

# Disarmament & Consequences

*~ Can Britain Remain Aloof?*



The South China Sea – Harmony or Confrontation?

***‘History is littered with the wars everyone knew would never happen.’***

Enoch Powell

***‘The hand of the aggressor is stayed by strength – and strength alone.’***

General Dwight D Eisenhower

In an address to the English Speaking Union, 3 July 1951

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The views expressed in this paper are those of the authors,  
and not necessarily those of the UKNDA.

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## Foreword

**By Andrew Roberts**

Nothing can ruin a British statesman's reputation quicker or more completely than being suspected of having neglected the nation's defences. The witness of our political history is testament to this so often as to make it a truism. Yet still British Governments slice defence budgets through the muscle right down to the bone, despite the possible future danger to their own legacies. The fact that they could escape this threat to their own reputations simply by spending a mere 1% of GDP more on defence seems not to have occurred to them. These two excellent papers by the UKNDA are no Cassandra-like warning, rather they are a whisper in the ear of the decision-makers, made more in sorrow than anger, a final plea to them to save their own reputations whilst yet there is time.

In his day, Stanley Baldwin was considered one of the most adroit politicians of the post-Victorian era. The man who steered Britain through the General Strike and the Empire through the Abdication Crisis finally resigned in May 1937 after three premierships to paeans of praise from both sides of the parliamentary aisle. Yet only three years later he was a 'Guilty Man', whose constant paring down of the defence budget in the interwar years was rightly seen as leaving Britain woefully under-armed when the war broke out. He died a broken and widely-reviled man, whose many great political achievements were largely forgotten because of his failures over defence.

Lord Aberdeen was forced to resign during the Crimean War due to defence failures; William Gladstone lost the premiership in 1885 after the death of General Gordon; Herbert Asquith was forced to resign during the Great War over a perceived lack of grip over defence; Neville Chamberlain was brought down in May 1940 after a debate over the defeat in Norway. How many more times do British politicians need to be reminded that however well they do in the areas of financial retrenchment (Gladstone) or old age pensions (Asquith) or public health and municipal reform (Chamberlain), they will never be forgiven if they fail the nation over matters of defence?

This paper and its companion have not been written in the spirit of the Fat Boy in *The Pickwick Papers* who 'wants to make yer flesh creep'. Rather they include perfectly believable scenarios drawn up by some of Britain's most distinguished generals, admirals, air chief marshals and military commentators showing why

Britain needs to have a larger defence establishment than is presently posited in the Coalition's plans. Readers can choose for themselves which scenarios they feel more or less likely to take place over the next 15 years or so, but can any single one of us truly say that they don't believe that one could? Yet the armed services that we will be left with once the Coalition's plans go through will simply not be large and credible enough to deal with such a situation, even if we are fortunate enough that they come singly, rather than in multiples, as is often the way with international crises, especially where weakness is perceived by antagonists.

Lord Salisbury - whose own defence policy was always to envisage the worst possible scenario and then ensure the British Empire had the wherewithal to meet it - used to say that the four cruelest words in the British tongue were 'I told you so.' This paper leaves the UKNDA in a prime position to unleash that phrase should any of these scenarios materialize with Britain unable to respond powerfully. Needless to say, none of its authors want to indulge in such scapegoating, but the fact is that the British Parliament, media and people will castigate severely those whom it holds responsible for leaving us open to embarrassment and humiliation. The most mortifying moment in recent international affairs arose during the Brown premiership in March 2007 when Iran kidnapped a detachment of Naval personnel from HMS Cornwall. Does anyone imagine that such shame and disgrace would have been visited upon the United Kingdom had the Royal Navy not by then been sliced back to little more than a home waters defence flotilla?

Reducing the amount spent on defence as a percentage of GDP by almost one-half since 1991 might have been understandable had a New World Order genuinely emerged from the ashes of Western Communism, one that justified that most chimerical of Nineties concepts, the 'peace dividend'. Instead the world has become a place of multifarious threats - rather than a single huge one - with the result that the British armed forces have been busier than ever, only with just over half the resources of 1991. Politicians who wriggle and squirm when having to justify cuts to social programmes, disability benefits, and the multifarious entitlement programmes that go to make up our ever-increasingly-ravenous Welfare State, nonetheless happily slice back the armed services, knowing that the senior officers will not leak state secrets and the non-commissioned servicemen and women have no trade unions and cannot (and would not) go on strike.

It seems astonishing that politicians themselves should not want a stronger military, as that and only that gives them a voice worth listening to in the councils of the world. Britain is an active participant in - and indeed often a founder member of -

the United Nations, NATO, the Commonwealth, the G7, the European Union, the G20, the World Trade Organization, OECD, OES, and the Special Relationship, yet British politicians are increasingly being sent 'naked into the Conference chamber', in Aneurin Bevan's crushing rejoinder to the unilateralists at the 1957 Labour Party conference. Why do they themselves not revolt over this? Answering the questions posed in this paper might just begin this revolution.

Even if our politicians wanted Britain simply to become another Holland or Belgium, our insular geographical position precludes this. If our overseas trade routes were ever seriously disrupted, let alone cut off, we would starve very quickly, as the Chiefs of Staff assessed at a time when more of the country was under cultivation than today and the numbers of mouths to feed far smaller. Simply becoming a social democratic fourth-rate power is not an honourable position for a post-imperial power like Britain with global responsibilities and trading interests.

Further disarmament on the scale to which the Coalition is proposing - 20% of the infantry, 14% of the Royal Navy; 13% of the RAF - might possibly be justifiable if the rest of the world was disarming too, although even then it would require caution and the minimization of risk. Yet in fact the exact opposite is the case. Russia is building aircraft carriers; what on earth does a country with such little overseas trade need them for? China is sabre-rattling in the South China Seas and building a drone force of terrifying capability (as well as launching cyber-attacks against us every single week of the year). Iran is building a nuclear bomb and thereafter will develop the capability to deliver it deep into Europe, to name but three foes of democracy in general, and potential foes of Britain in particular.

The only rational thing to do under these increasingly perilous circumstances is look to the oft-repeated lessons of history, as well as to the politicians' own reputational best interests, and halt the potentially disastrous disarmament programme as presently envisaged. Any other course would be illogical, dangerous and ultimately self-defeating. A loyal Tory to the marrow of my being, I do not want the present Cabinet to be arraigned at the bar of public opinion as tomorrow's Guilty Men. For on present showing, on issues ranging from aircraft carriers to Hawker Harriers, they would be found culpable. Even though individually each Conservative minister is as patriotic and well-meaning as any of the authors of these papers, together they have been corralled by the Treasury just as Stanley Baldwin's Cabinet was.

It is not too late: Stop the defence cuts.

*Andrew Roberts*

## Executive Summary

We live in a highly unpredictable world: Libya, Egypt and now Syria, all caught us unawares - no doubt, there are many surprises soon to come. Yet against all this uncertainty we are reducing our Armed Forces, often to the point of tokenism or absurdity.

Some global 'drivers' we can reasonably predict. World populations are rising, perhaps by as much as 50% over the next 40 years, and within this is a growing middle class, earnest for consumer products. Increasing demand will strain the world's capacity, and there is very likely to be severe competition for resources, from water and food to energy and minerals. This toxic mix is an ideal breeding ground for extremism. Also, against a backdrop of European retrenchment, are the rise of China as a global power, a re-focusing of US defences, a resurgent Russia, an expansive India, and an Arab Spring whose revolution has yet to play out.

In this paper we consider a number of entirely hypothetical scenarios, each based on the situation today, and developed to the first stage of a crisis. For each we assess how British Forces might meet the challenges and then measure up. Of course, in such an uncertain world, the actual challenges may be very different from those considered, but each scenario is entirely possible and many readers have suggested crises that could be far worse.

The scenarios chosen (highlighted in **red**) are: a confrontation with President Putin's Russia; a widespread humanitarian crisis in sub-Saharan Africa; a piracy incident; crises in the Middle East; a conflict between India and Pakistan; a confrontation with China; the Falklands; and a more global scenario set in 2025, with European forces yet further reduced and an ambivalent America.

In every case, one is left with the uncomfortable feeling that we in Britain are poorly placed, either too weak to do much, or so far down the pecking order that all we can do is react, no longer able to seize the initiative.

Sadly, far from deterring by being strong and resolute, Britain will most probably have to fight more often by being perceived as weak and irresolute. Surely this is a worrying impression and one that Government will be at pains to rectify?

## Introduction

The Gulf War of 1990/1 marked a high-point in Western military capability: in concepts, practice, weaponry, and effectiveness. Never before – or since – has the West had such an advantage over its enemies. However in its wake, and driven mainly by budgetary decisions, military forces in Britain have been halved – perhaps in the belief that war has changed, that there is no direct threat, or maybe just that modern conflicts are someone else’s problem.

Many worthy international organizations are already analyzing the potential socio-economic crises of the next 50 years with ever more strident calls to governments to take action now to head-off all the anticipated problems. Sadly, based on past experience, few of these calls for action are likely to be heeded, or successful, and it falls to independent analysts to consider the consequences – what if the crises lead to calamity, conflict and even war.

Of course, the actual risks the UK will face over the next few decades may be quite different from those expected. Indeed, none of the recent conflicts that UK forces were committed to were anticipated or resourced, and all the forces actually deployed had to be diverted from other tasks.

This uncertainty is emphasised by Lord Browne:

*‘Giving up the illusion that you can predict the future is a very liberating moment. All you can do is give yourself the capacity to respond to the only certainty in life – which is uncertainty. The creation of that capability is the purpose of strategy.’<sup>1</sup>*

While strategy cannot just be a series of contingency options, contingency planning does allow us to prepare generically for a range of options.

We should be minded of 3 principles:

*Planning to meet a particular threat often negates or deters that threat, prompting an enemy to search for an alternative, one that is unforeseen.*

*The threats that materialize will, therefore, mostly be unanticipated.*

*Although a particular plan may seem to be worthless, the planning is everything.*

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<sup>1</sup> Lord Browne, former Group Chief Executive of BP, speech at Bradford University 23 Nov 2001.

This short paper raises a number of questions about the UK's preparation to meet future challenges. Given the multiplicity of risks – few of which we will anticipate – what, if any, should be the UK's strategy? What factors beyond our control will most affect the future world events? What direct risks might thus materialize, for which we ought to be prepared, and what might be the consequences of inadequate preparation or inaction?

**In red we follow a number of feasible scenarios that could impact significantly on the security of the UK, and suggest some possible unwelcome consequences of our current weakened posture. The scenarios suggest we would indeed be inadequately prepared, as most would be categorized in the lowest (unfunded) Tier of the British National Security Strategy of 2010. This paper is not an attempt to predict history; that would be foolish. It is, however, an attempt to consider a range of challenges to see how we measure up.**

If the paper does nothing else, it will, at least alert readers to the uncomfortable range of threats that confront us now and in the immediate future. In reality, the events examined could come at almost any time; however, to give them salience and context, in this paper each is set in a particular time frame, triggered by a specific event. Of course, were they to occur for real, different circumstances might spark them off at a very different time, or in a very different way. Worse, they could even occur in quick succession as leaders took advantage of Britain's discomfiture.

## Strategy

The founding principle of geopolitics is that place – geography – plays a significant role in determining how nations will behave<sup>2</sup>. It means that nations, fixed in their location, have enduring grand strategies. For the USA this has meant a Grand Strategy that is both Atlanticist and Pacific. However, with current financial constraints, the US has had to choose. What are the implications for us of this choice, and is the Parliamentary Joint Committee right in asserting:

*'... We are concerned in particular by the Government's failure to respond adequately to our concerns about the implications of the new US strategy document 'Sustaining US Global Leadership', where the Government*

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<sup>2</sup> The Geopolitics of Israel: Biblical and Modern, STRATFOR, 14 May 2011.

*sought to downplay what appears to be a long-term strategic shift by the USA towards the Pacific'?<sup>3</sup>*

In the 19th and early 20th Centuries UK strategic debate turned on whether Britain should adopt a Continental or a Maritime strategy. Now it appears, from virtually all learned commentaries, and any objective analysis of the facts, that we have no stated overarching strategy; British strategy is thus characterized by drift, and reaction to the last known crisis. We comment further on this myopia in our companion paper, *'A National Debate On Defence - A Dire Necessity'*.

If strategy must prepare for uncertainty, then it makes sense to seek to deter; to prevent by being strong, rather than, reactively, to fight - and perhaps lose - by being weak. Only thorough preparation and adequate resourcing can provide sufficient deterrence to be successful. However, to be realistic a strategy must have its feet firmly on the ground, and try to reflect the inescapable shifts and changes in this world over the next 50 years - the 'Drivers'.

## Drivers

*Massive geopolitical shifts seldom announce themselves with a bang. They tend instead to creep up slowly, until it's hard to be sure exactly when they began.<sup>4</sup>*

Barring collision with another asteroid, or some extreme natural phenomenon, of all the drivers that shape the progress of this world - ecology, religion, political movements (fascism, communism) etc,- the fundamental strategic determinant for at least the next 50 years will be the changing population, in numbers, distribution and aspiration (see Annex A).

At its most basic level, global and regional demographics fuel demands for everything else, for raw materials (see Annex B), for food and energy (Annex C), even for *'lebensraum'*. In turn, such demands offer the rationale for political changes, the pretext for religious expansion and even a sense of thwarted aspiration. These movements then offer opportunities for warlords, tyrants and others to ensure 'our fair share of the cake'.

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<sup>3</sup> House of Lords and House of Commons Joint Committee on the National Security Strategy, First Report of Session 2012-2013.

<sup>4</sup> Dambisa Moyo, The Guardian 24 Jun 2012.

