to talk about it seriously (Fiorini, 2016a).

Therefore, high levels of cognitive ambiguity still emphasize this major IDB problem in most current, advanced research laboratory and instrumentation system, just at the inner core of human knowledge extraction by experimentation in science (Fiorini, 2016a). This is the main reason why traditional computational resources and systems have still to learn a lot from human brain-inspired computation and reasoning. How does it come that scientists 1.0 (statisticians) are still in business without having worked out a definitive solution to the problem of the logical relationship between experience and knowledge extraction? It is a problem to solve clearly and reliably, before taking any quantum leap to more competitive and convenient, at first sight, post-human cybernetic approach in science and technology. Our means of new knowledge at personal level is reason, the use of observation and logic to learn and prosper. This strong link cannot be based on statistics only. We need a definitive, antifragile solution to the problem of the logical relationship between human experience and reliable knowledge extraction. As a matter of fact, in logic, the needs of the healthy individual are what give rise to the need and possibility of value judgments to begin with, and there can be no divide between acting logically and acting human. We need to extend our systemic tools to solve this IDB dilemma first, to open a new era of effective, real cognitive machine intelligence (Wang et al., 2016).

To get stronger solution to advanced multiscale biophysical scientific modelling problems, like complex social, quantum cognitive, neuroscience understanding, living organism modelling, etc., we have EVEN to look for convenient arbitrary multi-scaling, bottom-up modelling (from discrete to continuum, under the "discreteness hypothesis", DH for short) approach to start from first, and NOT the other way around (top-down, from continuum to discrete, CH) ONLY, as usually done!

Society is, without any doubt, a complex system and the idea to use the knowledge from the analysis of physical complex systems in the analysis of societal problems is tempting. Indeed, the notions of, nonlinearity, interactions, impredicativity, self-organization, stability and chaos, unpredictability, sensitivity to initial conditions, bifurcation, etc., are phenomena which also characterize social systems.

However, not everything is easy because physical and computational measures of complexity exist in abundance. These can provide a starting point for creating social complexity metrics, but they need refinement and continuous updating for the simple reason that society is an aggregation of purposive actors in continuous change. To harness complexity, we must take a generative perspective and see social outcomes as produced by purposive actors responding to personal

anticipation, incentives, information, cultural norms, psychological predispositions, etc. In other words, as Robert Rosen said, in his book "Life, Itself", that "The Machine Metaphor of Descartes is not just a little bit wrong, it is entirely wrong and must be discarded" (Rosen, 1991). As a matter of fact, purposive actors are centered on their wellbeing dynamic equilibrium or balance that can be affected by life events or challenges continuously. Personal wellbeing state is stable when they have abundant resources needed to meet and manage their life's challenges (Fiorini et al., 2016).

One of the fundamental preconditions is to speak in the common language. It is not the problem of cultures only (Leung et al., 2007), it is also a problem of scientific communities (Kagan, 2009; Snow, 1969) and new societal education (Mulder, 2015; UNE, 1997). For instance, educational curricula in human-computer interaction (HCI) need to be broad and nimble. To address the first requirement, HCI focuses on people and technology to drive human-centered technology innovation. At the same time, students need to develop methods and skills to understand current users, to investigate non-use, and to imagine future users quickly (Churchill et al., 2016).

Even in mere terminology, avoiding representation uncertainty and ambiguities is mandatory to achieve and keep high quality result and service. The proper use of term and multidimensional conceptual clarity are fundamental to create and boost outstanding performance. As an example, for high quality clinical and telepractice results in healthcare informatics research and technology, understanding the difference between "well-being" and "wellbeing" is mandatory (Fiorini et al., 2016). In order to move up in the value chain (or Lancasterian evolution tree, or wellbeing of society) it is also important to build up the knowledge corpus domestically and with domestic resources first (Kitt, 2016).

When ambiguities and uncertainty cannot be avoided, then reliable OUM system is needed and becomes a must to achieve system antifragility. There are surprising similarities in many fields of human activities and much can be learned from these. For instance, Puu discussed bifurcations that are likely to govern the evolution of culture and technology. More specifically, by defining culture as art plus science, he discusses the evolution of social and material products (Puu, 2015).

Another fundamental problem is causality, because the usual observations always reveal superficial reasons only; they cannot reveal deep, concealed reasons (Fiorini, 2016b; Wang et al., 2016). Forcing societies to fit in a box without understanding deep reasons may lead to serious consequences like we witness in many world affairs today. Multidisciplinarity, interdisciplinarity and transdisciplinarity are really ways the society, together with scientists and scholars, must move on (De Giacomo and Fiorini, 2017; Nicolescu, 2008).

Furthermore, according to Swiss clinical psychologist Jean Piaget, human adults normally know how to use properly classical propositional logic. Piaget also held that the integration of algebraic composition and relational ordering in formal logic is realized via the mathematical Klein four-group structure (Inhelder and Piaget, 1955). In the last fifty years, many experiments made by psychologists of reasoning have often shown most adults commit logical fallacies in propositional inferences. These experimental psychologists have so concluded, relying on many empirical evidences, that Piaget's claim about adults' competence in propositional logic was wrong and much too rationalist. But, doing so, they forgot Piaget's rigorous and important analysis of the Klein four-group structure at work in logical competence. In other words, according to experimental psychologists, Piaget was

overestimating the logical capacities of average human adults in the use of classical propositional logical connectives.

As a matter of fact, English speaking people tend to treat conditionals as equivalences and inclusive disjunctions as being exclusive (Robert and Brisson, 2016). The Klein four-group structure generates squares of opposition (SOO), and an important component of human rationality resides in the diagram of the SOO, as formal articulations of logical dependence between connectives (Beziau and Payette, 2012). But the formal rationality provided by the SOO is not spontaneous and therefore, should not be easy to learn for adults. Metaphors encompass often our everyday communication and can also be used in explaining the behavior of complex social systems. Such an approach, developed initially by English anthropologist and social scientist Gregory Bateson, is advocated by De Giacomo and Fiorini (2017), and Wheatley (2006) for management and leadership. They do not enter into the technical details of chaos theory and complexity in terms of physical systems, but recommend using these ideas convincingly to the management of social systems and also for educational purposes.

To gain the predicative proficiency provided by the formal rationality of the SOO is the main reason why we need reliable and effective training tools to achieve full propositional logic proficiency in decision making, like the elementary pragmatic model (EPM) (De Giacomo and Fiorini, 2017), based on the CICT elementary dichotomy structuring process, briefly presented in next section.

