

THE RISK POLICY MODEL

**New Thinking, New Approaches and New Frameworks about
Leadership, Decision-Making, Public Policy and Risk**

The Australian Risk Policy Institute (ARPI) is incorporated under the Australian Capital Territory *Associations (Incorporation) Act 1991* and is a nationally registered Association under the Commonwealth *Corporations Act 2001*, with offices in Canberra and Melbourne.

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Australian Risk Policy Institute

The Risk Policy Model

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Foreword

Current risk management practices have failed government and industry worldwide. Most importantly current risk management practices have failed to protect our vulnerabilities within local and international communities. We all have a stake in this and a right to be concerned.

Current risk management practices have evolved into a formalised framework that is now accepted as a standardised process approach to the management of risk. This process of risk management has largely come together with the concept of compliance management because of the regulatory nature of the current business environment. As a consequence, process has overridden leadership, decision-making, and accountability at the highest levels of firms and agencies. Simply put, it is better to have a risk process to fall back on than to face the reality of vulnerability identification, which would force leadership decision-making and action.

The Global Financial Crisis (GFC) demonstrated that both markets and governments can fail. Between them the GFC, the Deepwater Horizon oil drilling platform blow-out in the Gulf of Mexico, and the destruction at the Japanese nuclear plants in Fukushima have resulted in a loss of public confidence and trust in our leaders—of both the private sector and government. There is also a loss of confidence in our understanding of and ability to design, operate and control, whole systems to avoid failure. The financial crisis in Europe and a range of security concerns are adding further to this public tension.

The urgency for change is fundamental – it now arises because we are more interconnected and interdependent than at any time in our recorded history. This makes us vulnerable to the systems we have designed. When a system fails all connected to it are affected. This means that some people may suffer potentially catastrophic consequences. Program failures have been known to cause leaders and governments to fall unexpectedly.

In the increasingly turbulent and unpredictable world, which inherently makes the systems within society unstable, there must be policies and methodologies that enable businesses and governments to become more resilient.

The Australian Risk Policy Institute (ARPI) has developed a model for risk policy development and implementation that elevates the ownership of risk to the highest level of governance and decision making. It is applicable to all public and private organisations. Risk policy confers coherence, an integrated comprehension of risks, their identification and their consequences, as well as articulating who is responsible for attending to each activity around risk. Risk Policy authorises, informs, defines, drives, builds, maintains and accounts for the processes of Risk Governance and Risk Management within an organisation and in all systems.

Appropriate responses to society's apprehensions and mistrust require effective, high quality decision making from top leaders of governments and significant organisations within countries and internationally. We will depend upon leaders being prepared to get out front and do something. We know that waiting for someone else to act just perpetuates increasing damage to the fabric of our society, and increases the level of risk involved. The need to act now is readily apparent.

Introduction

The first decade of the 21st century brought us face-to-face with the reality that our world is confronting numerous challenges that defy simple solutions and require innovative ways of thinking about how to solve them.

In August 2010 the Australian Risk Policy Institute (ARPI) introduced its innovative Risk Policy Model. The Risk Policy Model responded to the call from the World Economic Forum (WEF) and other international groups to rethink, redesign and rebuild systems to avoid future failures.

The release of Risk Policy Model:2012 reflects global feedback from a wide variety of individuals and organisations as well as further research and development.

At the core of Risk Policy thinking are Risk Policy Principles:

1. We must view risk differently and more broadly as being about future impacts, implications and implementation of decisions and non-decisions – and not just about something which might go wrong;
2. Risk must connect with, inform and be an integral component of our highest levels of Leadership, Decision-Making and Public Policy Formulation and Implementation in society, and this must be achieved through introducing Risk Policy;
3. Risk Policy must be accepted as a new leadership and management concept which authorises, informs and accounts for Risk through Risk Governance and Risk Management processes;
4. Our thinking about Risk *and* Opportunity has to shift from organisation-centric to network-centric thinking and acting – both internally and externally - in the new world of globalisation and instant relationships – reflecting our interconnectedness and interdependencies;
5. The proper starting point from today and into the future is to think about ‘vulnerability’ – well before risks may be identified or considered;
6. We must think critically about whole systems and this means not only appreciating their socio-technical and network natures. We need to understand more fundamentally that systems represent deeper, established patterns of thought about how to see the world and make sense of it;
7. Systemic risk must be recognised as a new form of risk in today’s world. It is often the source of so-called ‘wicked’ problems. New processes must be established to manage systemic risks, with multiple owners and multiple managers often in separate organisations, through collaboration;
8. We therefore need a new way of thinking about ourselves and our proper relations to each other in regard to our systems and Systemic Risk. One way to bring this new thinking into reality involves a ‘New Civics’;
9. In our thinking about and acting upon Risk, we must embrace ‘time’. Our strategic choices about the nature and extent of possible consequences of Risk, and what action we can and should take to deal with Risk, may be directly related to the time provided

by early warning and a clear understanding at what point in time a particular Risk applies.

10. We must focus on 'outcomes'. Decisions are not outcomes: decisions require action to become outcomes. Our most important outcome is protecting critical systems from future failures which can spread like a contagion and potentially cause catastrophic damage to any other systems connected to them.
11. We have to 'measure our risks' in terms of the magnitude of the consequences if we fail to avert some threat, not in terms of the probability of the consequences, or the chance that it might not happen. Our vulnerability, not probability, has to define our Risk.
12. The power of government to regulate and co-regulate also implies an obligation that it be responsible and responsive. While government might not always succeed, the virtue is to try and say we have done our best.

ARPI is dedicated to assisting leaders to make systems more resilient through the development of sound Risk Policy, Risk Governance and Risk Management. We will subsequently issue Guidelines on Risk Policy Implementation to be followed by Risk Policy Practice Notes to inform, guide and update Risk Policy principles and their application.

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1. New Times Need New Thinking

1.1. The Case for a New Approach to Risk

Our sense of order and certainty is declining under the strain of change as it impacts from both expected and unexpected sources.

As a result, we live in a world of increasing uncertainty and disorder. Our systems are being challenged continuously as they prove to be resistant to conventional analysis, in part, because no system assumes its own failure. In addition, addressing systemic problems challenges governance structures, our skills base, and our organisational capacity.

Crucially, there is a need to know how to use the human sensing of the unknown or the unpredictable to meet new problems. Being able to discriminate between unfocused fears and genuine intuitions of what may happen is an important weapon. When systems fail, using tried and true methods to solve the ensuing problems is likely to fail. The best weapon is creative thinking or our ability to foresee, with less reliance on protocols and what has been done in the past.

Our major challenge is to make the systems within which we live and operate more resilient so our business, our economy and our society can survive and prosper.

Resilience means reducing vulnerability so that our systems are better able to deal with increased pressures from sudden shocks and the inevitable challenges from our interconnectedness and interdependence as well as our scientific and technological advances.

Resilience also means being able to make the most of opportunities which can arrive just as unexpectedly and which are often missed as a result.

Accordingly we are each faced with the potentially catastrophic implications of failure to find a way to work together to bring about the greater sense of order and certainty that is required to provide a more sustainable, safer and just world.

Competitive solutions are not likely to be sufficiently robust to meet modern demands.

Leaders therefore need to be thinking not only about collaboration, as opposed to competition, but also about forging a way ahead through new thinking and new approaches to handle future risk. (See Figure 1.)

