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**Green Economy and Growth in the Asia Pacific:  
constructing Green Markets and Green Consumers**

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# Green Economy and Growth in the Asia Pacific: constructing Green Markets and Green Consumers

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**ABSTRACT:** *This paper critically analyses the concepts of green economy and green growth as the newly emerging strategy in the dominant sustainable development discourse. The paper highlights the inherent conflicts and contradictions of green economy and green growth strategies, such as the myth of 'decoupling' economic growth from environmental degradation, pollution generations and resource consumption. It is argued that the focus on green economy/growth is another 'passive revolution' in the Gramscian sense of the dominant sustainable development discourse for protecting capitalist hegemony. The focus on the green economy and on green growth' is about creating green markets and the individual as green consumers which support economic interests and divert attention from social and political dimensions of sustainability. The focus is on the Asia Pacific and the case study of China, as one of the world leaders implementing green economy and green growth policies, is used to support the argument.*

## Introduction

The transition to a green economy based on green growth is fast emerging as the new policy for achieving sustainable development and poverty eradication (ADB 2011; UNEP 2011a, b and c; UNESCAP 2008). The United Nations Rio+20 conference on sustainable development in June 2012 in Rio de Janeiro, established the green economy and green growth as global policy goals. A green economy in the context of sustainable development and poverty eradication was one of the two major themes.<sup>2</sup> The green economy is supposed to be the new economic paradigm through which, finally, the goals of sustainable development can be realised.

The green economy and green growth are supposed to achieve all three pillars of sustainable development (economic sustainability and sustainable economic growth, social sustainability and social justice, and environmental sustainability and environmental justice), in addition to addressing global poverty and inequality.

High economic growth pattern in many countries in the Asia-Pacific region, in particular China's growth (averaging 9-10 per cent over the past two decades), has resulted in much progress in reducing poverty and increasing the well-being of people in that region, a region now clearly at the centre of global economic

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<sup>2</sup> The other major theme is the improvement of the institutional framework for sustainable development. Twenty years after the UN Conference on Environment and Development (UNCED) or 'Earth Summit' in 1992 in Rio de Janeiro, the Rio+20 UN Conference on Sustainable Development has the objective to renew political commitment to sustainable development, find solutions to the implementation gaps in regard to international sustainable development agreements, and to address new and emerging challenges, such as climate change and food security. See <http://www.uncsd2012.org/rio20/objectiveandthemes.html>.

production. However, as stated by the Asian Development Bank (ADB) (2011: 1), this growth “has come at a high price”. Indeed, degraded natural resources and ecosystems in the region are increasingly common. Moreover, growing pollution and waste are exerting elevating pressure on environmental carrying capacity, having negative effects on human well-being and public health, with the poor most severely affected (ADB 2011: 1; UNEP 2011a: 21).

It has become clear that the resource-intensive growth in the region, combined with rapid urbanisation, the increasing consumption of a rising middle class, and expanding production patterns, has dramatic negative consequences in undermining economic development prospects for the countries of the region and with that for the world (UNESCAP 2008). As the United Nations Economic and Social Commission for Asia (UNESCAP) has pointed out, the ‘business-as-usual practices’ are unsustainable as they “steadily erode the productive capacity of nations and the Asia Pacific region” (UNESCAP 2008: 40). Subsequently, there is evidence that governments across the region are “beginning to engage in serious thought about the quality of their economic growth” and realising that the former dictum of ‘grow now, clean up later’ is no longer an option, needing to be replaced by an emphasis on improving the ecological quality of economic growth or ‘green growth’ (UNESCAP 2008: 10). In this vein, the “green growth approach is a new policy focus which is aimed at helping Asia-Pacific countries to achieve real progress towards sustainable development and poverty reduction” (UNESCAP 2006: 13).

Given its new prominence in policy circles, this paper focuses on the conceptual and theoretical levels of green growth policies. Several fundamental questions underlie the analysis: Is green growth really, as is claimed, the “new economic paradigm” in which material wealth and well-being is not “at the expense of growing environmental risks, ecological scarcities and social disparities” (UNEP 2011a: 14)?; how does this new focus on the green economy and green growth relate to the sustainable development discourse and what impact does it have for other aspects of sustainability goals, such as ecological and social sustainability?

These questions are addressed through a regional focus on the Asia-Pacific and, specifically, China’s efforts to develop a green economy and green growth. The paper begins by introducing the concepts of the green economy and green growth, then shows China’s efforts and motivations for a green economy and green growth, and finishes with a discussion of how green economy/growth fits into the dominant sustainable development discourse.

The paper employs a political economy analysis of the concepts of green economy and green growth – which is underpinned heavily by depoliticised orthodox economic assumptions. It highlights the inherent conflicts and contradictions of green growth strategies, critiquing as myth the decoupling of growth from environmental resources and degradation and the claim that the green economy path (almost automatically) will lead to social and international justice. The green economy and green growth, it is argued, is deeply embedded in neoliberal capitalism and new form of a ‘passive revolution’ to co-opt and neutralise counter-hegemonic challenges to neoliberal capitalism and its entrenched interests, such as arguments about limits to economic growth based on environmental grounds and the earth’s limited carrying capacity. For Gramsci, a passive revolution occurs when counter-hegemonic challenges to the dominant

capitalist order are co-opted and neutralised through changes and concessions which re-establish the consent in that order. Gramsci called this process the “absorption of the antithesis” (Gramsci 1971: 110).

Neoliberalism is the hegemonic economic ideology in which the free market is seen as solution to all economic and social problems. Through neoliberalism the logic of the free market penetrates society (what Altvater (2001) called the ‘marketisation of society’) and reconstitutes the state as a ‘neoliberal state’ which predominantly works as enabler of the conditions for a free market economy (Plant 2009). The ideas that sustainable economic growth is the way for continued human progress and that neoliberal economic globalisation is globally beneficial to all countries and individuals are central parts of neoliberal economic ideology (Robbins 1999: 100).

The combination of economic and financial crises (in particular the 2008-2010 Global Financial crisis) and increasing impacts of environmental crises and political debates about climate change has shifted the neoliberal hegemony so that some even describe it as a crisis or failure of neoliberalism and proclaim, somewhat prematurely, that free market fundamentalism is dead (Stiglitz 2008) and herald the impending “demise of neoliberal globalisation” (Wallerstein 2008). The emergence of the green economy and green growth discourse as a ‘passive revolution’ needs to be seen in this context. As stated by Brand, “the concept of a green economy seems to promise an attractive orientation out of the crisis of neoliberalism” (Brand 2011: 30).