In her book *Winner Take All*<sup>5</sup>, Dambisa Moyo identified four critical constraints that determine the Earth's carrying capacity:

## Global Supply Constraints

### Four Key Commodity Classes

Land	<ul style="list-style-type: none"><li>• Only 11% of land is arable; every two football fields of arable land must support five people</li></ul>
Water	<ul style="list-style-type: none"><li>• 70% of the Earth is water, but only 0.007% is fresh and easily accessible</li></ul>
Energy	<ul style="list-style-type: none"><li>• Global demand for energy increased by almost a third over the past decade, but new oil discoveries continue to decline</li></ul>
Minerals	<ul style="list-style-type: none"><li>• Serious supply constraints expected for copper, coal, and tin.</li></ul>

Issues such as these prompt concerns about countries' ability to support such population growth, raising the possibility of mass starvation that, given the burgeoning global population, promise to be far worse than the famines of the 20th Century. And, faced with famine, experience suggests that young males 'take what they can while the weak accept what they must'<sup>6</sup>. Most worryingly, '...Some analysts of conflict have found a statistical link between youth bulges and the incidence of intra- or inter-state violent conflict, both in the more distant past, and in the latter half of the 20th century.'<sup>7</sup> Others dispute this link but there is little doubt that swollen cohorts of youth pose a huge challenge, with probable high unemployment and blighted aspirations. These cohorts provide ideal breeding grounds for extremism.

<sup>5</sup> *Winner Take All*, Dambisa Moyo, pub by Allen Lane 2012

<sup>6</sup> Peloponnesian War, Thucydides

<sup>7</sup> *People and the Planet*, Royal Society, Apr 2012. Sir John Sulston FRS, et al.

## Effects

The run-down in European armed force levels, particularly those in Britain, and the refocusing of US strategy on the Pacific Area, mean that Western Europe is far weaker than it was 20 years ago. This coupled with the rise in power of the Asian giants, the potential re-emergence of Russia as a global power and the expansion of new economies in, for example, the BRIC grouping mean that Europe is no longer at the centre of events; it largely responds to them.

Although China's population has stabilized, if she is to meet her people's demands she will have to be aggressive in providing employment. This requires her to secure raw material supplies, such as Rare Earths (see Annex B) - through an increasing economic presence across Africa and elsewhere - and expand her (eg electronics) industry in a way to guarantee continued growth. Although her current growth has fallen to 7.6%, even at that rate, her raw material import requirement will double by 2025 and then double again by 2051. China's voracious appetite will be difficult to satisfy, and nations will have to realize that Chinese aid programmes are primarily for national economic, not altruistic, reasons.

Meanwhile, across the Himalayas, an expansive India will need to satisfy her burgeoning population and flex her muscles, regionally at least. A rapidly expanding middle class, here and across the globe, will also drive up demand for finished goods, precipitating ever tightening global competition for resources.

African populations will rise quickly. A lucky few will find employment, perhaps with the Chinese entrepreneurs that are spreading across the continent. However, many of the young will have to migrate, fight or starve.

As energy demand increases and even though supplies diversify, costs are likely to rise placing it beyond the reach of many, with wild fluctuations whenever there are perceived shortages. Though 'fracking' (See Annex D) holds the potential for breaking our dependence on the Middle East, ecological concerns could delay exploitation and prove problematic. A few suppliers will inevitably become very rich whilst many consumers will go without. The scene is thus set for a volatile and explosive mixture of events.

This paper now examines a number of hypothetical scenarios to see how British attitudes, policies and, ultimately, her current Forces measure up. If we and our European allies are already in danger of becoming a backwater, then failure to act effectively in dealing with such scenarios will hasten our decline into global irrelevance.

## Scenarios

### Cascade

No simple world event occurs in isolation and there is always the risk of spillover or cascade effects. For example, the collapse of the Gaddafi regime released a large number of Malian/Tuareg mercenaries that returned penniless to Mali where they are progressively destabilizing the Sahel.

In addition, one country's misfortune is often exploited by others, perhaps the most blatant example being the Soviet opportunism in taking Eastern Poland thanks to the Nazi attack (the 'gathering of the jackals' scenario). Alternatively, a confrontation involving just 2 states often unexpectedly embroils far more - eg, the seemingly localized 1914 Sarajevo assassination that slowly but surely swept up the whole of Europe.

### Preparedness

Descent into global conflict might take as little as 5 years (1934<sup>8</sup>-1939) or even less (1913-1914). Warning and preparation times may therefore be short. Since it takes 20 years to design and deploy a new weapon system, a 'come as you are' posture is likely to be the only one possible. This places an obvious premium on ensuring that one has the right equipment, capabilities and training in the first place. A number of nations, whose ambitions may well conflict with ours, seem to have this message already, and their forces are modernizing quickly; in this light, is this the time for us to be reducing our armed forces? We ask you now to imagine the following hypothetical scenarios. Are they imaginary? Maybe, but far from impossible. In black are the facts - they are worrying enough; **in red the hypothetical developments, the scenarios**. And these have only been progressed to the first stage, beyond that it is for the reader to speculate... Even so, do we measure up?

## Risks

### Europe and NATO

NATO's withdrawal from Afghanistan, together with the US' new Pacific strategy, will force nations to consider NATO's continuing role and relevance. Sadly, the

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<sup>8</sup> 1934 - Hitler's Night of Long Knives, when the SA leadership were assassinated and Hitler became undisputed leader.

geo-political situation is not one of sweetness and light. To our North East, a newly assertive Russia wants a full share of Arctic minerals; to the East, Russia threatens NATO's construction of Anti-Ballistic Missile Defences on Polish soil; to the South East the Caucasus region is a bubbling cauldron; and further to the south, the chaos in Syria already embroils Turkey, Iran, Russia and now even China. The regions directly about NATO countries, and potentially pose a threat to all our security.

Let us consider a localized scenario first. Global Warming offers the prospect of an important ice-free route past Norway to the Far East, avoiding Suez or the long route around Good Hope and through the haunts of Somali pirates. However, Norway is the Left (Northern) Flank of NATO and an important egress route for Russian Northern Fleet ships and aircraft (whose only other western exits are via the Baltic or the Dardanelles). Russia uses the area for military exercises, firing missiles and conducting amphibious assaults; the Kursk sank nearby in 2000. Former Russian president Dmitry Medvedev told the Seattle Times in 2008 that 'our first and main task is to turn the Arctic into Russia's resource base of the 21st century.'<sup>9</sup> The US Geological Survey has estimated that about a quarter of the world's oil and gas reserves could lie under the ice cap – encouraging a race for resources. Although the boundary between Norway and Russia was disputed, a median line was determined in 2010. Nevertheless, the USA, Canada, Denmark (Greenland)<sup>10</sup>, and now even China, all have interests there. A new Cold War looms over the area as Russia creates special Arctic Troops, reopens old Soviet Arctic bases and, according to *Pravda*, plans to deploy her newest submarines, 'Severodvinsk' class there.

With a population of only 4½ million, Norway requires reinforcement in war. Hitherto US forces made up the bulk of that reinforcement but this must now be seriously in doubt. UK forces previously earmarked included Jaguar and Harrier squadrons, a Marine Commando, Maritime Patrol Aircraft (MPA), with submarine and frigate support. However, the disbandment of the Jaguar and Harrier forces,

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<sup>9</sup> Reported in the Guardian , 5 Jun 2012:  
<http://www.guardian.co.uk/world/2012/jun/05/arctic-military-rivalry-cold-war/print>

<sup>10</sup> Denmark has made a strategic decision to prioritize its economic relationship with China ... Greenland's substantial deposits of minerals including rare earths, uranium, iron ore, lead, zinc, petroleum, and gemstones make the Arctic island a key bargaining chip... The minerals that lie under Greenland's snow are the real prize, worth far more in both monetary and strategic terms to China than the imported goods or export market Denmark itself can provide. - "China's New Strategic Target – Arctic Minerals", by Andrew Erickson and Gabe Collins, Wall St Journal 18 Jan 2012. China also has a research base on Spitzbergen.

removal of the MPA, and the large reduction in submarines and frigates makes Britain's capacity to meet this commitment wafer-thin. Taken together, the result is a weakened Northern Front – a strategic failure in the event of confrontation, coercion and even conflict.

**7th Feb 2014: Terrorists attack athletes during the opening of Sochi Winter Olympics; 45 killed. Russia blames Georgia; invades and takes Tbilisi. Games collapse as nations withdraw their athletes. USN moves into Black Sea. Russia threatens Polish Ballistic Missile Defence sites and demands US leaves Black Sea. Russia reduces gas flow along Druzhba pipeline. Germany protests. Russia occupies oil-rich Azerbaijan. Oil rises to \$175 per barrel. Turkey requests US support in the Black Sea and the Eastern Mediterranean. Two USN Carrier Battle Groups are dispatched.**

**Russia demands removal of US troops and Anti-Ballistic Missile defences in Poland and withdrawal of US provocative presence in Med and Black Sea. US ignores. Russia openly deploys fleet submarines to Atlantic and intensifies air patrols into the North Sea.**

**USN Forces in North Atlantic reduced since 60% of USN remains in Pacific. With no British Maritime Patrol Aircraft and only 5 serviceable Trafalgar/Astute Class submarines there is intense Media speculation that**



**Britain and NATO have lost track of the Russian submarine plot. Media speculation turns to outrage when a VLCC <sup>11</sup> ship is reported missing. Shipping firms cautiously delay Atlantic sailings; panic buying of many essentials creates mass food and oil shortages. Britain forced to introduce rationing...**

## Sub-Saharan Africa

'Increased terrorist activity and the consequences of the conflict in Libya have dramatically heightened insecurity in the Sahel,'<sup>12</sup> The fall of the Gaddafi regime in Libya released large numbers of Tuareg mercenaries, who fled to sub-Saharan

<sup>11</sup> Very Large Crude Carrier

<sup>12</sup> European Union foreign policy chief Catherine Ashton

Africa, principally Mali. Once there they began to establish a secessionist warlord dominion of 'Azawad', with Sharia law, separation of the sexes, burkhas and all the worst excesses of the Taleban. In doing so they offer the opportunity for Al Qaida to establish new training camps<sup>13</sup>.



These 'freedom fighters' do not subscribe to the international borders defined by the West. Viewed in parallel with other political dynamics in the region, notably in Northern Nigeria where *Boko Haram*<sup>14</sup> insurgents are attempting, through an anti-Christian bombing campaign, to establish a secessionist Islamist state, the potential for anarchy, rape and bloodbath is stark.

Meanwhile, right across the Sahel similar clashes of civilizations are taking place. In Niger - a country that only banned slavery in 2003 - Tuareg militants have been kidnapping foreigners and demanding autonomy, and in Chad refugees from Sudan, together with those from the northern region of Chad and the Central African Republic to the South, have created vast numbers of dispossessed, with up to 3 million refugees. The humanitarian and economic impact of these events is likely to be severe. It is clear that a patchwork of bloody conflicts can be expected across the region; this very much reflects DFID's view:

*Britain is now helping a total of more than 1.4 million people at risk of hunger across Mali, Niger, Chad, Mauritania and Burkina Faso. ...A deadly combination of conflict and poor harvests has pushed many families in the region to the brink, with 8 million people in need of urgent assistance now, and with a further 10 million requiring additional support.*<sup>15</sup>

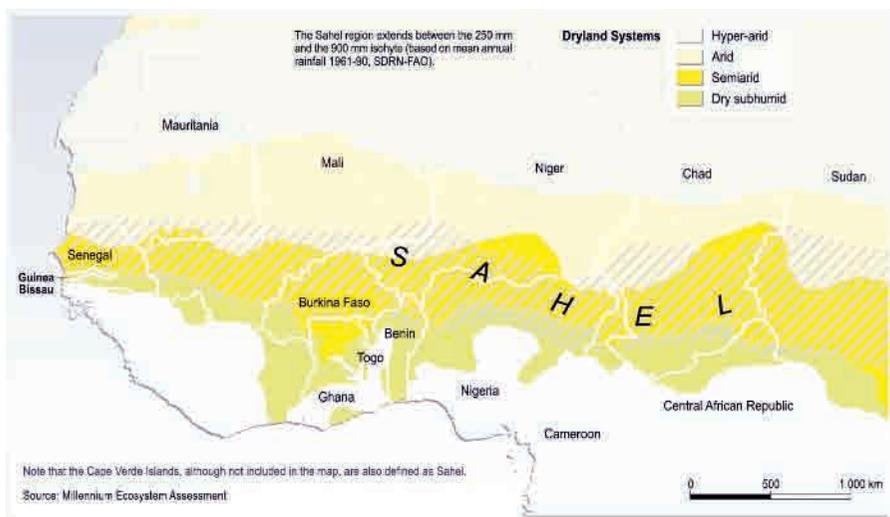
Bad though the situation currently is, it is almost certain to get far worse. The Sahel suffers from endemic water shortage with available supplies concentrated around a few lakes or wadis. As a result of the many insurgencies and conflicts, agriculture is difficult if not impossible, and the periods when populations are self-supporting are becoming shorter and fewer in number.

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<sup>13</sup> Valentina Soria, RUSI, <http://www.rusi.org/analysis/commentary/ref:C4FCF45F14B819/>

<sup>14</sup> Terrorist Organization. According to the BBC this means "Western education is forbidden". See <http://www.bbc.co.uk/news/world-africa-18508092>

<sup>15</sup> DFID: <http://www.dfid.gov.uk/News/Latest-news/2012/West-Africa-minister-sees-sahel-food-crisis-first-hand/>



**Figure 5 - Desertification in Sahel Region**

France takes her post-colonial responsibilities in the area seriously and hopes to enlist EU support to stabilize the area. The EU has sent an advisory team to Niger to help local authorities combat Islamist militants who are spreading in the Sahel region.<sup>16</sup> Following the Anglo-French Accord, France would like greater UK assistance but with a seriously obsolescent and heavily committed military transport fleet, it is difficult to see how the UK could provide much direct support apart from throwing money at the problem.

