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## Chapter 6

# Grand global futures challenges

### Canvassing global perspectives

Anyone who thinks deeply and looks beyond their own household will see a large number of global challenges as unpredictable futures rush towards us. The challenges we face for near and long-term futures have been called a crisis of crises. They range across the gamut of socio-cultural, geo-political, and environmental domains. Bearing in mind that all these challenges are complex and systemically interconnected, this chapter offers multiple starting points for further dialogue. Futurists discuss the grand global challenges from a variety of perspectives.

James Dator calls them the 'Unholy Trinity, Plus One'. Dator's Unholy Trinity is the end of cheap and abundant oil; multiple environmental challenges; and global economic and fiscal collapse. Dator's Plus One is lack of adequate government intervention. Jorgen Randers claims that a sustainability revolution is under way, but that it will take most of this century to complete. He identifies five big issues, which are inextricably linked with the sustainability revolution and its likelihood of success. His big issues are the end of capitalism, the end of economic growth, the end of slow democracy, the end of generational harmony, and the end of stable climate. Futurist, ethical economics expert, and author Hazel Henderson also focuses on one central transition. In

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her 2014 monograph *Mapping the Global Transition to the Solar Age*, Henderson highlights the transition from the obsolete industrial era mind-set to an emerging solar age as a path to a 'more green and sustainable economic future'.

In *All Tomorrow's Crises* Kreibich identifies ten critical megatrends (including pressures on the environment through indiscriminate exploitation of natural resources, population growth and demographic change, globalization of industry, and increased global mobility). He also notes ten core global change problems (including climate change, pollution of oceans and atmosphere, threats to food and water security, global epidemics, and increase in non-sustainable lifestyles). Kreibich's concern, that we are ignoring the resources at our disposal, echoes Dator.

The core problems of global change are even now deeply affecting all areas of life, and although we already have a great deal of knowledge about the future, very little is being done. There is a huge gap between the challenges—even crises—that we know lie ahead and the practical responses offered on the global, national, and regional levels.

Glenn and Gordon from the Millennium Project (MP) use '15 Global Challenges' as a useful framework to assess global and local prospects for humanity. They include environmental issues such as sustainable development and climate change, clean water and energy; social issues such as population and resources, rich-poor gap, education and learning, status of women and health; science and technology including global convergence of IT; and geo-political issues such as global ethics, transnational organized crime, peace and conflict, democratization, and global foresight and decision-making. Their continuous research with over 4,000 global experts has been reported annually since 1996 in the *MP State of the Future Report*.

The World Economic Forum publishes an *Outlook on the Global Agenda Report* each year with ten trends that will have the biggest

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impact on the world short-term (twelve to eighteen months).  
 Introducing the 2015 report Al Gore noted the inextricable links  
 between the two dominant issues, economic and environmental.  
 In summary:

Today, we see the consequences of short-term economic thinking  
 and the reckless use of our planet's resources: water disputes  
 between neighbouring nations, more frequent and powerful  
 extreme weather events brought on by our warming climate, an  
 on-going global deforestation crisis, a rapidly acidifying ocean,  
 eroding topsoil and agricultural capacity, and an alarming  
 biodiversity crisis unparalleled in modern history.