### **3 Communication and the CICT Elementary Dichotomy Structuring Process**

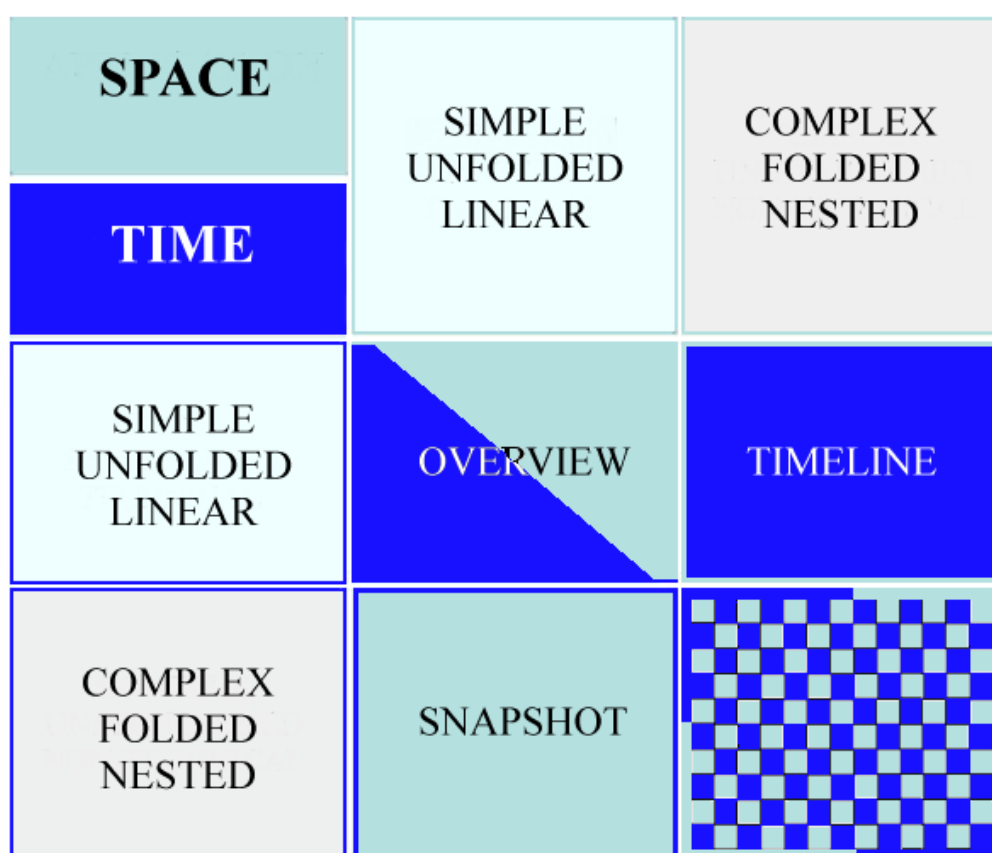
Mankind's best conceivable worldview (Weltanschauung) is at most a representation, a partial picture of the real world, an interpretation centered on man. We inevitably see the universe from a human point of view and communicate in terms shaped by the exigencies of human life in a natural uncertain environment. What is difficult is processing the highly conditioned sensory information that comes in through the lens of an eye, through the eardrum, or through the full skin. In fact, at each instant, human being receives an enormous volumes of data, and we have a finite number of brain cells to manage all the data we receive quickly enough.

According to traditional theories, brain researchers estimate that the human mind takes in 11 million pieces (tokens) of information per second through our five senses but is able to be consciously aware of only 40 of them (Koch et al., 2006; Wilson, 2004; Zimmermann, 1986). So our neurointerfaces and our brain have to filter to the extreme. To better clarify the computational paradigm, we can refer the following principle: "Animals and humans use their finite brains to comprehend and adapt to an infinitely complex environment" (Freeman and Kozma, 2009). We are constantly reconstructing the world's essential and superficial characteristics. This is the outcome of the on-going evolution of our relationships in a world full of surprises and challenges related to deeper characteristics (Espejo, 2011).

Spacetime (ST) invariant physical quantities can be related to the variables employed by a specific interacting observer to get a representation and an interpretation of the world within which a human being is immersed. In fact, original "spacetime" (a transdisciplinary concept), usually by classic operative interpretation, is split into two separated additive subcomponents "space" and "time." In that forced operative split, original information is lost or dissipated to an unaware interactor (Fiorini, 2015a).

This constrained operational splitting may represent an advantage by a formal (rational) representation perspective (i.e., ease of representation and understanding), but its major drawback is an original information precision loss, if the observer is unaware of or unable to compensate for it partially. Today, in fact, a partial compensation is possible, taking into consideration the folding and unfolding properties offered by the CICT "OpeRational" representation (Fiorini and Laguteta, 2013). According to CICT, the full information content of any symbolic representation emerges from the capturing of two fundamental coupled components: the linear component (unfolded, structured, technical) and the nonlinear one (folded, structured or unstructured, non-technical). Referring to the transdisciplinary concept (Nicolescu, 1996), we see that for full information conservation any transdisciplinary concept emerges from two pair of fundamental coupled parts (Figure 1).

*Figure 1. The Four Quadrants of The Space-Time Split (STS)*



Taking into consideration the folding and unfolding properties of CICT "OpeRational" representations for the Space-Time Split (STS) (Fiorini, 2015a), by a common language perspective, one can conceive a better operative understanding of usual terms, with added possibility of information conservation as shown in "The Four Quadrants of The Space-Time Split" (Figure 1), through a narrative point of view. Here, the term "Timeline" (first quadrant, top right) is considered the combination of a major, unfolded linear time representation, framed by the related, folded minor space representation. The term "Overview" (second quadrant, top left) is interpreted as the combined representation of major linear space and major linear time representations, with minor, complementary folded time and space components. The term "Snapshot" (third quadrant, bottom



left) can be assumed as the combination of a major linear space representation, framed by minor folded time representation. The forth quadrant (bottom right) represents the combination of major folded space and time components, framed by the combination of minor linear space and time components. It can be interpreted as the simple (bidimensional), but realistic representation of the usual information experienced by a living organism.

In other words by CICT, to capture the full information content of any elementary symbolic representation, it is necessary to conceive a "quadratic support space" at least, to express its associated, linear, unfolded component. Of course, we can apply our dichotomizing process in a recursive way to achieve any representation accuracy we like. According to our methodology, as an operative example, we can use previous understanding to the representation of human experience by a narrative point of view, to be used effectively in human knowledge structuring and computer science modelling and simulation.

We can start to divide human experience into two interacting concepts or parts, "Application" and "Domain," in the sense that experience is always gained when an Application is developed to act within a specified Domain, and a Domain is always investigated by a developed Application. In terms of ultimate truth, a dichotomy of this sort has little meaning, but it is quite legitimate when one is operating within the classic mode used to discover or to create a world of "immediate appearance" by narration. In turn, both Domain and Application can be thought to be in "simple mode" (SM, linearly structured, technical, unfolded, etc.) or in "complex mode" (CM, non-linearly structured or unstructured, non-technical, folded, etc.) Description, as defined in Fiorini (1994).

The SM Application or Domain represents the world primarily in terms of "immediate appearance" (superficial reasons), whereas a CM Application or Domain sees it primarily as "underlying process" in itself (deep, concealed reasons). CM is primarily inspirational, imaginative, creative, intuitive: feeling, belief rather than facts predominate initially. By this perspective, "Art" when it is opposed to "Science 1.0" is "feeling transmission" rather than "data transmission". It does not proceed by data, reason or by laws. It proceeds by feeling, intuition and aesthetic resonance. The SM, by contrast, proceeds by data, logic, reason and by laws, which are themselves underlying forms of rational thought and behavior. Therefore, we can assume, for now, to talk about human experience by referring to SM and CM, Application and Domain, according to the "Four-Quadrant Scheme" (FQS) of Figure 2.

SM is straightforward, unadorned, unemotional, analytic, economical and carefully proportioned. Its purpose is not to inspire emotionally, but to bring order out of chaos and make the "unknowns known". It is not an aesthetically free and natural style. It is "esthetically restrained". Everything is under control. Its value is measured in terms of the skill with which this control is maintained. From the CM point of view the SM often appears predictable, dull, awkward, limited and ugly. Everything is in terms of pieces and parts and components and relationships. Nothing is figured out until it's run through the computer a dozen times. Everything's got to be measured and proved. Within SM, however, CM has some appearances of its own. Irrational, erratic, unpredictable, untrustworthy, sometime frivolous, etc. By now, these battle lines should sound a little familiar. This is the source of current trouble between these two cultures, created and structured by the past reductionist approaches.