**2014: Crops fail across Sahel. Mass starvation across region. France moves to support former colonies with aid and military assistance; Britain asked for help. Extremists in Mali, Niger, Burkina Faso, Chad and N Nigeria move south and supplant local governments. Sudan occupies most of South Sudan. Several states ask UN for aid. The Media - and the public - confronted by daily scenes of extreme distress, butchery and deprivation, and recognizing the scale of the problem, demand action but, with the continuing concurrent commitment in Afghanistan and in the light of the widespread unserviceability of our obsolescent military air transport, Britain will just have to sit it out and try to claim that it is someone else's problem - UN, UNESCO, ECOWAS etc.**

<sup>16</sup> STRATRISKS 3 Aug 2012, <http://stratrisk.com/geostrat/7306>

**In the absence of suitable military air transport, British civilian trucks are delivered by sea to Lagos to carry British aid northwards. Individual trucks are attacked and pillaged by Christian tribesmen. Little gets through. Large scale marauding bands move south into Nigeria, Ghana and Cote d'Ivoire to plunder and rape. Local armies lose control. US Media strongly criticizes Europe's apparent ineffectiveness. Britain questions how did this happen; how could Britain and France not have done more?**

## Piracy

As observed by COMAFRICOM,

*'The pirates have adapted to the increased international naval presence in the Gulf of Aden by extending their operational reach as far south as the Mozambique Channel and east into the Indian Ocean by hundreds of miles... The number of ships and hostages held by Somalia-based pirates is at an all-time high.*

*The increasing operational reach of Somali pirates vividly illustrates that the dangers emanating from ungoverned spaces rarely remain local.'*<sup>17</sup>

In May 2012, pirates held ten ships and 241 hostages. According to the US State Department, 'The average ransom is now at \$4.5 million per incident; one ransom totaled \$12 million ... tankers command the highest ransoms. Total ransom payments paid to Somali pirates increased from approximately \$80 million in 2010 to \$140 million in 2011'.<sup>18</sup> The West is responding, albeit slowly:

*European Union naval forces carried out their first raid on pirates based on the Somali mainland... In what is seen as a significant change in tactics, a single attack helicopter... launched air strikes against targets on the Somali shore overnight... boats and equipment belonging to pirates are said to have been destroyed.*<sup>19</sup>

'There are currently no Royal Navy vessels deployed with the joint force, known as Operation Atalanta, since HMS Westminster was deployed there in Apr 2012.'<sup>20</sup> 'The

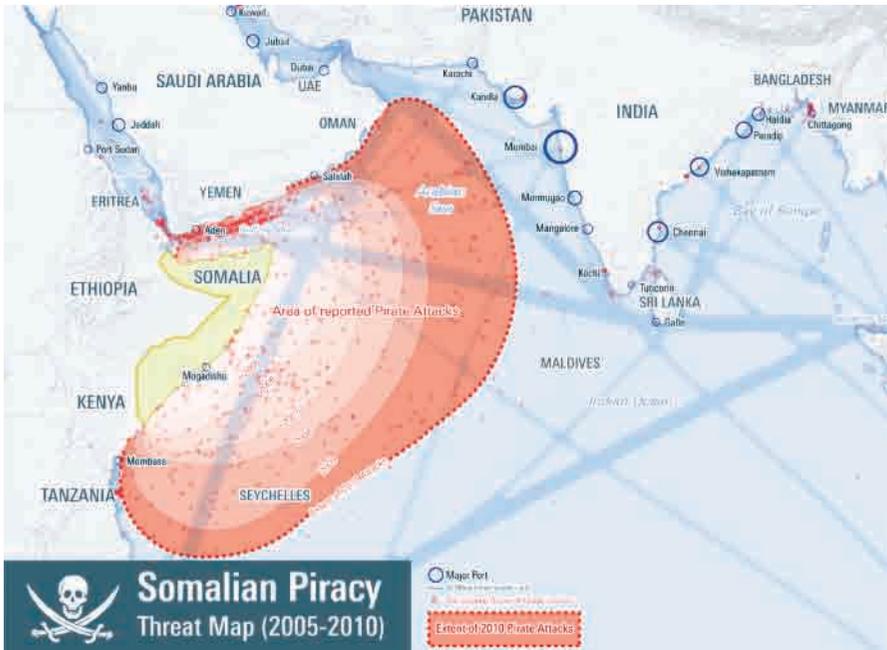
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<sup>17</sup> General Carter F. Ham, commander, U.S. Africa Command (AFRICOM), 6 Mar 2012.

<sup>18</sup> Thomas P Kelly US Dept of State, 21 May 2012.

<sup>19</sup> Sky News, 15 May 2012, <http://news.sky.com/story/18433/eu-naval-forces-attack-somali-pirate-bases>

<sup>20</sup> Daily Telegraph, 15 May 2012, <http://www.telegraph.co.uk/news/worldnews/africaandindianocean/somalia/9266849/EU-anti-piracy-force-strikes-Somali-targets.html>



**Figure 6 – Somali Pirates Area (Wikipedia)**

UK has had to scale back its commitment to counter-piracy because the Royal Navy no longer has enough warships to dedicate one to Somalia all year round.’<sup>21</sup>

One of the critical force-multipliers for the operation is the Maritime Patrol Aircraft (MPA) that are now provided in limited numbers by Luxembourg, Spain, France, Germany, Sweden and Portugal. Commanders are emphatic in their need for more MPA. Britain no longer has any MPA as they were cut up by chainsaws following the Strategic Defence and Security Review (SDSR).

**2014: On Friday 10 January 2014 the cruise ship, *Sandringham*<sup>22</sup>, on the return leg of her World Cruise is attacked and boarded by Somali Pirates 300nm north of the Seychelles. There are 1300 passengers on board, and fares have ranged from £10,000 to £40,000. All passengers are confined below decks and the ship is taken to Somalia. The pirates demand a per**

<sup>21</sup> The Guardian, 8 May 2012, <http://www.guardian.co.uk/uk/2012/may/08/royal-navy-cuts-somalia-piracy-patrol>

<sup>22</sup> Names and events are entirely fictitious.

capita ransom of \$1m, and negotiations begin. Meanwhile, with the crew also imprisoned, the ship's air conditioning fails. As negotiations drag on elderly passengers begin to die. The number of corpses soon overwhelms the ship's mortuary and bodies are unceremoniously dumped over the side. With no Maritime Patrol Aircraft and no RN presence, HMS Montrose, the nearest British ship, acting as guardship off the Falklands, is ordered to East Africa (20 days); meanwhile, most embarrassingly, a frigate from the Chinese People's Liberation Army (Navy) (PLA(N)) positions close to the beleaguered liner and mediates.

Deaths mount and, despite the stated policy of never treating with terrorists, the British Government is forced to give way and pays \$130million through an agency. US distances itself from British actions. A total of 55 people have died during the ordeal and the survivors are in a distressed and malnourished state. Several subsequently die in hospital, and more are treated for Post Traumatic Stress Disorder. British cruise industry collapses with threats of legal action and taunts about the impotence of the 'British navy'.

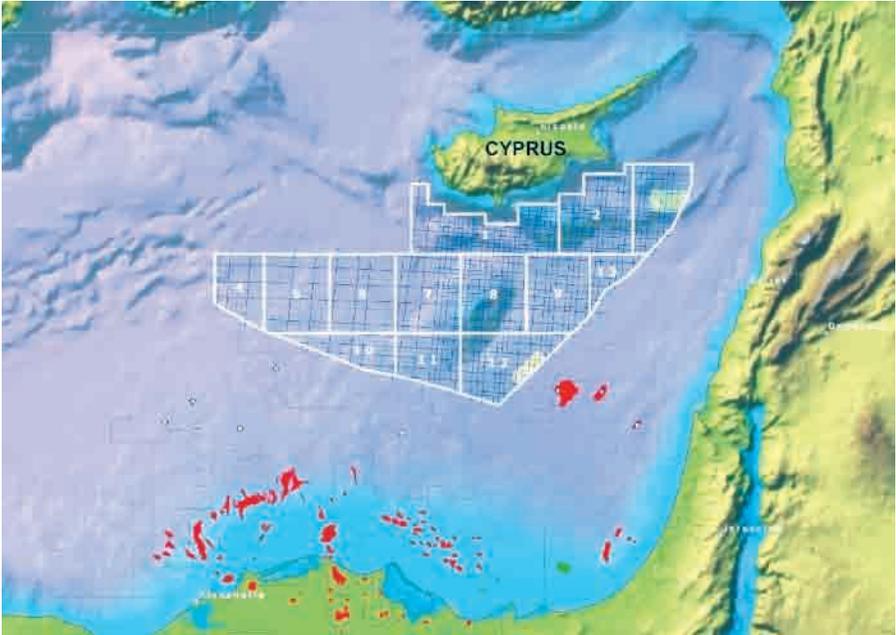
## Turkey

Under the AKP government, Turkey has regional aspirations that many characterize as neo-Ottoman. Long standing disputes prevent resolution of the Aegean islands issue and destabilize relations with Greece and the Republic of Cyprus. Turkey antagonizes Israel over such incidents as the 2010 Mavi Mara incident when Israeli forces boarded a Turkish blockade runner.<sup>23</sup> Turkey also disputes Cyprus' claims to the large gas and oil fields in the Eastern Mediterranean, an area bordered by Israel, Egypt and Cyprus. Given the mutual animosity between Egypt and Israel, and between Turkey and Cyprus, secure extraction of this gas and oil, its liquefaction and export to consumers, is problematic.

Britain is deeply involved in the area; she has Sovereign Base Areas on Cyprus, is the ex-colonial power and one of the Guarantors for the establishment of the Republic of Cyprus (ROC).

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<sup>23</sup> [http://en.wikipedia.org/wiki/Blockade\\_of\\_the\\_Gaza\\_Strip](http://en.wikipedia.org/wiki/Blockade_of_the_Gaza_Strip). On 31 May 2010 the Israeli Navy seized an aid convoy of six ships known as the "Gaza Freedom Flotilla" aiming to break through the blockade. The flotilla had declined an Israeli request to change course to the port of Ashdod, where the Israeli government had said it would inspect the aid and deliver (or let humanitarian organizations deliver) Israeli-approved items to Gaza.



**Figure 7 - Known hydrocarbon fields in red and Cyprus' Blocks**

With the July shooting down of a Turkish F-4 Phantom on a reconnaissance mission, tensions between Turkey and Syria's Assad Regime remain bellicose. As a NATO member, Turkey would be quick to invoke Article V in the event of significant hostilities, but with Russian support for Assad such involvement would precipitate a NATO/Russian confrontation.

## Egypt/Syria

The Islamist Morsi government will inevitably confront precisely the same politico-economic dilemmas that confounded the Mubarak regime. Tehran, in attempting to persuade the new Muslim Brotherhood government to become more fundamentalist, has already established links with the new Egyptian Government and is attempting to enlist Egyptian and Turkish support for a 'regional coalition of Arab and Islamist States'<sup>24</sup> Meanwhile, against a backdrop of new insurgency, the Egyptian revolution has some way to play out; one hopes it will not parallel either the French (1789-1815), or the Russian (1917-1990).

<sup>24</sup> FARS News agency, Press Release, 21 Sha'ban 1433 / Wednesday 11 Jul 2012 / 21 Tir 1391.

Syria, meanwhile, is in chaos. Were the West to intervene – presumably on the side of the rebels – that would place it in confrontation with those that support Assad: Russia, Iran and even China. Any number of possibilities might then present themselves but with the situation evolving daily, we will leave such a scenario as it might rapidly be overtaken by real events! Were we really to impose a ‘No Fly Zone’ we should recall that even for a small operation such as that over Libya, US Forces were required in substantial numbers to destroy the Air Defences, and then to provide 70% of all NATO air support.

In this scenario we look forward to 2015, suggesting that the volatile situation is unlikely to become any more stable, and that British weakness is dangerous:

**2015: The Morsi Government, that seemed so moderate when it came to power in 2012, now faces pay riots in Tahrir Square, demands for the execution of the Mubarak family, for action against Israel and for military help for Gaza. The government attempts to renegotiate the maritime boundary lines between Israel, Cyprus (ROC) and Egypt, recognizing Palestine rights by virtue of the Gaza Strip. Israel and Cyprus reject this motion but Tehran and Ankara take Egypt’s side and insist on renegotiation.**

**Terrorist activity increases in Israel and a number of devices are exploded in Cyprus close to the Vasilikos LNG facility. Britain, as one of the Guarantors of Cyprus is asked by Turkey to intervene with the ROC but with uncertainties elsewhere declines. Meanwhile, Egyptian and Israeli naval vessels confront each other near Israeli well-heads off Gaza. Demonstrations in Nicosia and Larnaca.**

**In the light of apparent British disinterest, and against little resistance, the ROC swiftly occupies the Sovereign Bases at Akrotiri and Episkopi, inviting Israel to establish a presence on the island with immediate effect. Turkey seizes the opportunity and rapidly moves into Dhekelia, the last British base. The USA takes no action. Israel begins operations from Akrotiri. Egypt ...**

**There were no British combat troops on the island. Britain has lost one of its most important strategic bases, has lost her reputation and is humiliated.**

## Iran and its Nuclear Development

In June 2012 high-level talks in Moscow about Iranian nuclear development collapsed as there was no common ground.<sup>25</sup> Meanwhile, according to FARS<sup>26</sup>, Syria, China, Russia and Iran plan to conduct joint exercises, despite the dire situation in Syria and the worsening situation vis à vis Iranian nuclear work. Amid growing concern in western governments that tensions between the US and Iran could rise significantly in the Strait of Hormuz this year, Iran said the exercise was a response to the refusal by Israel and the US to rule out military strikes against Iran.