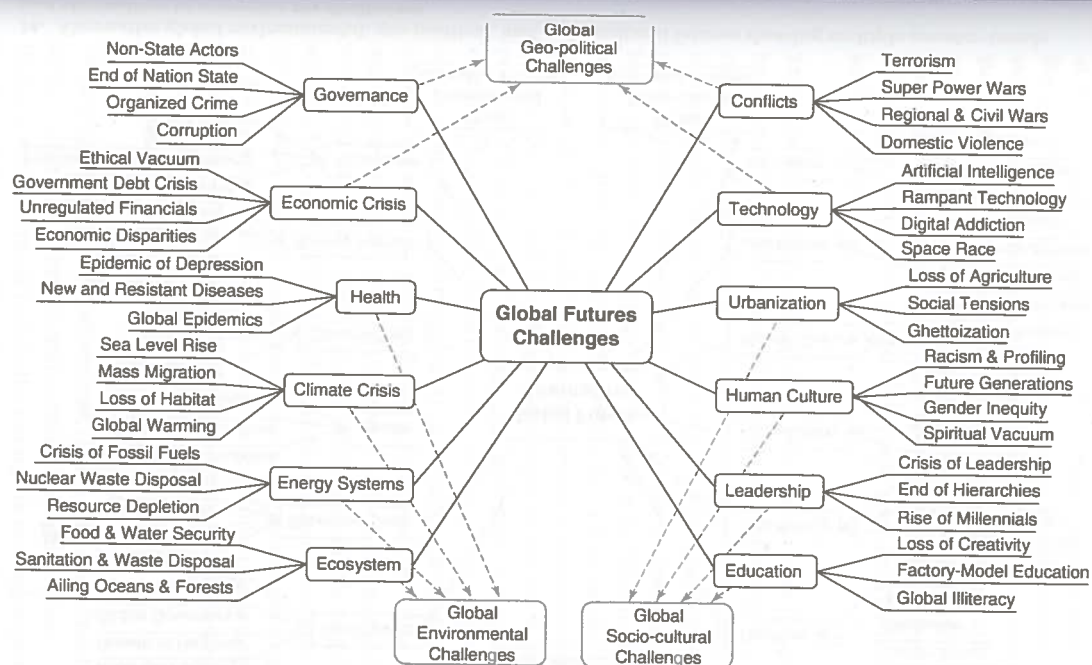
#### The Future

Based on these global perspectives, and my own research and  
 analysis, I synthesize the major global futures challenges into twelve  
 clusters of issues across three broad domains: environmental,  
 geo-political, and socio-cultural. My first mind-map (see Figure 13)  
 includes current trends likely to create major problems for futures  
 of humanity. In a second mind-map I include counter-trends,  
 twists, and surprises (see Figure 14). These alternative futures  
 have potential to mitigate, disrupt, or even reverse the dominant  
 trends and enable others to imagine and create alternatives to the  
 disturbing trends being forecast. Then I focus on Three Grand  
 Global Challenges: growing urbanization, lack of (or inadequate)  
 education, and climate crisis.

