

## Mainstreaming Sustainable Development into National Climate Change Responses: Assessing the Legal Options to Reinforce Equity

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### *Abstract*

Climate change is one of the most pressing challenges of our time as it is a global problem. The impacts, however, are experienced very differently in the developed and developing worlds. Therefore, responsiveness to the impacts of climate change is important to all nations of the world since environment-dependent economic sectors have been adversely affected by climate change. Human livelihoods are increasingly at risk due to a significant rise in extreme weather events that result in more frequent or severe droughts or floods. The adverse impacts of climate change tend to exacerbate or peak due to the vulnerability of systems and people, which in turn increases the risk and susceptibility to adverse effects. The level of vulnerability is impacted by socio-economic status, raising important questions about equity. This article argues that equity is a common goal to be fulfilled in order to have successful climate change responses, and to realise sustainable development. *Sustainable development*, as a legal concept, is advanced as being normatively more equipped with tools to fulfil equity, and such tools could be adapted to address climate change. Thus, the article explores how existing legal tools of sustainable development could have utility in shaping equitable responses to climate change.

### *A. Introduction*

Climate change is one of the most pressing challenges of our time as it is a global problem. The impacts, however, are experienced very differently in

the developed and developing worlds.<sup>1</sup> The Intergovernmental Panel on Climate Change (IPCC), in its 2007 assessment report, clearly notes that warming of the climate system is unequivocal, as evidenced by observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and the rising average sea level.<sup>2</sup> The IPCC further notes that observational evidence from all continents, and most oceans, shows that many natural systems are being affected by regional climate changes, particularly temperature increases.<sup>3</sup> The anthropogenic connection to climate change and global warming has also been clearly pinpointed, with the IPCC further noting that “global GHG [greenhouse gas] emissions due to human activities have grown since pre-industrial times, with an increase of 70% between 1970 and 2004”,<sup>4</sup> and that “most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations”.<sup>5</sup>

Responsiveness to the impacts of climate change is important to all nations of the world, whether developed or developing, because of the implications for the social, economic and environmental dimensions of development. Environment-dependent economic sectors, including water resources and supply, agriculture and forestry have been adversely affected by climate change. Human livelihoods are increasingly at risk due to a significant rise in extreme events that result in more frequent or severe droughts or floods. The increased flood risk poses challenges to human life, livelihoods, physical infrastructure and water quality.<sup>6</sup>

Agricultural production has been under significant pressure due to extreme weather events, but also due to the need to build resilience against changing weather patterns, and to reduce agriculture’s contribution to GHG emissions.<sup>7</sup> Water resources are also stressed by climate change, and it is estimated that the number of people projected to experience an increase in water-related stresses is between 0.4 to 1.7 billion for the 2020s and between 1 and 2.7 billion for the 2050s. The degree of water stress increases further

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1 Richardson et al. (2009:1).

2 IPCC (2007a:2).

3 (ibid.).

4 (ibid.:5).

5 (ibid.).

6 See Earth Watch Institute (2009).

7 IPCC (2007a:5).

when the minimum water quantities required as environmental flow to sustain integrity of ecosystems are incorporated.<sup>8</sup>

The adverse impacts of climate change tend to exacerbate or peak due to the vulnerability of systems and people. This vulnerability is the degree to which geophysical, biological and socio-economic systems are susceptible to, and unable to cope with, any adverse impacts of climate change.<sup>9</sup> The vulnerability increases the risk and susceptibility to adverse effects due to a lack of basic mechanisms to cope with or adjust to climate-change-induced variations in the environment or in economic circumstances. The level of vulnerability is impacted by socio-economic status, which could result in social stress and environmental damage.<sup>10</sup> Poverty, for instance, is a primary element in causing or raising levels of vulnerability amongst populations in urban and rural settings of both developed and developing countries. Since vulnerability to climate change differs considerably across socio-economic groups, it also raises important questions about equity.<sup>11</sup> Similarly, the equity question arises in discourse regarding climate change effects on countries and their ability to respond to the impacts. Equity is, therefore, a fundamental concern for climate law, and is anticipated in Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC), which stipulates that vulnerability and equity amongst countries is indeed a major consideration when developing legal and other mechanisms for addressing climate change.