### **The concepts of green economy and green growth**

There is no universally agreed definition of a green economy or green growth. The United Nations Environment Programme defines a green economy as an economy that leads to “improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities” (UNEP 2011a:16). The concept of green economy and green growth has gained immense popularity within a short timeframe. In March 2005, the Fifth Ministerial Conference on Environment and Development in Asia and the Pacific embraced environmentally sustainable economic growth or green growth as the new strategy to achieve the Millennium Development Goals (MDG) on poverty reduction (MDG 1) and environmental sustainability (MDG 7). In 2006, the UNESCAP proclaimed green growth “a new policy focus aimed at helping Asia-Pacific countries to achieve real progress towards sustainable development and poverty reduction” (UNESCAP 2006: 13). Countenancing this push, the UNEP-led Green Economy Initiative was launched in 2008 as part of a Global Green New Deal on the international level for greener investment and greener technologies. The rapid rise and popularity of the green economy and green growth concepts with governments, business and international organisations since 2008 and the idea of a ‘Global Green New Deal’ can be explained within the context of crises: the Global Financial and Economic Crises; the global environmental crisis of climate change; and the increasingly frequent ‘food crises’ afflicting countries.

There are growing national and international initiatives on green growth which were part of the preparatory processes for the 2012 UN Rio+20 Conference on Sustainable Development which had green economy as one of its major

themes<sup>3</sup> Some countries, in particular Japan, Germany, the Republic of Korea and China are pushing hard for the “new economic paradigm” (UNEP 2011b: 1) of green growth. For example, in 2009 the Korean Green New Deal was implemented, and the Global Green Growth Institute, an outcome of the green growth experience of the Republic of Korea was launched by that country’s President, Lee Myung-bak, in June 2010. Its objective is to be an international policy platform and learning centre for the concept of green growth.<sup>4</sup> In January 2012, the World Bank, the Global Green Growth Institute, UNEP and the Organization for Economic Cooperation and Development (OECD) created a Green Growth Knowledge Platform with the mission to “identify and address major knowledge gaps in green growth theory and practice, and to help countries design and implement policies towards a green economy.”<sup>5</sup>

In 2011, UNEP launched its major report *Green Economy: Pathways to Sustainable Development and Poverty Eradication* (UNEP 2011a) which argues that the green economy is not only relevant to more developed economies but is also important to developing countries as a key driver for poverty eradication. The goal of green growth highlights that market building practices (that is, the creation of and regulation of markets in a particular neoliberal image) in the context of poverty alleviation and sustainable development are increasingly shaped by green or ecological imperatives, limits and principles. Moreover, market building and the effective workings of the market system are crucial for market-based green growth instruments, such as eco-taxes or tradeable permits. Yet here we see one of the key shortcomings of the green growth discourse: the inability to distinguish between the different capacities and the different workings of developed versus developing economies. It is acknowledged that there is no “one-size-fits-all” prescription for green growth strategies as there are different contexts of policy and institutional frameworks, economic and political circumstances, levels of development, and economic and environmental interdependencies, which also means that “advanced, emerging, and developing countries will face different challenges and opportunities” (OECD 2011: 10). But, as we shall see in more detail later, the unequal levels of economic power and economic capacities for achieving green economy goals between developed and developing countries are not addressed, further perpetuating the global asymmetries that characterise the global political economy.

The UNEP report on green economy discusses the following “key findings”:

- A Green Economy Recognises the Value of, and Invests in, Natural Capital
- A Green Economy is Central to Poverty Alleviation
- A Green Economy Creates Jobs and Enhances Social Equity
- A Green Economy Substitutes Renewable Energy and Low-carbon Technologies for Fossil Fuels

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<sup>3</sup> Some of these examples are taken from OECD 2011: 107.

<sup>4</sup> See <http://www.gggi.org/about/overview>.

<sup>5</sup> See <http://www.greengrowthknowledge.org/Pages/About.aspx>. See also the Green Economy Coalition which is a global network of organisations and NGOs, such as the Global Footprint Network, International Institute for Sustainable Development, IUCN, and WWF, “committed to accelerating a transition to a new green inclusive economy” (<http://www.greeneconomycoalition.org>).

- A Green Economy Promotes Enhanced Resource and Energy Efficiency
  - A Green Economy Delivers More Sustainable Urban Living and Low-carbon Mobility
  - A Green Economy Grows Faster than a Brown Economy over Time, while Maintaining and Restoring Natural Capital.
- (UNEP 2011b)

This list neatly highlights the vast range of different social, economic and environmental objectives which the green economy is supposed to achieve, such as creating jobs, alleviating poverty, enhancing social equity, providing sustainable urban living, all the while growing faster than the brown (fossil-fuel dependent) economy. This underlines the economic focus and emphasis on economic sustainability of the green growth and green economy policies. As stated in the UNEP report (UNEP 2011a: 17), “there is a growing recognition that achieving sustainability rests almost entirely on getting the economy right.” The social, political and cultural dimensions of sustainability are neglected and subjugated to the economic dimension in the form of the green economy based on green growth, the latter seen as the solution to achieve the objectives of all other dimensions of sustainability (discussed in greater detail in a later section).

Much like the new development discourse, perpetuated by the World Bank, centred on establishing an ‘enabling environment’, the transition to the green economy is based on establishing “key enabling conditions”. This entails:

- establishing sound regulatory frameworks;
- prioritising government investment and spending in areas that stimulate the greening of economic sectors;
- limiting spending in areas that deplete natural capital;
- employing taxes and market-based instruments to shift consumer preference and promote green investment and innovation;
- investing in capacity-building and training; and
- strengthening international governance

(UNEP 2011b: 27)

The UNEP report stresses the need to establish these enabling conditions and provides suggestions on how to achieve it through a combination of market-based and policy approaches. Similarly, with specific reference to the Asia-Pacific, UNESCAP discusses particular “pillars of green growth”: eco-tax reform, sustainable infrastructure, the greening of business, and sustainable consumption (UNESCAP 2008: 17-65). I will come back to some of these issues, such as the perception and approach to ‘natural capital’ and sustainable consumption, in subsequent sections.