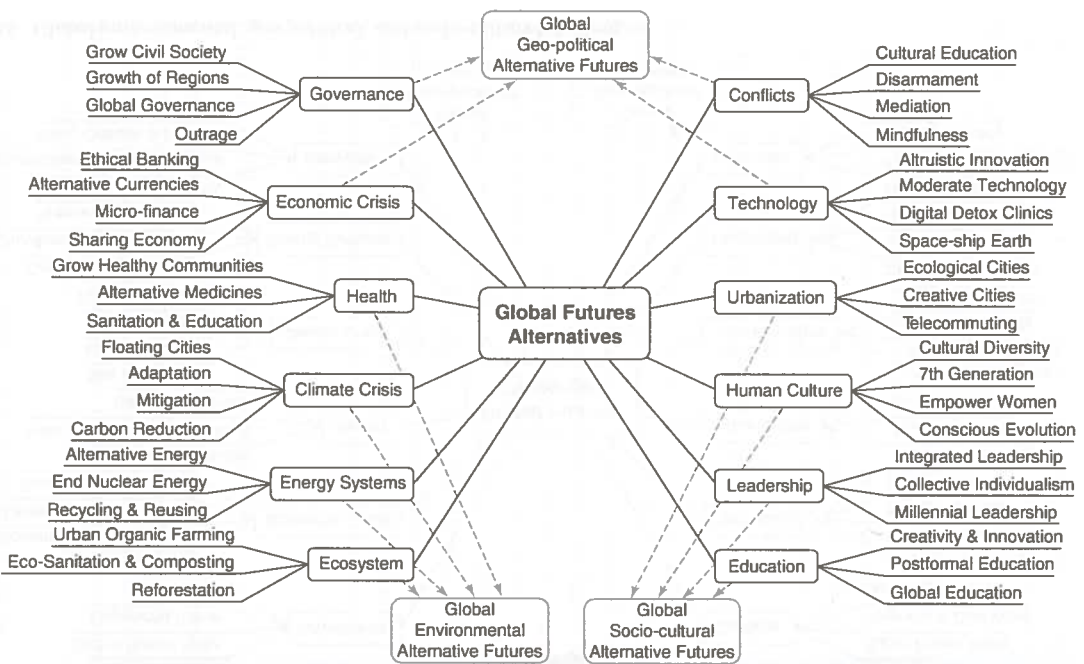
#### Environmental trends and surprises

In the broad environmental domain ecosystem, energy systems  
 and climate crisis are clearly interconnected. I include health  
 because healthy human futures are so reliant on how we deal with  
 the future of our earth, its atmosphere, biosphere, climate, plants,  
 oceans, and sentient beings.

The entire ecosystem of the earth is under severe strain and we  
 have known this for decades. There are widespread concerns



13. Global environmental, geo-political, and socio-cultural challenges.



14. Alternative global environmental, geo-political, and socio-cultural futures showing multiple counter-trends and alternatives to overcome the challenges.

about food and water security for an expected global population of 9 billion by 2040, based on UN Department of Economic and Social Affairs (DESA) projections 2015–50. Increasing water stress is one of the top ten trends in the World Economic Forum Report for 2015. From an economic and resources perspective, growing urbanization means that rural land is shrinking. Given that rural regions have traditionally supplied most of the food for urban areas, reduced rural land and populations could lead to serious food shortages.

There are many weak signals globally that citizens want to take back control over their food and water security. Attempts to control global food supply by multinationals such as Monsanto are increasingly being resisted by national governments in response to popular demand. Similarly, the Bolivian people successfully took back their urban water supply from corporates in 2000 in a series of protests called the Cochabamba Water War. Cities seeking to create sustainable solutions are experimenting successfully with vertical gardens, bush food forests, and urban farms, which are part of the growing creative and eco-city movement designed to deal with food security. Cuba embraced and adopted sustainable solutions in its search for political and economic independence after the US embargo. Havana is now a world leader in urban agriculture with more than 50 per cent of its fresh produce grown within the city limits, using organic compost and simple irrigation systems. Organic agriculture, urban gardening, permaculture, herbal medicines, renewable energy, and waste minimization have all developed rapidly since 1990. Signals of a shift from extractive to ecological alternatives to ailing oceans, deforestation, and waste disposal—through reuse and recycling—are weak but not insignificant.

Disturbing energy trends include peak oil and the crisis of fossil fuels, nuclear waste disposal, and overall resource depletion. Welcome counter-trends include the upsurge in renewable energy, the growing awareness of the global need to reuse and recycle,



particularly among young people, and the movement to end nuclear energy, because of the near impossibility of eliminating the dangers of waste disposal.

In the global health domain, new and resistant diseases are emerging, some of them threatening to reach pandemic proportions. A global epidemic of mental health problems includes depression, anxiety, and suicide, particularly among the young. In the USA suicide is the third leading cause of death among children aged 10–14 and the second among young people aged 15–34 years. The World Bank claims that depression is a major contributor to the overall global burden of disease. In April 2016 the World Health Organization cited depression as the leading cause of disability, affecting an estimated 350 million people of all ages globally. Counterpoints to these alarming trends include a renewed focus on healthy communities, futures visioning work with young people, alternative and traditional medicines to complement antibiotics, better sanitation in countries most in need, and, last but not least, global educational transformation.

