

## **Enhancing Australia's Security & Prosperity in the 21<sup>st</sup> Century**

### **Executive Summary of Australia 21 Roundtable: March 7, 2006 in Sydney**

This research network has begun by examining the threats, broadly defined, to Australia's security & prosperity. Such threats range from climate change to a pandemic, and from failed states in our region to nuclear terror.

Governments make expenditure decisions daily to counter perceived threats, with no means of assessing or comparing threats, and no means of subsequently assessing the effectiveness of the funding in mitigating or responding to the threat. Governments need a metric, a measure, by which to assess what has been accomplished by that expenditure.

The potential to make a contribution here is huge because the level of analysis is so basic.

We need a methodology to assess and compare threats. At the end of the day we need to have some process whereby we can say *this* is more important than *that*.

We need a common language in which to speak about threats and a common currency in which to assess them.

We have to develop a language and a taxonomy about threats that empowers the whole of Australia, not just decision-makers sitting in cabinet or in government or corporate departments. We want to develop a handbook for policy makers to use in making resource allocation decisions and ignite a broader public debate on security and prosperity issues.

Finally, Australia should make an inventory of our systems' capacity to respond to crises and threats.

### **Interdependency of Threats**

One of the challenges of threat analysis is the complex interdependence of so many issues. Avian flu is now spreading in Africa. The combination of inadequate health care systems and poverty will ensure its spread will be rapid and far reaching. This poses a direct threat to Australia.

Likewise failed states in our region pose a threat to Australia as they serve as a haven for drug runners, people smugglers, terrorists and money launderers and promote the spread of disease and the like. Climate obviously affects the environment, profoundly, but it also affects the flow of refugees, energy security, and other things. The linkages are critical.

We need to recognize that the threats that now face us are multiple and interdependent. An examination of the way think tanks around the world confront these problems has identified a tendency to address each threat as a single entity. Very few institutions are looking at the interactions between threats and looking at them in combinations of two or more. We need to adopt tools which help us to talk in these dimensions. The capacity of

the human mind to think in this way is constrained but to make real sense of threats we need to be able to cope with their interdependency.

Our current institutional inadequacy compounds these difficulties. The interdependence of threats requires an interdisciplinary and interdepartmental response. One can no longer look at health, climate, economic or other issues through one lens. Yet our universities and our governments still primarily work in silos and are poor at collaborating across discipline and department boundaries. Indeed, notwithstanding the findings that most think tanks fail to deal adequately, or at all, with the interdependence of threats, it was felt that think tanks were still more likely to be able to do this than government departments or other public bodies, such as the Productivity Commission.

Yet, for governments, threat is primarily evaluated not in terms of consequences for either people or the economy but in terms of accountability, i.e. who will bear the responsibility should a threat materialize and who should respond to it.

### **Conventional Defence Forces**

The emphasis on sovereignty is a 19th-century but nonetheless important one because it impacts on the ability of a State to act for the benefit of its people. That is why such a large amount of money is spent on conventional defence. It's not so much to avert casualties but to ensure the continued capacity of the nation state to do what it was intended to do for its citizens.

### **A Possible Framework for Consideration of the Concept of Threats**

A diagram was developed on the whiteboard. It provided a space for interventions and responses to threats and was bounded by a rectangular frame with four “edges” labelled “systems”, “consequences”, “people” and “categories of threat”.

- The systems are economic, political, cultural, social and demographic
- The consequences are morbidity, mortality and financial
- The people are individuals, communities, nations and the whole planet.
- The categories are financial, environmental, force and criminal

A number of participants thought the diagram was an excellent summation of much of the conventional thinking on this topic.

### **The Threats Most Likely to Confront Australia within the Next 15 Years**

(Each participant listed the five threats they thought most likely to challenge Australian in the next 15 years. This list represents the aggregation of their responses).

- Pandemic of infectious disease (12 votes)
- Sudden climate change (11 votes)
- Acute crisis in China with knock on effects. (6 votes).
- Progressive turbulence triggered by US economic collapse and and/or growing U.S. militarism (5 votes)

- Middle Eastern conflict. (5 votes).
- Crisis in energy security. (4 votes)
- Biochemical or nuclear terrorism. (4 votes)
- Nuclear weapon use (3 votes).
- Confrontation between ethnic and religious blocs (2 votes)
- Major international war. (2 votes)
- Australian social dislocation view to heightening ethnic difficulties. (2 votes).
- Nuclear weapon proliferation. (2 votes)
- Russian societal collapse and (1 vote).
- Serious infrastructure failure in elderly care or transport (1 vote).
- Total disappearance Australian manufacturing sector (1 vote).
- Inability to deal with unpredictability (1 vote).
- East Asian conflict. (1 vote)

### **Gravity and Probability of 10 Top Threats Facing Australia in the Next 15 years**

(This table allocates likely gravity and probability weightings to the principal threats identified above – again a summation of views of the participants).

| <b>Threat</b>  | <b>Gravity</b> | <b>Probability</b> |
|--|----------------|--------------------|
| 1. Sudden climate change.                                | High           | Low*               |
| 2. Pandemic.   | Medium to high | High               |
| 3. Chinese economic crisis.                              | High           | Low                |
| 4. Domestic social dislocation.                          | Low            | Low                |
| 5. Global economic turbulence.                           | High           | Medium             |
| 6. Crisis in energy security (Middle East).              | Medium to high | High               |
| 7. Nuclear or biochemical terrorism.                     | High           | Low                |
| 8. Major war/nuclear weapon use.                         | High           | Low                |
| 9. Infrastructure failure: transport, health, education. | Medium         | Medium             |
| 10. Economic structural inflexibility.                   | Low            | Low                |

\* The low probability shown here, referred specifically to rapid and dramatic climate change within the next 15 years. The group recognized that substantial costs and problems are already arising from incremental climate change and that these will only increase.