### **China: the ‘circular economy’ and green growth**

China – which might come as surprising to some – is one of the leading countries in regard to the implementation of green economy and green growth policies. The 2011 Global Green Economy Index by expert practitioners ranks China as No. 2 behind Germany (Dual Citizenship Inc. 2011). The high social and environmental

costs of China's rapid economic growth in the form of environmental degradation, excessive use and depletion of natural resource and increasing inequalities of wealth, in particular in urban areas, and rural/urban income disparities, has prompted the Government of the People's Republic of China in 2003 to adopt a 'Scientific Outlook of Development' as its new people-centred development philosophy which seeks to achieve "harmony between man and nature" (China Daily 2007). The move to build an 'ecological civilisation' on the basis of a 'circular economy', put forward by the Chinese Government in 2007, highlighted that resource use and environmental issues have become top policy priorities. The 11<sup>th</sup> Five-Year Plan for Economic and Social Development (2006-2010) is seen as a key turning point for reconciling rapid economic development with the goal of an 'ecological civilisation' and 'circular economy' (Geng and Doberstein 2008; Zengwei et al. 2006; Zhu 2008). The Plan set mandatory targets for energy conservation and pollution abatement. In 2008 China enacted the Circular Economy Promotion Law further strengthening its approach towards a circular economy and achieving sustainable development (Geng and Doberstein 2008). China's current 12<sup>th</sup> Five-Year Plan for Economic and Social Development (2011-2015) is seen as the 'Green Development Plan' with the key focus of reducing pollution, increasing energy conservation and energy efficiency and securing a stable and reliable clean energy supply.

Energy security, as Chang and Gao have shown, is the underlying priority and a "matter of political survival" for the Chinese Communist Government as it needed to continually "fuel the country's hungry economic growth engine, and thereby keep a lid on social and political unrest" (Chang and Gao 2011: 76). In consonance with the definition of green growth earlier, green growth strategies in China are about stimulating economic growth, reducing carbon emissions and securing energy security, with the overall goal to maintain economic growth, development and poverty reduction. Despite a new focus on energy efficiency and the reduction of carbon emissions (or the carbon intensity of its economic growth<sup>6</sup>) through renewable energy, coal will remain the dominant energy source for China in the foreseeable future (Chang and Gao 2011: 76). China's "version of 'green growth' is drastically different from much of the advanced industrialised world" as energy security clearly trumps concerns about carbon emissions and climate change (Chang and Gao 2011: 82). This is not to say that in developed countries energy security is not one if not the most important sustainability objective because energy security is essential for maintaining the way of life the population is accustomed to. But for China, in contrast to developed countries such as Germany or Japan which are also leaders towards transforming to a 'green economy', the "primary goal of developing green economy is poverty eradication" (GoPRC 2011: 3). The green economy is thus not about environmental objectives or environmental sustainability. Environmental sustainability is instrumental for green growth which is in turn instrumental for poverty eradication.

China's approach is a prime example of the economics and economic-centredness of the green economy/growth discourse. China is interesting as a case

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<sup>6</sup> Carbon intensity is the amount of carbon emitted, measured in weight, per unit of energy consumed. China is "on way to meet its target of reducing the carbon intensity of its economy by 45 per cent by 2020 from 2005 levels" (Chang and Gao 2011: 82). The strategies include to "de-carbonize coal" through improving efficiency and cleaner emissions of coal, investment in renewable energies and investment in its transmission capacities (Chang and Gao 2011).

study here as it does not have a liberal democratic state which is seen as a crucial determinant of a green state (Eckersley 2004). It shows through its approaches of a 'circular' or green economy and 'greening its GDP' (Li and Lang 2010) that addressing environmental challenges does not require a democratic state. As Ball highlighted, "there is no logically or conceptually *necessary* connection between a commitment to the natural environment and a commitment to democracy" (Ball 2006: 132). China surely is a green state in its commitment to achieving better environmental resource use but it has no commitment to democracy. China's Communist government provides the "enabling conditions" (UNEP 2011) for green growth which are focussed on economic measures with some improvement in environmental governance but that does not include political processes toward a democratic system. Although a move to more public participation in environmental governance in China can be discerned this is still limited and environmental management is very much state-controlled (Martens 2006; Mol and Carter 2006). There is also growing environmental awareness and activism or "civic environmentalism" in China (Martens 2006: 214). However, what is required for more effective public participation and for non-governmental organisations "to develop a more independent position in processes of ecological transformations" is political liberalisation (Martens 2006: 226).

The green economy and green approach of China is about economic changes and not political transformations. The focus is on economic sustainability – the sustainability of economic growth. Social dimensions of sustainability, such as democratic processes, citizen involvement in environmental decision-making and social justice issues, are not part of the strategy. This strategy of green growth in China includes the encouragement, often through government subsidies, of 'green consumption' (See China.org .cn 2007 and CleanBiz Asia 2012), which reinforces the focus on the economy and deflects from political and structural issues which cause environmental unsustainability. The "citizenship of the market" through sustainable consumption and green consumerism does not challenge the dominant power structures of the economic and political system (Seyfang 2005: 296, 297). In that respect the creation of green markets and green consumers fits nicely into the passive revolution strategy of the green economy and green growth discourse.

### **Green economy and growth: new 'passive revolution' of the dominant discourse of sustainable development**

Green growth or "improving the ecological quality of economic growth" (UNESCAP 2008: 10) is not a new idea and, as in the 1980s when the concept of sustainable development emerged, is driven by the more and more urgent necessity to deal with the increasing environmental scarcity and degradation which threatens economic growth and development. As put by the OECD (2011: 17), "the impacts of economic activity on environmental systems are creating imbalances which are putting economic growth and development at risk." From this perspective, it should be noted that environmental risk management is not about the risks to the environment but rather the risks to accumulation, entailing the management of risks to economic growth. As stated in a report by the UK Department for Environment, Food and Rural Affairs, managing environmental risks is about

“managing the risks to growth from adverse environmental events” (Everett et al. 2010: 12).

Here we see the manner in which a discourse is produced that occupies one distinct side of a divide between those that see growth as reconcilable with environmental pursuits and those that are sceptical of this. This divide, is nothing new, having been central to debates regarding the validity and importance of the concept of sustainable development ever since its emergence in the 1980s. The Brundtland Report (WCED 1987) widely popularised the concept of sustainable development and firmly established it on the international political agenda. The report emphasised the *synergy* between economic growth and the environment and the inseparability of development and environmental issues. It stressed the need to *revive growth* while changing the *quality of economic growth* as the two top ‘strategic imperatives’ for achieving sustainable development (WCED 1987: 54-76) With this intervention, the earlier debates about the limits to growth and the conflict between environmental sustainability and the sustainability of growth were seemingly reconciled and/or defused. In no uncertain terms, the report shifted the framing of environmental issues from a situation whereby the environment was threatened and degraded by economic development to one where the economy and economic growth were threatened by environmental issues.