Meanwhile, Iran has already begun stockpiling essential food,<sup>27</sup> and Iran's Revolutionary Guards test-fired dozens of missiles on 3 Jul in a display of might that coincide with the tightening of US and European Union oil sanctions against Tehran over its nuclear programme:

*The Revolutionary Guards test-fired the medium-range Shahab-3 missile – which has a range of up to 2,000km and which is believed to be able to hit Israel. The short-range Shahab-1 and Shahab-2 missiles, which have a range of 300km and 500km respectively, were also test-fired.*<sup>28</sup>

Iran seems determined to force the West's hand:

*Iranian activists in a statement on Sunday [12 Aug 2012] condemned the occupation of the Palestinian lands by the Israeli regime, and stressed that the countdown to the freedom of Islamic territories has started.*<sup>29</sup>

**2012/13: Autumn 2012 – first Iranian nuclear weapons being fabricated. Fierce speculation in world's Press. Iran encourages Shiite diaspora in Bahrain/Gulf to agitate. Riots in Bahrain and Saudi Arabia. Bashir al Assad regime collapses. Syria partitioned; descends into chaos. Alawites retain control of Western Syria and ports. Israel calculates that 2012/13 is the**

<sup>25</sup> EU foreign policy chief, Baroness Ashton, said the differences between Iran and the group of six world powers involved in the talks remained so significant that negotiators did not commit to another high-level meeting. Guardian 18 Jun.

<http://www.guardian.co.uk/world/2012/jun/18/nuclear-negotiations-iran-major-powers>

<sup>26</sup> The Iranian Press organization.

<sup>27</sup> <http://www.foxnews.com/world/2012/07/27/iran-begins-stockpiling-3-month-food-supply493858/>

<sup>28</sup> FT 3 Jul 2012

<sup>29</sup> FARS Newsagency 12 Aug 2012: <http://english.farsnews.com/newstext.php?nn=9104253899>

last opportunity to destroy Iranian capabilities<sup>30</sup> before weaponisation. October, Iran begins to relocate nuclear facilities underground where they will be invulnerable to direct attack. Immediately after the US Presidential election, Israel strikes before opportunity is lost, attacking Natanz and other nuclear facilities. Iran uses attack as an opportunity: 'the 'Great Satan' and its proxies have attacked Islam. The attack has failed and Iran has captured a number of Israeli pilots'. Iran fires missiles at Gulf State bases and closes the Straits of Hormuz. USN clears Straits of Hormuz and escorts tankers through the Gulf. Oil flows reduced.

February 2013, Western economic recovery stalls and shortages of energy place greater reliance on Russian supplies. Russia pressurises Germany to restrain NATO. Russia and China condemn Israel in Security Council and table a Resolution ordering USN to withdraw from Persian Gulf. US vetoes. Britain commits minesweepers and one Type-45 destroyer to the Task Force. Russia reduces gas supplies to Germany because of a 'technical hitch'. Oil rises to \$175 per barrel. Weak Sunni government in Damascus is supported by Turkey but Alawites on the coast supported by Iran and Russia. Russian and Iranian frigates move to Latakia. Turkey asks NATO to deploy Allied Rapid Reaction Corps (ARRC) to Mersin<sup>31</sup>. HQ deploys but, with forces already fully committed in Afghanistan, Britain finds difficulties in mobilizing a full Division; Germany, meanwhile refuses to deploy 1st German Division. US eventually agrees to mobilize her own 4th Inf Div, but is outraged at Europe's failure. NATO at loggerheads. Turkey threatens to leave NATO...

## Pakistan

A number of senior British parliamentarians have expressed the view that the collapse of Pakistan represents the most dangerous threat we face; both because the risk of collapse is high and the consequences from this nuclear state, dire. 'Pakistan continues to nurture 'militant' groups involved in terrorism: either because they are useful in the struggle with India or inside Afghanistan - or because their jihadist views enjoy sympathy from influential forces inside Pakistan'.<sup>32</sup> Pakistan is thought to be increasing her stockpile of nuclear weapons to well over 100. Linked

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<sup>30</sup> BBC Newshour 2100 on 3 Feb 2012.

<sup>31</sup> Port on S coast, near Incirlik AB.

<sup>32</sup> FT, Pakistan, Terrorism and Nuclear Deterrence, 3 Apr 2012.

on the nuclear issue with both Saudi Arabia and China, Pakistan directly confronts India across the Siachen Glacier in Kashmir.

Once NATO and US troops withdraw from Afghanistan, Pakistan, already a *de facto* ally of China, is likely to come increasingly under Chinese influence. Pakistan's population will likely increase by a third over the next 40 years. The political regime is unstable and economy fragile, she has already lost control over vast tracts, and any collapse in Afghanistan after 2015 is very likely to cause the government to fall. A weak government may be tempted to lash out against India.

## India

On 26 Nov 2008, Mumbai (Bombay) suffered 11 coordinated shooting and bombing attacks by terrorists who were trained in and came from Pakistan. 'If similar incidents happen, it would be impossible for any democratically elected government in India to persist on the path of peace.'<sup>33</sup>

India perceives herself as surrounded by a 'Ring of Pearls' - a ring of bases that are occupied by inimical powers (see Figure 8). For example, China supports the military rulers in Burma, is an ally of Pakistan, is supplying her with advanced new fighter aircraft and has conducted 3 military exercises with her in 2011 alone.

Further afield in the **Indian Ocean**, China is currently investing heavily in Mauritius, building a new Chinese industrial area to house a diaspora of 30,000 Chinese traders and merchants.

*China's state-led approach to foreign investment is muscling India aside in its traditional 'backyard' by investing \$700m in a special economic zone in the Indian Ocean island of Mauritius to service Beijing's expansion in Africa...*

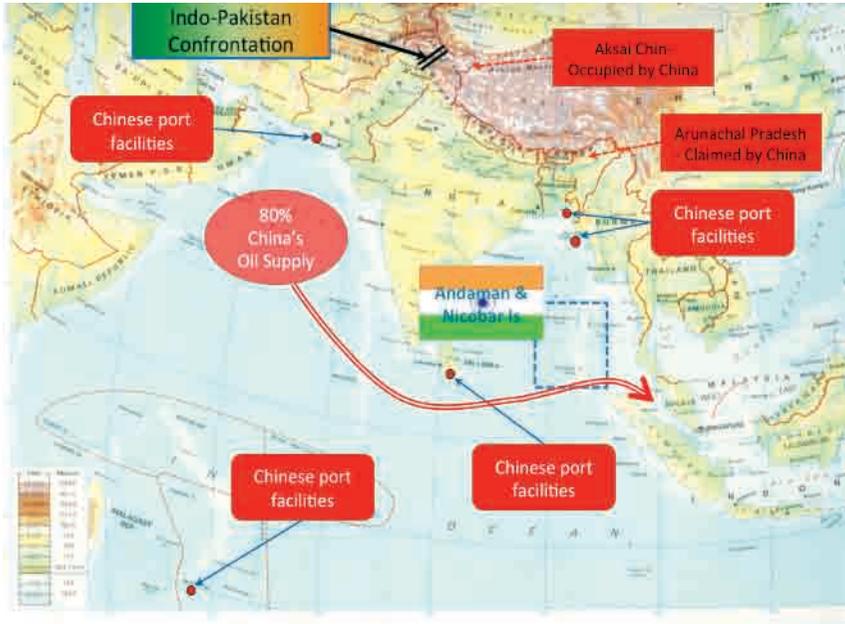
*Ramakrishna Sithanen, the vice-prime minister of Mauritius and minister of finance, said China was 'extremely aggressively' pursuing its objectives in Africa via Mauritius with a wave of strategic investments on the island.*<sup>34</sup>

If normal precedents are applied then this penetration by traders will be rapidly followed by regular military visits, and then by the use of the port by a Chinese

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<sup>33</sup> MP Mani Shankar Aiyar, 29 Mar 2012.

<sup>34</sup> FT, January 25, 2010 3:11 am. *China makes foray into Mauritius:*  
<http://www.ft.com/cms/s/0/492e0c72-095c-11df-ba88-00144feabdc0.html#axzz21NQvfEHV>



**Figure 8 - The Ring of Pearls**

fleet. Eighty per cent of Chinese oil imports cross the Indian Ocean, pass the Andaman and Nicobar Islands and down through the Straits of Malacca:

*India's island territories in the east ... comprise the 572 heavily forested Andaman and Nicobar islands ... 800 nautical miles from the Indian coast and just 75 nm from the tip of Indonesia, in the Bay of Bengal. The islands ... are strategically positioned at the confluence of the vital Malacca Straits. This translates into challenges, opportunities and threats for India.*

*During the Second World War the Japanese built airfields on the A&N islands and successfully attacked Allied forces. ...The proximity of the Islands to Malacca Straits is of concern to China, and Chinese naval analyst Zhang Ming, contends India's A&N islands could be a 'metal chain' to block Chinese access to the Straits of Malacca, known as China's 'Malacca Dilemma' and argues India is building an 'Iron Curtain' with its influence in the [ocean].'<sup>35</sup> [On 31 Jul 2012] 'India formally opened a key naval station,*

<sup>35</sup> Centre for Land Warfare Studies, 18 Jul 10: India's Strategic Island Assets: [http://www.claws.in/index.php?action=details&m\\_id=600&u\\_id=127](http://www.claws.in/index.php?action=details&m_id=600&u_id=127)

*aptly named INS Baaz (Hawk), in the southern part of Andaman and Nicobar Islands that will boost its ability to keep an eagle eye on the critical maritime choke-point: the Strait of Malacca.’<sup>36</sup>*

If China sees India as a problem, so too does India view China:

*‘Our preoccupation till now has been with the continuing threats from the State of Pakistan and from the jihadi terrorist organizations nursed by it. It has also been with China’s continuing collusion with Pakistan and the dangers of a two-front war arising therefrom.’<sup>37</sup>*



**Figure 9 – China’s Stealth Fighter**

China’s military forces have been building up both in quality and quantity, in step with her expanding economy. In terms of military expenditure she is second only to the USA, and is equipping her forces with the most modern equipment. Comparisons are difficult; China is unlikely to have disclosed her full defence expenditure but even her known military budget is roughly half that of the USA. Importantly, her unit labour and raw material costs are far lower than the USA so she gets far more for every \$ spent.

According to STRATRISKS, in early July 2012 India’s external intelligence agency Research and Analysis Wing (RAW) informed the government in a secret note accessed by Headlines Today that there was a possibility of a skirmish or an incident triggered by China on the Line of Actual Control (LAC). Beijing, the input stated, was contemplating such an action to divert attention from its own domestic trouble.



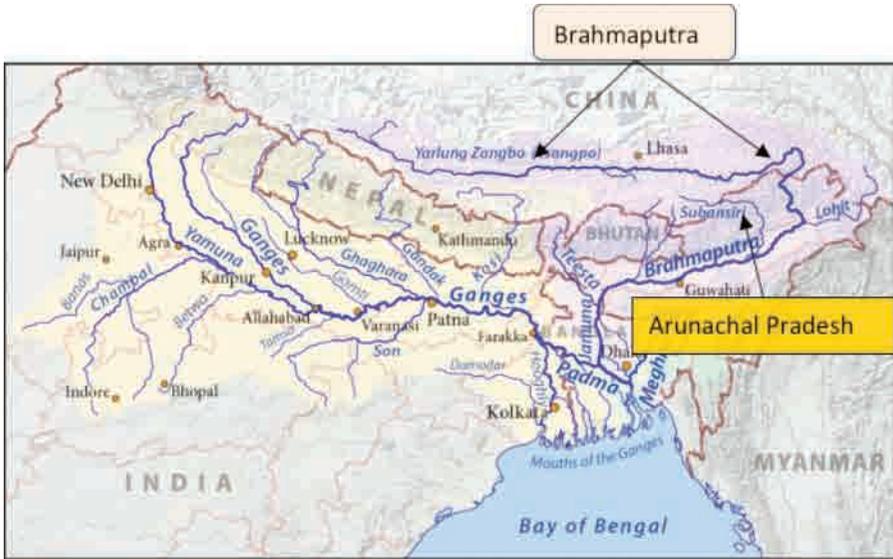
**2019: China diverts the Brahmaputra to irrigate South China and prevent starvation, thus reducing river flow by 50%. Tension along India/Chinese**

<sup>36</sup> New Delhi TV

<http://www.ndtv.com/article/india/india-gets-hawk-eye-over-strait-of-malacca-249214>

<sup>37</sup> Rediff News: “India’s strategic debate: China bigger threat than Pak?”, 6 Jun 2012:

<http://www.rediff.com/news/slide-show/slide-show-1-indias-strategic-debate-china-bigger-threat-than-pak/20120606.htm>



border. China threatens to take Arunachal Pradesh, a region it claims as 'South Tibet'. Afghanistan govt falls and Taleban take control. Extremists in Pakistan demand 'return of Kashmir' and several other parts of Punjab where Muslims are in majority. China supports Pakistan, as does Iran.

US pressurizes Islamabad to moderate her demands. Govt of Pakistan collapses in chaos. Iran threatens nuclear retaliation if India attacks Pakistan. Economies of NE India and Bangladesh collapse. Mass starvation; India demands China restores river flow. China refuses and occupies Andaman and Nicobars to 'ensure Iranian oil reaches China'.

India retakes Nicobar Is and attacks Kashmiri Northern Areas. Pakistan is reinforced by Iranian Republican Guards who demand use of tactical nuclear weapons. Single weapon fired onto Indian spearhead. Global outcry. Britain attempts to mediate, but Pakistan and Iran claim the impasse over Kashmir is UK's fault. China reinforces occupied Aksai Chin as India retaliates with an Agni nuclear missile against Pakistan forces in Kashmir<sup>38</sup>.