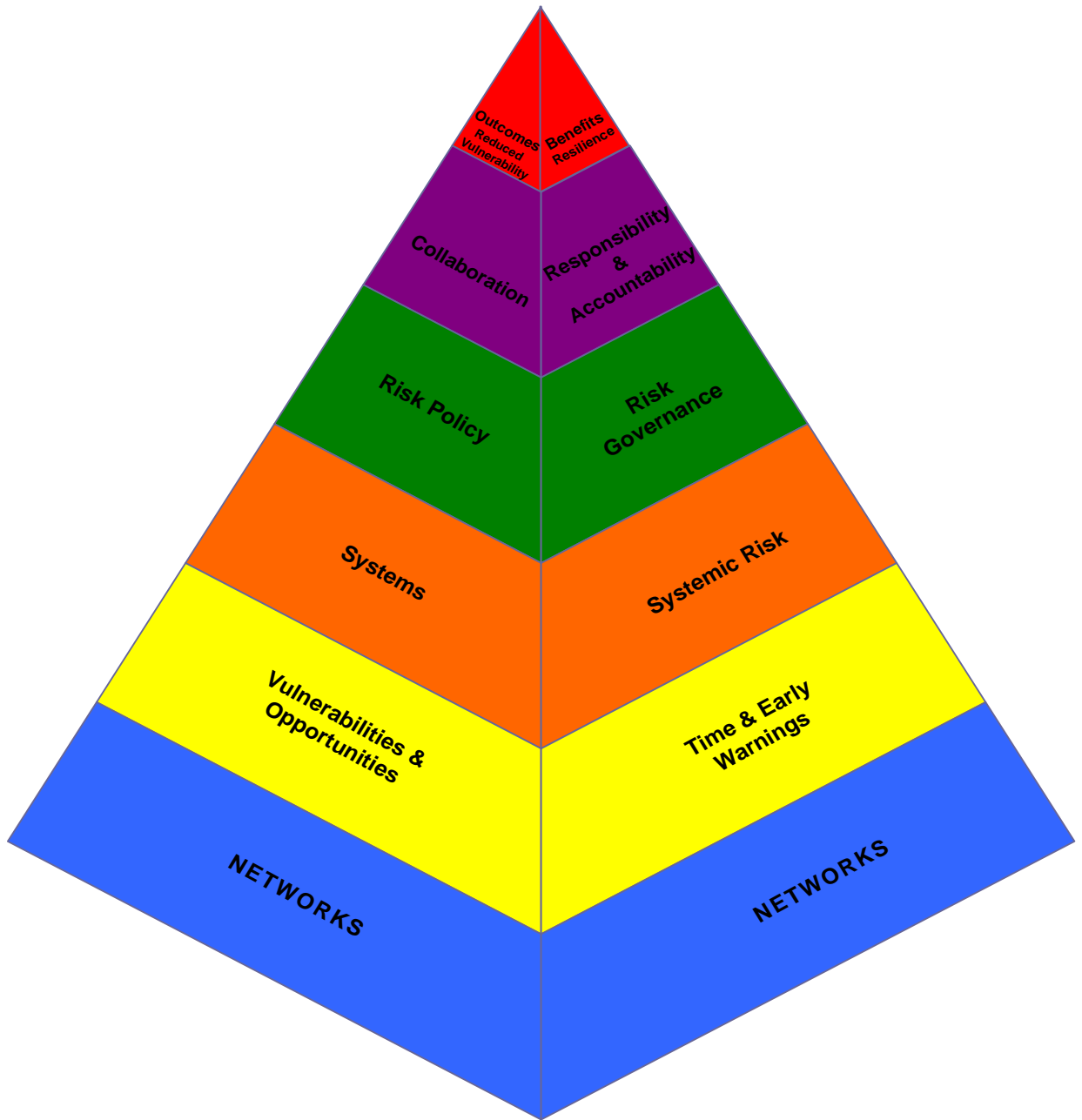


Figure 1 New Thinking, New Approaches, New Frameworks

1.2. A Sense of the Urgency to Rethink Risk and our Systems

The Global Reform Agenda¹

The WEF has stated that improving the state of the world requires catalysing global cooperation to address pressing challenges and future risks.

According to the WEF:

- we need to **rethink** business models, financial innovation and risk management;
- rethinking will trigger **redesign** whose long-term success will be predicated on the individuals and the institutions empowered to take action having the trust of the stakeholder communities; and
- decision-makers must **rebuild** trust, not only to establish the legitimacy of their redesign but also to instil confidence in their future success.

Rethinking, redesigning and rebuilding are invariably complex as values, norms and incentives change and, in turn, reshape stakeholder communities, social networks, governance structures and industry models worldwide.

1.3. A Sense of the Challenges and Opportunities

At the broadest level, human beings for the first time have taken hold not only of the economy and of population dynamics, but most of the planet's systems. However, we seem to be acting without regard to the long-term consequences.

The scale and importance of challenges and accompanying opportunities before us can be seen in a range of situations.

There are two key factors that permeate these examples:

- a) we live in a networked world underpinned by social media where all sorts of power games in pursuit of communicative impact, visibility and success take place; and
- b) the realisation that only coordinated action can treat these challenges effectively and with an attention to their interconnections. These challenges bring unusual strains to participants in large part because they are called upon to devise cooperative solutions even though the system within which they operate is often indifferent to such concerns and hostile to the transaction costs such solutions impose.

Change in Statecraft

"We are at a moment in world affairs when the essential ideas that govern statecraft must change. For five centuries it has taken the resources of a state to destroy another state: only states could muster the huge revenues, conscript the vast armies, and equip the divisions required to threaten the survival of other states. Indeed posing such threats, and meeting them, created the modern state. In such a world, every state knew that its enemy would be drawn from a small class of potential adversaries. This is no longer true, owing to advances in

¹ World Economic Forum Meeting 2010 - Executive Briefing; Improve the State of the World: Rethink, Redesign, Rebuild

international telecommunications, rapid computation, and weapons of mass destruction. The change in statecraft that will accompany these developments will be as profound as any that the State has thus far undergone." ²

Promoting Security in the Global Commons

"Over the last several years, it has become apparent that the domains facilitating all international interaction—sea, air, space, and cyberspace—are increasingly congested, contested, and complex. ... The implications of these developments are not fully understood by the U.S. national security community. Yet, there is a broad consensus that they represent both a significant challenge and a major opportunity. Therefore, if the United States is to continue its role in helping create and sustain an international system that promotes peace and prosperity, it must update strategic concepts, adapt instruments of statecraft, and develop innovative approaches to leadership in these critical domains."³

New Capitalism

"The capitalist system is under siege. In recent years, business increasingly has been viewed as a major cause of social, environmental, and economic problems. Companies are widely perceived to be prospering at the expense of the broader community.

Even worse, the more business has begun to embrace corporate responsibility, the more it has been blamed for society's failures. The legitimacy of business has fallen to levels not seen in recent history. This diminished trust leads elected officials to set policies that undermine competitiveness and sap economic growth. Business is caught in a vicious circle.

A big part of the problem lies with companies themselves, which remain trapped in an outdated approach to value creation that has emerged over the past few decades. They continue to view value creation narrowly, optimising short-term financial performance in a bubble while missing the most important customer needs and ignoring the broader influences that determine their longer-term success. The presumed trade-offs between economic efficiency and social progress has been institutionalised in decades of policy choices.

Companies must take the lead in bringing business and society back together."⁴

Rethinking Our Financial Markets

The global financial system has enabled substantial economic development over decades. The GFC in 2008 affected almost everyone. A key factor was the collapse of the underpinning risk management paradigm, including its intellectual foundations.

"This modern risk-management paradigm held sway for decades. The whole intellectual edifice, however, collapsed in the summer of last year." Alan Greenspan, former chair of the Federal Reserve⁵

The GFC abruptly ended the confidence that we had amassed in believing we could manage the associated risks successfully. The GFC continues to be a costly failure for global society. Our

² Professor Philip Bobbitt, *The Shield of Achilles*, Prologue, pg xxi, Alfred A. Knopf, New York, 2002

³ Shawn Brimley, Promoting Security in Common Domains, *The Washington Quarterly*, July 2010, pg 119

⁴ Michael Porter, The New Capitalists, *AFR BOSS*, Harvard Business Review, 2011

⁵ In testimony to the U.S. House of Representatives Committee on Oversight and Government Reform, October 23, 2008

challenge and opportunity is to fundamentally rethink our approach to risk in the global financial system in order to develop new risk policies and practices to sustain our future prosperity.