One of the consequences of both national and international law failing to adequately resolve challenges of inequity and vulnerability to climate change is impairment of the ability to pursue or attain sustainable development. Notably, in the UNFCCC objectives,<sup>12</sup> control of global warming is sought in part to enable economic development to proceed in a sustainable manner. The increasing prevalence of adverse impacts on people and countries suggests the object of the UNFCCC is far from being realised. The Stern Review supports this reasoning with respect to developing countries, noting that they are –<sup>13</sup>

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8 (ibid.).

9 Schneider et al. (2007:783).

10 (ibid.).

11 Schneider et al. (2007:784).

12 Article 2.

13 Stern (2007:Part II, 93).

... especially vulnerable to the physical impacts of climate change because of their exposure to an already fragile environment, an economic structure that is highly sensitive to an adverse and changing climate, and low incomes that constrain their ability to adapt.

Illustratively, the cost of the 2010 floods that inundated Pakistan resulted in damage to infrastructure, crops and the economy, is estimated at US\$43 billion.

Thus, failure to attain equity in response to climate change to reduce peoples' and countries' vulnerability will likely lead to a development deficit and further limit or even negate the ability to realise sustainable development. Normatively, the concept of *sustainable development* revolves around the principles and practice of equity, both among present and future generations. The correlation between climate change and sustainable development is not disputed. According to the IPCC, there is a dual relationship between sustainable development and climate change: climate change influences key natural and human living conditions and, therefore, also the basis for social and economic development; and society's priorities on sustainable development influence both the GHG emissions that are causing climate change and vulnerability to it.<sup>14</sup> The UNFCCC acknowledges that climate change responses should be undertaken within a framework of sustainable development. While this provision has been in place since 1992, the conceptual linkage of sustainable development as a tool to reinforce climate change response mechanisms has been expanded in recent years. The Bali Action Plan (BAP) expanded this linkage further with a decision to enhance national/international action on mitigating climate change with nationally appropriate mitigation actions by developing countries in the context of sustainable development. BAP also urged states parties to pursue policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.<sup>15</sup> This approach has been reiterated in subsequent Conferences of Parties (COPs) to the UNFCCC such as the Copenhagen Accord, where countries agreed to enhance long-term cooperation to combat climate change, on the basis of equity and in the context of sustainable de-

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14 IPCC (2007b:para. 2.1.3).

15 UNFCCC, Report of the Conference of the Parties on its Thirteenth Session, held in Bali from 3 to 15 December 2007 – Decision 1/CP.13 on Bali Action Plan, para 1.

velopment.<sup>16</sup> Rio+20, the global conference on sustainable development held in June 2012, further enhanced the connection by reaffirming –<sup>17</sup>

... the necessity to enhance sustainable agriculture, including crops, livestock, forestry, fisheries and aquaculture, that improves food security, eradicates hunger and is economically viable, while conserving land, water, plant and animal genetic resources, biodiversity and ecosystems, and enhancing resilience to climate change and natural disasters.

While the above iteration confirms an existing linkage between climate change and sustainable development, it does not offer any normative content to ensure that attaining sustainable development remains a key objective of climate change responses. This provides a critical moment for law and policy to address climate change and sustainable development simultaneously. Indeed, a key argument by the IPCC is that climate policies can be more effective when consistently embedded within broader sustainable development strategies.<sup>18</sup> Thus, for instance, the challenge of equity, which pervades efforts to address climate change, could be more holistically addressed within the rubric of sustainable development. The core argument made in this article, therefore, is that addressing the adverse impacts and inequities of climate change is a critical ingredient for realising sustainable development. Cyclically, sustainable development provides the requisite tools to respond to climate change.