#### The Future

### Trends and twists in global power

As part of global power I include the geo-political issues of governance and conflicts, economic issues, and technology—the latter because digital technologies are so ubiquitous that we cannot isolate the power structures from the technologies they are embedded in. Future global governance challenges stem from the shift from a bi-polar (Cold War) world to a multi-polar world (G–20); the rise of non-state actors such as terrorist networks, aided and abetted by the digital revolution; and organized crime and corruption across many levels of global society. There is a paradox with respect to the nation-state: on the one hand there is an intensification of nationalism, which the World Economic Forum (WEF) *Outlook on the Global Agenda Report for 2015* views as a demand for protection against the perceived economic disruption and social dislocation caused by globalization. On the

other hand an erosion of power of the nation-state to deal with the complexity of issues leads to a parallel rise in power of city mayors. The tension is evident in the chaos of the British referendum to exit the European Union. The twists and counter-turns in the play of power include growth in high-level global non-government organizations such as the United Nations and its subsidiaries since the end of the Second World War, the emergence of regional geo-political and economic partnerships, such as BRICS (Brazil, Russia, India, China, and South Africa); and the explosion of civil society activism both on the ground and digitally. The Outrage movement is a powerful example of the energy that can be mustered to counter the corruption and abuse of power experienced by everyday citizens.

Economic crisis dominates discussion on global futures challenges. While the media focuses on rising and falling share prices, interest rates, property values, and whether there will be another GFC, another looming economic crisis is largely invisible. In the last few decades the disparity between rich and poor has increased exponentially, both within nations and across the globe. In the WEF *Outlook 2015* 'deepening income inequality' was at number one. In the USA the richest 1 per cent of Americans own 45 per cent of America's wealth, while the bottom 50 per cent of Americans do not own anything. The WEF report indicates that this is not just a problem for developed countries but rather in most countries 'the poorest half of the population often controls less than 10% of its wealth'. While the free market argument is that wealth will trickle down to the needy, in most cases the increasing wealth continues to 'trickle up' to the already wealthy. The WEF research cites improved education as one of the best solutions. On the alternative futures horizon we find the rise of the sharing economy, micro-finance, alternative currencies, the love economy, and ethical banking. None of these will overcome the ethical/moral vacuum lying under the greed of the grasping billionaire minority who must daily turn a blind eye to the needs of the common good. Only individual moral awakening can achieve this.

The shape of conflicts is changing to reflect the geo-political tensions between globalism and nationalism, the growing economic disparity, the rise of non-state actors, and the freedoms and shadows of the digital revolution. As an example, terrorist group ISIS jumped in opportunisticly to take advantage of the chaos of the British exit from the European Union. Lone wolf terrorists, who may be isolated psychopaths, claim allegiance to Islamist jihad as a way to justify their crimes. Growing economic disparity is a sleeping giant in terms of potential conflict if disenfranchised populations decide to take united action. Such revolutionary energy of the disenfranchised was amplified digitally in the initial surge of the Arab Spring to overthrow despotic governments. It was largely orchestrated by the millennial generation in North Africa, using Twitter and Facebook. Notwithstanding that, the surge was too weak to sustain itself. Like most violence and conflict, cyber-terrorism has both a geo-political and domestic face. We are only seeing the tip of the iceberg in terms of the socio-cultural and economic impact of emerging issues such as cyber-bullying, cyber-stalking, and identity theft in the domestic arena.

### Socio-cultural trends and counter-trends

After brief pointers on the broad domain of human culture and leadership, I focus in more detail on growing urbanization and the failure of education, globally.

Some of the entrenched global challenges in human culture are racism, as found in ethnic and racial profiling; gender inequity; neglect of the rights of future generations; and tensions arising between the extremes of religious fundamentalism and the spiritual vacuum of secularism. A promising cultural counter-trend is the emerging movement to replace GDP growth with growth in well-being as a societal goal.