We have in the past been concerned with the impacts of economic growth upon the environment. We are now forced to concern ourselves with the impacts of ecological stress – degradation of soils, water regimes, atmosphere, and forests – upon our economic prospects (WCED 1987: 5).

In the twenty five years since the report, the increased impacts of ecological stress on the “economic prospects” of countries has only grown, subsequently leading to the rapid rise in the attention paid towards green growth and the green economy. This has only been countenanced by the inaction in relation to earlier attempts to reconcile growth and environmental concerns with, for example, little progress globally towards the global goal of sustainable development enunciated at the 1992 United Nations Conference on Environment and Development (which was followed up by the 2002 World Summit on Sustainable Development, proclaimed beforehand as the ‘summit of action’ to tackle the massive lack of implementation sustainable development policy).

Green growth is conceived not as replacement of sustainable development but rather as a subset of it (OECD 2011: 11). Moreover, the green economy and green growth should be seen as an extension of the dominant sustainable development discourse and a new form of ‘passive revolution’ (Gramsci 1971) to save capitalist hegemony and its attendant interests. It is apparent that green growth is a ‘new economic paradigm’ in the sense that the goal is to supersede the fossil-fuel driven ‘business-as-usual’ economic growth because of its ecological unsustainability. Greening the economy and greening growth is about improving the environmental sustainability<sup>7</sup> of current unsustainable economic growth

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<sup>7</sup> ‘Environmental sustainability’, as defined by UNESCAP, refers to “the capacity of economic growth processes and social change to ensure that natural resources are not depleted faster than they can be regenerated and that ecological systems remain viable” (UNESCAP 2008: 14).

patterns. But the concepts of green growth and economy must be seen as yet another mechanism to maintain the “techno-economic hegemony” and “hegemony of eco-economic ‘win-win’ thinking” that, first and foremost, attempts to legitimise the global capitalist economic order (Blühdorn and Welsh 2007: 186, 187). Within this attempt, the centrality of economic growth for consumer capitalism remains beyond reproach and limits to growth are obfuscated in the discourse of green growth and economy.

Yet at the same time, the discourse of the green economy and green growth are a step further than the discourse of sustainable development, with the green economy entailing no trade-offs between the environment and development and provide even the prospect of complete *decoupling* of economic growth from natural resource use and environmental deterioration (UNEP 2011a: xi). The ‘passive revolution’ of the dominant sustainable development discourse is complete in that the protection of the neoliberal free market economies and economic growth, now in form of ‘green growth’ is ensured because there are no trade-offs between the environment and economic growth anymore; in fact green growth has no environmental impacts and even stimulates environmental protection and helps to alleviate poverty alleviation. Trade-offs are reframed as “apparent trade-offs between strengthening the market economy and pursuing green growth” (OECD 2011: 130), that is within the economy and restructuring processes towards the green economy but not in relation to the environment. The Green Economy report by UNEP (2011a) aims to debunk myths and misconceptions about the relationship between economic growth and environmental sustainability for achieving green economies and green growth.

Perhaps the most prevalent myth is that there is an inescapable trade-off between environmental sustainability and economic progress ... a second myth is that a green economy is a luxury only wealthy countries can afford, or worse, a ruse to restrain development and perpetuate poverty in developing countries. (UNEP 2011a: 16)

However, the debunking of these myths is in itself a myth, grounded in the belief that technological innovation, adequate pricing of ‘natural capital’ and a combination of market-based and policy instruments can achieve single-handedly economic and ecological sustainability and in the process global poverty and national and international inequalities are eradicated. The next section discusses the *myths of green growth*, or, in other words, the conflict and contradictions that are hidden and masked in this new discourse about the green economy and green growth. Many of the large claims of the discourse of green economy/growth, such as the possibility of absolute decoupling or that green economies and green markets can address all social and ecological justice issues need to be considered as myths or illusions that cannot be translated into reality.

### **The myths of green growth: conflicts and contradictions**

As stated above, UNEP’s major report on the green economy attempts to dispel the myths that there is both a trade-off between economic growth and

environmental sustainability and that establishing greener forms of economic growth and development are largely the prerogative of developed countries. This section first tackles the myths created by the discourse of green economy and green growth, and then shows some of the other consequences of this new neoliberal economics-driven environmental discourse.

### *The myth of decoupling<sup>8</sup>*

Green growth is premised upon the idea that economic growth can be 'de-linked' or 'de-coupled' from environmental degradation, pollution generation and resource over-consumption. Decoupling is a key concept in the transition to a green, more resource efficient and less carbon intensive, economy (UNEP 2011b: 16). Decoupling "at its simplest is reducing the amount of resources such as water or fossil fuels used to produce economic growth and delinking economic development from environmental deterioration" (UNEP 2011c: xi). The UNEP report highlights that decoupling will require "significant changes in government policies, corporate behaviour, and consumption patterns by the public" but "will not attempt to chart the course toward their achievement or fully explore all of the challenges the concept poses" (UNEP 2011c: xiv). This is unfortunate as government policies, corporate behaviour and consumption patterns of the public (the consumption patterns of the corporate sector is completely left out here) and their linkages and power relations are crucial for achieving behavioural and systemic changes towards sustainability. This overall neglect of political and cultural dimensions is part of the problem of the discourse of green economy and green growth.

The distinction between 'relative' and 'absolute' decoupling is important as often 'decoupling' is used without clarification in that it only refers to relative decoupling (as the quotes by UNEP in the last paragraph show). 'Relative decoupling' means a decline in resources used or environmental impact per unit of economic output over time; whereas 'absolute decoupling' refers to a decline in resource and environmental impact \in absolute terms with growing economic output (Everett et al. 2010: 22; UNEP 2011c: 5). Relative decoupling is "about doing more with less" (Jackson 2009: 68): less use of natural resources because of increasing resource use efficiency (or eco-efficiency) and less environmental damage. Relative decoupling is "fairly common" (UNEP 2011c: 5) in particular in OECD countries. For China, for example, there is evidence of relative decoupling in respect to primary energy consumption (UNEP 2011c: 112). But this progress, as Jackson states, is off-set by increasing carbon intensity and carbon emissions of economic production globally. Since relative decoupling "measures resource use (or emissions) per unit of economic output ... resource efficiencies must increase at least as fast as economic output" (Jackson 2009: 71). This is not happening in the fast growing economies in the Asia-Pacific despite major improvements in eco-efficiencies.