The article is divided into three parts. The first is an introduction that highlights the evidence and impacts of climate change, and their contribution to inequity. The second part argues that equity is a common goal to be fulfilled in order to have successful climate change responses, and to realise sustainable development. It further argues that *sustainable development*, as a legal concept, is normatively more equipped with tools to fulfil equity, and such tools could be adapted to address climate change. The third part explores how existing legal tools of sustainable development could have utility in shaping equitable responses to climate change.

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16 UNFCCC, Copenhagen Accord, Draft Decision -/CP.15, Conference of the Parties Fifteenth Session, Copenhagen, 18 December 2009, 1.

17 United Nations, *The Future We Want: Rio+20 Conference on Sustainable Development, Outcome of the Conference A/CONF.216/L.1*, Rio de Janeiro, Brazil, 20–22 June 2012, para. 111 (hereinafter *The Future We Want*).

18 (ibid.).

## B. *Exploring Commonality of Equity in Climate Change and Sustainable Development*

The UNFCCC prominently poses the question of equity in combating climate change. Article 3 stipulates that states parties –

... should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.

This explicit reference establishes a requirement for countries to protect the climate system –

- while applying a framework of generational equity, and
- guided by the rules of common but differentiated responsibilities, and their respective capabilities.

These frameworks are reflected in discourse on sustainable development in which intergenerational equity is paramount; and special considerations to developing, least-developed and small island states are applied in a similar context as common but differentiated responsibilities and their respective capabilities. This submission focuses on the interaction between climate change and generational equity, and suggests that applying the integration methodology of sustainable development will provide effective mechanisms. Inherently, the pursuit of intergenerational equity necessitates the application of differential treatment even among natural citizens, with the same normative content as applied through common but differentiated responsibilities and respective capabilities amongst states.

### I. *Intergenerational Equity*

Equity amongst present and future generations of humankind is also referred to as intra- and intergenerational equity, respectively. According to Edith Brown Weiss, *intergenerational equity* denotes an inherent obligation on the current generation to conserve and utilise the environment without negatively impacting the ability of future generations to meet their own needs.<sup>19</sup> The present generation also enjoys an intergenerational right to enjoy the benefits of a suitable environment bequeathed from earlier genera-

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19 Brown Weiss (2008).

tions. In this case, it is necessary to ensure fairness is established within present generations through opportunities to utilise the natural resources and eradicate poverty – hence reducing vulnerability. This exposes intergenerational equity as having an inherent element of intragenerational equity.

This approach is supported in international law through provisions in various Conventions. The Convention on Biological Diversity, for example, has the objective of conserving biodiversity, the sustainable use of its components, and the fair and equitable sharing of benefits amongst present and future generations.<sup>20</sup> This is reiterated by the 2003 Revised African Natural Resources Convention, which requires its provisions to be implemented in the interest of present and future generations.<sup>21</sup> Agenda 21, which also embraces generational equity, argues that a specific anti-poverty strategy is one of the basic conditions for ensuring sustainable development.<sup>22</sup> Such a strategy – to tackle the problems of poverty, development and environment simultaneously – should focus on resources and people, especially on enhanced health care and education; the rights of women; the role of the youth, indigenous people, and local communities; and improved governance. This reinforces the arguments that claim attaining equity is an inherent objective of sustainable development.

## *II. Adapting the Methodology of Sustainable Development to Reinforce Equity in Climate Change*

### *1. Equitable Objectives of Climate Change and Sustainable Development*

The protection of the climate system, which is the target of the UNFCCC, seeks to secure intergenerational equity. The utility of generational equity is reinforced because climate change continues to have devastating impacts on impoverished peoples, largely due to their vulnerability and low capacity to adapt.<sup>23</sup> This vitiates people's resilience to climate change and undermines

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20 Article 3.

21 Article 4.

22 *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992*, New York, United Nations, Sales No. E.93.I.8 and corrigenda, Vol. I: Resolutions Adopted by the Conference, Resolution 1, Annexes I and II, Chapter 3, para. 3.2 (hereinafter *Agenda 21*).