A vital socio-cultural futures issue is how we care for future generations, the children of our children's children. What kind of

earth, environment, tangible and intangible resources are we bequeathing to them? This includes food and water security, safety from war, violence, and toxic environments, and, of course, quality education. Taking a cultural futures lens to future generations, we find the 7th Generation Principle of indigenous peoples, especially of North America. This principle means that elders are guided in their decisions and actions by considering the needs of their descendants, seven generations into the future. This is a wise, futures-oriented principle that has clear benefits for human and earth futures.

The WEF *Outlook 2015* ranked 'lack of leadership' in the top three challenges facing humanity. This crisis of leadership stems from the shift from old hierarchical, militaristic leadership models to new generation collaborative, digital, networked approaches; the rise of millennial post-industrial values; and the sheer complexity of life. Alternatives such as transformational, millennial, and postformal integrated leadership are arising, but will leave a leadership vacuum for some time.

### The grand urbanization challenge

Urbanization, the movement of people from rural areas into towns, cities, and, more recently, mega-cities, has been a growing global trend since the beginning of the 20th century. In 1900 only 10 per cent of the global population lived in cities. By 1950 29 per cent of the world's two and half billion people lived in cities. In 2010 the global urban population tipped beyond 50 per cent. In 2014, 54 per cent of the world's population of over seven billion was urbanized. The UN DESA Population Division (2014) projects that by 2050 the 1950 proportions will be reversed with 66 per cent of the global population being urbanized. The picture of growing urbanization is complex, diverse, and heterogeneous and there are emerging counter-trends. First, I want to make a distinction between 'old urbanization' and 'new urbanization' (sometimes called 'new urbanism').

Key drivers of old urbanization over the past fifty years were industrialization and globalization, both motivated by the desire for economic growth. The drivers of the new urbanization include sustainability and the creativity required to build a sustainable post-industrial urbanism that values people and planet over profit. In the coming decades nations of Africa, Asia, and Latin America will continue to play catch-up with the global north. Many do not want to merely copy what the old urban zones were doing fifty years ago, but to keep abreast of the new urbanization drivers: sustainability and creativity.

While sustainability is a goal of the new urbanism it is threatened by growth that is too rapid with insufficient time for basic infrastructures to be developed (such as power and water supplies, sanitation, health services, education, and transportation).

When rapid urbanization occurs in pre-industrial societies, as it has in China, Africa, parts of Latin America, and elsewhere, instead of improved living conditions the UN DESA in its *World Urbanization Prospects: The 2014 Revision* reports the following:

Hundreds of millions of the world's urban poor live in sub-standard conditions...[including] rapid sprawl, pollution, and environmental degradation, together with unsustainable production and consumption patterns.

Such rapid growth undermines the three pillars of sustainable development recommended by the Rio+20 United Nations Conference on Sustainable Development in 2012. These are 'economic development, social development and environmental protection'. Rapid urbanization does not generally benefit the whole community equally. Most industrializing nations follow the free-market American model, which brings greater social disparity and poor working and living conditions for disenfranchised immigrant workers, the youth, the elders, and women.

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Rapid urbanization also depletes and diminishes the zones of natural vegetation and wilderness that once surrounded cities and provided habitat for diverse species. New forms of regeneration of forests, grasslands, and wetlands need to be developed if we are not to turn the whole earth into a desert. The greening of established cities, like Berlin, Manchester, and New York, can be models for planners in Nigeria and western China so they do not repeat the old mistakes. There is an urgent need for more experienced urban environments to develop sustainable cities policies so that newly urbanizing regions can benefit from the hard experience of the old industrialized nations. In a globalized, interconnected world, there is no excuse for ignorance. Cities can form alliances and networks for knowledge sharing about paths to sustainability and resource management. Internet technology can be used to disseminate research and knowledge about more socially and politically equitable forms of urbanization, as we find in Scandinavian countries. However, lack of access to technology can be a consequence for those remaining in rural regions.