There is also evidence that in some leading countries (in regard to green economy implementation), such as Japan, Germany and also China, absolute

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<sup>8</sup> 'The Myth of Decoupling' is the title of Chapter 5, in Jackson 2009. Much of this section is based on that chapter. Wälti (2009) in his article about the 'Myth of Decoupling' refers to the decoupling hypothesis that the emerging Asian economies have delinked from the advanced economies, such as USA and economies in Europe, to reduce their economic vulnerabilities and dependencies.

decoupling is occurring. (UNEP 2011c). The report claims, for example, that for China there is an absolute decoupling between fresh water consumption from economic growth, and that industrial wastewater discharge and solid waste discharge have absolutely decoupled since 1992 (UNEP 2011c: 113-114). If this were correct, it would mean that there are no issues with water security and water pollution and that China's economic growth pattern exhibits no water issues as a limiting environmental factor. In fact, water scarcity and water pollution is recognised as a major problem and limiting factor for China's economic growth pattern (World Bank 2007). This absolute decoupling in countries like Germany is happening in relation to some specific environmental pollutants, eg sulphur dioxide or carbon monoxide (Everett 2010: 22-23). This fact is often ignored in debates or claims about absolute decoupling of economic growth.

The UNEP report relates absolute decoupling to the Environmental Kuznets Curve (EKC) which claims that at some point of economic growth and per capita income the impact of economic production and consumption decreases and heads towards an 'absolute decoupling' level of zero (UNEP 2011c: 5, 19). The EKC is, however, a flawed model as it can be (and has been) be used for arguments of 'grow first, clean up later'. Furthermore, the exact point of economic growth and per capita income at which the level of environmental impact goes down cannot be clearly established and limits or thresholds, in particular about biodiversity loss, might have been breached before the economy reaches the EKC turning point (Everett et al. 2010: 18-19). The Environmental Kuznets Curve (EKC) is most reliable for a limited set of environmental pollutants, in particular for air pollution, with low local environmental impact but not for complex relationships between environment and economy such as climate change (Everett et al. 2010: 18-19). It is problematic, and part of the 'passive revolution', that the EKC is used to show that absolute decoupling is possible across the world. In fact, increasing income is more likely to lead to increased consumption of natural resources through a more resource intensive life-style. The use of natural resources for economic growth and with it environmental scarcity is increasing globally (See the Millennium Ecosystem Assessment 2005).

Decoupling of economic growth is about relative decoupling as absolute decoupling of an economy from the environment is not possible. As a European Commission report about decoupling indicators concludes, "breaking the linkage between economic growth and resource use is a *relative target* ... decoupling is *relative*, but the underlying idea is sensitive to absolute limits" (Van der Voet et al. 2005: 5; emphasis added). Absolute and relative decoupling economic growth, despite its 'sensitivity' to absolute ecological limits is about delinking or decoupling capitalist economic growth from any ecological limits, as will be discussed in the next section.

Despite some progress in relative decoupling and some evidence of absolute decoupling in the sense of relative decline of environmental impact through eco-efficiency, absolute decoupling within the whole economy remains an illusion as demands for environmental resources and impacts on the environment overall increase on a global level. The idea of absolute decoupling is a neat discursive

device of the green economy/growth discourse, which maintains the predominance of economic growth over environmental sustainability and obfuscates environmental realities.

*The myths of limitless growth and of no-trade-off between environment and growth*

The debate over economic growth has been a feature in economic thought for centuries, and, as stated earlier, the debates about limits to growth and conflict of sustainable growth with the environment prompted the sustainable development discourse and other environmental discourses that emerged out of the 1970s (See Dryzek 2005). The sustainability of economic growth is conditional on the maintenance over time of the overall capital stock for economic production and consumption. 'Natural capital'<sup>9</sup> is part of this total stock of capital required to be non-declining over time to ensure human welfare. Ekins (2000: 75) states that economic sustainability "is most commonly interpreted as a condition of non-declining economic welfare projected indefinitely into the future". In this dominant neoliberal economic approach to the environment, which is heartily reproduced by environmental economists, the decline in natural capital can be substituted through other forms of capital. The problem here is, as Daly (1996: 78) has argued, that natural capital, has replaced human-made capital as the limiting factor or capital of production, and that many forms of natural capital cannot be substituted by other forms of capital. How, for example, can one substitute water as the source of life? The depreciation of 'natural capital' is often irreversible (like the increasing loss of biodiversity) and ecosystems can collapse abruptly (UNEP 2011a: 18). The OECD Report on Green Growth underlines the problem of substitutability, which is at the base of green growth thinking:

In many cases, substituting physical for natural capital is becoming increasingly costly. Limited substitution possibilities between natural and physical capital and the fact that the quality of natural capital can change abruptly also introduces the potential for bottlenecks which can choke off growth. (OECD 2011: 21)

However, increased resource use efficiency (eco-efficiency) and possible substitution of some 'natural capital' with other forms of capital do not overcome global ecological limits. The reality is of *increasing*, not decreasing demands on the planet's resources and eco-systems with increasing global demands for energy and clean water – that is *declining* 'natural capital' as a source for economic production and development. Thus there is a clear contradiction between sustainable economic growth and the need to respect ecological limits. With the current environmental challenges it seems clear to many that humans have 'overshot' the limits of the planet's carrying capacity in the mid-1980s or even before (See Global Footprint Network<sup>10</sup>; Meadows et al. 1992).

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<sup>9</sup> Natural capital is defined by UNESCAP as "both the ecosystem goods (raw materials) that enterprises transform into value for humanity every day (for example agricultural products, water and minerals) and the equally and perhaps more important ecosystem services that make Earth habitable by stabilizing the global climate, cleansing water and air, pollinating agricultural crops, storing nutrients in soils, and supporting spiritual values, cultures and recreation" (UNESCAP 2008:40).