<sup>38</sup> Picture of Indian Agni IV, courtesy of China Military Review:  
<http://chinesemilitaryreview.blogspot.co.uk/2011/11/india-tests-3000km-range-agni-iv.html>

**Iran responds by attacking Bombay naval facilities, while China moves PLA(N) to Mauritius.**

**US and UK attempt to intervene to guarantee the flow of oil, but US is no longer dependent on Gulf Oil. UK deploys HMS Prince of Wales (POW) and France deploys the carrier Charles de Gaulle for exercises off Oman. Riots in Eastern Saudi Arabia and Bahrain force Gulf States to reduce oil flows while Iran closes Straits of Hormuz. Britain and France seem powerless to intervene. OPEC demands oil at \$200 per barrel. EU in crisis. Markets panic. Widespread recession. UK GDP reduces by 10% (£65Bn). Austerity budget. Defence cut by £10Bn to save money! ...**

## Falklands

Although Argentina has stated her intention of 'recovering' the Falklands by peaceful means, intentions can, of course, change in a trice. In this 30th anniversary year of the Falklands conflict, the Argentine government, under severe economic pressure, elected to revitalise their claims to the 'Malvinas' through diplomatic, Media and legal coercion. Argentina told Premier [Oil] it had taken legal action against 'clandestine' Rockhopper's 'illegal' oil exploration activities on the 'Argentine continental shelf.' According to Mercopress:

*'... the Argentine government ... will initiate administrative, civil and penal action against [the company] with regard to these activities', a statement by the Foreign Ministry said.*<sup>39</sup>

In parallel, Argentina seeks to enlist support from regional allies and from the new power broker, the People's Republic of China (PRC). China already provides



**Figure 11 - Falklands Oil Exploration**

<sup>39</sup> Mercopress, 17 Jul 2012.

satellite information to Argentina and has invested in its telecommunications. It is clear that Argentina also hopes to gain military and nuclear support.

*Argentine Defence Minister Arturo Puricelli [recently] on a visit to Beijing underlined defence cooperation with China and said the 'Hong Kong model' was a significant precedent for 'the Malvinas cause. ...*

*Our country looks to consolidate new defence relations with China with whom we share from the strategic defence concept of our military instruments to a cooperative vision of international security', pointed out Puricelli.* <sup>40</sup>

Meanwhile, though less effusively:

*Guo Boxiong, vice-chairman of the Central Military Commission, and Defense Minister Liang Guanglie held talks with Puricelli on Tuesday... Liang also voiced China's willingness to expand military cooperation with the Argentina.* <sup>41</sup>

Earlier, in Buenos Aires, Premier Wen Jiabao met President Cristina Fernandez de Kirchner.



**Figure 12 – Christina Kirchner & Wen Jiabao meet in BA 25 Jun 2012**

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<sup>40</sup> Mercopress Thursday, July 5th 2012.

<sup>41</sup> China Daily 4 Jul 2012:

[http://www.chinadaily.com.cn/china/2012-07/04/content\\_15549609.htm](http://www.chinadaily.com.cn/china/2012-07/04/content_15549609.htm)

*China is Argentina's biggest client of agricultural products and its second largest trade partner.*

*The two delegations also signed a nuclear energy cooperation accord...Argentina has three nuclear plants the last inaugurated in September 2011, and has plans for a fourth...*

*Cristina Fernandez said China had played a 'paramount' role in fuelling global growth over the past 10 years. She stressed that both countries have a 'common vision on defending territorial integrity' and acknowledged China's support for Argentina's claim to the disputed Falkland Islands, which are administered by Britain...*

*During Wen's two-day visit, Argentina also hoped to draw Chinese investments in its oil industry, after having seized Spanish oil company Repsol's controlling share of YPF, Argentina's largest oil company.*<sup>42</sup>

Argentina's oil production has fallen from 830 thousand barrels per day in 2001 to just 652 thousand in 2010, recording a 7% reduction last year. This compares unfavourably with her appetite, with demand increasing by 8.2% in 2011 alone. Although she has considerable shale deposits, exploitation is still some way off. This year she becomes a net importer; perhaps this is the real reason for her nationalizing YPF, the Argentine arm of the Spanish oil giant Repsol - much to the chagrin of Spain!

**Jan 2015: Rockhopper field reserves validated, and two other fields look promising. Argentina demands talks over sovereignty as Argentine oil production reduces. Argentine shale gas deposits seem less lucrative than hoped.**

**Anglo/Argentine confrontation with Argentine warships patrolling on the high seas to within 50nm off the Falklands. China and Russia propose Security Council Resolution (UNSCR) to compel Britain to negotiate. US abstains; UK vetoes.**

**Crisis in the UN as South America persuades General Assembly to vote against unilateral vetoes. In the UN Security Council (UNSC) Russia and**

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<sup>42</sup> Mercopress 26 Jun 2012.

<http://en.mercopress.com/2012/06/26/argentina-china-sign-a-raft-of-agreements-to-boost-trade-and-investment>. Bilateral trade totalled 14.8 billion dollars in 2011, with 8 billion dollars surplus for China.

China threaten to veto every resolution unless membership and voting rights are reformed. With lukewarm US support, UK (and France) allowed to maintain UNSC seat but without veto. UNSCR 2015/11 is passed demanding Britain negotiates cession of sovereignty and accepts a 'Hong Kong' solution. Britain rejects the demand.

Runway at Mount Pleasant Airfield (East Falkland) targeted by Argentine Special Forces and several Typhoons destroyed. Argentina, with Chinese help, lands en masse on West Falkland, taking over British radars. Britain reinforces by sending HMS Ocean, 2 Astute submarines, 2 Destroyers and 5 Frigates (all that are available). Argentina then declares a Total Exclusion Zone around Malvinas 'in accordance with UNSCR 2015/11'. China and Russia provide satellite tracking of RN Task Force. Fleet arrives off Ascension Island, but is clearly too weak to proceed further. No Maritime Patrol Aircraft, no carriers, too few submarines, no long range strike capability.

Britain helpless and forced to enter negotiations with Argentina; Argentine forces swiftly occupy East Falkland. Vote of no confidence in HMG. Government falls. Several MPs move to impeach Prime Minister, Foreign Secretary and Defence Secretary for misleading Parliament. UK General Election looms.

## China

*State-sponsored Chinese corporations are busy buying up commodities across Africa, North America, the Middle East, South America - anywhere they can - in a concerted strategy to seize control of resources before the rest of the world wakes up to the looming crisis... 'Simply put, the Chinese are on a global shopping spree.'*<sup>43</sup>

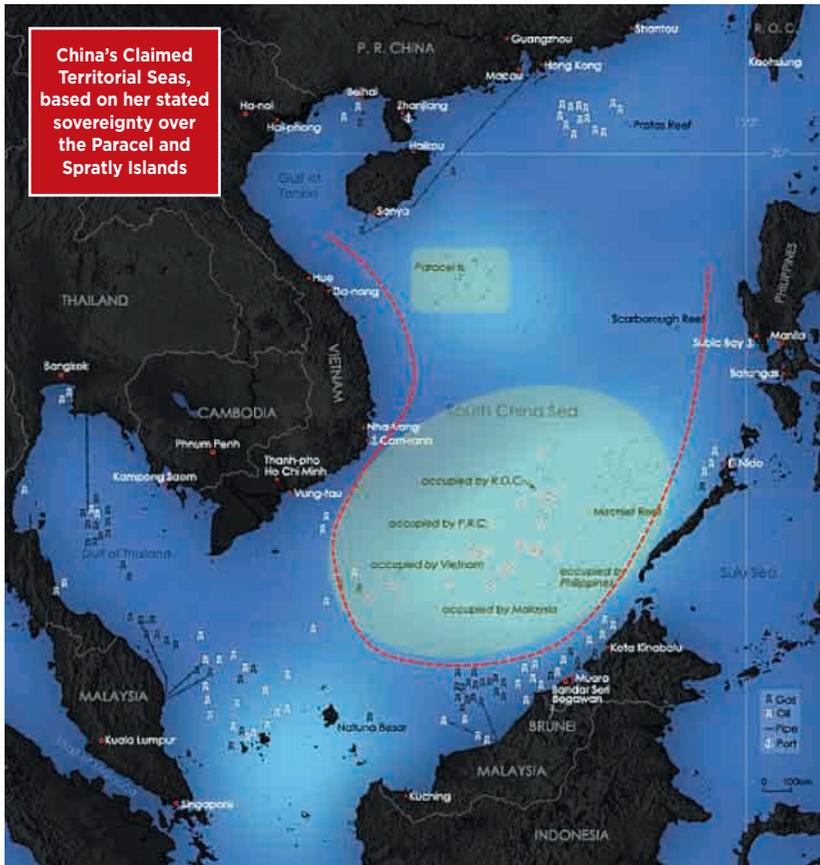
*China's leaders view the first two decades of the 21st century as a 'period of strategic opportunity'... China's leaders do not expect this period to be free of tension or competition ... or to last indefinitely... China pursues a set of overriding strategic objectives.... These objectives include preserving Communist Party rule, sustaining economic growth and development, defending national sovereignty and territorial integrity, achieving national*

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<sup>43</sup> Dambisa Moyo, op cit The Guardian.

*unification, maintaining internal stability, and securing China's status as a great power.*<sup>44</sup>

*China has indisputable sovereign rights over the South China Sea islands and their adjacent waters, and the country opposes any military intervention in this area, a spokesman for China's Ministry of Defense said Tuesday...According to relevant rules, a regular combat-readiness patrol system has been established in sea waters under China's jurisdiction.*<sup>45</sup>



<sup>44</sup> *Annual Report to Congress, "Military and Security Developments Involving the People's Republic of China 2012", May 2012. p2.*

<sup>45</sup> China Daily, China opposes intervention in South China Sea, 31 Jul 2012, [http://europe.chinadaily.com.cn/china/2012-07/31/content\\_15635782.htm](http://europe.chinadaily.com.cn/china/2012-07/31/content_15635782.htm)

## Taiwan

Were Taiwan to be attacked, the USA would inevitably be drawn-in, leading to a Sino-US confrontation. China's strategy of denial of sea-space ('Anti-Access - Area Denial [AA/AD]') by means of tactical ballistic missiles would considerably de-stabilize the situation, prompting concern over whether such missiles might hold nuclear or chemical warheads. A confrontation of such a magnitude would be utterly unlike the regional conflict over Vietnam and upon its outcome would depend the power balance for 50 years. Britain could hardly avoid sustaining its most important ally. Were Britain to fail to do so, it would confirm US scepticism over the value of the UK as an ally. In any case Britain is still committed to the Far East through her Five Power Defence Arrangement (FPDA) with Australia, New Zealand, Malaysia and Singapore.

## South China Sea

*'Roughly half of the goods transported between continents by ship go through the South China Sea... The area has vast, largely untapped natural resources - including oil reserves of seven billion barrels and an estimated 900 trillion cubic feet of natural gas.'*<sup>46</sup>

China's attitude seems one of assertive confrontation. She is currently involved in 15 separate border disputes with her neighbours. According to Agence France Presse:

*'China is growing 'more aggressive' in dealing with rival territorial claims, ... after a fresh spat erupted between Tokyo and Beijing over a remote chain of islands. It looks like they are becoming more aggressive every day,' said Philippine Foreign Secretary Albert del Rosario, whose own country is locked in a months-long dispute with China over a shoal [Scarborough Reef] in the South China Sea.'*<sup>47</sup>

*Nearly every Asian country with a coastline is fortifying its submarine fleet amid territorial disputes stirred up by an increasingly assertive China and the promise of bountiful natural resources...*<sup>48</sup>

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<sup>46</sup> "US faces challenge as Asian submarine fleets swell, sending battle for control underwater." by ERIC TALMADGE | Associated Press | Jan 19, 2012.

<sup>47</sup> <http://stratrisk.com/geostrat/4383>

<sup>48</sup> Jakarta Globe, *Battle for Control of Asia's Seas Goes Underwater*, 19 Jan 2012: <http://www.thejakartaglobe.com/asia/battle-for-control-of-asias-seas-goes-underwater/492371>

*China is pouring money into enlarging and modernizing its fleet, and India is planning to get a nuclear-powered attack submarine – the INS Chakra – on a 10-year lease from Russia as early as this month’<sup>49</sup>*



**Figure 14 – China’s Aircraft Carrier, Shi Lang, undergoing sea trials**

In Jun 2012, Hanoi passed legislation designating both the Paracels and Spratlys as part of Vietnam. Beijing responded by allowing the state-owned China National Offshore Oil Corporation to call for bids to explore for oil in the disputed waters. Beijing’s efforts to assert its dominance over the South China Sea is believed to be behind Washington’s decision to move 60 per cent of its navy to the Asia-Pacific region by 2020.<sup>50</sup>

*‘One of the objectives that China would appear to be following is to increasingly reduce the influence of the American naval presence in the South China Sea. One would even suggest that those within the People’s Liberation Army who are among the most vehement nationalists on this issue would like to see the South China Sea actually become a Chinese lake.’<sup>51</sup>*

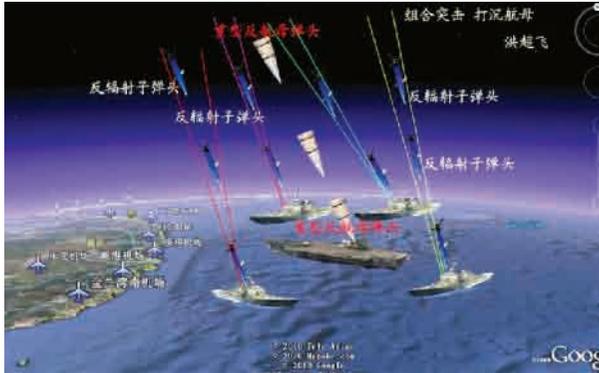
**2021: Vietnam occupies all unoccupied Spratlys. Outraged, China then invades entire Spratly and Paracel chains, bloodily evicting the Vietnamese. US then attempts to coerce China into withdrawing and, to deter any threat to Taiwan, moves 2 Carrier Battle Groups into the South China Sea. US/Chinese confrontation NW of Luzon. China persuades Kim Jong-Un to threaten Japan. North Korea fires ‘test’ missiles over Japan.**<sup>52</sup>

<sup>49</sup> *Annual Report to Congress*, “Military and Security Developments involving the People’s Republic of China 2012”, May 2012. p2.