Efforts towards sustainable urban development in emerging nations show mixed success. Masdar City, Abu Dhabi, UAE, is due for completion in 2025 and aims to be one of the world's most sustainable, low-carbon, low-waste cities. China and Singapore are collaborating on an eco-city project, Tianjin City, designed to be a model of sustainable urban development throughout Asia and the world, planned for completion in 2020. While the reality of these cities is falling short of the ideal it is welcome to see sustainability principles being attempted globally.

The creative city movement is a counter-trend that will shape the way cities urbanize in coming decades, supported by the Creative Cities Network, a UNESCO partner. In *Creative City (2007)* Maurizio Carta points to three design dimensions: 'culture, communication and cooperation, which support the development of a creative class, and contribute to urban regeneration and

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sustainability'. These validate Richard Florida's 'creative class' and Paul Ray's 'cultural creatives'.

Some Latin American nations are examples of wise urbanization using sustainable and creative approaches to transportation (Curitiba, Brazil) and integrated social practices introduced by Mayor Enrique Peñalosa between 1998 and 2001 (Bogotá, Colombia). In Australia the desire to own a large suburban house and land is wiling before the cultural attraction of post-industrial chic, inner-urban regeneration of factories and warehouses. Creativity is central to transforming cities from black and dirty industrial wastelands to green and sustainable creative cultural hubs such as Berlin and Manchester. The post-industrial counter-trend is welcomed by millennials with their creative, green, and collaborative values. In this context, post-industrial refers to value clusters connected with creative, sustainable, and wise urbanization, rather than an outright rejection of industrialization.

### The grand education challenge

Over seventy years ago, the UN Universal Declaration of Human Rights asserted that: 'everyone has a right to education.' In 1990, the World Bank, UNICEF, UNDP, and UNESCO held a World Conference on Education for All in Thailand, creating the 1990 Jomtien World Declaration on Education for All. The Education for All (EFA) project, now run by UNESCO, has had some success in increasing access to schooling for many children and improving literacy rates overall.

However, major challenges remain for the Education for All Agenda. First, there are serious cultural implications of importing one system of education (largely Euro-American) into other cultures. Secondly, it is difficult to assess whether the increased attendance at school is actually increasing learning and life opportunities. Thirdly, it is doubtful that the imported education

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model will meet the needs of diverse cultural futures in a rapidly changing world.

Between 1990 and 2010 there has been improvement in some areas. In 1990, more than 100 million children had no access to primary schooling. In 2010, there were still almost 61 million primary school-age children out of school, 47 per cent of whom were believed to be unlikely to ever enter school. Over 30 million of the out-of-school children in 2010 lived in sub-Saharan Africa with over half of these being in the category of 'unlikely to ever enter school'. By 2012 another 3 million in the 6- to 11-year age group had entered school. But this is a long way from the UN Millennium Development Goal that 'by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling'.

The UN declaration of education as a human right was the foremost driver of educational change in recent decades. New drivers have arisen in the higher education sector, which is inextricably caught up in the market forces of globalization and corporatization. Other drivers include the increasing commodification of education associated with the knowledge industry; the information revolution including Massive Open Online Courses (MOOCs); and the rise of the global south.

Educational developments in much of south and western Asia, Latin America, central eastern Europe, and the Arab states are significant. They demonstrate that global education has gathered its own momentum and is no longer just imposed or implanted from the global north. Educational innovation in the global south is self-generating and continues to lower numbers of international students enrolling in Australia, Canada, and the USA.

Looking to the future it is clear that UNESCO with its long-term commitment to human rights is motivated to continue with the Education for All Agenda and will prioritize the most challenged

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regions, such as sub-Saharan Africa. UNESCO, like other UN agencies and partners, must now shift emphasis from the Millennium Development Goal (MDG) (2000–15) of educational access for all, to the Sustainable Development Goal (SDG) (2015–30) that prioritizes quality education. John Coonrod of The Hunger Project summarized the differences between the two sets of goals as follows:

The MDGs focused on quantity (eg, high enrollment rates) only to see the quality of education decline in many societies. The SDGs represent the first attempt by the world community to focus on the quality of education—of learning—and the role of education in achieving a more humane world: 'education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development.'