23 Brown Weiss (2008).

their ability to cope with changes. Therefore, adaptation to climate change is one mechanism that can demonstrate the application of generational equity in responding to climate change. *Adaptation* can be defined as the process through which people reduce the adverse effects of climate change on their health and well-being, and take advantage of the opportunities that their climatic environment provides.<sup>24</sup> Thus, it is a process that aims to build people's resilience to the unique circumstances posed by climate change.

With respect to building resilience, two possible approaches in respect of adaptation to climate change arise: reactive adaptation, and planned adaptation. *Planned adaptation* is the result of a deliberate policy decision, based on an awareness that conditions have changed or are about to change and that action is required to return to, maintain, or achieve a desired state.<sup>25</sup> It is, therefore, a suitable tool for addressing the vulnerabilities and risks posed by climate change, including improving livelihoods to minimise poverty. Planned adaptations can be reactive or anticipatory, i.e. undertaken before impacts are apparent, and can include potential actions to share losses, modify threats, prevent or decrease effects, or change use.<sup>26</sup>

Enhancing adaptive capacity, particularly through planned adaptation, is a necessary condition for reducing vulnerability and inequity. This is especially the case for the most vulnerable regions, nations, and socio-economic groups: activities required for the enhancement of adaptive capacity are essentially equivalent to those promoting sustainable development.<sup>27</sup> Climate adaptation and equity goals can be jointly pursued by initiatives that promote the welfare of the poorest members of society, e.g. by improving food security, and facilitating access to safe water and other resources.<sup>28</sup> This same objective can be attained where the norms of sustainable development are applied, particularly since many climate change impacts arise from development activities of an anthropocentric nature.

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24 Lin (2009:129).

25 (ibid.).

26 IPCC (2001:982).

27 (ibid.:881–885); see particularly Chapter 3, “Adaptation to Climate Change in the Context of Sustainable Development and Equity”.

28 (ibid.).



## 2. *Extending the Methodology of Sustainable Development to Climate Change*

Normatively, the link between climate change, equity, and sustainable development addresses the question of justice within and among generations. In the case of sustainable development, this is demonstrated by the classic definition advanced by the Brundtland Commission, namely that it is *development* “that meets the needs of the present without compromising the ability of future generations to meet their own needs.”<sup>29</sup>

This definition presents sustainable development as containing –

- a concept whereby the essential needs of the world’s poor should be given priority, and
- the idea of limitations of the environment’s ability to meet present and future needs.

The concept of *needs* addresses poverty and vulnerability, while the notion of *limitations* suggests an imperative to preserve the quality of the environment. This reveals that both sustainable development and climate change seek to attain the goals of equity to resolve vulnerability, poverty, and degradation.

The actual methodology through which sustainable development is implemented can aid the implementation of equitable climate change mechanisms such as adaptation. This is because implementation of sustainable development centres on the notion of the integration of environmental, social and economic dimensions. As reiterated by the Brundtland Commission’s Report, the concept of *sustainable development* provides a framework for the integration of environmental policies and development strategies.<sup>30</sup> *Integration* entails a process for considering and weighing up social, environmental and economic considerations during decision-making. Principle 4 of the 1992 Rio Declaration<sup>31</sup> is notable in this context, providing that, in order to achieve sustainable development, environmental protection has to be an integral part of the development process and cannot be considered in isolation from it. In support of this position, the International Court of Justice has recognised sustainable development as the principle that makes it possible

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29 World Commission on Environment and Development (1987:43).

30 (ibid.:40).

31 Rio Declaration on Environment and Development, in UN (1992); hereinafter *Rio Declaration*.

to maintain the balance between environmental and developmental considerations.<sup>32</sup>

With the methodology of integration, the overarching objectives and essential requirements of sustainable development include managing the natural resource base of economic and social production, and eradicating poverty.<sup>33</sup> This approach significantly reinforces climate change, since adaptation mechanisms, for instance, would focus on building or strengthening resilience in social, economic and environmental systems. In order to avoid possible deleterious effects of response mechanisms, adaptation would apply the notion of *integration* to ensure building resilience is holistic by seeking to balance the socio-economic and environmental systems. This is necessary because climate change – as reiterated during the Rio+20 Conference<sup>34</sup> – is a cross-cutting and persistent crisis with grave negative impacts that affect all countries and undermine their ability – particularly that of developing countries – to achieve sustainable development.<sup>35</sup> This requires a concerted effort, therefore; and mainstreaming the methodology of integration will enhance resilience and assure climate systems are protected for present and future generations.