Human being and present academic researcher tend to think and feel exclusively in one mode or the other and in so doing tend to misunderstand and underestimate what the other mode is all about. But no one is willing to give up the truth as he/she sees it, and as far as we know. In today's society, quite a few individuals have been developing any real reconciliation of these truths or modes, which is mandatory to arrive at the new "Science 2.0" worldview. There is no social, formal and shared point at which these visions of reality are unified at present. But if you can keep hold of the most obvious observation about SM Application or Domain, some other things can be noticed that do not, at first, appear and which can help to understand a convenient unification point.

*Figure 2. Four-Quadrant Scheme (FQS) for Application and Domain (see text).*

APPLICATION DOMAIN		
	SIMPLE STRUCTURED TECHNICAL	COMPLEX UNSTRUCTURED NON-TECHNICAL
SIMPLE STRUCTURED TECHNICAL	(known knows)	(known unknowns)
COMPLEX UNSTRUCTURED NON-TECHNICAL	(unknown knows)	(unknown unknowns)

The first is that in traditional Science 1.0 approach, apart from recent disciplines like risk analysis and computer security areas, any interacting observer is missing. Any classic SM Application or Domain description doesn't take into consideration any observer. Even an operator is a kind of personalityless robot whose performance of a function on a device is completely mechanical. There are no real subjects in this description. The only objects exist that exist are independent of any observer. This is the current Newton's Paradise of Science 1.0!

The second is that to standard Science 1.0, dichotomy is a simple cut-and-split process only. As a matter of fact, we have seen that there is an arbitrary knife moving here. There is an intellectual scalpel so swift and so sharp you sometimes do not even see it moving. You get the illusion that everything is there and that anything is being named as it exists. But they can be named quite differently and organized quite differently, depending on how the knife moves. It is important to see

this knife for what it is and not to be fooled into thinking that anything is the way it is, just because the knife happened to cut it up that way. It is important to concentrate in the knife itself. As a matter of fact, one of the most highly developed skills in contemporary Western civilization is dissection: the split-up of problems into their smallest possible components. We are good at it. So good, we often forget to put the pieces back together again (Toffler, 1984).

The third is that the words "good" and "bad" and all their synonyms are completely absent. No value judgments have been expressed anywhere, only sterilized facts.

The fourth is that anything under CM is almost impossible to understand directly without experiencing it, unless you already know how it works. The immediate surface impressions that are essential for primary understanding are gone. Nevertheless, the masterful ability to use this knife effectively can result in arbitrary, creative solutions to the SM and CM split (De Giacomo and Fiorini, 2017). For now, you have to be aware that even the special use of the term SM and CM is an example of this arbitrary knife-manship. In order to master and to model this arbitrary knife-manship effectively, we need a reliable OUM system modelling architecture.

#### **4 Ontological Uncertainty Management (OUM) Model Architecture**

Following neurophysiological findings by Joseph LeDoux (LeDoux, 1998; 2002; 2015), differently from the past, we focus on ontological uncertainty (Lane and Maxfield, 2005) as an emergent phenomenon from a complex system (see Section 1 Introduction). Then, our dynamic ontological perspective can be thought as an emergent, natural operating point from, at least, a dichotomy of two fundamental coupled irreducible and complementary ideal asymptotic concepts:

- a) reliable predictability, and
- b) reliable unpredictability.

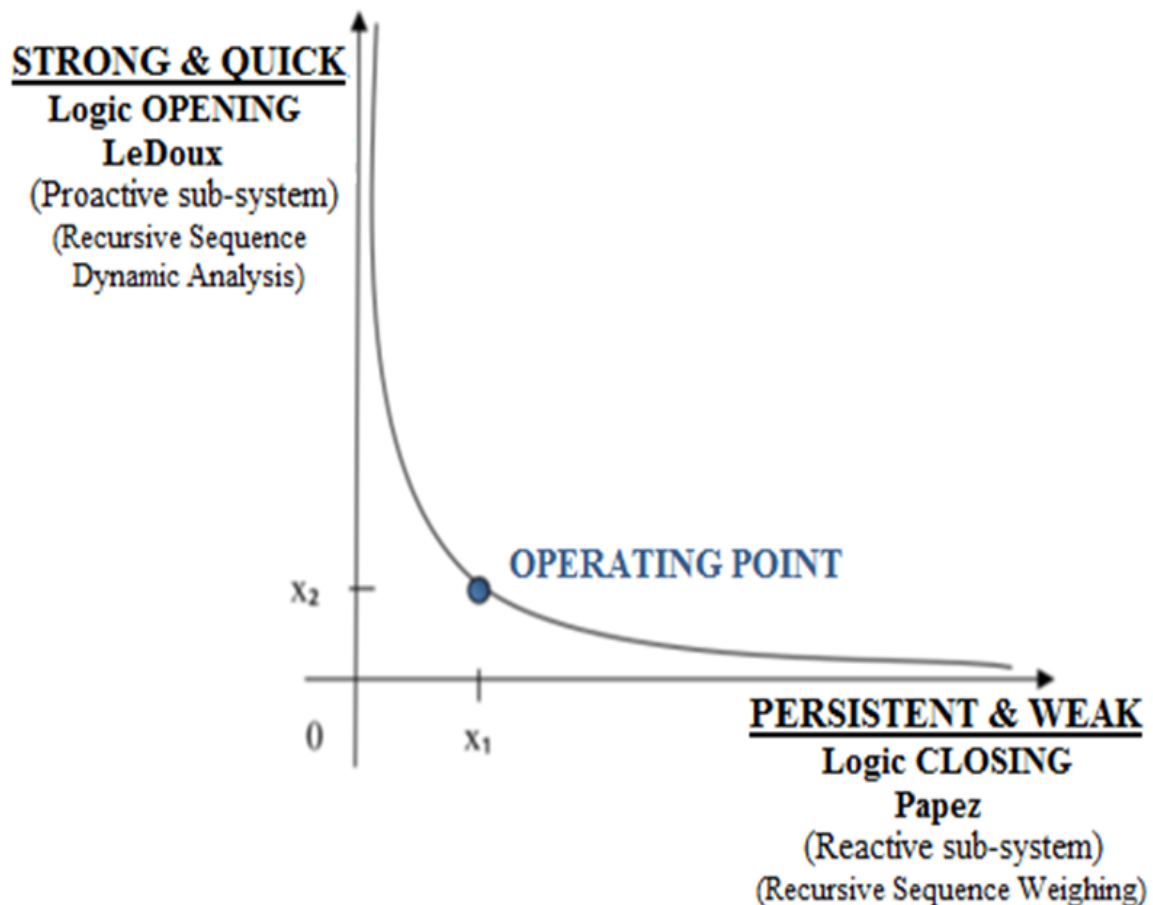
From Top-Down (TD) management perspective, the reliable predictability concept can be referred to traditional system reactive approach (lag subsystem, closed logic, to learn and prosper) and operative management techniques. Then, the reliable unpredictability concept can be associated to system proactive approach (lead subsystem, open logic, to survive and grow) and strategic management techniques.

As discussed in previous sections, to achieve our final goal, the overall system must be provided with smart sensing interface which allow reliable real-time interaction with its environment (Fiorini, 2016a). To behave realistically, the system must guarantee both Logical Aperture (to survive and grow) and Logical Closure (to learn and prosper), both fed by environmental "noise" (better... from what human beings call "noise") (Fiorini, 2014b.)