<sup>50</sup> Reuters, 8 Jul 2012:  
<http://www.telegraph.co.uk/news/worldnews/asia/vietnam/9384845/Anti-Chinese-protests-in-Vietnam-as-South-China-Sea-tensions-rise.html>

<sup>51</sup> Eurasia Review 26 Jul 2012:  
<http://www.eurasiareview.com/26072012-south-china-sea-us-concerned-about-chinese-troops-plans-on-disputed-paracel-island/>

<sup>52</sup> On July 2 2009, North Korea test fired a series of at least four surface-to-ship cruise missiles into the Sea of Japan (East Sea). Two days later, on July 4, they proceeded to test fire a further seven Scud-type ballistic missiles into the same sea.



US confrontation with China off S Korea. US requests Allied support. Australia moves a sizeable Task Force rapidly to reinforce. In accordance with the Five Power Defence Arrangements (FPDA), Malaysia requests Australian, British and NZ reinforcement. Britain deploys HMS Prince of Wales (POW) to Singapore with her 12 F-35B embarked. China warns 'imperialist' Britain not to interfere in South China Sea and encourages Argentina to threaten Falklands. China declares a Military Exclusion Zone in her 'Territorial Waters' throughout the South China Sea. On 5 Dec 2021, HMS POW, supported by 2 T-45 destroyers and one Astute submarine, moves into S China Sea. HMS POW Task Group is supplemented by 1 US Aegis cruiser, but none of the RN ships have Cooperative Engagement Capability<sup>53</sup> and cannot receive full US data.

Britain given ultimatum to move out of 'sovereign' Chinese waters. With US encouragement Britain ignores.

China fires 5 Area Denial DF-21D Tactical Ballistic Missiles, one of which impacts with POW. Fire breaks out; POW capsizes 10 Dec 2021 - 80 years to the day after the previous POW was sunk by air attack in almost the same location. US/Chinese confrontation continues. Meanwhile, concurrently, Argentina with Chinese encouragement, launches an unexpected amphibious assault on Falklands. Britain unable to react; with flagship lost, British resolve too weak to respond and islands lost. Britain humiliated and in deep despair. Govt falls.

<sup>53</sup> Removed as an economy measure in 2012. See: <http://www.defenseindustrydaily.com/cec-cooperative-engagement-for-fleet-defense-updated-03120/>

## Russia

With Vladimir Putin firmly back in power, Russia has assumed a more 'forward' posture. Despite internal protest he seems set on a revanchist course. Against the possibility of a US or Israeli attack on Iran, Russian forces in Armenia have already been bolstered from where they threaten both Azerbaijan and Georgia. These forces also give succour to the Assad Regime in Syria and counter Turkey's military posture in the region. In addition, Azerbaijan fears that were Iran to be bombed then Russia might lash out in attacking the state, severing important pipelines and disrupting the US' Lines Of Communication to Afghanistan. It is clear that the Caucasus remain critical to Russian aspirations.

**2025: An oil price of over \$150 for most of the 'teens' has fuelled Russian consumer growth and provided the wherewithal for a major modernization and expansion of Russian military forces. At the end of his 3rd term in office, Vladimir Putin had changed the constitution so that Presidents can be re-elected indefinitely. He is now on his fifth term. Europe has remained in quasi-recession since 2008, with permanently reduced defences and little appetite to become involved in global crises. NATO relies almost entirely on US reinforcements for its high-tech capabilities but, from 2011, the USA has deployed or earmarked most of her air and sea combat forces to the Pacific. Britain and France have rebalanced their nuclear deployment to share their nuclear deterrent.**

**Against a background of continuing recession, Britain in 2025 has reduced to only one jump-jet carrier with 12 F-35B embarked, together with 70 Typhoon multi-role fighters for all fighter operations. Five Astute submarines, 4 T-45 Destroyers and 9 frigates complete Britain's available air and sea forces. On land just one Division<sup>54</sup> remains, complemented by some 30,000 part-time reservists.**

**In Jan 2025, Georgian rebels in support of their claim for independence attempt to assassinate Putin. FSB<sup>55</sup> information suggests that this movement is actively supported by Lithuania, whom Russia targets coercively through cyber attack and by fomenting expatriate riots in the capital, Vilnius. Russian forces are reinforced along the border; Lithuania, in response, arrests many Russian rioters and agitators and requests NATO**

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<sup>54</sup> Division of 10,000 men.

<sup>55</sup> KGB Replacement.

and EU support. In accordance with their treaty, the Danish Division moves to Lithuania.

Lithuania occupies the Eastern part of the Kaliningrad Oblast to protect ethnic Lithuanians, whilst Polish Special Forces destroy a Russian SAM and radar site which threatens Polish airspace.

Russia evicts Lithuania from the Oblast with considerable loss of life, and moves sizeable forces to threaten the Baltic Republics.

Russia demands action in the UNSC, that foreign forces should withdraw and that there should be no US reinforcement of NATO. Russia shuts off Europe's gas pipelines. Germany, who, for ecological concerns has failed to develop her shale gas reserves and is still receiving considerable Russian gas, freezes... The US debates whether to mobilize... NATO powerless, and in disarray...

## Consequences

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*'...we feel that the Government has failed to engage with many of our arguments, and has sought to justify the Government's current position rather than taking the opportunity to look at how it could do things differently...'*<sup>56</sup>

House of Lords and House of Commons Joint Committee on the National Security Strategy

The consequential link between a crisis and an impact on a country far away is difficult to predict. Historians are excellent at analyzing the events and consequences with the 20:20 hindsight of history, but **predicting** the impact is far more difficult, and offers politicians plenty of wriggle room and the opportunity, should they so wish, to adopt an ostrich mentality, claiming perhaps that there are 'no votes in Defence'. The trouble with decisions linked solely to electoral gain is that they are all short-term, and prevent the country from taking a genuine long-term strategic view.

This paper has offered a number of scenarios as food for thought. Of course, we have barely scratched the surface when it comes to the real range of possible flash points that may explode in coming years. However, the point is not whether the scenarios are feasible, but rather whether our Forces are **adequate** or **flexible**

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<sup>56</sup> Joint Committee on the National Security Strategy Jul 2012.

**enough** deal with them, or indeed **sufficient for any of the real scenarios** the future is bound to throw at us?

The world is clearly a dangerous place, and becoming more so. A war on the scale of WWII remains unlikely, but regional conflicts, perhaps involving proxies or insurgents, in support of limited aims are all but certain. While the risk of nuclear war remains thankfully low, the possibility of a nuclear detonation by either a rogue state or a terrorist organization is increasing. Were a nuclear weapon to be detonated then preventing a scramble for nuclear weapons would become very difficult. The world would then become very unsafe.

Our aim in this paper is to suggest what might happen if politicians and their militaries fail to take steps to prevent the gradual escalation to conflict, either through weak resolve or depleted forces.

We suggest that Britain and her allies need to remain engaged, with strong general-purpose forces capable of deterring or reacting to whatever crisis the world throws at them. Only then can we hope to break a chain of events, deter opportunists and reduce risks.

***‘If you are not prepared to pay the price of peace,  
you must be prepared to pay the price of war.’***

**Harry Truman**

In our companion paper we discuss whether there is a need for a National Debate on Defence and suggest a number of questions that the Government must answer. We emphasise that, despite current fiscal difficulties, the country should progress to broad multi-party consensus on this important issue – it is, after all, one that will determine the real security legacy we leave our children.

## ANNEXES

ANNEX A TO  
UKNDA PAPER  
DISARMAMENT &  
CONSEQUENCES

### **GLOBAL POPULATION PROJECTIONS** <sup>57</sup>

#### *Demographics*

Analysts debate whether the principal demographic driver is population numbers per se or lifestyle. In reality, of course, it is the combination of the two; as populations rise so too does the demand for a better lifestyle. Professor Sir David King put it very starkly '... by 2030 we will not only have 8Bn people on this planet, we will [also] have 4Bn middle class consumers...' <sup>58</sup>

*'... a middle class of roughly the same size as the current total population of Africa, North America and Europe... Naturally, they will want mobile phones, fridges, cars and washing machines; 2,000 new cars already join Beijing's streets every day.'* <sup>59</sup>

Global population is already over 7Bn, up from 1.3Bn just over a century ago. According to UN estimates <sup>60</sup>, the rate of increase in global population is likely to peak in 2050, though by 2100 we should probably anticipate a world population of somewhere between 16Bn (high fertility) and 10Bn (medium fertility).

Within this estimate, there are wide regional variations, as the graph depicts. Europe and the Americas show little growth, while the population of Asia peaks in 2050, but the African population rises inexorably.

These UN calculations only reflect current trends and do not, for example take account of political, economic or medical changes, such as the Arab population increase after the 2 oil shocks following the 1967 and 1973 Arab-Israeli wars or, at the other extreme, the loss of approximately ½ of the European population during

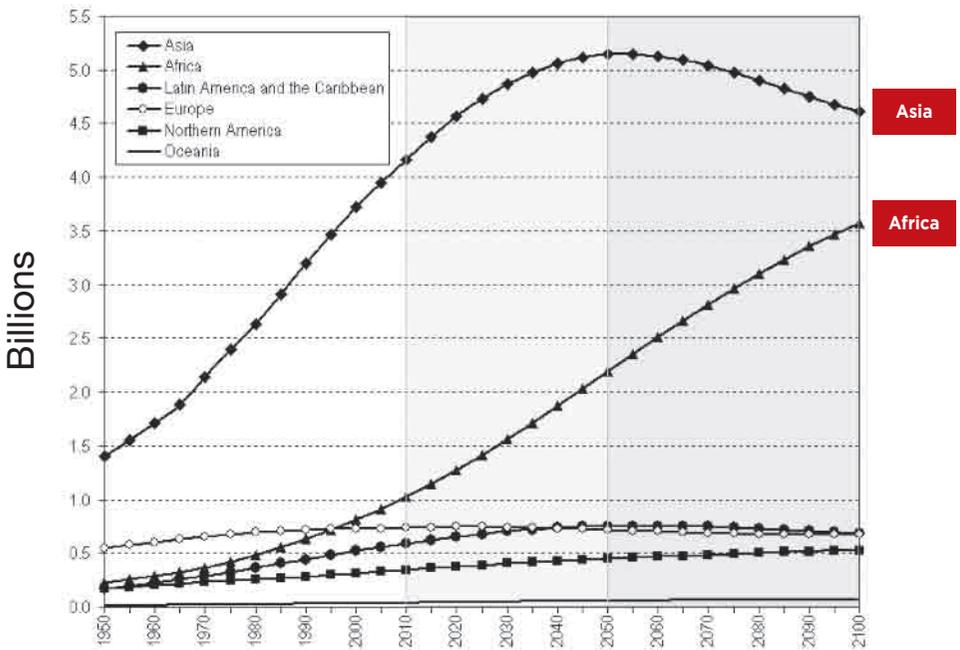
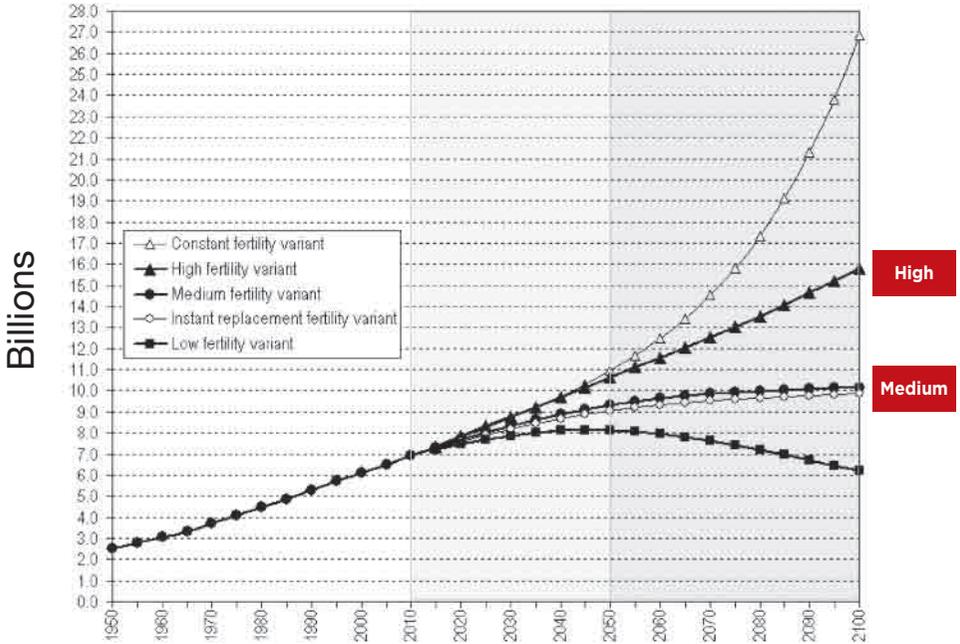
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<sup>57</sup> UN Population Division, [http://esa.un.org/unpd/wpp/Analytical-Figures/htm/fig\\_1.htm](http://esa.un.org/unpd/wpp/Analytical-Figures/htm/fig_1.htm)

<sup>58</sup> Prof Sir D King, Today Programme, Radio 4, 12 Jul 2012.

<sup>59</sup> Dambisa Moyo quoted in The Guardian 24 Jun 2012.