The Future

The Education for All project may in the long run overcome the challenge of global illiteracy, but was never designed to deal with the subtle cultural challenge of imposing the Anglo-European industrial era education model on other cultures. Nor are there any easy fixes in sight for emerging educational challenges, particularly in the USA, such as declining creativity among school-aged children and the rise in home-schooling. Home-schooling is being reported as the fastest-growing form of education in the USA with estimates of between two and three million school-aged children being educated at home. While not in itself a problem, when we consider that home-schooling is increasing so dramatically as a result of discontent with mainstream education, it does present a challenge for US educational policy-makers.

The biggest educational futures challenge is not just access. It is how to transform education so it is culturally appropriate and designed to develop whole human beings who are futures-focused and can think creatively about how to deal with emerging

challenges. The old fragmented, mechanistic, and materialistic way of thinking are not capable of dealing with the growing complexity of global environmental, economic, and societal change. Much that is called new knowledge is *not-so-new* knowledge repackaged in new technologies. Creativity, imagination, critical thinking, and complexity are important higher-order cognitive capacities. They are needed to enable the radical rethinking of education that the 21st century demands, if it is to adequately prepare young people for exponential change and uncertainty.

The megatrends of the mind are vitally important for educational futures. Education, along with thinking, needs a complete overhaul, as Edgar Morin argues:

One of the greatest problems we face today is how to adjust our way of thinking to meet the challenge of an increasingly complex, rapidly changing, unpredictable world. We must rethink our way of organising knowledge.

Not only futurists, but also leading thinkers in many fields (complexity science, ecology, education, integral studies, philosophy, psychology, spirituality studies, and systems theory) attempt to grapple with these challenges. Like Morin, I believe that more complex, self-reflective, organic ways of thinking will be vital in reshaping education, so young people are better equipped for the complexity, paradox, and unpredictability. We urgently need new forms of education based on new thinking, as I write in *Postformal Education: A Philosophy for Complex Futures*:

While so much has changed out of all recognition in the last hundred years, the institution of formal schooling still resembles the factory schools built to provide human fodder during the Industrial Revolution. Fundamentally, we are still educating our children as if we were living in the 19th century, albeit with a few added digital gadgets, and online infotainment.

The global-societal challenges we face as a species have a huge impact on young people and future generations. The failure of formal schooling to prepare young people to meet those challenges is the subject of much of the critical education literature and more recently fills the pages of education blogs, globally. Global education researchers, practitioners, and policy-makers must tackle the complex global-societal challenges discussed here if education is to contribute to local communities, national priorities, and the global common good.

If we de-link education from economics it can reclaim its place in the socio-cultural domain. Teachers will no longer be primarily child-minders, researchers will not be primarily fund-raisers, and curricula will become focused on the whole-person development of children and young people. Once the profit motive has been removed from education and replaced by cultural motives to develop individuals, and improve society, the complex global challenges may begin to be tackled afresh.

The Future

### The grand climate challenge

The most disturbing global challenge is climate crisis. I acknowledge that the notion of anthropogenic climate change is not universally agreed, and that while the science is clear the politics is not. There is a great deal of agreement among climate scientists that the planetary climate is changing in ways that increase risk for a large proportion of the global population. It is widely agreed that this is a result of a century of industrialized human lifestyle and that it is potentially irreversible. The most significant devastating effects on global human society in the foreseeable future are expected to be melting polar glaciers, leading to rising sea levels, flooding of Pacific islands, and inundation of low-lying countries and large coastal mega-cities. This is very likely to drive mass migration on a scale not seen for 10,000 years, but not many people are talking about this.