According to previous considerations, at brain level, it is possible to refer to the LeDoux circuit ("low road", Logical Aperture) for emotional behavior (i.e. fear, emotional intelligence, etc.) and to the Papez circuit ("high road", Logical Closure) for structured behavior (i.e. rational thinking, knowledge extraction, etc., as from Figure 3. Emotional Intelligence (EI) and Emotional Creativity (EC) (Goleman, 1995) coexist at the same time with Rational Thinking in human mind, sharing the same input environment information (Gunderson and Holling, 2002). Then, an operating point can emerge

as a transdisciplinary reality level from the interaction of two complementary irreducible, asymptotic ideal coupled subsystems with their common environment (Figure 3).

Figure 3. Operating Point can emerge as a new Transdisciplinary Reality Level (TRL), based on Two Complementary Irreducible Management Subsystems interacting with their common environment (Gunderson and Holling, 2002).



The major added value of present work is provided by the author's fresh approach to ontological uncertainty management (OUM) modelling and by the new idea of system articulated interaction, defined by inner and outer system information resonant aggregation (Fiorini, 2016a). It can allow both quick and raw system response (to survive and grow) and slow and accurate information unfolding for future response strategic organization (to learn and prosper), by coherently formatted operating point (Fiorini, 2015b). Thus, new advanced systemic information application can successfully and reliably manage a higher system complexity than at present, with a minimum of design constraints specification and less system final operative environment knowledge at design level.

The author has already applied this new impredicative, post-Bertalanffy systemic framework on smaller scale problems, effectively and successfully. That is the case for both electroencephalography (EEG) data and event related potentials (ERP) preprocessing disambiguation and consolidation (Fiorini, 2015b; 2016a), and clinical psychiatry and psychology telepractice (subject

and operator interaction reliable profiling and psychometrics) (De Giacomo et al., 2015; Fiorini et al., 2015).

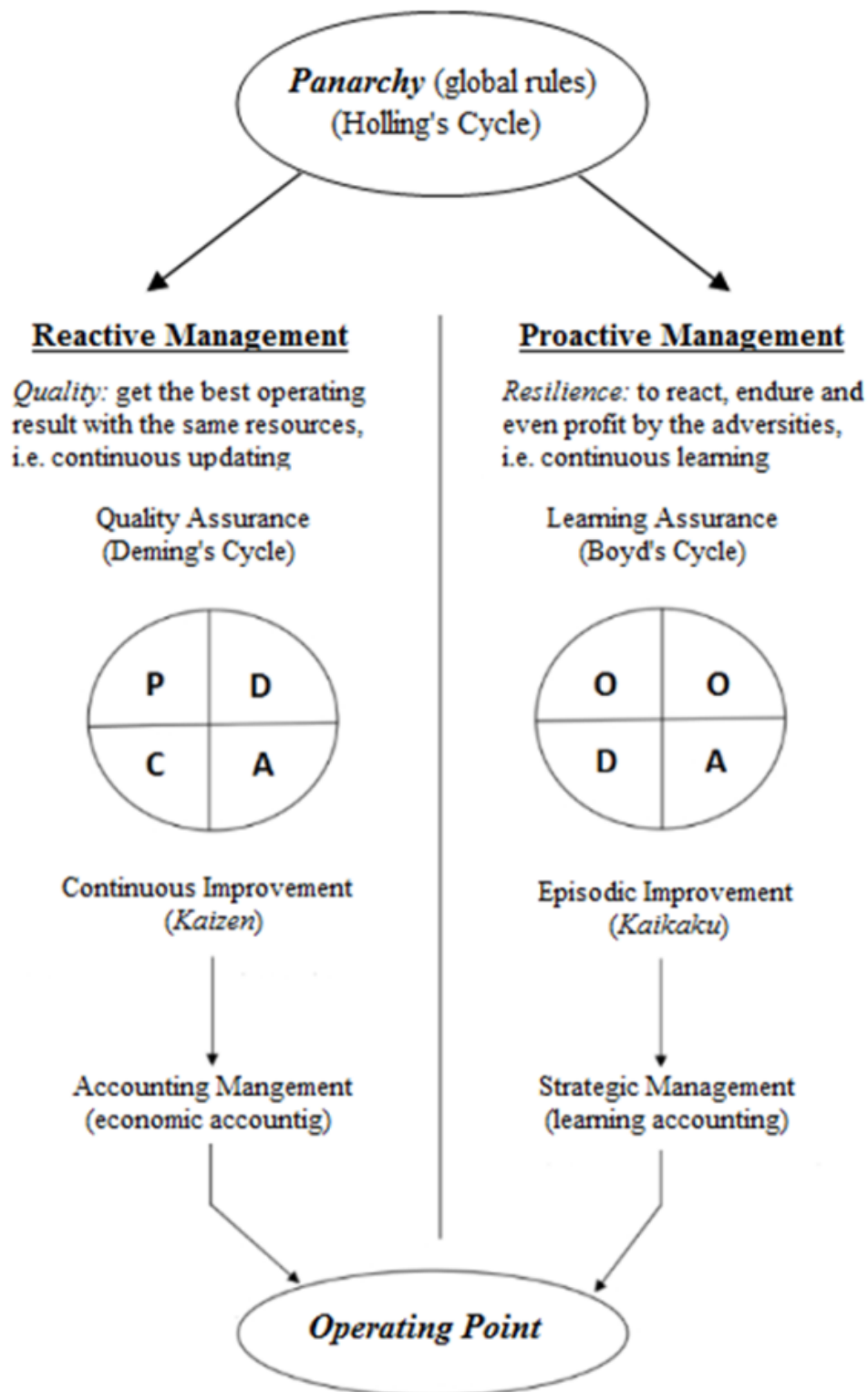
Specifically, in the case of EEG, traditional data processing and pattern recognition in a cognitive task application (spoken sentence comprehension), using usual ERP preprocessing, can offer shallow interpretation of experimental data. A deeper interpretation can be achieved by present methodology, implemented for that application, by the CICT and VEDA analysis tool (Collini and Cesario, 2012). In that case, brainstem function can be much better exploited for system modelling. In fact, in that case, the overall response result emerges from the coherent composition of five different subsystem outputs, which start to coherently cooperate to one another immediately upon input stimuli onset (Fiorini, 2015b). CICT coherent representation precision then lead to more experimental information clarity, conservation and result repeatability.

Our basic assumption is that natural living organism does perturb its environment, but ordinarily only up to the level it is perturbed in turn by its own environment both to survive and grow, no more (Gunderson and Holling, 2002). Therefore our approach can become a standard methodology to design system behavior even on higher scales, theoretically. In fact, due to its intrinsic self-scaling properties, this system approach can be applied at any system scale: from single quantum system application development to full system governance strategic assessment policies and beyond (Fiorini and Santacroce, 2013). It is even possible to use the same nonlinear, logic approach to guess a convenient basic architecture for Anticipatory Learning System (ALS) (Fiorini and Santacroce, 2013), to get realistic modeling of natural behavior, to be used in High Reliable Organization (HRO) application development.