### C. Assessing the Legal Options

Sustainable development contains norms and principles that can be deployed to enhance the application of integration as a legal tool to aid the implementation of adaptation programmes necessary to achieve equity. These norms and principles, when applied through law, would ensure adaptation options are considered within the parameters of sustainable development, hence diminishing the likelihood of the deleterious effects of various climate

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32 *Gabčíkovo-Nagymaros Project (Hungary v Slovakia)*, Judgment, [1997] ICJ Reports, Separate Opinion of Vice-President Weeramantry., 88–116, p. 85.

33 The Future We Want, para. 11.

34 Rio+20, formally known as the *United Nations Conference on Sustainable Development* (UNCSD), was organised in pursuance of General Assembly Resolution 64/236 (A/RES/64/236), and took place in Brazil on 20–22 June 2012. The Conference emphasised the need to further mainstream sustainable development at all levels, integrating economic, social and environmental aspects so as to achieve sustainable development in all its dimensions. Climate change was identified as a major impediment to the realisation of sustainable development.

35 (*ibid.*:para. 25).

change response mechanisms. They would, thus, provide legal options for policymakers.

### *I. People at the Centre of Sustainable Development*

The adverse impacts of climate change often affect people, especially the most vulnerable, due to weak coping mechanisms or an inability to build resilience. Adaptation responses should, therefore, aim to strengthen the ability of such people to cope with climate variability. This approach resonates with the concept of putting people at the centre of sustainable development. While an important concept, this approach has been termed *anthropocentric*, with a risk of encouraging a strong yet narrow focus on the socio-economic interests of humankind, with insufficient corresponding care for the environment. This is mainly because anthropocentrism confers intrinsic value on people and regards all other forms of life, including the environment, as being only instrumentally valuable, i.e. to the extent that they are or can be useful to serve human beings.<sup>36</sup>

Where people's interests are put first in an anthropocentric setting, it would be the utility of nature and its instrumental value to human beings that would matter most. This is because anthropocentrism revolves around the concept of *value*. Joseph des Jardins explains *value* as instrumental and intrinsic.<sup>37</sup> *Instrumental value* is a function of usefulness such that an object will possess that value because of the use to which such object can be put. By extension, that instrumental value is lost or diminished when the object no longer has a use – as the sense of *value* presupposes the existence of an external valuer or beneficiary, such as a human being.<sup>38</sup> Where anthropocentrism is applied in law and policy, it is only human beings that possess moral value; humans may have responsibilities *regarding* the natural world, but no direct responsibilities *to* the natural world.<sup>39</sup> This reasoning compounds the challenge of integration because, in practical terms, the line to draw between destruction and preservation or conservation is rather vague. This is more so in developing countries with extreme poverty, where the search for survival is desperate, and hope for tomorrow a mirage at best. It

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36 Callicot (1984:299).

37 Des Jardins (1997:127–130).

38 Bowman (1996:14).

39 Des Jardins (1997:9–11).

is also in these countries where the need to build resilience through adaptation is highest.