<sup>10</sup> <http://www.footprintnetwork.org>

Daly (2002) distinguishes between economic growth in poor countries and “non-economic growth” in rich countries. Non-economic growth means that, because of the through-put of natural resources, the North grows continuously poorer rather than richer in material terms. He argues, that non-economic growth produces “illth” rather than wealth, and that therefore “one might legitimately argue for limiting growth in wealthy countries (where it is becoming uneconomic) in order to concentrate resources on growth in poor countries (where it is still economic)” (Daly 2002: 4). Consequently he also differentiates between “overdevelopment” and “underdevelopment”<sup>11</sup>. This is done not on the basis of wealth or income or any other indicator of development but on the basis of throughput levels of energy and resources. There are few problems with that – to sustain the consumption levels of the North would require about four planets; the rich countries of the North ‘externalise’ their own ecological *unsustainability* to the global level, and the South requires economic growth for its poverty eradication<sup>12</sup> thus increasing the demand on global natural capital stocks. It is clear that the North needs to rethink its development model. As Daly (2002) argues, the crucial question for global ecological sustainability and for poor countries to achieve poverty eradication and sustainable development is “which action should rich countries take ... to restrict their own growth in throughput [of natural resources] to free up carrying capacity and ecological space for poor countries to use?” But the green economy and green growth paradigm sidestep this question altogether. On the contrary, this latest paradigm perpetuates the dominance of neoliberal economic thinking and the belief of a ‘world without end’ and the sustainability of economic growth.

This economic thinking, however, cannot achieve strong sustainability across all sustainability dimensions and hence global ecological sustainability. Even the world’s largest and most influential *development* agency, the World Bank, acknowledges: “limits-to-growth type arguments focus on strong sustainability, while arguments in favour of indefinite growth focus on weak sustainability” (WDR 2013: 14). The technocratic, economic and managerialist approach of the green economic and green growth discourse with the prioritisation of economic sustainability over ecological sustainability can at best achieve *weak* ecological sustainability. This is also related to the existence of trade-offs between environment and development objectives which have been acknowledged only recently.

One of the major conclusions of UNEP’s Green Economy report (2011a: 628) is that “the so-called trade-off between economic progress and environmental sustainability is a myth.” There are, however, major trade-offs between environment and development objectives which have been acknowledged in the sustainable development discourse with the emphasis on complementarity between them. For example, strong, indefinite environmental sustainability requires long-term decisions and strategies which are counteracted, however, by

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<sup>11</sup> “An overdeveloped country might be defined as one whose level of per capita resource consumption is such that if generalised to all countries could not be sustained indefinitely; correspondingly an underdeveloped country would be one whose per capita resource consumption is less than what could be sustained indefinitely if all the world consumed at that level. (Daly 1996: 106)

<sup>12</sup> As UNESCAP states, “It is undeniable that economic growth is a key factor in poverty reduction” (UNESCAP 2006: 14).

short electoral terms, economic decisions for profits and for increasing competitiveness. In this way, Korea's commitment to green growth is not supportive of environmental sustainability objectives per se but rather oriented towards improving corporate competitiveness (Huberty et al. 2011: 68). Put another way, the incorporation of environmental issues is the means to achieve green growth and international economic competitiveness.

In short, the idea and transition to a green economy based on economic growth is grounded in the false belief that there are no ecological limits to growth. Indeed, contrary to this position, green growth is actually seen as source for economic growth: "the greening of economies need not be a drag on growth. On the contrary, the greening of economies has the potential to be a new engine of growth, a net generator of decent jobs and a vital strategy to eliminate persistent poverty" (UNEP 2011a: 16). Green growth is a continuation of the belief in "world without end" (Pearce and Warford 1993) where economic growth can continue forever and is seen as the solution to all economic, social and environmental problems. 'Green growthmania'<sup>13</sup> also means that the relationship between humans and nature is not questioned or altered. In this light, nature remains a resource or 'natural capital' for capitalist-driven exploitation, with the recognition of humans as part of the environment, not to mention the intrinsic value of nature, cast aside.

### *The de-politicisation of sustainability*

The discourse of green economy/growth is part of the increasing marketisation of society where principles and processes of competition, profit-making, efficiency, consumerism and commodification are more ideologically and materially dominant than values of social equity. The increasing dominance of economics over politics, and of the market over the state, causes problems for political, democratic control over and accountability for economic processes. The increasing marketisation of society corresponds with an increasing *depoliticisation* of society. As Altvater and Mahnkopf (1997: 463) state, politics "does not disappear, but its rationality is synchronised with [and dominated by] the economy." In deregulated, depoliticised and "de-civilized capitalism" the society and polity is subordinated to the economy (Altvater 2001: 88).

The total neglect or *de-politicisation* of power relations – including those relating to production and operation of governance systems – shape both the economic policies of green growth and policies pertaining to the social and environmental spheres, urban planning and development. The "politics of unsustainability" (Blühdorn and Welsh 2007: 185) - the current power relations which have created the social and international inequalities and environmental unsustainability - are not considered in green growth and green economy policies.

## **Conclusion**

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<sup>13</sup> Daly (1974) termed the phrase 'growthmania' for this obsession with economic growth without the recognition of ecological limits. See also Altvater (2001).

The new focus on a green economy combined with a 'green growth mania' is an extension of the dominant sustainable development discourse which is concerned with the sustainability of economic growth above all else. Eco-efficiency and eco-effectiveness of household, business and state activities are geared to protect and maintain capitalist hegemony, and the dominance of neoliberal economic thinking. Green growth is based on the premise that economic growth can be completely 'de-linked' from environmental degradation and pollution generation and resource over-consumption. It requires the greening of business and markets (through the inclusion of ecological principles into business practices and market-based incentives to make economic production eco-efficient and eco-effective, the greening of the state (through more inclusive and participatory forms of environmental governance rather than state-based environmental management) and the greening of civil society (through more sustainable consumption and creating green consumers) (UNESCAP 2007; OECD 2011).

It was argued that the discourse of green economy/growth as a mechanism to achieve sustainable development prioritises economic dimensions before all other dimensions of sustainability and economic growth (now as *green growth*) is constructed as *the* solution to all social, environmental and economic problems. In the discourse of green economy/growth there are no more trade-offs between the environment and economy, in fact the economy can be de-linked or de-coupled from the environment. It was shown here, that there are inherent conflicts and contradictions in the goal of delinking economic growth from environmental degradation which are not considered or obfuscated in green growth strategies on a regional and national level in the Asia-Pacific region. The green economy/growth discourse de-politicises other dimensions of sustainability (social, cultural and political dimensions). Green economy and its economic focussed approach reshapes civil society and state and civil society and market interactions in form of 'green consumerism' where individuals have to play their part for sustainability as environmentally aware and economically rational agents for green growth.