Because of the complexity of climate crisis all available pertinent knowledge needs to be brought together. I explore here whether parallels exist between the diverse approaches shown in my futures typology (see Table 1: Chapter 3) and current approaches to climate change (see Table 2).

The most common futures methods being used in climate research are trend analysis/modelling and expert scenario mapping based on the projections. These are heavily weighted towards the predictive/empirical approach and to a lesser degree towards the critical approach. Empirical and statistical data form the basis of expert, or top-down, scenarios used to evoke change. There may be value in collaboration between climate scientists and empirically oriented futures researchers. Collaboration would focus on the probable future as indicated by trend analysis and modelling. However, such approaches rarely elicit engagement or motivation from local communities, as they imply passive adaptation, rather than active participation.

The critical futures approach asks the question, 'who decides what is preferred?' This normative approach to climate futures is used in the UN Framework Convention on Climate Change (UNFCCC) agreement (1992), the Kyoto Protocol (1995), and the annual Conference of Parties (COPs). They critique existing climate insensitive activities associated with hyper-development. They also engage in collaboratively designed targets for reducing GreenHouse Gas (GHG) emissions to mitigate global warming, to enable preferred climate futures for the global population.

A climate approach based on the cultural/interpretive futures philosophy would critique the Western development model of hyper-development and neoliberal globalization taking a post-colonial or post-industrial view. It would evoke alternative possible climate futures by engaging with the voices of indigenous elders, women, youth, and hypothetical future generations.

**Table 2 Futures approaches to climate change**

| <b>Futures studies approaches</b>                        | <b>Futures studies key terms</b>       | <b>Climate change approaches</b>                         | <b>Climate change key terms</b>                       |
|--|--|--|---|
| <i>Positivist approach: the future of climate change</i> |  |  |   |
| Predictive/empirical                                     | 'probable future'                      | Climate trends<br>'Top-down Scenarios'                   | Trend is destiny<br>Mitigation<br>Passive adaptation  |
| <i>Pluralism of futures approaches to climate change</i> |  |  |   |
| Critical/postmodern                                      | 'preferred futures'                    | UNFCCC protocols<br>Emissions targets                    | 2% Warmer stabilization                               |
| Cultural/interpretive                                    | 'possible or alternative futures'      | Women, youth, indigenous voices, Climate Alliances       | Futures for the climate vulnerable                    |
| Participatory/prospective                                | 'prospective or participatory futures' | Climate activism<br>'Bottom-up' scenarios                | Active co-evolution<br>Social learning<br>co-creation |
| Integral/holistic  | 'planetary or integral futures'        | UN protocols<br>Global collaboration<br>All of the above | Global climate justice                                |

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Examples of climate protection aligned to this approach include the Climate Alliance of European Cities with the Indigenous Rainforest Peoples and the Australian Youth Climate Coalition.

The participatory futures approach involves informed forward thinking and active engagement to enable its empowering and transformative potential. While climate activism is

participatory and action-oriented it needs to be well informed about the complexity of climate issues to claim wider legitimacy. Participatory futures involves community-based scenario building in climate-vulnerable communities and could be used worldwide to empower threatened communities. This approach could increase motivation towards household actions that can mitigate global warming, and also assist with the kind of social learning that supports adaptation.

Anthropogenic climate change is a planetary issue of meta-proportions and meta-complexity requiring global, national, regional, and local collaboration. An integral futures approach has much to offer climate futures in turning around current trends and finding creative ways to co-adapt to the inevitable. Although integral futures is not sufficiently embedded in either the futures field or the climate change field to have a large impact, the approach has potential for climate futures, particularly by integrating multiple approaches. Based on the expectation that sea levels will rise significantly in the foreseeable future, integrated approaches are being taken in low-lying countries like the Netherlands where architects are working with planners to create different kinds of floating houses and urban conurbations.