As a matter of fact, the key operational concepts and our methodology, discussed in previous sections, can be conveniently and successfully extended to many other advanced Business and HRO application areas, with no performance or economic penalty, to develop more and more competitive application. For instance, at a higher level of abstraction, environmental noise input information to be aggregated into system internal status information can provide a structured homeostatic synthetic operating point as a reference for further inquiry (Fiorini, 2018). Then, system interaction by internal and external information resonant aggregation can allow both quick and raw response (Open Logic response, to survive and grow) and slow and accurate information for future response strategic organization (Closed Logic response, to learn to adapt and prosper), by coherently formatted operating point information (Fiorini, 2016a.)

To arrive at an operative architecture with our general framework for complex society and big government OUM approach, we have still to specify which coupled reliable predictability and reliable unpredictability subsystems we wish to use. For closed logic Reactive Management system, it is possible to choose from different documented operational alternatives offered by literature, like Deming's PDCA Cycle (Ohno, 2012), Discovery-Driven Planning (McGrath, and MacMillan, 1995; 2009), etc. For open logic Proactive Management system, we can refer to Boyd OODA Cycle (1987) (Osinga, 2006), Theory-Focused Planning (Govindarajan and Trimble, 2004), and many others. As a simple example, PDCA's cycle (Reactive Management) and OODA's cycle (Proactive Management) can be selected to represent two coupled, complementary irreducible sub-systems for advanced integrated operative-strategic management. Then, our final, general operative reference architecture looks like in Figure 4.

Figure 4. Final Architecture for Effective General Systemic Governance Framework



## 5 Conclusion and Summary

In order to provide reliable anticipatory knowledge, system must produce predictions ahead of the predicted phenomena as fast as possible. Then, they have to be verified by a reality level

comparison, to be validated and accepted, to be remembered as learned reliable prediction. This validation cycle (emulation) allows system tuning and adaptation to its environment automatically and continuously. Current traditional formal systems are unable to capture enough information to model natural system realistically. They cannot represent and describe real system emergent properties effectively. Our OUM methodology allows to propose an extended Five Order Cybernetics Framework (Figure 5), which acknowledges just the complex system's emergent properties. Emergence entails a greater complexity that reduces traditional system "know-ability" and predictability. It also implies that a system will "immerge" into its environment, of which it is part. Immergence means "submergence" or "disappearance in, or as if in a liquid". If the system is determined by its contact with its context, then the reverse applies also.






The proposed fourth order cybernetic (Figure 5) deals with the system and its context simultaneously (multiscale interactivity), where relational complexity and system anticipatory ability are singular hallmarks of life (Rosen, 1985). The basic principles involved are already intuitively implied in First, Second and Third Order Cybernetic levels, but now they are shown unfolded and more explicitly. So, in this way, it is possible to achieve an ideal, cybernetic, conceptual and evolutive categorization schema by the proposed following five orders (1 + 4) framework, to offer a new reliable conceptualization for Social, Biomedical and general complex multiscale system applications:

- 1) Zero Order Cybernetics (Clausius): ideal, closed system, totally isolated open-loop system.
- 2) First Order Cybernetics (Wiener): "Self-steering" is assumed to be isolated from the act of observation and negative feedback functions as part of a mechanical process to maintain homeostasis.
- 3) Second Order Cybernetics (von Foerster): the process of "self-steering" is now understood to be affected by observer/s, but the related mathematical modeling is insufficiently complex to encourage new values emerge. Nevertheless, it is understood that Positive and Negative Feedback can lead to morphogenesis intuitively.
- 4) Third Order Cybernetics (Bateson, Beer, Ashby): the process is understood as an interaction that can affect/be affected by many observers, but it does not address what this means for the "social response-ability" of the single participant observer. Articulated values emerge.
- 5) Fourth Order Cybernetics (Rosen): multiple realities emerge by the freedom of choice of the creative observer that determines the outcome for both the system and the observer. This puts demands on the self-awareness of the observer, and response-ability for/in action.

The major added value of this methodology is provided by our new idea of system interaction, defined as inner and outer system information resonant aggregation. It can allow both quick and raw system response (Reactive Management, to grow and survive) and slow and accurate information unfolding for future response strategic organization (Proactive Management, to adapt and prosper), by coherently formatted operating point (Fiorini and Santacrose, 2013). From this perspective, current most advanced embedded "intelligent system" is a "deficient system", a fragile system, because its algorithms are still based on statistical "intelligence" or statistical knowledge only, and they are lacking a fundamental key system component. We need resilient and antifragility application to be ready for next generation systems.



Figure 5. Five Order Cybernetics Framework Main Graphical Components

<b>BIOMEDICAL CYBERNETIC ORDER</b>	<b>INTERACTION STYLE</b>	<b>GRAPHIC SYMBOL</b>
<b>Zero</b>	<b>Pure Spectator</b>	
<b>First</b>	<b>Ergodic Observer</b>	
<b>Second</b>	<b>Pulsed Egocentric Interactor</b>	
<b>Third</b>	<b>Iterated Egocentric Interactor</b>	
<b>Fourth</b>	<b>Recursive Interactor</b>	

Now, according to previous discussion, it is possible, at systemic level, to envisage a post-Bertalanffy Systemic Framework able to deal with problems of different complexity, in a generalized way, when interdisciplinary consists, for instance, of a disciplinary reformulation of problems, like from biological to chemical, from clinical research to healthcare, etc., and transdisciplinary is related to the study of such reformulations and their properties. According to our humble knowledge, for the first time, thanks to our methodology, Social, Biological and Biomedical Engineering ideal system categorization levels, from an operational perspective, can be matched exactly to practical system modelling interaction styles, with no paradigmatic operational ambiguity and information loss, as shown in Figure 5 (specifically, our innovative system interaction modality, called "Recursive Interactor", corresponds to fourth order biomedical cybernetics) (Fiorini, 2016a). Now, even new social and advanced health and wellbeing information application can successfully and reliably manage higher system complexity than contemporary ones, with a minimum of design specification and less system final operative environment knowledge at design level.

Specifically, advanced wellbeing applications (AWA), high reliability organization (HRO), mission critical project (MCP) system, very low technological risk (VLTR) and crisis management (CM) system can benefit highly from our new methodology called "CICT OUM" approach and related techniques. The present paper offers an innovative solution proposal to complex society big government modelling and management approach, to be discussed. It is a relevant contribution towards a new post-Bertalanffy Extended Theory of Systems to show how homeostatic operating equilibria can emerge out of a self-organizing landscape of self-structuring attractor points, in a natural way.

### Acknowledgments

The author acknowledges the continuous support from the CICT CORE Group of Politecnico di Milano University, Milano, Italy, for extensive computational modeling and simulation resources.

Furthermore, the author is grateful to the Editor of *Kybernetes*, and to the anonymous referees for their perceptive and helpful comments, which helped the author substantially improve previous versions of the manuscript.

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# A New Environmentalism: The Need for a Total Strategy for Environmental Protection

by Scott Fulton and David Rejeski

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## Introduction

On the first Earth Day in 1970, Sen. Edmund Muskie (D-Me.) called for “a total strategy to protect the total environment.”<sup>1</sup> More than 50 years later, the parameters of a “total strategy” are at last coming into view. Environmental quality has no doubt improved, but the pace of change is leaving in the dust the linear strategies of the past. As Klaus Schwab of the World Economic Forum succinctly put it: “We are moving from a world in which the big eat the small to a world in which the fast eat the slow.”<sup>2</sup>

What constituted a strategy 15 or even 10 years ago—analyze, plan, execute—no longer works in operating environments that are increasingly unpredictable, fragmented, and characterized by high rates of technological change, big data, crowd communication, young industries, and an incessant drive for competitive advantage.<sup>3</sup> In this world, the kinds of government strategy development contemplated by the Government Performance and Results Act,<sup>4</sup> or annual planning-budgeting cycles, seem both quaint and prescriptions for strategic failure.