More radical alternatives to human-nature relations and for creating a sustainable green society are subsumed and normalised through the 'passive revolution' of green economy and green growth. The green economy is the promise of a green capitalism without questioning the underlying dynamics and power relations and the causes of unsustainability of this system. The structural causes of global poverty, global economic inequality and global ecological unsustainability are not addressed (Khor 2012). On the contrary, the green economy and green growth further support the privatisation and commodification of nature and perpetuates the myth of limitless growth. As the UNESCO report (2011) states, the green economy might be a good first step for mitigating environmental impacts of economic growth but for a green society issues of social and international justice need to be addressed. It is clear that "no development model which leaves a billion people in hunger, poverty and socially excluded will be sustainable" (UNESCO 2011: 7). The shift to green or sustainable societies require more radical transformative changes which the discourse of green economy/growth is designed to prevent.

What is required for more radical changes to 'development' and for moving towards green societies rather than just green economies is a civil society engagement through political activism (Barry 2006) and developing a "consciousness of contradictions" through constant vigilance and challenge of the

popular beliefs, the collective will or “common sense” in societies (Gramsci 1971: 404-405). This means problematising the claims and strategies of green economy and green growth by making it the centre of analysis and critique, and by including counter-hegemonic ideas about limits to growth, even in its green version.

## REFERENCES

- Agyman, J. and B. Evans (2006) 'Justice, governance and sustainability: perspectives on environmental citizenship from North America and Europe.' In A. Dobson and D. Bell (eds.). *Environmental Citizenship*. Cambridge, MA: MIT Press, pp. 185-206.
- Altvater, E. (2001) 'The Growth Obsession.' In L. Panitsch and C. Leys (eds.). *Socialist Register 2002: A World of Contradictions*. London: Merlin Press.
- Altvater, E. and B. Mahnkopf (1997) 'The world market unbound.' *Review of International Political Economy* 4(3): 448-471 (Special Issue: The Direction of Contemporary Capitalism).
- Asian Development Bank (ADB) (2011) *Environment Program: Greening Growth in Asia and the Pacific*. Manila: ADB.
- Ball, T. (2006) 'Democracy.' In A. Dobson and R. Eckersley (eds.). *Political Theory and the Ecological Challenge*. Cambridge: Cambridge University Press, pp. 131-147.
- Barry, J. (2006) 'Resistance is fertile: From environmental to sustainability citizenship.' In A. Dobson and D. Bell (eds.). *Environmental Citizenship*. Cambridge, MA: The MIT Press, pp. 21-48.
- Blühdorn, I. and I. Welsh (2007) 'Eco-politics beyond the Paradigm of Sustainability: A Conceptual Framework and Research Agenda.' *Environmental Politics* 16(2): 185-205.
- Brand, U. (2011). 'Green Economy – the Next Oxymoron? No Lessons Learned from Failures of Implementing Sustainable Development. *GAIA* 21(1): 28 – 32 |
- Chang, C. and J. Gao (2011) 'China: a country case analysis.' In Green Growth Leaders (Huberty, M. et al.). *Green Growth: from religion to reality*. Berkeley: University of California, Berkeley Roundtable on the International Economy, pp. 76-84. Available at <http://greengrowthleaders.org/knowledge/attachment/from-religion-to-reality-december-2011/>
- China Daily (2007) 'Scientific Outlook on Development.' 12 October 2007. At [http://www.chinadaily.com.cn/language\\_tips/2007-10/12/content\\_6170884.htm](http://www.chinadaily.com.cn/language_tips/2007-10/12/content_6170884.htm) [accessed 20th January 2012].
- China.org.cn (2007). What is Green Consumption? 12 September 2007, <http://www.china.org.cn/english/environment/224177.htm> [accessed 10th June 2012].
- CleanBiz Asia (2012). 'China throws \$4.2 billion behind green consumer purchases.' 17 May 2012, <http://www.cleanbiz.asia/story/china-throws-42-billion-behind-green-consumer-purchases> [accessed 10th June 2012]
- Daly, H.E. (1974) 'Steady-state economics versus growthmania: A critique of the orthodox conceptions of growth, wants, scarcity, and efficiency .' *Policy Sciences* 5(2): 149-167.
- Daly, H.E. (1996) *Beyond Growth: The Economics of Sustainable Development*. Boston: Beacon Press.
- Daly, H.E. (2002) 'Sustainable Development: Definitions, Principles, Policies. Invited address at the World Bank, 30 April 2002, at <http://www.earthrights.net/docs/daly.html> (accessed on 11th January 2012).

- Dryzek, J. (2005) *The Politics of the Earth: Environmental Discourses*. Oxford: Oxford University Press.
- Dual Citizenship Inc. (2011) *The 2011 Global Green Economy Index*. Available at <http://www.earthsummit2012.org/other-publications/2011-global-green-economy-index>
- Eckersley, R. (2004) *The Green State: Rethinking Democracy and Sovereignty*. London: MIT Press.
- Ekins, P. (2000) *Economic Growth and Environmental Sustainability: The Prospects for Green Growth*. New York: Routledge.
- Everett, T.; Ishwaran, M.; Ansaloni, G.P.; and Rubin, A. (2010). *Economic Growth and the Environment*. London: UK Government, Department for Environment; Food and Rural Affairs.
- Geng, Y. and B. Doberstein (2008) 'Developing the circular economy in China: challenges and opportunities for achieving 'leapfrog development.' *International Journal of Sustainable Development & World Ecology* 15(3): 231-239.
- Government of the People's Republic of China (GoPRC) (2011) *National Submission of the People's Republic of China on the UN Conference on Sustainable Development in 2012*. At <http://www.uncsd2012.org/rio20/index.php?page=view&type=510&nr=16&menu=20> (accessed 12 January 2012).
- Gramsci, A. (1971) *Selections from the Prison Notebooks* (edited by Quentin Hoare and Geoffrey Nowell Smith). New York: International Publishers.
- Huberty, M.; Gao, H. And J. Mandell with J. Zysman (2011) *Shaping the Green Economy: a review of the public debate and the prospects for green growth*. Report for the Green Growth Leaders. Berkeley Roundtable on the International Economy. Available at <http://greengrowthleaders.org/knowledge/attachment/from-religion-to-reality-december-2011/>
- Hurrell, A. (2006) 'The state.' In A. Dobson and R. Eckersley (eds.). *Political Theory and the Ecological Challenge*. Cambridge: Cambridge University Press, pp. 165-182.
- Jackson, T. (2009) *Prosperity without Growth? Economics for a Finite Planet*. Oxford: Earthscan.
- Khor, M. (2011). Risks and uses of the *green economy* concept in the context of sustainable development, poverty and equity. South Centre, Research Paper No. 49, Geneva.
- Le Blanc, D. (2011) "Introduction: Special issue on green economy and sustainable development." *UN Natural Resources Forum*, Vol. 35, pp. 151-154.
- Li, V. and G. Lang (2010) 'China's "Green GDP" Experiment and the Struggle for Ecological Modernisation.' *Journal of Contemporary Asia* 40(1): 44-62.
- Martens, S. (2006) 'Public participation with Chinese characteristics: Citizen consumers in China's environmental management.' *Environmental Politics* 15(2): 211-230.
- Meadows, D. H.; D. Meadows; L. Dennis and J. Randers (1992) *Beyond the Limits*, Post Mills, Vermont: Chelsea Green Publishing Company.
- Mol, A.P.J. and N.T. Carter (2006) 'China's environmental governance in transition.' *Environmental Politics* 15(2): 149-170.
- Organisation for Economic Cooperation and Development (OECD) (2010) *Interim Report of the Green Growth Strategy: Implementing our commitment for a*