Climate Change

It is now widely accepted that the consequences of damage to the environment will have a serious impact on us all, yet there is a lack of leadership in response to this risk. Not enough is being done fast enough and the rate and scale of initiatives is not keeping up with the escalating risk. We need to do more work on revamping methods of doing business and changing consumer consumption patterns.

A U.S. National Research Council committee reiterated the pressing need for substantial action to limit the magnitude of climate change and to prepare to adapt to its impacts.

"America's response to climate change is ultimately about making choices in the face of risk. Risk management strategies must be durable enough to promote sustained progress yet sufficiently flexible to take advantage of new knowledge and technologies."⁶

Trading Systems

Transformation of our trading systems is also occurring. About one-third of world trade is not really trade; it is shipments inside the same company's value chain. In the case of China-US trade, it is about half: US companies repatriating their products to the US. Wal-Mart pushes more products back up its value chain than Australia imports from China. This trend began in the late 1980s, when Japan and the US agreed to a realignment of their currencies (the "Plaza Accord"). Japan responded by locating much of its production around South-East Asia to get around the problem of the high yen. When the yen fell a decade later, the result was the Asian financial crisis of 1998 as Japan pulled production and investment back onshore, triggering a collapse in Thailand and across South-East Asia. This was a graphic demonstration that the fate of nations was dependent on how they fitted into the value chains of global companies, and much depended on how successful they were in attracting foreign direct investment (FDI). The problem is that FDI tends to follow the biggest economies and, as China has grown dramatically, it has also sucked in massive amounts of FDI. For smaller countries the problem is not just to be effective traders, but to locate where they best fit into the global value chains.

The convergence of industries and products is redefining the economic landscape. This transformation is creating huge opportunities, in some cases major distortions within national economies and a range of new risks. The well-being of nations is increasingly dependent upon how they fit into the value chains of global companies. Much depends on how successful nations are in attracting foreign direct investment.

Political Structures

Turning to our political structures, modern life has seen power rationalised and institutionalised. Government has increasingly taken the central role; taking more and more of the decisions, in spite of the fact that the knowledge, expertise and experience needed to inform these decisions is often located well away from the centre.

⁶ William L. Chameides, Vice Chair, National Research Council committee, dean of the Nicholas School of the Environment, Duke University, Durham, N.C., 2011

As result, we seem to have reached the point where ‘nobody’ seems responsible.

With ‘nobody’ responsible, governance is failing to meet the expectations of the people and accountability seems to have all but vanished. In 2005, for example, Hurricane Katrina demonstrated the extent of government irresponsibility and lack of accountability in meeting the basic needs of the New Orleans community.

Supply Chains

“What’s the fastest growing risk type for companies? Supply chain risk is certainly a leading candidate for companies that make, move, store, service, or sell products. Left uncontrolled, supply chain risks threaten a company’s financial health and brand equity and, depending on the product and event, can have deep social and economic impacts well beyond a company’s immediate environ.

Supply chain risk is no longer an issue that ‘operations will handle.’ Supply chain disruptions and delays don’t just impact the ability to satisfy a few customers’ orders. They are likely to hurt a company’s brand reputation, stock price, working capital requirements, and cash-to-cash cycle. They can even threaten the health of consumers and the economic well-being of other participants in the supply chain. C-level executives do not want to become the next poster child for supply chain risk on the front page of the Wall Street Journal or other business publication. Lead paint in toys, contaminated pet food and pharmaceuticals, supplier delays causing missed holiday sales, or major customer order interruptions – the list of potential risks and their impacts goes on and on.”⁷

What Do Food Systems Designed for the Challenges of 21st Century Look Like?

"As world population continues to expand, projected demand for food will require agricultural and fisheries production to double over the next fifty years. This means harvesting food each year for an additional 70 million people, which is equivalent to the total food production of Australia.

To avoid a global food crisis without further damage to the environment, we need:

- Substantial reform to the operation of agricultural and natural resources sciences;
- Major injection of both national and international investment into agriculture and fisheries food production distribution and marketing;
- Reform of markets and regulations to ensure cost of food includes the costs to natural resources and environment;
- Orientate to a more market-based system of production, distribution and consumption of food.

This urgent need to give priority attention to food production, whilst maintaining the quality of the resource base from which it is produced, is perhaps one of the greatest scientific challenges ahead and certainly one that has apparently slipped from our gaze.”⁸

⁷ Tackling the Rising Supply Chain Risk Threat, Beth Enslow, Risky Business, Marsh Inc., 2009

⁸ Opening Keynote address to the National Sustainable Food Summit, Melbourne, 5-6 April, 2011 by Dr John Williams, Commissioner, Natural Resources Commission, NSW, and Member the Wentworth Group of Concerned Scientists

Deepwater Horizon and Fukushima

"In place of safety nets don't assume disasters won't happen at the frontiers of technology - presume they will.

TECHNOLOGY does not inflate like a balloon, expanding human power over nature evenly in all directions and at all scales. It grows like a sea urchin: long spines of ability radiate out towards specific needs and desires. Some of those spines now reach dizzying distances, allowing what would once have been impossible tasks; coaxing kilowatt hours by the million from the inner workings of atoms, or driving tiny oil pipes miles through the crust of the Earth. But the spines are brittle, and they stand alone. When one breaks—as happened on board the Deepwater Horizon rig in the Gulf of Mexico a year ago, or at the Fukushima Dai-ichi nuclear plant in Japan last month—there is no ameliorative technology on a par with that which has failed. Instead there is floundering; there is improvisation; and there is vast damage. What was a continuous, miraculous conduit from the depths of the Earth or the heart of the atom becomes a noxious, tangled and inaccessible mess about which, for months, nothing can be done.

There is no way to fill in the space between the spines so that they are proof against catastrophe, or easily fixable at any point of failure. But there are rules that can make it easier to cope with the failures of such brittle technologies."⁹

Sustainability - Australian Perspective

"Today I would like to talk about four longer term trends that had been strongly influencing economic outcomes in Australia before the onset of the Global Financial Crisis, and which are likely to become even more influential in the next growth period. Indeed, each of these four longer term trends is likely to have a profound impact on the Australian economy — and Australian society — for several decades to come.

As the Global Financial Crisis hit our shores, the Australian economy was in structural transition in response to four large, long term forces: (1) population ageing; (2) climate change adaptation and the prospect of climate change mitigation; (3) the information and communications technology revolution; and (4) the impact on Australia's terms-of-trade of the re-emergence, as global economic powers, of China and India.

Over the past year, the shockwaves from the global financial crisis have obscured the intensity and scale of these forces. But as growth resumes, they will re-assert themselves. And, as they do, the Australian economy will undergo a set of structural changes more profound than anything in its history.

Just how those structural changes play out depends critically on the quality of the policy settings and decisions taken today. None of the four forces I have identified need undermine economic, social or environmental sustainability. Indeed, with the right decisions, one can envisage a period of unprecedented prosperity; with less judicious decisions, however, we could experience an extended period of extreme volatility — with no growth path proving sustainable."¹⁰

⁹ Lessons from Deepwater Horizon and Fukushima, The Economist magazine, April 20th, 2011

¹⁰ Dr Ken Henry, Queensland University of Technology Business Leaders' Forum, 22 October 2009

Terror and Consent

"The Wars against Terror have begun, but it will take some time before the nature and composition of these wars are widely understood.

The objective of these wars is not the conquest of territory or the silencing of any particular ideology but rather to secure the environment necessary for states of consent and to make it impossible for our enemies to impose reduced states of terror. The source of these wars is not Islam but rather a fundamental change in the nature of the State and its evolving relationship to the new methods, purposes, and technologies of warfare."¹¹

"Almost every widely held idea we currently entertain about twenty-first century terrorism and its relationships to the wars against terror is wrong and must be thoroughly rethought."¹²

1.4. Conclusion

The new global leadership environment must be about managing risk in a wide variety of natural and man-made systems on which we depend for life. Systemic risks must be central as we consider how to move forward to build a future in which our children and theirs can prosper with confidence.