The total strategy of the future needs to create a much more robust option space for organizations and hedge against uncertainties. It must build resilience and organizational flexibility. It should help reduce surprises while guarding against organizational stagnation, not just in government, but in other key sectors, such as businesses, nongovernmental organizations (NGOs), think-tanks, and universities.

We were once, of course, without any strategy at all. On the first Earth Day, we were feeling the consequences. The Cuyahoga River in Ohio caught fire in 1969 (for the 13th time since 1868), and air quality in many metropolitan areas was orders of magnitude worse than today’s standards. Laws were passed to fill the void, and the rule of law emerged as our primary strategy.

Laws passed in the 1960s and throughout the 1970s, like the Clean Air Act (CAA),<sup>5</sup> Clean Water Act (CWA),<sup>6</sup> Toxic Substances Control Act (TSCA),<sup>7</sup> and Resource Conservation and Recovery Act (RCRA),<sup>8</sup> provided a legal basis for actions based on a clear bifurcation of actors—industry and government. In the words of Yale political scientist David Mayhew, the real story of this period “is the prominent, continuous lawmaking surge that lasted from late 1963 through 1975 or 1976.”<sup>9</sup> Command-and-control regulations provided an externally mandated, top-down approach well-suited to the hierarchical social and organizational structures prevalent at the time, and to addressing the discrete and massive end-of-pipe pollution problem that then loomed large and obvious.

Tough government enforcement, effective public education about pollution, and the introspection invited by transparency mechanisms like the Toxics Release Inventory ushered in a new phenomenon in environmental behavior.<sup>10</sup> In the early 1990s, as a new generation of environmentally sensitive leaders came of age, environmental norms began to be internalized by, and enculturated within, businesses. This trend was furthered by voluntary initiatives relying on market/price mechanisms and some

1. 120 CONG. REC. S11324 (daily ed. Apr. 23, 1974) (Statement of Sen. Muskie), <http://abacus.bates.edu/muskie-archives/ajcr/1974/Earth%20Day.shtml>.  
2. Geraldine Beddell, *Slow Down, You Move Too Fast*, GUARDIAN, Feb. 3, 2001, <https://www.theguardian.com/theobserver/2001/feb/04/featuresreview>.  
3. MARTIN REEVES ET AL., YOUR STRATEGY NEEDS A STRATEGY: HOW TO CHOOSE AND EXECUTE THE RIGHT APPROACH (2015).  
4. Pub. L. No. 103-62, Aug. 3, 1993, 107 Stat. 285 (S. 20) (31 U.S.C. §§1115-1119).

5. 42 U.S.C. §§7401-7671q; ELR STAT. CAA §§101-618.  
6. 33 U.S.C. §§1251-1387; ELR STAT. FWPCA §§101-607.  
7. 15 U.S.C. §§2601-2692; ELR STAT. TSCA §§2-412.  
8. 42 U.S.C. §§6901-6992k; ELR STAT. RCRA §§1001-11011.  
9. DAVID R. MAYHEW, PARTIES AND POLICIES: HOW THE AMERICAN GOVERNMENT WORKS (2008).  
10. U.S. Environmental Protection Agency, *Toxics Release Inventory (TRI) Program*, <https://www.epa.gov/toxics-release-inventory-tri-program> (last updated June 27, 2018).

clever “carrot-and-stick” maneuvers by the U.S. Environmental Protection Agency (EPA).

An early signal of this shift was EPA’s 33/50 Program, launched in early 1991 to reduce the release of 17 high-priority chemicals by 33% by the end of 1992 and by 50% by the end of 1995, with the aim of demonstrating that voluntary programs could bring about pollution reductions faster than command-and-control regulations. It actually worked beyond most expectations, and, together with EPA’s audit policy that incentivized the establishment of an internal compliance management system, helped birth a new era in which “private environmental governance”<sup>11</sup> moved environmental objectives inside the walls of business and within supply chains and began to significantly multiply the number of leverage points for environmental improvement.

Environmental goal-setting within firms often depended on high-level buy-in from chief executive officers, and was increasingly validated through external stakeholders such as environmental NGOs or international standard-setting bodies such as the International Organization for Standardization. Essentially, environmental governance became internalized. In 1995, the World Business Council for Sustainable Development was founded, beginning a movement of corporations that supported collective goal-setting focused on shared objectives. This integration of environmental and social norms into business operating procedures has become increasingly commonplace, even generating new financial structures, like public benefit corporations.<sup>12</sup>

The 1990s represented a critical turning point for a number of other reasons: the emergence of what the Organization for Economic Cooperation and Development called *knowledge-based economies*, and the creation of the worldwide web, which facilitated knowledge sharing through a connected, global network. As the knowledge intensity of our economy grew, some researchers pointed out that “neither market or hierarchy, nor any combination of the two, is particularly well suited to the challenges of the knowledge economy.”<sup>13</sup>

The shift to a knowledge-based economy built on networks coincided with an increasing awareness that the environmental threat structure was changing. A 2002 EPA

report noted, “We are about to enter a new era of environmental protection . . . [requiring] tools and technologies that help us deal with countless small businesses, farms, homes, cars and other non-point/area and mobile sources of pollution.”<sup>14</sup>

Looking forward, the networked, knowledge economy will continue to expand—Wikibon estimates that data production will be 44 times greater in 2020 than it was in 2009. Yuval Harari discusses the implications of this data deluge in his book *Homo Deus*: “As both the volume and speed of data increase, venerable institutions like elections, political parties and parliaments may become obsolete—not because they are unethical, but because they cannot process data efficiently enough.”<sup>15</sup> The next big challenge for the environmental movement is to drive social and environmental norms into data-intensive networks—networks of things, people, and algorithms.

There are currently 1.1 billion machine-to-machine (M2M) connections worldwide,<sup>16</sup> and of those, 521 million are cellular M2M connections as of 2017. It is predicted that there will be 2.6 billion total M2M connections by 2020, and that 980 million of them will be cellular connections.<sup>17</sup> This so-called Internet of Things (IoT) provides a ready platform for enhancing and integrating sensing and control opportunities in ways that promise to increase our environmental understanding and reduce our individual and collective environmental impacts if IoT-based systems are effectively designed, deployed, and managed.

Linked to many of these devices are networks of people who have increasingly mobilized around environmental issues. There are presently more than 20,000 volunteers throughout the United States that collect real-time data on rain, hail, and snow, and 1,600 volunteer groups engaged in water quality monitoring. In 2016, BioBlitzes across the United States in our national parks tapped into online

11. On private environmental governance, see, for instance, Michael P. Vanderbergh, *Private Environmental Governance*, 99 CORNELL L. REV. 129 (2013).

12. “Public benefit corporation” is a new class of corporation that allows companies to pursue profit as well as a strong social and environmental mission. See Kyle Westaway, *California Creates New Corporation Types That Reward Doing Good (FAQ)*, VENTURE BEAT, Oct. 11, 2011, <https://venturebeat.com/2011/10/11/benefit-corporations-californi/>. Today, there are more than 4,000 public benefit corporations across the United States, which include the crowdfunding sites Kickstarter, Patagonia, Warby Parker, and increasing numbers of startups.

13. Paul S. Adler, *Market, Hierarchy, and Trust: The Knowledge Economy and the Future of Capitalism*, 12 ORG. SCI. 215 (2001), available at <https://doi.org/10.1287/orsc.12.2.215.10117>.