In contrast, people could still be placed at the centre of sustainable development through the ecocentric approach that reinforces integration during decision making. The ecocentric land ethic advanced by US forester Aldo Leopold offers a contrast to anthropocentrism.<sup>40</sup> Leopold suggests that the land ethic reflects the existence of an ecological conscience, which is a conviction of an individual responsibility to attain and retain the health of the land. He clarifies *land health* as the capacity of the land for self-renewal. Therefore, according to Leopold, the ecological conscience involves love, respect and admiration for the land, dedicated to a high regard for its value beyond economic self-interest. The land ethic also examines the role of humankind, with Leopold urging that such a land ethic seeks to alter the role of humans from conqueror of the land community to a citizen of the biotic community. The land ethic conceptualises human beings having an entitlement to utilise environmental resources, but guided by an ecological conscience. Arguably therefore, this approach seeks to ensure the socio-economic and environmental dimensions are addressed. One could, therefore, conclude that, in placing humans at the centre of concerns for sustainable development and, by extension, taking steps to build resilience to climate change, it is the ecocentric approach that provides room to apply integration.

## *II. The Concept of Rights as a Tool for Equity*

Human rights have increasingly become a mechanism for guiding the realisation of sustainable development, particularly the attainment of equity. These rights, especially when they attain the status of a constitutional, or fundamental, right are critical because they acquire superiority in a legal system. Internationally, rights are protected through the binding nature of treaties, and nationally, they could be protected by the supremacy of constitutions.<sup>41</sup> The domain of rights has expanded significantly and incorporates both environmental and development rights, indicating an increasing focus on the realisation of sustainable development. The 2003 African Convention on the Conservation of Nature and Natural Resources (Revised Ver-

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40 Leopold (1981/2003:215–224).

41 See e.g. Article 2, Constitution of Kenya, 2010.

sion)<sup>42</sup> incorporates “the right of all peoples to a satisfactory environment favourable to their development”.<sup>43</sup> The 1981 African Charter on Human and Peoples’ Rights<sup>44</sup> equally guarantees all peoples the right to a “general satisfactory environment favourable to their development”.<sup>45</sup> The 2003 Protocol to the African Charter on Human and Peoples’ Rights on the Rights of Women in Africa guarantees a right to nutritious and adequate food for women, including provision with “access to clean drinking water”.<sup>46</sup> The African Charter on the Rights and Welfare of the Child guarantees every child the right to enjoy the best attainable state of physical, mental and spiritual health, including “provision of adequate nutrition and safe drinking water”.<sup>47</sup>

Constitutions, just like treaties, entrench both environmental and socio-economic rights, and in certain cases explicitly set out sustainable development as an output of implementing these rights.<sup>48</sup> Kenya, South Africa and Uganda are illustrative examples where constitutional environmental rights are accompanied by socio-economic rights (to food, water, sanitation, health, etc.) in the Bill of Rights.

Such inclusions in the Bill of rights suggest an obligation to apply integration and balancing of socio-economic and environmental rights when implementing the related entitlements. This argument is supported by the view of Claasen J in *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment and Land Affairs*,<sup>49</sup> where he argued that the environmental right enshrined in the South African Constitution was on par with other basic rights such as freedom to trade or the right to property, and none should be considered more important than the other. This reasoning supports a conclusion that the framework of environmental and socio-economic human rights seeks equity, and therefore provides a basis on which climate change programmes such as adaptation could be mounted. However, equity will only become an outcome where the methodology of integration is applied to balance the three dimensions of sustainable development.

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42 11 July 2003, reprinted in Heyns (2010:95).

43 (ibid.:Article 3).

44 27 June 1981, reprinted in Heyns (2010:29).

45 (ibid.:Article 24).

46 Article 18.

47 Article 14(2)(c).

48 See e.g. Article 42, Constitution of Kenya 2010, as read with Article 69 (environmental rights and sustainable development) and Article 43 (socio-economic rights).

49 2004 (5) SA 124 (W).