As a global society, our challenge is to rebuild faith in our ability to manage risk and thus restore public confidence and trust.

We need a new way to manage risk and opportunity in a disorderly world. Above all, it must have an emphasis on timeliness.

2. Hope for New Thinking

2.1. Crisis

A crisis of confidence in the existing world-view has to occur for a new way of thinking about the world to emerge and make sense:

"Crisis is commonly understood as a DRAMATIC AND PAINFUL deviation from a well-established norm. Reversion to the mean is, however, expected, and as soon as the old norm has been re-established, then the crisis will be over.

One may also imagine a crisis in a very different way, as the stress that accompanies the birth of a new state of affairs. In this view, the old order no longer exists but is largely destroyed as our circumstances are transformed."¹³

2.2. Paradigm Collapse

A crisis is important because it exposes how a system is understood by policy elites. That understanding is the paradigm on which the conduct of (system) policy is based. The paradigm

¹¹ Terror and Consent: The wars of the twenty-first Century, Philip Bobbitt, 2009, Published by Alfred A. Knopf 2008

¹² Ibid, pg.5

¹³ Out of Crisis: Rethinking our Financial Markets, David A. Westbrook, Paradigm Publishers, 2010, An Introduction to the Argument

is a way of looking at the world that, in its time and place, makes sense to a group of people. As such, it is also used to argue against calls for reform.

When a paradigm (world-view) collapses, there is little reason to believe that the generation of policy thinkers really know how to tackle the problems confronting them. Many of the old ways of considering these problems have been compromised, or even shown to be simply wrong.

Further, a paradigm collapse is not readily addressed publicly. Without a disciplined way of thinking about the relevant system, how are our leaders to confront the current crisis?

Something must be done but what, exactly? Absent any answers, confidence may spiral downward.

Wicked Problems, Metaphors and Human Sensing

Governments around the world are increasingly being tasked with solving complex policy problems the causes of which are difficult to identify and solve.

Indeed, some of these policy issues are so complex they have been called 'wicked' problems. The term 'wicked' in this context is used not in the sense of evil but, rather, as an issue highly resistant to resolution. Successful problem solving or managing of these so-called 'wicked' policy problems requires a reassessment of some of the traditional ways of approaching a problem. We need new metaphors and new language. We need to know how to use the human sensing of the unknown or the unpredictable to meet new problems. Being able to discriminate between unfocused fears and the genuine intuitions of what may happen is an important weapon. When systems fail, using tried and true methods to solve the ensuing problems is likely to fail.

Our best weapon is our creative thinking or ability to foresee.

That is, when dealing with these problems, we need to put more emphasis on being creative and rely less on past protocols and actions. (Risk Policy Principle: 7)

2.3. Creativity

We can substitute new thinking to replace the old ways. But creativity is unpredictable under the best of circumstances, and policy elites rarely have the skills, the inclination, the time, or the space for real thought, much less creativity. This means creativity will more likely be found outside our established bureaucracies.

3. New Thinking about Risk Policy and Systemic Risk

3.1. Australian Risk Policy Institute

Background

ARPI is a non-political and not-for-profit organisation formed in 2008 to promote and encourage greater focus on risk policy in leadership, decision-making, management and policy across all sectors in Australia and indeed globally.

ARPI was the first to formally recognise and respond to the gap in risk policy. It is the advent of a 'policy level' approach that permits 'unknown risks' to be brought under management—to wit, *by managing vulnerabilities when the risks are not yet known*.

Until this policy level was created, there was no means to raise the management of vulnerabilities above the management of risks.

ARPI's network is predicated on promoting risk policy development in the public interest. Membership of ARPI is by invitation. All are senior professionals drawn from many different disciplines.

Risk Policy Model – An Innovation

In 2009, ARPI and ScottCromwell Pty Ltd (a local Australian research and consultancy company) recognised the need for new thinking, new approaches and new institutions to address major risks and actual failures of the systems the community benefits from and relies upon. Each recognised the benefit of working together and entered into a strategic alliance to create a new and superior approach to addressing major risks to systems (Systemic Risk).

The initial result of that collaboration was the *Risk Policy Model* first released publicly in August 2010. The Risk Policy Model:2012 elaborates further ARPI's response to the call from the WEF and other international groups to rethink, redesign and rebuild systems to avoid future failures.

The Risk Policy Model will continue to evolve in response to experience as well as academic research and development.

Risk Policy Model – An Innovation with Global Value

The Risk Policy Model and its associated methodology are founded upon an original contribution to knowledge¹⁴ by ScottCromwell and risk policy developed by the ARPI. Specifically, the Risk Policy Model is based on knowledge of social networks and the manner by which their communications lead to action; it is concerned with the networks of people and organisations that are the organic links that both move information and govern action.

¹⁴ Predication Theory, Cromwell, 1982. Explains how Communication leads to and governs Action. Communication is taken to be the receivable portion of any information, and information flow is the movement of that information into, along, and out of networks.

The model focuses on networking into those who know about and understand risks and improving the time it takes to ensure that systemic risks are identified and brought under management.

While the model can be applied to all levels of business, economic, environmental and social risks, the priority for action is on really big risks—catastrophic risks.

The model explicitly recognises that senior managers almost never anticipate the major risk events that imperil their organisations, while experts nearly always are able to explain in retrospect why the disaster happened. When this happens, there is enough time for most of the major risk treatment and avoidance (or at least mitigation) action to kick in.

The time value metric means cost (both financial and non-financial) is avoided, particularly the cost of recovery from catastrophic events.

The Risk Policy Model represents a direct response to the call by the 2009 WEF for society to commit and ‘rethink, redesign and rebuild’ in order to address pressing challenges and future risks associated with economic interdependencies, governance gaps and systemic risks.

3.2. Understanding the New Thinking

Shifting the Paradigm

Our new paradigm begins with deep thinking about systems and the leveraging of networks. We benefit from and are reliant upon the systems we have created. It is this interconnectedness and interdependence on a network of organisations and institutions, as well as their supporting technical systems, which magnifies the impact when whole systems fail.

So our thinking about risk *and* opportunity has to shift from organisation-centric to **network-centric thinking and acting**. (Risk Policy Principle: 4)

Second, in a rapidly changing and increasingly disorderly world, we need a new approach to identify and assess risks. Many of the serious threats we face today seem to be of a nature and kind not seen before. So the proper starting point from today and into the future is to think about ‘**vulnerability**’. (Risk Policy Principle: 5)

Third, in our thinking about and acting upon risk, we must embrace ‘**time**’. Our strategic choices about the nature and extent of possible consequences of risk, and what action we can and should take to deal with risk, may be directly related to the time provided by early warning and a clear understanding at what point in time a particular risk applies. (Risk Policy Principle: 9)

Finally, and most importantly, we must focus on ‘**outcomes**’. Decisions are not outcomes: decisions require action to become outcomes. Our most important outcome is protecting critical systems from future failures which can spread like a contagion and potentially cause catastrophic damage to any other systems connected to them. (Risk Policy Principle: 10)

In a business sense, focusing on outcomes means identifying and managing the right risks, at the right time, to achieve the right business outcomes. This requires us to acknowledge the

success of systemic risk avoidance through good management. If we succeed, life will go smoothly and no-one will be the wiser about the impending disasters we avoided.

The Notion of Risk

One of the most critical policy problems in the world right now is developing an appropriate understanding of **the distinction between risk and vulnerability**. Recognising this distinction is important because many people cannot think past risk.