14. LOCAL GOVERNMENT ADVISORY COMMITTEE, U.S. EPA, TOOLS AND TECHNOLOGIES FOR ENVIRONMENTAL DECISION MAKERS IN THE 21ST CENTURY (2002), available at [https://archive.epa.gov/ocir/scas\\_lgac/pdf/toolstech.pdf](https://archive.epa.gov/ocir/scas_lgac/pdf/toolstech.pdf). This observation is similar to how military analysts saw the emerging threat structure: “Threats are likely to be more diffuse, dispersed, nonlinear, and multidimensional than were industrial-age threats . . . the protagonists will become widely dispersed and more decentralized than ever before.” These two views of a post-industrial, networked world may ultimately require a convergence of governance strategies. For example, the recent appearance of a powerful, inexpensive, and distributed biotechnology production infrastructure creates challenges for both biosafety and biosecurity (for EPA and the Federal Bureau of Investigation; for domestic and international agencies). Drones present a similar set of opportunities and threats, as does 3-D printing. Environmental protection may need the same type of net-centric, strategic thinking that the military has adopted in response to the digital revolution.

15. YUVAL HARARI, *HOMO DEUS: A BRIEF HISTORY OF TOMORROW* 378 (2016). Harari makes the further point that “[h]umans are relinquishing authority to the free market, to crowd wisdom and to external algorithms partly because we cannot deal with the deluge of data.” *Id.* at 402.

16. Statista, *Number of Machine-to-Machine (M2M) Connections Worldwide From 2014 to 2021 (in Billions)*, <https://www.statista.com/statistics/487280/global-m2m-connections/> (last visited July 2, 2018).

17. *Id.*



communities to mobilize 80,000 volunteers to monitor and map species. Researchers at the University of Washington estimate that the in-kind contributions of 1.3 to 2.3 million citizen science volunteers to biodiversity research have an economic value of up to \$2.5 billion per year.<sup>18</sup> Though citizens have engaged in science for decades, or centuries, this explosion of activities over the past few years has been driven by the networked connectivity of mobile devices with increasingly sophisticated capabilities, such as high-resolution cameras and geolocation through the Global Positioning System (GPS), and the rapid growth of low-cost sensor technologies as add-ons.<sup>19</sup>

Many challenges remain, such as how to interface networks of humans and machines with each other and with our legacy systems used to collect environmental information, but the expanding human-machine system built on cheap computing and networking opens new opportunities for environmental science and management.

Finally, there is the world of algorithms, which author Franklin Foer has termed as “a novel problem for our democracy.”<sup>20</sup> The recent discovery of emissions-defeat software in motor vehicles stands as testament that changing a few lines of code can cause major compliance problems, with serious downstream environmental and public health implications.<sup>21</sup> As venture capital investor Marc Andreessen once noted, “Software is eating the world.”

Increasingly, environmental decisionmaking will be internalized in software in ways that allow for automated self-correction, and such software will become smarter and less dependent on humans to learn and advance (using so-called machine learning, or artificial intelligence (AI)). Early indications of the reach of AI in this regard can be seen in internal applications by AI pioneers. For instance, Google is using its machine-learning capacity—DeepMind—to reduce the energy consumption of its server farms.<sup>22</sup> It is easy to imagine, by extension, AI-based systems for monitoring and self-correcting all manner of environmental emission scenarios.

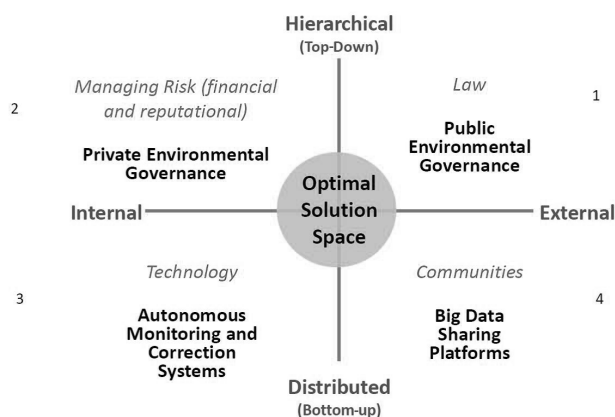
An illustration of this potential is the sensor network that is being used to monitor snowpack in the Sierra Nevada mountains and provide water volume predictions that then determine hydroelectric dam operation, as well as how water is distributed for irrigation, flood control, and so on. There is an AI dimension to this, in that the system is getting smarter and more refined and instruc-

tive as it collects more data.<sup>23</sup> A challenge that will track this accelerating capacity is how to proactively ensure the transparency and accountability of algorithmic-based, environmental decisionmaking. Added to these advances in AI are the potential impacts of “blockchain,” a rapidly advancing technology that can support distributed ledgers and smart contracts and potentially improve our ability to track everything from emissions, to genetic resources, to products in supply chains.<sup>24</sup>

## A New Ecosystem of Drivers

Considered together, the shifts described above create new challenges, but also point to an emerging ecosystem of drivers that promise to shape environmental behavior and performance in ways that can improve environmental quality around the planet. As with natural ecosystems, elements within this system are interrelated, but each has its own life and vitality. Figure 1 below plots these spaces out along two axes, one focused on the proximity of the driver (external to internal), and the other on the type of dominant organizational form, from hierarchies (top-down) to networks (bottom-up). Notionally, we might call these quadrants law, reputation, technology, and communities.<sup>25</sup>

**Figure 1. Ecosystem of Drivers**



This diagram’s vertical axis reflects that some of the drivers are top-down in operation, while some are bottom-up. The horizontal axis reflects that some drivers are externally induced, while others are internally driven. Each of the quadrants in this diagram attempts to describe both a driver and a system that emerges from that driver.

18. Data from ELIZABETH TYSON & DAVID REJESKI, *THE FUTURE OF FEDERAL CITIZEN SCIENCE AND CROWDSOURCING* (2016).

19. Beth Baker, *Frontiers of Citizen Science*, 66 *BIOSCI.* 921 (2016).

20. FRANKLIN FOER, *A WORLD WITHOUT MIND: THE EXISTENTIAL THREAT OF BIG TECH* (2017).

21. Guillaume P. Chossière et al., *Public Health Impacts of Excess NO<sub>x</sub> Emissions From Volkswagen Diesel Passenger Vehicles in Germany*, 12 *ENVTL. RES. LETTERS* 034014 (2017), available at <http://iopscience.iop.org/article/10.1088/1748-9326/aa5987/pdf>.

22. GOOGLE, *ENVIRONMENTAL REPORT* (2016), <https://environment.google/projects/environmental-report-2016/>. The application of machine learning brought about a 40% reduction in energy for cooling and a 15% reduction in overall energy use in test data centers.

23. Ziran Zhang et al., *Technical Report: The Design and Evaluation of a Basin-Scale Wireless Sensor Network for Mountain Hydrology*, 53 *WATER RESOURCES RES.* 4487 (2017), available at <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1002/2016WR019619>.

24. David Rejeski & Lovinia Reynolds, *Blockchain Salvation*, *ENVTL. F.*, July/Aug. 2018, at 46.

25. Experience has shown that there are advantages in developing clever names for scenarios, which become “sticky” and speed understanding and adaption by organizations. See Charles Roxburgh, *The Use and Abuse of Scenarios*, MCKINSEY & CO., Nov. 2009, <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-use-and-abuse-of-scenarios>.