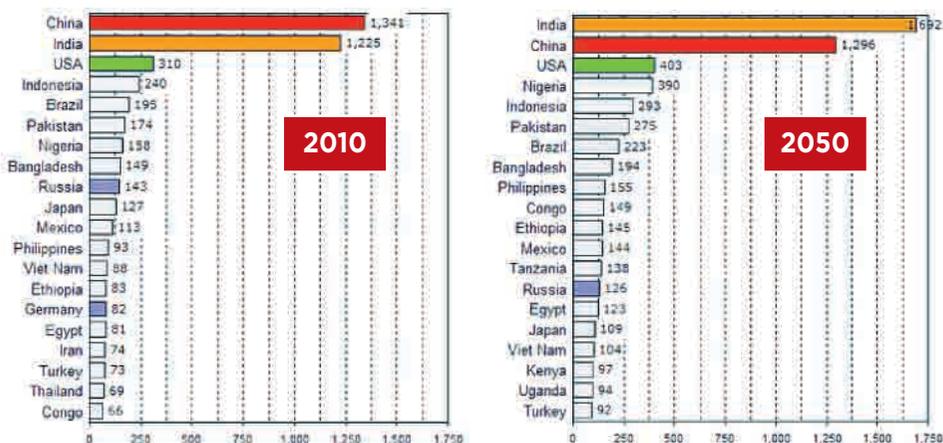
<sup>60</sup> [http://esa.un.org/unpd/wpp/Analytical-Figures/htm/fig\\_2.htm](http://esa.un.org/unpd/wpp/Analytical-Figures/htm/fig_2.htm)



the ‘Black Death’ pandemic of the 14th Century<sup>61</sup>. Moreover, ‘...the projections depend on the assumption that countries currently with high fertility will repeat the experience of developed countries that have seen a marked fall in family size. This assumption is by no means certain. For example, the pace of fertility decline in sub-Saharan Africa has proceeded more slowly than some commentators expected...’<sup>62</sup>

Even regional trends conceal wide local variations, and these become particularly important where population growth is not matched by a country’s ability to support it; in this case the population’s requirements, needs and demand are most unlikely to be met.

Between now and 2050 Russian and German populations decline, China remains almost static at 1.3Bn, whilst India rockets from the current 1.2Bn to 1.7Bn, and Nigeria from 158 to 390m. ‘The population across Africa is growing rapidly and is projected to more than double by 2050, [with] a higher proportion of young people.’<sup>63</sup> This imbalance has a number of consequences. If economic growth can



**Figure 2 - State's Populations in billions, UN Prediction**

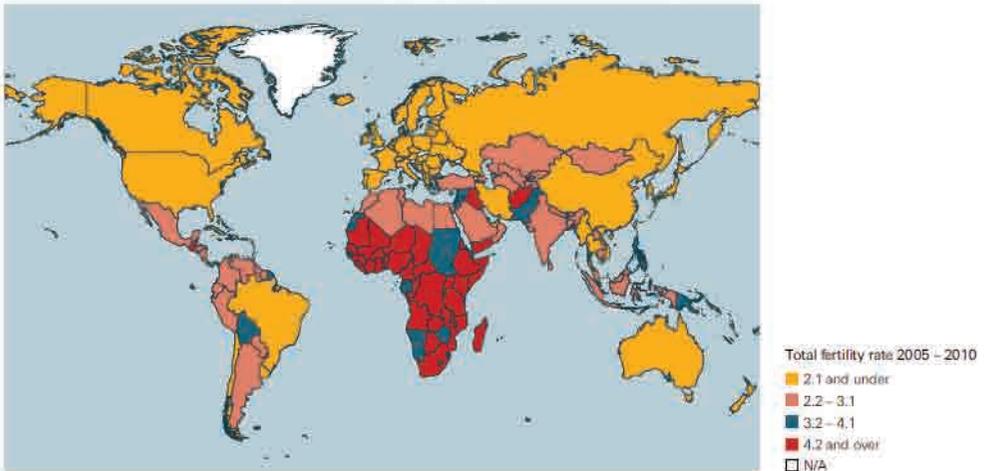
<sup>61</sup> The actual effects of pandemics are difficult to predict. For example, much concern was expressed in the 1980s over the effect on sub-Saharan populations from the spread of AIDS. Many analysts predicted population contraction of up to a third; yet in the highest risk period, from 1980 to 2005, Nigerian population rose from 70m to 135m, and is now expected to rise to over 700m by 2100. UN data: <http://esa.un.org/unpd/wpp/country-profiles/pdf/566.pdf>

<sup>62</sup> People and the Planet, Royal Society, Apr 2012. Sir John Sulston FRS et al.

<sup>63</sup> People and the Planet, Royal Society, Apr 2012. Sir John Sulston FRS et al.

match population growth the young gain employment and assimilate; conversely where there is an oversupply in the labour market, many of the young migrate with the result that '...The number of international migrants is estimated to have increased from 156 million in 1995 to reach 214 million in 2010... the More Developed Countries have seen a larger increase in the migrant share of the population from 7.2% in 1990 to 10.3% in 2010.'<sup>64</sup> Given the predictions, these migration figures are almost certain to rise.

Of course, female education and contraception have a vital role in controlling fertility. Bangladesh, for example reduced its fertility per female from 6.3 to 3.4 between 1975 and 1988<sup>65</sup>. However, while education and economic development serve to reduce fertility, both cultural and religious pressures often keep birth rates high.



Source: Harper 2012; UNPD 2011a

**Figure 3 – Fertility Rate 2005-2010**

<sup>64</sup> Ibid.

<sup>65</sup> People and the Planet, Royal Society, Apr 2012. Sir John Sulston FRS et al Ibid.

## ESSENTIAL RAW MATERIALS

*'The rising states of the east and south cherish narrow definitions of national interest, and resent the intrusions on sovereignty of a rules-based system.'*<sup>66</sup>

*'...since 1990 at least 18 violent conflicts worldwide have been triggered by competition for resources. If nothing is done now... commodity wars on a terrifying scale are all but inevitable...'*<sup>67</sup>

Essential raw materials provide a *casus belli* when their supply is **perceived** as insufficient to meet essential demand. At this stage hoarding – both nationally and individually – occurs, speculators manipulate prices and consumers begin to view the situation as a zero-sum game. Obviously, the situation is exacerbated where populations rise, particularly if supply is known to be reducing, perhaps where finite resources are becoming exhausted or are no longer economic to develop.

## Water and Food

*'It is estimated that by 2025, 1,800 million people will be living in countries or regions with absolute water scarcity, and two-thirds of the world population could be under stress conditions... Given the population of Africa is set to rise from 1 billion in 2010 to 2.2 billion in 2050, water stress for the continent will become increasingly likely. The situation will be exacerbated as rapidly growing urban areas place heavy pressure on neighbouring water resources.'*<sup>68</sup>

The map opposite shows the extent of desertification now:<sup>69</sup>

*'In 2010 China had 40 cities with populations of more than a million; by 2020 it plans to have added another 225... Noting that Himalayan glaciers which*

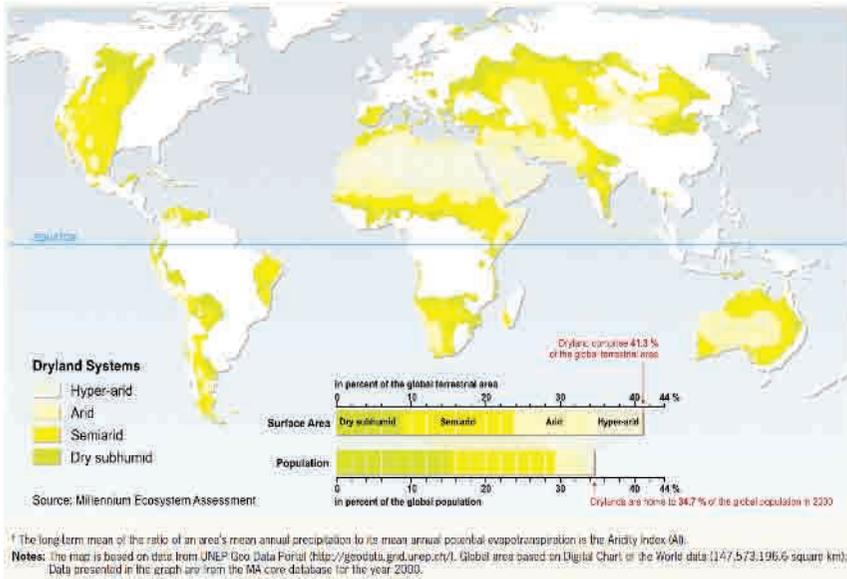
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<sup>66</sup> “How a self-sufficient America could go it alone”, by Philip Stephens | FT | 12 Jan

<sup>67</sup> Dambisa Moyo quoted in The Guardian 24 Jun 2012.

<sup>68</sup> People and the Planet, Royal Society, Apr 2012. Sir John Sulston FRS et al.

<sup>69</sup> Ecosystems and Human Wellbeing:  
<http://www.millenniumassessment.org/documents/document.355.aspx.pdf>



**Figure 4 - Desertification in 2012**

feed the rivers are melting due to global warming, India's Strategic Foresight Group last year estimated that in the coming 20 years India, China, Nepal and Bangladesh will face a depletion of almost 275 billion cubic meters of annual renewable water. ... China will have to divert water from Tibet to its dry eastern provinces. One plan for rerouting the Brahmaputra was outlined in an officially sanctioned 2005 book by a Chinese former army officer, Li Ling. Its title: 'Tibet's Waters Will Save China'...

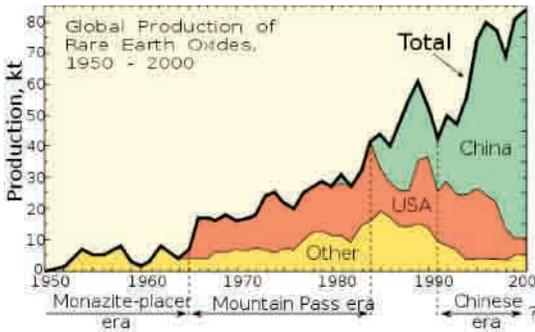
One analyst believes 'the issue is not whether China will reroute the Brahmaputra, but when.' He cites Chinese researchers and officials as saying that after 2014 work will begin on tapping rivers flowing from the Tibetan plateau to neighboring countries. Such a move, he says, would be tantamount to a declaration of war on India.<sup>70</sup>

## Rare Earths & Minerals

The Royal Society has warned that inefficient use of 17 particular scarce metals (the rare Earths) could cause serious problems in the future - and urgent action is

<sup>70</sup> Water Wars: China's New 'Political Weapon'? ; Huffington Post 16 Apr 11, [http://www.huffingtonpost.com/2011/04/16/water-wars-china-political-weapon\\_n\\_850061.html](http://www.huffingtonpost.com/2011/04/16/water-wars-china-political-weapon_n_850061.html)

needed to preserve them. These elements are essential for electronic components in computers, communications and catalysts. Currently, China controls 95% of their production. See below:



China's aim is to export finished products, rather than raw materials. At present, China is likely to turn from exporter to importer of these vital industrial ingredients by as early as 2014 as it boosts consumption in domestic high tech industries. Were this situation to proceed unchecked, and if no technological alternatives

were found, China could soon dominate the entire global electronics industry.

Although defunct mines could be reopened and new sources exploited (eg Mt Weld in W Australia), for the time being at least China has a stranglehold on the market, certainly until the ecological issues can be resolved.

*'Almost all rare earth deposits — common in countries such as the United States, Australia, Brazil and Russia — are mixed with contaminants such as thorium and uranium, radioactive elements that are removed with a mixture of heavy-duty chemicals when the metals are refined.'*<sup>71</sup>

This causes ecological concerns. Malays, for example, are contesting the opening of an Australian processing plant near Kuantan on the Malaysian East Coast since it will necessitate the dumping of 20,000 tons per year of radioactive waste, in an area noted for its tourism.

The Obama Administration and the EU are currently taking the PRC to court over the availability of Rare Earths. Until new sources can be brought on stream this issue remains a potential global flash point.

This is a situation reflected in the availability of several other essential minerals, with copper, lead and zinc also in such short supply that any one may fail to satisfy burgeoning demand, and provide a flashpoint.

<sup>71</sup> Global Mail 20 Jul 2012, <http://www.theglobalmail.org/feature/what-a-battle-over-rare-earths-has-to-do-with-your-iphone/310/>

## OIL PROJECTIONS

### Energy

*'World primary energy consumption grew by 2.5% in 2011... The center of gravity for ... consumption continues to shift from the OECD to emerging economies, especially in Asia.'*<sup>72</sup>

Energy is hugely price-sensitive. With oil at approximately \$30 per barrel, only legacy (largely OPEC) production is profitable, but with oil at \$100 per barrel new technologies offer good prospects for very deep water drilling, and shale fields become economically viable. However, let oil prices rise too far, to (say) \$200 per barrel, then consumers switch from fossil fuels to renewables, and to electric cars; even nuclear powerplants suddenly become highly attractive, outweighing other concerns.

Much of the current energy demand is satisfied by non-oil fossil fuels; coal now accounts for 30.3% of global energy consumption with consumption growing by 5.4% in 2011 alone. According to BP, reserves should last 112 years, though with considerable adverse ecological impact. Virtually all the increase in coal production and consumption occurs in the Asia Pacific Region, with China alone accounting for 49% of both production and consumption.

In 2011 natural gas production rose by 3.1%, with known reserves likely to meet 63 years of production. Following the commercial exploitation of shale fields, the US (+7.7%) recorded the largest volumetric increase despite lower gas prices, and remained the world's largest producer. Output also grew rapidly in [conventional gas] in Qatar (+25.8%), Russia (+3.1%) and Turkmenistan (+40.6%), more than offsetting declines in Libya (-75.6%) and the UK (-20.8%)<sup>73</sup>. Fracking technologies, now widely used in the US, offer the prospect of a sizeable increase in global natural gas reserves despite ecological concerns (See Annex D). At current production rates, America has over a century's supply of gas, half of it stored in shale and other

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<sup>72</sup> BP Statistical Review of World Energy 2011. Bp.com/statistical review

<sup>73</sup> BP Statistical Review of World Energy 2011. Bp.com/statistical review

'unconventional' formations. Potentially, such technologies offer the strategic possibility of eradicating Western dependence on Middle Eastern oil.