New Risk Equation

The 'New Risk Equation' has been developed in response to:

- a) the new relationship between threats and vulnerabilities, e.g. where vulnerabilities are intentionally targeted, as in risks of terrorism;
- b) the newly emerged crucial importance of vulnerabilities. For example, a vulnerability may exist for which there is currently no known threat;
- c) threats, which lie in the normal risks of managing any corporation forward, can throw up unexpected 'singular' events that go unnoticed; and,
- d) to the fact that even the 'normal' risks do not behave normally when exposed to each other: Nobel-prize winning physicist Philip Anderson published an article in Science titled "More is Different" in which he pointed out that interactions between events lead to "messy interdependence". Buchanan writes, "But Dr Anderson's point was that interactions also lead to "emergence" -- to the spontaneous appearance of features that cannot be traced to the character of individual parts."¹⁵

The New Risk Equation recognises that we have to 'measure our risks' in terms of the magnitude of the consequences if we fail to avert some threat, *not* in terms of the probability of the consequences, or the chance that it might not happen. Our vulnerability, not probability, has to define our risk. (Risk Policy Principle: 11)

The New Risk Equation states, therefore, that Risk is the concurrence of a vulnerability and a present or imminent (matching) threat. Vulnerability has to be known (that is, recognised and appreciated) either immediately the present threat is identified or within the time-to-impact of an imminent threat.

Risk is measured by the Consequences of our Vulnerability to any Threat which might exploit that Vulnerability, represented by:

$$R = V \times T$$

Our task is then to identify our vulnerabilities and weigh up the risk of experiencing consequences from new threats if we don't do something to protect those vulnerabilities.

In the old paradigm, risk was dictated by probability, the chance of some threat being successful. In the new paradigm, we dare not leave the protection of vulnerability to chance.

¹⁵ "Power Laws & the New Science of Complexity Management" by Mark Buchanan, strategy+business, Booz&Co, Spring 2004, Issue 34

The Notion of Consequence and its Analysis

The New Risk Equation enables analysis of consequences to inform decision-making. The starting point for such analysis is a correct understanding of consequence. People take consequence to mean consequence of impact. What they really mean is what's the consequence of impact *if we don't do anything?* The sentence is almost never finished.

The problem is that there is a consequence if we don't do anything and partly that helps to tell us whether we should do something. However, leadership has to address the question of preparedness, namely: 'if this happens what are we going to do?'. What would the consequences be of not preparing?

Further, the dynamic nature of risk means that an initial assessment of consequence is not sufficient. Continuous input of new information and re-checking is required. This new and re-checked information properly informs decision-making in regard to:

- a) immediate, strategic response choice(s) to the risk event;
- b) preparing for the risk event;
- c) protecting or reducing vulnerabilities; and
- d) controlling or reducing threats.

The Relationship between Opportunity, Uncertainty and Risk

We are uncertain when we don't know what is happening or might happen and/or what to do.

Uncertainty in its broadest context applies to the future in general. It does not focus on what can go wrong. It is about our future.

Opportunity lives in uncertainty, just as risk does. Opportunity is an uncertainty that could result in gain or advantage. Gain and advantage are also denizens of uncertainty because they are relative to a current state of affairs or to an opponent.

This means that opportunity is also faced with risks. The risks have to be identified early, watched, and prepared for. Opportunity also introduces a dual set of risks: not only does the organisation have to be watching for all of its identified risks and its areas of uncertainty (for new risks), it also now has to be watching for anything that threatens the new opportunity.

One of the known times of increased vulnerability of an opponent or enemy is when they are focussed on an opportunity, for at that time they will lose diligence about their established focus. Seeing opportunity therefore is a function of leadership and vision and a product of risk policy in practice. (Risk Policy Principle: 1)

The Nature of Systems

Our systems are the result of purposeful human activity. Humans create systems. The system is realised through a combination of people and technology.

The system is also a network—of people, organisations and institutions, including global organisations and institutions.

The word 'system' may be used as term-of-art that refers to an actual, true system (e.g. the characteristics and attributes of socio-technical systems defined by Fred Emery). The term can

also be used as a metaphor for some organised activity, in the same way that "machine" is used as a metaphor for organised activity.

Thinking critically about systems means not only appreciating their socio-technical and network natures. We need to understand more fundamentally that systems represent deeper, established patterns of thought about how to see the world and make sense of it. (Risk Policy Principle: 6)

Our thinking must incorporate both the social and economic parameters of our society.

Systemic Risk

The significance of Systemic Risk is that in complex adaptive systems, the consequences of failure of the system can be universal. That is, everyone and everything connected to the failed system experiences the consequences. Vulnerabilities that are identified as a result of a thorough assessment of systemic risks cannot be corralled into one 'affected area' of the system, as may be possible in cases of conventional risks.

Systemic risks may, by their nature, exist as risks inside networks. They are the risks associated with the networks of organisations, institutions and individuals that make up such systems. Essentially, network risk is not so much a different kind of risk but risk within a different kind of 'place', where 'place' is not necessarily a location.

Risk in this sense is spatial and temporal but not necessarily physical. Some networks permit risks to enter the system without proper management controls, and some networks actively exploit unmanageable 'parts' of systems for their own gain, regardless of the vulnerabilities of others.

So, if we are to understand and manage systemic risks, we have to work on whole systems. This is where and why leadership is so critical.

Working on Whole Systems

There are at least three reasons why working on whole systems may prove difficult:

- a) The challenges are new because we have a greater degree of control over our social and physical environments than has hitherto existed.
- b) Because it is difficult to assess the risks involved in changing whole systems, attempts at change are avoided. Moreover, changing systems also creates the potential to create new systemic risks.
- c) Transforming systems requires a purposeful endeavour. For such endeavours to succeed, society needs a new way of thinking about ourselves and our proper relations to each other in regard to our systems and systemic risk.

In sum, moving forward requires a new mindset about systemic risks. The new mindset is as much about networks and network-centric thinking as it is about the developing policy in which thinking about how to move forward is uppermost.

Reconciling the System-View and Organisation-View

The core issue for the organisation is how to reconcile the 'system-view' with the 'organisation-view'. The 'system-view' is akin to creating a virtual organisation and establishing risk policy and risk governance over the system. The organisations which benefit from the system then contribute to the protection of the system.

From an organisational perspective, the organisation has its own agenda, which may overlap the system agenda at the following critical points:

- a) what the organisation gains by being part of the system;
- b) what the organisation contributes (including possibly to the detriment of what it might achieve) to enable the system to avoid future failure; and
- c) who takes the lead to begin the process of bringing the 'system-view' to the table to begin the process of addressing systemic risk

The first step in the journey of the organisations connected to the system is to recognise and appreciate the value of the system.

Rethinking the Role of Government

We equally need to think through new metaphors about the role governments might play given that the public sector around the globe is transitioning to what is increasingly called the 'public purpose' sector.

The 'public purpose' sector describes a new role for the traditional public sector, as well as new ways of combining resources and expertise from other sectors, and the public, to deliver good outcomes for the community.

However, the power of government to regulate also implies an obligation that it be responsible and responsive. While government might not always succeed, the virtue is to try and say we have done our best. (Risk Policy Principle: 12)

This is certainly the case for the role of government in addressing systemic risk.

The Need for a New Civics

We need a new way of thinking about ourselves and our proper relations to each other in regard to our systems and Systemic Risk. One way to bring this new thinking into reality involves a 'New Civics'. (Risk Policy Principle: 8)

The reason we need the New Civics is to create a forum to help bring about dialogue, as between citizens and business, and between citizens and government, and between business and government. The dialogue should be about what we are doing and what we should and shouldn't be doing in regard to our systems and Systemic Risk. The 'New Civics' is for a forum for governance of the highest order.

There are a number of catalysts for such a dialogue:

- a) The growing reality that government has been captured by and reduced to politics, with citizenship being conflated to partisanship.