People who have worked with scenario planning know there are dangers inherent in representing the world using two axes. Our goal here is simply to provide a jumping-off point for exploring multiple futures and solutions spaces that can capture some of the subtleties of change, without overdue complexity, and also shine a light on the advantages and disadvantages inherent in different approaches. For instance, top-down systems can suffer from bureaucratic distance from an issue, lack of ownership and buy-in, variable leadership, and political disruptions, while bottom-up efforts can struggle with focus, consensus failure, and a lack of skills needed to properly identify and address environmental problems.<sup>26</sup>

A few clarifying thoughts about the quadrants. Working counterclockwise, the driver in Quadrant 1 is law and the resulting system is traditional government action—variations of command-and-control. In Quadrant 2, the driver is risk management, and the system is private environmental governance that aims to manage and reduce that risk. In Quadrant 3, the driver is technology, and the system is autonomous monitoring and correction systems. In Quadrant 4, the driver is community engagement—in particular online communities—and the system is big data-based community platforms for sharing those data and the stories that they tell. As data volume increases, these systems will operate at light speed and create a data-rich pressure cooker for corrective response.

These quadrants are, of course, interactive and cross-influential. For example, data-based community pressure can influence both private and public governance behaviors and approaches. Autonomous systems should reduce the need for public or private governance interventions. And effective private governance measures should, in theory, reduce the need for government response.

All of these drivers will remain important parts of the equation, although their proportions may shift over time. So, for example, there will always be a need for public governance, but the public governance contribution may well grow smaller over time as the need for government intervention decreases by virtue of the other drivers.

The most evolved of these systems are the hierarchical systems—Quadrants 1 and 2. Quadrants 3 and 4 are emerging and are not without challenges. Regarding Quadrant 3, as noted, the recent problems with motor vehicle emissions control systems demonstrate that autonomous systems are only as good as the algorithms embedded within them. How will we ensure quality control in the software that guides these systems? Who is to manage or oversee that? These are important questions.

And Quadrant 4—this idea of environmental big data and community platforms—presents even bigger challenges, ranging from accuracy of the data generated from low-cost sensors, to impacts on privacy, to the potential for data to be mischaracterized or misinterpreted, to the use of

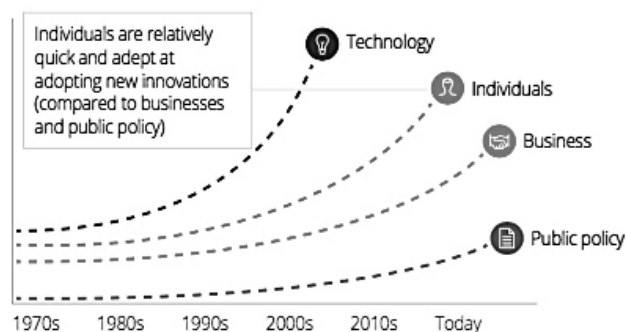
data as a tactical weapon for political or market advantage. There are big challenges in this space, but the data tsunami is visible on the horizon and is coming. Leadership will be needed to normalize this space so that it emerges as a constructive part of the environmental protection enterprise rather than a relentless third rail.

Solutions can occur within any of these quadrants, but the circle in the middle of the diagram intends to suggest that the closer solutions are to the point of quadrant intersection, the more complete and durable they promise to be.

It is important to note that each of these quadrants moves at a different tempo, or what some observers have called *clockspeed*—the time required to change products, processes, and organizational behaviors.<sup>27</sup> Legislation can take decades to create and later modify to deal with emerging social and technological realities. The CAA first passed in 1963, was amended in 1970 to address mobile sources, and again 20 years later to deal with emerging issues of ozone, acid rain, and toxic air pollutants. Given the existing gridlock in government, it is doubtful whether public policies can begin to keep pace with or address the environmental impacts of rapidly advancing technologies.

This so-called pacing problem is well-known and can lead to a widening gap between emerging technologies and legal oversight.<sup>28</sup> Businesses are faster to adapt, but may still lag behind individuals or technological systems that are purposefully designed to incorporate environmental goal-seeking and ensure compliance through the use of embedded intelligence. Figure 2 below notionally reflects the clockspeeds of various sectors or actors that might be leveraged as part of a broader change strategy.

**Figure 2. Clockspeed of Sectors/Actors**



Source: DELOITTE, EXPONENTIAL TECHNOLOGIES IN MANUFACTURING 16 fig. 9 (2018), available at <https://www2.deloitte.com/us/en/pages/manufacturing/articles/advanced-manufacturing-technologies-report.html>.

## Conclusion

Today, the number of strategies that can be brought to bear on existing and emerging environmental challenges is far

26. Marena Brinkhurst et al., *Achieving Campus Sustainability: Top-Down, Bottom-Up, or Neither?*, 12 INT'L J. SUSTAINABILITY HIGHER EDUC. 338 (2011), available at <https://doi.org/10.1108/14676371111168269>.

27. CHARLES FINE, *CLOCKSPEED: WINNING INDUSTRY CONTROL IN THE AGE OF TEMPORARY ADVANTAGE* (1998).

28. *THE GROWING GAP BETWEEN EMERGING TECHNOLOGIES AND LEGAL-ETHICAL OVERSIGHT* (Gary E. Marchant et al. eds., Springer 2011).

greater than any time in our history, especially when we think about the synergies between drivers. For instance, our regulatory system under statutes like the CWA is already amenable to the use of citizen-generated data. How do we make more use of that potential? Can citizens be mobilized to fill data gaps? How can the voluntary commitments by companies be further internalized into algorithms that drive energy and environmental decisions in facilities and supply chains? How can law-based systems anticipate and prevent software tampering and manipulation? And, on the flip side, how do we embed environmental norms into software design going forward?

More broadly, we face questions that harken back more than 50 years ago to the long-forgotten Ash Council. The council, which was tasked with recommending to then-President Richard Nixon an organizational structure for environmental protection, observed at that time that “[o]ur National Government is neither structured nor oriented to sustain a well-articulated attack on the practices which debase the air we breathe, the water we drink and the land that grows our food. Indeed, the present departmental structure for dealing with environmental protection defies effective and concerted action.”<sup>29</sup> This is perhaps an “Ash II” moment, calling into question whether existing structures and modalities are equipped to contend with, enable, harness, and lead the change that is upon us.

How should we organize the environmental protection enterprise today, and into the future, in view of the new ecosystem of drivers? The danger is that we try to execute on variations of old business models, when we need to step back, identify, and embrace new ones. This will require transformational leadership, which is in short supply.<sup>30</sup> It will also require an experimental mind-set, perhaps running many small experiments, failing fast if needed, and learning from failure—an agile and adaptive development approach done with partners in both the public and private sectors.<sup>31</sup> It is unclear who will take this on, but it might be the biggest challenge of all in shaping our environmental future.

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29. Memorandum From Roy L. Ash et al., President’s Advisory Council on Executive Organization, to the U.S. President on Federal Organization for Environmental Protection (Apr. 29, 1970).

30. The challenges of environmental leadership are described in Joanna B. Ciulla, *Environmental Leadership in Government*, in ENVIRONMENTALISM AND THE TECHNOLOGIES OF TOMORROW: SHAPING THE NEXT INDUSTRIAL REVOLUTION (Robert Olson & David Rejeski eds., Island Press 2005).

31. See Steve Blank, *Why the Lean Start-Up Changes Everything*, HARV. BUS. REV., May 2013, available at <https://hbr.org/2013/05/why-the-lean-start-up-changes-everything>.