## Oil

*...Oil remains the world's leading fuel, at 33.1% of global energy consumption... World proved oil reserves at the end of 2011 reached 1652 billion barrels, sufficient to meet 54 years of global production.*<sup>74</sup>

Of course, further finds are likely (see Annex D), and many finds probably remain secret, but a lot of small puddles are required to match the vast oil lakes in Saudi Arabia, where 90% of current production comes from just 5 fields, all discovered before 1965, and now in decline. For every barrel replaced by new fields the extraction costs have more than doubled and as ever more exotic fields are drilled so the price rises ever further (See Annex D).

While oil was plentiful, political disturbances had little effect on price as local or temporary shortage was easily replaced. However, as oil supply decreases (particularly as middle class demand increases), there is likely to be huge volatility in price, generated as a result of perceived shortages or other political or supply/demand pressures. Since Britain remains heavily oil-dependent, fluctuations in oil price inevitably fuel inflation, increase borrowing and stifle growth.

*China wants to obtain 15 billion to 20 billion additional barrels of foreign oil reserves over the next few years, so it has [invested heavily in Canadian shales and] also has its eyes on an enormous heavy oil field in the Orinoco Belt, in the northeast part of Venezuela.*<sup>75</sup>

Despite the rise in ecologically sound renewable energies, demographic pressures, economic expansion and greater than hitherto unrequited demand will necessitate an ever increasing requirement for fossil fuels.

While demand increases, so to do the opportunities for mischief-making. At the time of writing, Iran was constructing a nuclear powerplant, though refining her

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<sup>74</sup> BP Statistical Review of World Energy 2011. Bp.com/statistical review. While Libya and Nigeria account for 5.2% of global oil reserves, Canada is judged to hold 10.6%, but the vast predominance still occurs in the Middle East (48%). That said, the recent discovery of the vast Orinoco Field in Venezuela now places that country in the lead with 17.9% of the global reserves.

<sup>75</sup> <http://www.nytimes.com/2011/10/26/business/energy-environment/new-technologies-redraw-the-worlds-energy-picture.html?pagewanted=all>

uranium to weapons-grade. Attempts to prevent her acquisition of a weapon resulted in threats to close the Straits of Hormuz. According to oil analysts, this threat alone added \$25 to the price of a barrel. Simultaneously, at a more local level, rising oil demand empowered workers (Nigerian workers went on strike), whilst insurgents in Iraq used the opportunity to attack the regime. Though there is currently no shortage of oil reserves, spare oil production capacity is wafer thin.

Future prospects are far from rosy, but as this NY Times article suggests, the rate of diminution is not precipitate:

*'From the high Arctic waters north of Norway to a shale field in Argentine Patagonia, from the oil sands of western Canada to deepwater oil prospects off the shores of Angola, giant new oil and gas fields are being mined, steamed and drilled with new technologies. Some of the reserves have been known to exist for decades but were inaccessible either economically or technologically..'*

[Against known reserves of over 16 hundred billion barrels,]

*'Put together, these fuels should bring hundreds of billions of barrels of recoverable reserves to market in coming decades and shift geopolitical and economic calculations around the world. The new drilling boom is expected to diversify global sources away from the Middle East, just as the growth in consumption of fuels shifts from the United States and Europe to China, India and the rest of the developing world.'*

*'Global deepwater oil production leapt to roughly seven million barrels a day in the last 11 years, up from 1.5 million barrels, and now provides about 8 percent of the world's oil supply. That production could double by 2020, according to experts.'*

*'Most of the drilling is in the Gulf of Mexico, off Brazil, Australia and India, and along the west coast of Africa. But only about 10 percent of the world's deepwater oil and gas fields have been extensively explored and drilled.'*<sup>76</sup>

*'Oil sands have been around for decades, but they were too expensive to produce at large scale. Then rising oil prices altered the economics in their*

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<sup>76</sup> NY Times 25 Oct 2011 Business Section.

<http://www.nytimes.com/2011/10/26/business/energy-environment/new-technologies-redraw-the-worlds-energy-picture.html?pagewanted=all>

*favor — attracting multibillion-dollar investments from international oil companies, including those in China. Chinese companies have invested more than \$15 billion in Canadian oil sands projects over the last two years, even though there is not yet a way to get the fuel to China.*

*'Since 2000, production has expanded to more than 1.5 million barrels a day of synthetic oil from 600,000, making Canada's oil sands the most important source of oil imported to the United States.'*<sup>77</sup>

The International Energy Agency (IEA) - in its November 2008 world energy outlook - gave the following estimates for the all-in costs of producing oil from various types of hydrocarbons in different parts of the world:

<b><i>Estimated Production/source</i></b>	<b><i>Costs (\$ 2008)</i></b>
<i>Mideast/N.Africa oilfields</i>	<i>6 - 28</i>
<i>Other conventional oilfields</i>	<i>6 - 39</i>
<i>CO2 enhanced oil recovery</i>	<i>30 - 80</i>
<i>Deep/ultra-deep-water oilfields</i>	<i>32 - 65</i>
<i>Enhanced oil recovery</i>	<i>32 - 82</i>
<i>Arctic oilfields</i>	<i>32 - 100</i>
<i>Heavy oil/bitumen</i>	<i>32 - 68</i>
<i>Oil shales</i>	<i>52 - 113</i>
<i>Gas to liquids</i>	<i>38 - 113</i>
<i>Coal to liquids</i>	<i>60 - 113</i>

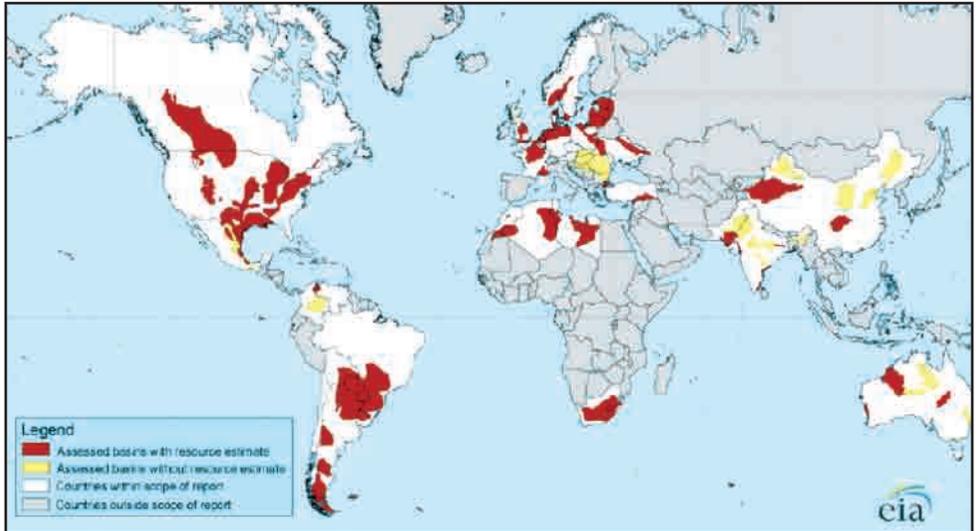
**Source:** International Energy Agency World Energy Outlook 2008

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<sup>77</sup> <http://www.nytimes.com/2011/10/26/business/energy-environment/new-technologies-redraw-the-worlds-energy-picture.html?pagewanted=all>

ANNEX D TO  
UKNDA PAPER  
DISARMAMENT &  
CONSEQUENCES

## FRACKING AND ITS STRATEGIC IMPLICATIONS



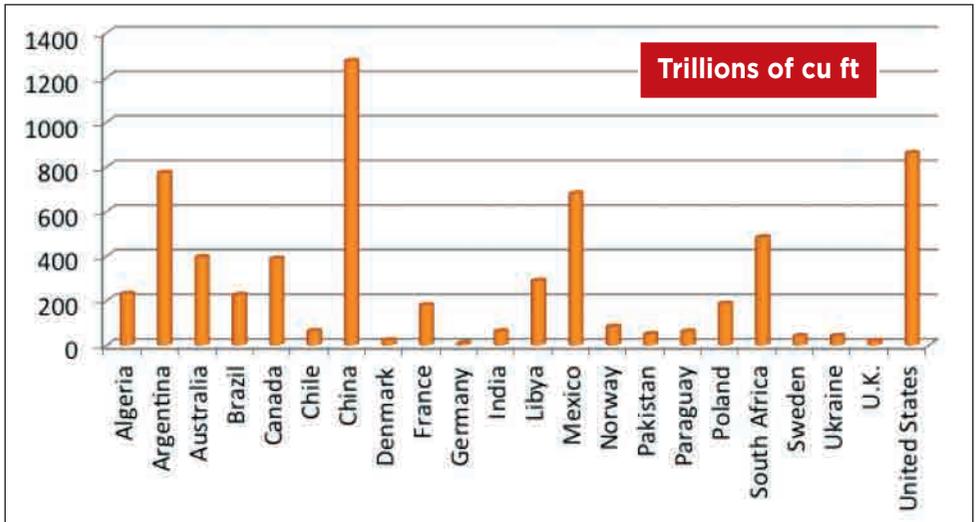
Strategically, exploitation of Europe's and North America's shale deposits represents one of the most important decisions Western leaders face, potentially removing Western dependence on Russian and Middle Eastern oil and gas

About 10 years ago two developments in the oil industry matured to the point that a revolution started in our capacity to extract natural gas. One was directional drilling. The other was the extracting of 'tight' gas from shale strata through pumping in high pressure water. Directional drilling is not new but the capacity to drill deep vertical holes and then send out multiple horizontal holes to access a large blocks deep underground is. This technology has many uses but one is to reach large areas of shale strata at depth at modest cost and then release the trapped gas reserves found there. This process is called fracking. Hydraulic fracturing has been around for fifty years as an aid to the extraction of tight gas in sandstones and limestones, but now it is being used to extract gas from the less permeable shales.

It has long been known that shales contained small pockets of gas [tight gas] but the key to exploitation came with ultra high pressure water pumping, with chemical

additives, which fractures the rock, increasing permeability, so that reservoir pressure in the shales can force the gas up the vertical drill holes. Large scale development of this technique in the United States over a 10 year period has demonstrated beyond doubt that this is a large new source of natural gas [NG].The price of NG in the USA has halved and LNG imports from the Middle East have ceased. The USA has even started to export gas. It is now thought that the USA has NG reserves for a century. It may shortly be independent of all energy imports.

Gas rich shales are thought to be common but, as nobody has previously looked for them, it is not yet known where they all are. Parts of the USA have them in abundance. They have been found in Britain, Poland, France , Germany and several other places. More are sure to turn up, probably quite quickly given the scale of the economic prize for success, aided by advances in geophysics which help interpret the nature of rock strata at depth prior to drilling. Britain should be one of the first countries after the USA to exploit significant reserves if politics don't get in the way. As is clear from the figures in the graph below, the largest deposits discovered thus far are in Argentina, Canada, China, Libya, Mexico. South Africa and the USA:



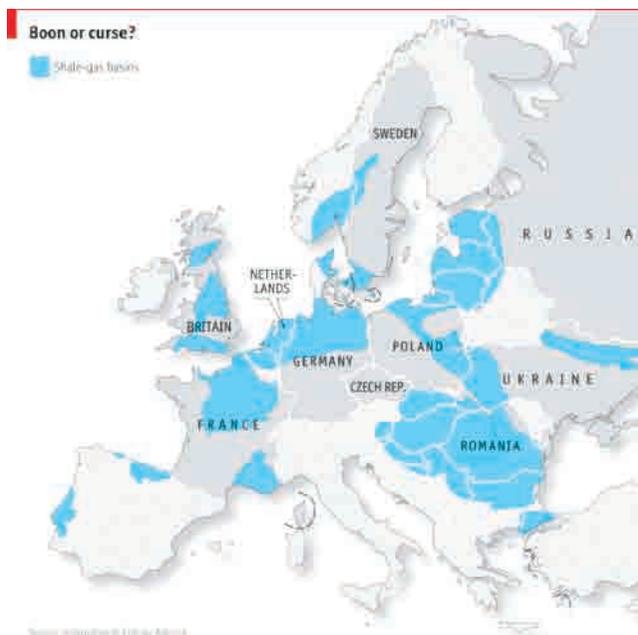
The Greens are dismayed by the emergence of shale gas. Gas provides low carbon energy but it is not no carbon. Cheap and abundant supplies of NG are bound to make windfarms, biomass, solar etc look even more unaffordable. It could well slow down nuclear development. Replacing very unclean coal will help lower carbon emissions. It seems unlikely that the small earth tremors which result from fracking

will stand in the way of development. Tap water has been known to suffer some pollution from the large quantities of waste water inherent in the process but in the USA this has been no more than an irritant. France leads the anti-fracking league but the prize is big and it seems unlikely that the antis will fight more than a rearguard action.

If the USA has become self sufficient in gas in 10 years it is reasonable to assume that Britain will at least substantially reduce its dependence on imports rapidly, though its shales appear to be thinner and less gas rich than in the USA. The green lobby may also be more effective in causing delay. Poland will in due course supply Germany if the Germans don't develop their own sources, ending that country's dependence on Russian supplies. Russia will be very unhappy about this. Indeed the implications of fracking are very serious for Russia. Who else will benefit? China will for sure and France very probably. There will be many others.

All this is not good news for the Middle East. The USA is bound to take less interest in the region's security. It will be the principal source of oil for many years but NG can power cars now and be converted into oil at a price well below current oil prices. A determined USA will probably be self sufficient in energy within a few years. Western Europe could follow if it is prepared to spend the money and see off the Greens.

It is not science fiction to expect the shale gas revolution to rebut the presumption that the world is bound to run out of hydro carbons as its principal source of energy within the foreseeable future. It should also mean that the West will be far less dependent on politically unstable places for essential energy supplies. How long will this take? Nobody knows.



## AUTHORS

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