### III. Local Agenda 21

The role of local authorities such as city councils, municipalities and other devolved governments in sustainable development was introduced, conceptually, by Agenda 21 in 1992. Agenda 21 argued that, since most sustainability problems had their roots in local activities, local authorities were the ones to provide governance closest to the people; for this reason they played a vital role in educating, mobilising and responding to the public to promote sustainable development.<sup>50</sup> They would, thus, be responsible for implementing a 'Local Agenda 21'. This approach of devolved governments taking on such responsibility would work well because local authorities construct, operate and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and subnational environmental policies.<sup>51</sup> Du Plessis argues that Local Agenda 21 translates Agenda 21 into a framework for local authorities to seek local solutions for global challenges through voluntary action.<sup>52</sup>

Local authorities have to develop their own Local Agenda 21 through a process of consultation, consensus-building, and community participation towards preparation of sustainable development strategies. They have to implement and monitor programmes which should apply equity by ensuring that women and the youth are represented in decision-making, planning and implementation processes.<sup>53</sup> The framework for Local Agenda 21 is notable in that it does not provide specific guidance or specify the format for its design and implementation, suggesting that consultations should guide both the design and content to respond to local sustainability concerns. Climate change adaptation is one such sustainability concern inherently suited to response at a local level. As Richardson urges, while the impacts of climate change are commonly widely dispersed, the benefits of adaptation measures are often quite localised.<sup>54</sup> He suggests, therefore, that climate change adaptation invites a legal framework that facilitates capacity-building to develop

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50 Agenda 21, Chapter 28, para. 28.1.

51 (*ibid.*).

52 Du Plessis (2011:48).

53 Agenda 21, Chapter 28, para 28.2.

54 Richardson (2012:7–8).

and implement local adaptation plans that align the work of national and local governments.<sup>55</sup>

Local authorities are empowered by national laws with powers and functions over a defined jurisdiction. They often exercise (quasi-)legislative functions, either making local laws, or devising regulations to implement national, provincial or state law. Many of the functions performed by local authorities impact on sustainability, and could simultaneously be modified to implement climate change adaptation. These include modifying building codes to require the use of solar or geothermal energy sources in buildings, reinforcing infrastructure to withstand climate change impacts, and implementing food security programmes. Certainly, the capacity of local authorities to fully design a local climate change agenda pegged on the rubric of Local Agenda 21 will depend on various factors, including scope of jurisdiction, financial capability, and maturity of planning and enforcement systems. Nonetheless, Local Agenda 21 is a concept of sustainable development that can enable the successful implementation of climate change responses at a local level, with various modifications.

#### IV. Green Economy

A *green economy* is defined as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. The United Nations Environment Programme (UNEP) argues that a green economy entails low carbon emissions, resource-efficiency and social inclusiveness.<sup>56</sup> This, according to the Food and Agriculture Organization of the United Nations (FAO), makes a green economy an economic system that is compatible with the natural environment and social concerns. This requires using clean technology and clean energy to provide safer and healthier environments, create alternative green jobs, and safeguard the development of societies. In addition to seeking low carbon emissions, a green economy seeks “green growth” which extends beyond economic output growth, and indicates “sustainable economic progress”.<sup>57</sup>

Although the concept of a *green economy* is still evolving, Rio+20 clarified it further that a green economy would promote sustained and inclusive

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55 (ibid.:8).

56 UNEP (2011:01–02).

57 FAO (2010:3–4).

economic growth; foster innovation; provide opportunities, benefits and empowerment for all; and respect all human rights. A green economy would also mobilise full and equal contributions by men and women; it would enhance the welfare of women, children, the youth, persons with disabilities, and smallholder and subsistence farmers; and it would improve the livelihoods and empowerment of the poor and of vulnerable groups in developing countries in particular.

An important element of a green economy is the absence of a tailor-made set of rules on how to implement it at national level. Indeed, Rio+20 suggested that each country should be free to choose an appropriate approach in accordance with its own national sustainable development strategies – which would enhance the ability to manage natural resource sustainability and with lower negative impacts.<sup>58</sup> FAO suggested five major elements of a green economy, which will still evolve, providing a normative indicator of the linkage that a green economy brings between sustainable development and climate change:<sup>59</sup>

- Generation and use of renewable energy
- Energy efficiency
- Waste minimisation and management
- Preservation and sustainable use of existing natural resources, and
- Green job creation, offering a decent wage, job security and career prospects.