## **The Future**

The future will surprise us. We just don't know how.

In the next 25 years, Australians will almost certainly die from a pandemic, we just don't know when or from what disease.

In the next 25 years, there will be economic crises, but we don't know where, when and of what kind.

We like to think that we live in a world of linear change and predictability. But we don't. Our world, increasingly, is one of rapid and massive change and discontinuities.

Nonetheless there is much we can do to prepare for the world we actually live in, rather than the one we like to think we live in. These steps include:

- a. Develop a threat assessment methodology – move the analysis and the debate away from emotion and towards a reliance on data.
- b. Start to forecast the forecastable. We do a poor job of this, largely because of the silos of government and university departments. We need to develop a system to identify and test the work that will help us to predict the way our system evolves and threats appear. We need to start this process to avoid living in a dream world.
- c. Build resilience into our economy, systems and society.

## **Building Resilience into Australia's Economy and Society**

Ways to enhance Australia's resilience include:

- Further investment in education, tertiary and technical, and especially in the liberal arts, sciences, and Asian languages and cultures. In our schools and universities far less learning about our region is happening than it was 10 or even 20 years ago.
- Enhancing public understanding of the challenges facing Australia -- elevating the discourse in the media and the community. Getting a wider set of questions into the public domain is very important and broad debate at the public level is absolutely vital. Governments, globally, have become more adept at responding to public pressure (and perhaps less adept at really leading) and thus, for this and other reasons, the public domain matters more than ever.
- Further investment in health care systems especially in the type of capacity that can cope with crises, from terrorism to pandemics. Britain has been building this capacity for years which minimized casualties from London's bombings. (At present Australia is decreasing this capacity). Responsive systems often address many threats, preventative systems usually seek to prevent only one.

- Revitalising parliamentary democracy, the public service and civil society.
- Redefining our culture – what is Australian? A viable Australian identity including the issue of "multiculturalism" will assist the national debate and promote the resilience of our culture
- Improving public ethical standards.
- Enhancing research funding for think tanks.
- Building and harnessing technological solutions.
- Rebuilding the concept of the public good.
- Re-engagement as a good international citizen, including participation in most international fora, renewal of regional diplomatic relationships, increasing international development aid; revitalizing regional economic initiatives; and involvement in nuclear disarmament and climate change initiatives.
- Major early interventions for all children (not just the disadvantaged).
- Building resilience into the design of transport infrastructure and the design of our cities. For instance, decentralization may well increase the resilience of our cities: making our cities more like LA and less like New York.
- Enhancing infrastructure R & D
- Building networks to respond to and manage threats.
- Creating more advanced financial products and markets.
- Increasing conductivity across the entire economy.
- Building national strategy capacity by reaching out.
- Improving consequence management capacity.
- Re-empowering thinking Australians and creating a third force in political action.
- Developing alternative liquid fuels.
- Building a full nuclear fuel cycle in Australia.

## **Wicked Problems and Complex Systems Science**

“Complex systems science” has, in the last 10 years, organized itself into a new discipline. It enables the addressing of what are called “wicked problems” which are big, murky and poorly understood. This started in biology and has moved into other natural sciences and even into the social sciences. It works particularly on issues where there are tipping points, non linearity and failure of resilience. Threats have all the characteristics of wicked problems. They are global and interactive. None can be treated as discrete entities. All need to be seen in a larger framework. A lot of these nonlinearities make the world very difficult and yet we need to make the world adaptive and resilient.

In the last 10 years the technical capacity to represent complex systems in a way that is comprehensible to lay people without loss of technical validity has been developed. Human behaviour can be analysed with fairly standard tools and various complex systems joined together. Biological, physical, economic and social systems can be joined into one system and analyzed rigorously. It is now possible to go beyond narrative and qualitative descriptions of what is coming and arrive at analogues of prediction. One cannot predict the behaviour of these systems because they are not predictable, but one can get analogues of prediction.

These interactions can now be made visual very effectively using pictures and diagrams. The visualizations can be interactive so that the public can participate. All the technical detail can be in the back of the model. And simple questions can be put to the model, such as, “if we all changed our behaviour in this respect, what would the outcome look like?” These kinds of tools are now part of a community of practice. There are academic research groups in Australia working on such methods: one in the CSIRO, one in ASTO, one in Queensland, one in Melbourne, and one at ANU. There is the capacity in Australia now to develop highly useful complex systems models in the field we are discussing today.

## **Conclusion**

Our research network is engaged in building critical national infrastructure. Australia has of late under-invested in physical infrastructure. But it has under-invested even more profoundly in intellectual infrastructure of the kind that will underpin the living standards and security of our children and of their children’s children.

Many organizations and corporations are no doubt already engaged in such work. Certainly Shell and BP have done so, to great effect. We are really only saying that what is good enough for Shell and BP is good enough for Australia.

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