- b) Fear of the future. What characterises the fears of the future is an almost uniform absence of any vision for the future. Fear without a clear object of fear is not fear but rather anxiety. Anxiety is characterised by a vague sense of threat or doom, coupled with an often unceasing worry about 'not doing anything'. This leads to stress and poor decision-making under pressure.
- c) The challenge to match mankind's greater growing power over the natural environment with a more advanced ability to deal with the risks. With power comes responsibility and this entails managing risk in a more effective way than has been achieved previously.
- d) Greater clarity about moral and ethical issues if trust is to be rebuilt and risks better managed. The implications and responsibilities for actions need to be made more transparent and accountable. This accountability is not an after-the-fact-process. Rather, it is based on our mutual interest in the desired outcome and also in anticipating and avoiding catastrophe. Moreover, it means recognising the limits of our knowledge.

To manage risks better, we must develop better methods, and a more realistic and beneficial view of the future.

Knowing the risks we face in a climate of increasingly worrying global risks has partly to do with understanding potential threats. But it is even more important that we understand where we stand, and what our choices are. Much depends on having the right processes; processes for knowing what we know and what we do not know. This helps us to understand what choices are available. May we make the right decisions!

Effective, High Quality Leadership is Required to Move Forward

Appropriate responses to society's apprehensions and mistrust require effective, high-quality decision-making from top level leaders of governments and significant organisations within countries and internationally.

Personal relationships that develop among the decision-makers who lead these governments and organisations will also be critically important. Above all, we will depend upon leaders being prepared to get out front and do something. We know that waiting for someone else to act continues to cause increasing damage to the fabric of our society.

To establish accountability for the things that go wrong when uncertainty and risk can be otherwise effectively dealt with requires the following four steps:

- a) we need to recognize that 'new times require new thinking'—about Risk Policy and about the nature of Systemic Risk;
- b) we need to be prepared to question the adequacy of current policies and risk management processes and identify what needs to be done to correct deficiencies by deepening our thinking about the very notion of risk and how risk occurs in our modern systems;
- c) we need to be prepared to accept deep change in the manner by which risks are identified, and brought under management; and

d) we need effective, high quality leadership prepared to get out front and do something i.e. decide a direction and issue commands. (See Figure 2).



Figure 2 High quality leadership is required for a paradigm shift

It is only through such a paradigm shift that businesses, governments and the public can each succeed and global trust can be restored. This highlights the paradigm shift we are driving.

4. The Risk Policy Model Described

4.1. Our Notion of Risk and its Management

The Risk Policy Model describes the process by which entities can identify, address and treat risk so that the impact or consequences of the risk materialising are prevented or mitigated.

Risk is an abstract event which describes the difference between something that might happen *versus* leaving things as they are or doing something other than addressing the risk. This difference is usually expressed as a cost (in lives or materiel or missed opportunity i.e. foregone gain). That difference is stated (qualitatively) as in the difference between life or death, or projected (quantitatively) as either a probability – of one or other thing happening – or as a calculation of the difference (literally, the product, as in subtraction) between the one thing happening or leaving things be, or assuming another thing will happen. Risk ceases to be an abstraction when it materialises through the actual cost *post hoc* of its impact or consequences.

ARPI's Risk Policy Model is designed to recognise and prevent or minimise the emergence of this reality.

4.2. The Value of Risk Policy

We have a Risk Policy because we have risks. Risk Policy confers coherence, an integrated comprehension of risks, their identification, their consequences, and who is responsible for attending to each activity relating to risk.

The aim of Risk Policy is to achieve desired consequences.

If we don't have a risk policy and we have risk management (only), that could lead to having management by accident. How would we know if management has covered all the bases? How would we know that along the way they hadn't exposed us to other risks by the way they have gone about it? Only Risk Policy can address these necessary assurances.

4.3. Rationale for Elevating Risk Policy

The Risk Policy Model is anchored in the understanding that to focus on risk management is to miss the point. The targeting of 'blame' is correct, but the focus for 'correction' is to mandate risk policy and then to use official, formal, regulatory 'findings':

- a) To 'find policy to have been in error' or
- b) To 'find policy to have been silent' or
- c) To 'find policy was not implemented' or
- d) To 'find that policy was incorrectly implemented'.

In the final analysis, the argument will not be over whether the risk management *modus operandi* was correct, but rather whether the policy mandated that risk must be controlled or reported immediately if it was suspected as not being controlled.

4.4. The Focus on Vulnerability rather than Probability

Our risk policy approach is based on recognising that the core assumption of modern risk management is no longer adequate.

- a) Risk is not about balancing probabilities and costs on the basis that if something is improbable we shouldn't spend too much on hedging against it occurring.
- b) Some risks are so unthinkable the question is not about cost as such, but how to spend to reduce vulnerability.

This approach is particularly applicable when exposed vulnerabilities threaten the whole system because the consequences of system failure cannot be quarantined. All of the organisations and institutions and individuals connected to the system will be affected, sometimes with catastrophic consequences.

4.5. The Focus on Consequences and Strategic Decision-Making

From real life examples, we know that the consequences of an identified risk dictate the management of that risk. Our Predictive Risk and Early Warning discipline uses a strategic decision-making framework to help put in order the organisation's approach to any identified risk. This is because it can dictate the aim of the actions at any point in time: the aim being to prevent, to avoid, to control.

This means that as the consequences approach the catastrophic, the strategies of 'Mitigate' and 'Survive' are no longer of material value. The only strategies that make sense are 'Avoiding/Averting' or 'Preventing', each of which requires some measure of 'Predicting'.

In the final analysis, Likelihood and Consequences are not part of the same equation: one or the other has to 'govern' the calculation. This represents a fundamental paradigm shift in thinking about risk and the need to include risk policy in all future work. (Risk Policy Principle: 2)

4.6. A Whole-of-System Perspective

Our approach recognises that the true management of risk and vulnerability must come from a perspective outside of any system. This is required for two reasons:

- a) It is virtually impossible to assess the dangers to a system if the assessment accepts the premises of that system.
- b) It is vital to understand the boundaries of the system in order to assess the consequences—both human and technical—of failure of the system and to establish responsibility for the consequences.

4.7. Managing Risk in Systems

In terms of managing risks in systems, we know that:

- a) Risk lives in the networks that make up our systems and knowledge of the risks lives there as well.

- b) No single organisation has all the knowledge of vulnerabilities and threats.
- c) No single organisation has the control over 'treatment'.
- d) Any protective measures must be put in place on some multi-organisation basis.
- e) We have to work together because these potentially large risks have widespread consequences, both geographically and over a long period of time.
- f) Solutions will be implemented through networks of individuals, organisations and institutions seeking to protect systems from future failures; some solutions will require new governance arrangements capable of spanning the system.
- g) Solutions will need to be forged in the reality of human systems and networks.

Risk Identification and Assessment in Systems

Risk identification and management literature suggest a number of basic functional criteria for an effective risk intelligence system in order to provide high quality, timely, relevant information and data into the appropriate governance structure for decision-making.

The literature advocates the following:

- a) The different types of risks considered and the sources of information need to be as comprehensive as possible.
- b) The system should provide clarity about the potential causes and impacts of the risks considered.
- c) Alerts should be well-based or screened so that there is the confidence to take decisions and actions, particularly for emergency responses.
- d) The lead-time between alerts and potential events must be sufficient for the risk to be avoided or mitigated.
- e) The system should be well-documented and understood, with clear allocation of responsibilities, and provision for regular review and refinement over time.

These organisational requirements are critical to addressing systemic risk in an increasingly disorderly world.

The Predictive Risk and Early Warning discipline provides the basis for constructing a risk intelligence system. This discipline underpins the Risk Policy Model.

4.8. Job of Risk Policy

The job of Risk Policy is to make sure that:

- a) all known risks are recognized, identified and under management;
- b) all presently unknown risks are recognized and brought under management as soon as they are known; and
- c) unknown risks are proactively looked for.

4.9. Risk Policy Model and Policy Framework

The Risk Policy Model has three integrated components:

- a) Risk Policy
- b) Risk Governance
- c) Risk Management

The Risk Policy Model recognizes that these three elements may extend to the boundaries of the system and reflect the collaboration necessary to prevent systemic risks from resulting in system failure. (See Figure 3.)