It would, therefore, be left to individual countries to determine how to apply the concept of a *green economy* as a legal mechanism for unifying sustainable development and climate change.

## V. Disaster Risk Reduction

Globally, natural disasters are increasing in frequency and strength. Extreme events such as earthquakes, tsunamis, cyclones, hurricanes, typhoons, floods, droughts and famine are occurring in more frequent cycles, and causing greater adverse effects. The debilitating impacts of disasters are compounded by increasing vulnerabilities related to changing demographic and socio-economic conditions, development within high-risk zones, under-

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58 *The Future We Want*, Part III.

59 (ibid.).



development, environmental degradation, climate variability, climate change, geological hazards, and competition for scarce resources.<sup>60</sup> The concept of *disaster risk reduction* (DRR) is concerned with decreasing disaster risks through systematic efforts to analyse and reduce the causal factors of disasters.<sup>61</sup> DRR is concerned with reducing exposure to hazards, minimising the vulnerability of people and property, the wise management of land and the environment, and improving preparedness for adverse events.<sup>62</sup> The absence of DRR in policies significantly vitiates a country or people's ability to make sustainable development a reality. Climate-change-induced extreme events, for instance, have the capacity to reverse sustainable development – hence the need to deploy DRR tools for anticipatory action. These tools include developing early warning systems and a culture of community safety, undertaking hazard and risk assessments, and planning humanitarian relief work ahead of time.

At the global level, the Hyogo Framework on DRR represents a ten-year plan (2005–2015) on measures to reduce the risk of vulnerabilities and hazards turning into disasters. Priority 1 of the Framework urges countries to mainstream DRR into national laws and principles, arguing that, in such instances, countries will have greater capacity to manage risks and to achieve widespread consensus for, engagement in, and compliance with DRR measures across all sectors of society.<sup>63</sup> The strategic action proposed under the Framework establishes a link between the norms and the overarching role of sustainable development in guiding integration when it calls on countries to integrate risk reduction, as appropriate, into development policies and planning at all levels of government, including poverty reduction strategies and sectors, and multisectoral policies and plans. The linkage with sustainability could be strengthened by countries adopting or modifying legislation to support DRR, including regulations and mechanisms that encourage compliance and promote incentives for undertaking DRR and mitigation activities.

The absence of DRR frameworks either aligned to Hyogo or framed to country-specific needs will prevent a country from reducing or eliminating its vulnerability to the adverse effects of climate change, such as extreme

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60 UNISDR (2007).

61 See International Strategy for Disaster Reduction (ISDR), available at <http://www.unisdr.org/who-we-are>, last accessed 11 April 2013.

62 (*ibid.*).

63 UNISDR (2007:6).

events that amount to disasters. This means that the country and its people will lack the resilience required to withstand disasters, while its ability to achieve sustainable development is further diminished. It is critical, therefore, that DRR be a central concern whenever climate change responses are planned in the context of sustainable development and in pursuit of equity.

#### *D. Conclusion*

Normatively, adaptation requires the application of differential treatment, since different people have different coping or resilience deficiencies. The failure to address the equity challenge facing climate change mechanisms will mean that those resilience deficiencies cannot be sufficiently addressed. This would mean that vulnerabilities arising from the negative impacts of climate change will persist. Nations and people who are at high risk due to vulnerability will continue without the capacity or means to realise sustainable development. It is now indisputable that sustainable development and climate change responses are mutually reinforcing. For developing countries whose economies continue to rely on natural resources for macro and small-scale economic productivity, it is critical to view climate change through the lens of sustainable development. A failure to do so will result in a development deficit, because of an exceedingly anthropocentric approach to utilising environmental resources, or because of pervading poverty, which will, cyclically, undermine any adaptation efforts. Applying sustainable development legal concepts such as rights provides a framework within which the law requires decisions – including those on climate change – to be integrated to ensure that the three dimensions of sustainable development are always considered on par. As the outcome from Rio+20 so eloquently states, political will by governments will remain paramount if further progress is to be realised in framing sustainable development as the overall objective of national development.

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