*sustainable future*. Paris: OECD.

Organisation for Economic Cooperation and Development (OECD) (2011) *Towards Green Growth*. Paris: OECD.

Pearce, D.W. and J. Warford (1993) *World Without End: Economics, Environment and Sustainable Development*. New York: Oxford University Press.

Plant, R. (2009). *The Neoliberal State*. Oxford: Oxford University Press.

Robbins, R. (1999). *Global Problems and the Culture of Capitalism*. Boston, MA : Allyn and Bacon.

Seyfang, G. (2005) 'Shopping for Sustainability: Can Sustainable Consumption Promote Ecological Citizenship.' *Environmental Politics* 14(2): 290-306.

Stern, D. (2004) 'The Rise and Fall of the Environmental Kuznets Curve.' *World Development* 32(8): 1419-1439.

Stiglitz, J. (2008). 'The [Fall of Wall Street Is to Market Fundamentalism What the Fall of the Berlin Wall Was to Communism](#).' *Huffington Post, Business*, 16 September, 2008; at [http://www.huffingtonpost.com/nathan-gardels/stiglitz-the-fall-of-wall\\_b\\_126911.html](http://www.huffingtonpost.com/nathan-gardels/stiglitz-the-fall-of-wall_b_126911.html) [accessed 16 June 2012].

United Nations Department of Economic and Social Affairs (UN-DESA), United Nations Environment Programme, and United Nations Conference on Trade and Development (2010) *The Transition to a Green Economy: Benefits, Challenges and Risks from a Sustainable Development Perspective*. Report by a Panel of Experts to Second Preparatory Committee Meeting for United Nations Conference on Sustainable Development. Available at <http://www.uncsd2012.org/rio20/index.php?page=view&type=400&nr=12&menu=45>

United Nations Economic and Social Commission for the Asia Pacific (UNESCAP) (2006) *Greening Growth at a Glance: The Way Forward for Asia and the Pacific*. Bangkok: UNESCAP.

United Nations Economic and Social Commission for the Asia Pacific (UNESCAP) (2008) *Greening Growth in Asia and the Pacific*. Bangkok: UNESCAP.

United Nations Economic and Social Commission for the Asia Pacific (UNESCAP) (n.d.) *Promoting Sustainable Consumption and Production in Asia and the Pacific*. Bangkok: UNESCAP.

United Nations Educational, Cultural and Scientific Organisation (UNESCO) (2011) *From Green Growth to Green Societies: UNESCO's Commitment to Sustainable Development*. Paris: UNESCO.

United Nations Environment Programme (UNEP) (2011a) *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication – Full Report*. Nairobi: UNEP.

United Nations Environment Programme (UNEP) (2011b) *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication – A Synthesis for Policy Makers*. Nairobi: UNEP.

United Nations Environment Programme (UNEP) (2011c) *Decoupling natural resource use and environmental impacts from economic growth*. UNEP (2011) A Report of the Working Group on Decoupling to the International Resource Panel. Fischer-Kowalski, M., Swilling, M., von Weizsäcker, E.U., Ren, Y., Moriguchi, Y., Crane, W., Krausmann, F., Eisenmenger, N., Giljum, S., Hennicke, P., Romero Lankao, P., Siriban Manalang, A., Sewerin, S. Nairobi: UNEP

Van der Voet, E.; van Oers, L.; Moll, S.; Schütz, H.; Bringezu, S.; de Bruyn, S.; Sevenster, M.; and Warringa, G. (2005). Policy Review on Decoupling: Development of indicators to assess decoupling of economic development and environmental pressure in the EU-25 and AC-3 countries. Report for the European Commission. Brussels: European Commission.

Wallerstein, I. (2008). 'The Demise of Neoliberal Globalisation'. *Monthly Review*, 1 February 2008, at <http://mrzine.monthlyreview.org/2008/wallerstein010208.html> [accessed 11 June 2012].

Wapner, P. (2011) 'Transitioning to a Green Economy.' In Pardee Center Task Force Report (2011). *Beyond Rio+20: Governance for a Green Economy*. Boston: Boston University, pp. 77-82.

World Bank (2003) *World Development Report 2003: Sustainable Development in a Dynamic World – Transforming Institutions, Growth, and Quality of Life*. New York: Oxford University Press.

World Bank (2007) *Water Pollution Emergencies in China: Prevent and Response*. Washington, D.C.: World Bank.

World Bank (2009). *Developing a Circular Economy in China: Highlights and Recommendations*. Washington, D.C.: World Bank.

World Commission on Environment and Development (WCED) (1987) *Our Common Future*. New York: Oxford University Press.

Zengwei, Y., Bi, J. and Y. Moriguchi (2006) 'The Circular Economy: a new development strategy in China.' *Journal of Industrial Ecology* 10(1-2): 4-8.

Zhu, D. (2008) 'Background, Pattern and Policy of China for Developing Circular Economy.' *Chinese Journal of Population, Resources and Environment* 6(4): 1-6.