Figure 3 Risk Policy Model

Risk Policy

Risk policy authorises, informs, defines, drives, builds, maintains and accounts for the processes of risk governance and risk management. (Risk Policy Principle: 3)

Risk policy resides in the domain of an organisation because it speaks to the highest level organisational purpose about risk (and in the case of addressing systemic risk the highest level of mutual interest in protecting the system) and because an organisation has the ability to enforce policy decisions.

Risk policy is, in the first instance, concerned with defining the boundaries of the system for which risks are to be identified and brought under management. The benefit of understanding the boundaries is that it opens the door to critical thinking about the way the system currently operates (at a deeper level of appreciation) and how new thinking both about the value of the system to the organisation as well as through new metaphors could improve the management of systemic risks.

Risk policy is articulated through a protection goal, clarity about the boundaries of the system, and a set of basic principles and associated guidelines which are formulated and enforced by the governing body.

The risk policy directs and limits actions in pursuit of the agreed long-term goal.

The Risk Policy Framework

The risk policy has a risk policy framework for building the capability to achieve the risk policy goal within the agreed boundaries of the system.

It must have the capability to address 'What is needed' and 'Who will do it' (authority and responsibility) in order for each step to achieve the risk policy protection goal.

The risk policy framework includes within it risk governance and risk management frameworks. It is like the framework of a house in which there are no walls or even a roof—just the frame. Risk policy, risk governance and risk management each operate within the framework, with the apex at the risk policy level.

Thus, the risk policy governance framework is a component of the risk policy framework.

It is concerned about the statutory and other responsibility for the components and activities set out in a risk policy. The risk policy governance framework is about who is responsible for each component or activity, who is in charge of each activity, and what their authority and responsibility (and liability) are, including the extent and/or extenuating circumstances of these responsibilities, authorities and liabilities.

The risk governance framework pays particular attention to risks which are outside an organisation's direct control and how these can be governed and what the limitations are and how the implementation seeks to manage the risks (e.g. by agreement, contracts, compulsion).

The risk management framework is also a component of a risk policy framework. It is concerned, among other things, with the rigour of the methodology for the risk intelligence system which provides high quality, timely, relevant information and data into the governance structure.

The risk management framework is equally concerned with the rigour of implementation and provision for regular review and refinement over time.

'Early Warnings' are an essential part of the risk intelligence function as capability to field, recognise and act on early warnings is an essential capability to be implemented. The risk management framework speaks to the need to warn in time to prepare and addresses 'Who gets Warned', under 'What circumstances', by 'Whom', and 'When', and 'How'. Where the capability needs to field early warnings from other organisations the risk management framework would address implementation of this capability.

The risk policy framework provides the guidance for the design, establishment and on-going operation of risk governance and risk management functions both within an organisation and across a network.

Risk Governance

'Risk Governance' is an assurance process. First, it operates within a network or organisation to pro-actively ensure the articulation, adoption and implementation of risk policy in an effective, robust and compliant manner. Secondly, it provides an independent review process that risk policy and risk management have operated as intended, as well as identifying continuous improvement opportunities.

Risk governance is concerned with achieving the requisite collaboration across the network of organisations and institutions that make up the system to enable risks in the system to be identified and brought under management. The design and establishment of the risk governance mechanism has to be fit for this purpose. This may entail the establishment of an entity to enable the required information sharing and co-ordinated actions.

The risk policy governance mechanism achieves the risk policy through (distributed) risk management.

Risk Management

Risk management forms part of policy, leadership and management decision-making and implementation processes to help achieve our goals, objectives and outcomes. It takes into account possible impacts and implications during the conception, design, development and implementation of decisions, including effects on stakeholders and other risks.

Risk management is also part of security and emergency planning and early warning processes in relation to identifying vulnerabilities and systemic risks, and also concerning prevention, avoidance, mitigation and indeed survival as well as network collaboration in relation to possible future events ranging from minor to catastrophic in local and global impact.

Risk management is a collaborative, distributed function operating across the system. The aim of risk management is to identify and bring risks affecting the system under management. The knowledge of risk lives in the network of organisations and institutions that make up the system.

In order for the risk management function to operate efficiently and effectively it requires a risk management methodology for identifying and assessing risks, initiating alerts and informing strategic choice decision-making and action. The supporting methodology must be

fit-for-purpose and be implemented with rigour recognising that the risks being addressed are potentially catastrophic for the system and organisation.

In sum, risk management is a process to identify and manage uncertainties to advantage.

It operates in real time within the context of risk policy and utilising risk governance to maximise the value of early warning time. (See Figure 4.)

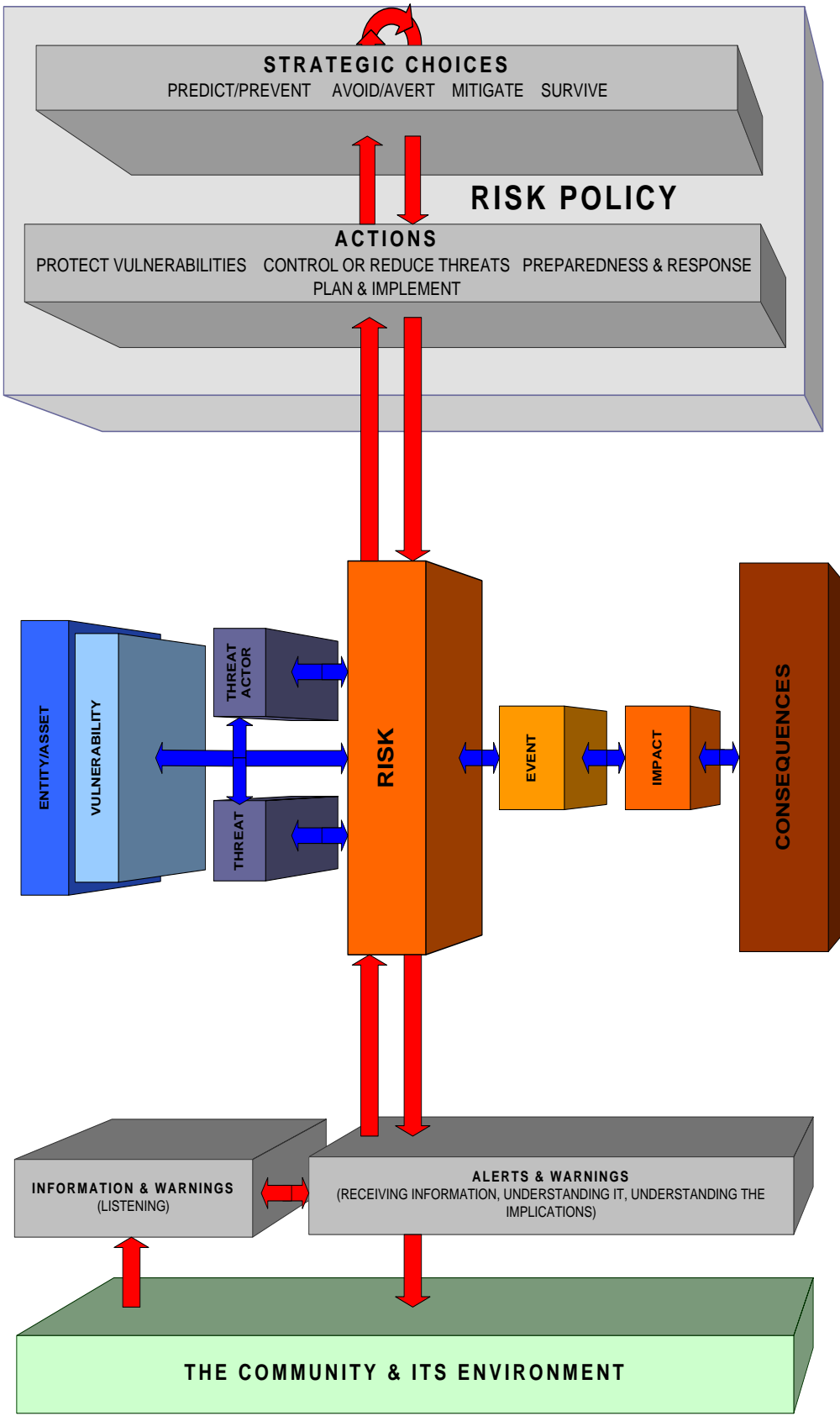


Figure 4 Risk Policy Model in Action

Summary

The Risk Policy Model is an innovation of global value responding to the need for new thinking about how to successfully address the challenge of systemic risk. At the core of Risk Policy thinking are the following propositions:

1. We have a Risk Policy because we have risks. Risk policy confers coherence, an integrated comprehension of risks, their identification, their consequences, and who is responsible for attending to each activity around risk. Protection is what risk policy speaks to and is for. Every risk policy protects something. Governance of risks is informed and guided by the risk policy and measured against fitness for purpose criteria in respect of the risk policy. Risk Management is the manner by which the Risk Governance achieves the risk policy reliant upon a rigorous framework implemented with rigor. This structure applies equally within an organisation, and within a network to its widest reaches (that is, a global network).

If we don't have a risk policy and we have risk management (only), that could lead to having management by accident. How would we know if management has covered all the bases? How would we know that along the way they hadn't exposed us to other risks by the way they have gone about it? Only risk policy can address these necessary assurances.

2. The development of an appropriate understanding of the distinction between Risk and Vulnerability is one of the most pressing and immediate policy problems in the world.
3. The true management of risk and vulnerability must come from (a view taken) outside any system. This is required for two reasons:
 - a) it is virtually impossible to assess the dangers to a system if the assessment accepts the premises of that system; and
 - b) it is vital to understand the boundaries of the system in order to assess the consequences—human, technical and environmental—of failure of the system and to establish responsibility for the consequences.
4. The core assumption of modern risk management is no longer adequate:
 - a) risk is *not* about balancing probabilities and costs on the basis that if something is improbable we shouldn't spend too much; and
 - b) some risks are so unthinkable the question is *not* cost but how to spend to reduce vulnerability.
5. Risk is based in vulnerability and concerned with consequences. The aim of risk policy is to increase the resilience of our systems.
6. Risk policy is both a journey and a destination: a science and an art. In our journey, we will start looking ahead and becoming more practiced; we will find more and more risks being notified, and dealt with more effectively; we will improve our policy through having to organise for new risks and new types of risks. We will find ourselves becoming members of a network community of discourse about risk policy, probably as the result

of being initially approached by others who are already members as we each become aware of the new mutual interest we share. This is particularly the case where the exposed vulnerabilities threaten the whole system. The consequences of such system failures cannot be quarantined; all connected to the system are affected, sometimes with catastrophic consequences.

ARPI's release of its 'Risk Policy Model:2012' provides:

1. An appreciation of crisis and paradigm collapse as these affect systems and our thinking about response to such events.
2. Deeper understanding of the new thinking about risk policy and systemic risk specifically addressing:
 - a) the notion of risk, the new risk equation, the notion of consequence and its analysis and the value of risk policy;
 - b) the relationship between opportunity, uncertainty and risk;
 - c) the nature of systems and systemic risk;
 - d) working on whole systems and managing risk in systems;
 - e) reconciliation of the system-view and organisation-view;
 - f) rethinking the role of government and the need for a 'New Civics'; and
 - g) the need for effective, high quality leadership.
3. An introduction to the conceptual innovation and critical role of risk policy, the Risk Policy Model and Risk Policy Framework. The Risk Policy Model separates Risk Policy, Risk Governance and Risk Management reflecting the reality of identifying and managing risk in systems.

Conclusion

We have identified a decline in our sense of order and certainty under the strain of change, from expected as well as unanticipated sources. We have noted the erosion of public confidence as well as the loss of trust in our ability to manage properly all the risks in our environment as a result of the GFC and other recent catastrophes.

These recent crises point to a world of interconnected and interdependent networks of organisations, governments, and institutions. Risk lives in these networks and the knowledge of these risks lives there as well. We have argued that collaboration at many levels is required to access this risk knowledge. Equally, we suggest that required solutions to improve risk management will be implemented through networks.

It is clear that management's inclination and ability to devote people and money to dealing with risks are declining at the very time when the risks are growing. The reasons for these circumstances include inherent conflicts, competition, short-term thinking and cultural issues.

Accordingly, a new way to identify and manage risks in a disorderly world is needed. This new way must also place an emphasis on timeliness. It is beyond dispute that society must be protected from system failures, and provided with assurances that the failures of risk management are being addressed.

ARPI's Risk Policy Model addresses these challenges. It provides a suitable policy framework to guide leader behaviour and enhance performance in risk governance and risk management through the rigorous implementation of its key risk policy principles.

We believe that this new response to global uncertainty provides the greatest hope, where:

- a) the ability to go forward rests in our ability to work together; and
- b) our recognition of the possibility of working together requires sharing a common future.

In order to achieve that shared future, mutuality becomes vital. We need to share each other's risks and recognise and protect each other's vulnerabilities. Our global society needs to rebuild faith in our ability to manage risk and build more sustainable, enduring systems, and so restore public confidence and trust.

ARPI's Risk Policy Model elevates risk policy and shifts risk management onto a solid footing so damaging system failures can be prevented. The key messages about risk policy are shown in Attachment A.

This Risk Policy Model:2012 will be followed by an Implementation Guideline supplemented by an Introduction to Terminology as well as Practice Notes. ARPI will also be producing a mix of master classes and other educational and networking initiatives.

Attachment A: Key Messages about Risk Policy

1. We have a risk policy because we have risks. Risk policy confers coherence, an integrated comprehension of risks, their identification, their consequences, and who is responsible for attending to each activity relating to risk.
2. Current risk management practices have failed to protect the interests of a very large number of people worldwide in government, industry and society. We simply cannot go on perpetuating these past failures.
3. We live in an increasingly uncertain and disorderly world. A new way to manage risk is needed. Above all, it must have an emphasis on timeliness.
4. Many of the serious threats we face today seem to be of a nature and kind not seen before.
5. Understanding the distinction between Risk and Vulnerability is one of the most pressing policy problems in the world right now.
6. Risk policy enables you to manage vulnerabilities when the risks are not yet known.
7. The true management of risk and vulnerability must come from (a view taken) outside any system. This is required for two reasons:
 - a) it is virtually impossible to assess the dangers to a system if the assessment accepts the premises of that system; and
 - b) it is vital to understand the boundaries of the system in order to assess the consequences—human, technical and environmental—of failure of the system and to establish responsibility for the consequences.
8. The core assumption of modern risk management is no longer adequate:
 - a) risk is *not* about balancing probabilities and costs on the basis that if something is improbable we shouldn't spend too much; and
 - b) some risks are so unthinkable the question is *not* cost but how to spend to reduce vulnerability.
9. Likelihood and consequences cannot be in the same formula: one or the other has to 'govern' the calculation. This represents a fundamental paradigm shift in thinking about risk and the need to include risk policy in all future work.
10. Risk is based in vulnerability and concerned with consequences. The aim of risk policy is to increase the resilience of our systems.
11. The time value metric of risk policy is avoided cost (both financial and non-financial), particularly the cost of recovery from catastrophic events.
12. One of the primary catalysts (for a new way of thinking about ourselves and our proper relationships to each other) is the growing reality that government has been captured and thence reduced to politics, and citizenship has been conflicted with partisanship.

13. What characterises the fears of the future is an almost uniform absence of any vision for the future.
14. Policy elites rarely have the skills, the inclination, the time, or the space for real thought, much less creativity. Such creativity will more likely be found outside our established bureaucracies.
15. The best weapon (we have) is our creative thinking or people's ability to foresee.
16. Risk policy is both a journey and a destination: a science and an art.



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