

2015

**Public Participation and  
Climate Governance  
Working Paper Series**

**Youth Participation in Climate Change for Sustainable  
Development**

**Joanne Narksompong**, Doctoral Candidate, Environment,  
Development and Sustainability Program, Graduate School,  
Chulalongkorn University

**Sangchan Limjirakan**, Director of the Environment, Development  
and Sustainability Program, Graduate School, Chulalongkorn  
University

Series Editors:

Katherine Lofts (CISDL),  
Sébastien Duyck (University of  
Lapland), and Sébastien Jodoin  
(GEM)



### **Centre for International Sustainable Development Law**

The Centre for International Sustainable Development Law (CISDL) aims to promote sustainable societies and the protection of ecosystems by advancing the understanding, development and implementation of international sustainable development law. The CISDL is an independent legal research centre that has a collaborative relationship with the McGill University Faculty of Law in engaging students and interested faculty members in sustainable development law research and scholarly initiatives. The CISDL has six legal research programmes led by jurists from developing and developed countries, and publishes books, articles, working papers and legal briefs in English, Spanish and French.

Centre for International Sustainable Development Law  
Chancellor Day Hall  
3644 Peel Street, Montreal (Quebec), H3A 1W9 Canada  
[www.cisdl.org](http://www.cisdl.org)

### **Governance, Environment & Markets Initiative at Yale University**

The Governance, Environment and Markets (GEM) Initiative at Yale University aims to reorient environmental governance research and practice from short term and single intervention approaches towards durable “results based” problem solving that embraces, rather than bypasses, multi-level complexity. GEM is based at the Yale School of Forestry and Environmental Studies, one of the world’s leading hubs of research and teaching in environmental policy and governance. Under the leadership of Prof. Benjamin Cashore, a team of scholars and graduate students carry out GEM’s research and programmatic activities. In addition, GEM benefits from the collaboration of a global network of practitioners and scholars focused on fostering effective, multi-level environmental governance solutions.

Governance, Environment & Markets Initiative at Yale  
195 Prospect Street  
New Haven, CT 06511  
[www.environment.yale.edu/gem](http://www.environment.yale.edu/gem)

### **Northern Institute for Environmental and Minority Law**

The Northern Institute for Environmental and Minority Law (NIEM) of the Arctic Centre (University of Lapland) is specialised in environmental and minority law. Since 1985, the Northern Institute for Environmental and Minority Law has contributed to scholarship through a special focus on studying the law relating to (Arctic) indigenous peoples and environmental law as it applies in the Arctic and northern region.

Northern Institute for Environmental and Minority Law  
Arctic Centre, University of Lapland  
P.O. Box 122  
FIN-96101 Rovaniemi, Finland  
[www.arcticcentre.org/EN/RESEARCH/NIEM](http://www.arcticcentre.org/EN/RESEARCH/NIEM)

\* **Disclaimer:** The views expressed in this working paper are solely those of the author, and do not represent the views of the Centre for International Sustainable Development Law; the Governance, Environment and Markets Initiative at Yale University; or the Northern Institute for Environmental and Minority Law at the University of Lapland.



# 1 Introduction

Climate change is a complex global problem that is interlinked with many issues, such as economic growth, environmental degradation and poverty reduction. The inherent complexities of climate change as a crosscutting global crisis highlight the linkages between environment, society and economy. According to the Intergovernmental Panel on Climate Change (IPCC), human activity is likely to be the main cause of greenhouse gas emissions to the Earth's atmosphere, causing global temperatures to rise and Earth's climate to change.<sup>1</sup> The current paradigm of economic growth and carbon-based industrialization has resulted in anthropogenic climate change that threatens the entire biosphere.

Climate change and sustainable development have generally been discussed in separate discourses; however, there is growing recognition of the interrelated nature and potential synergies between these two issues.<sup>2</sup> The Brundtland Report defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.<sup>3</sup> Although interpretations of this definition vary, sustainable development takes into full account the three dimensions of environment, economy and society to meet the basic needs of all, now and in the future, given finite environmental resources.

The principles of sustainable development are reflected in the call upon the Parties of the United Nations Framework Convention on Climate Change (UNFCCC) to “protect the climate system for the benefit of present and future generations of humankind, on the basis of equity . . .”.<sup>4</sup> The social dimensions of sustainability raise equity concerns in the context of climate change, including the distribution of the impacts of climate change, the distribution of responsibilities, intergenerational dimensions, access to justice, and public participation.<sup>5</sup>

Two concepts of generational equity within the context of sustainable development are acknowledged to be highly relevant to climate change: intergenerational and intragenerational equity. The Brundtland Commission's *Our Common Future* promoted the inclusion of effective citizen participation, including the participation of young people, in decision-making in political systems and as a strategy to ensure intragenerational equity.<sup>6</sup> It is explicitly expressed within the UNFCCC that the benefits of the climate system should be ensured for future generations. However, the lack of

---

<sup>1</sup> Intergovernmental Panel on Climate Change, *Fourth Assessment Report* (IPCC, 2007);

<sup>2</sup> S. Cohen *et al.*, 'Climate change and sustainable development: towards dialogue', 8:4 *Global Environmental Change* (1998), 341; J. and D. Herbert, 'Integrating climate change and sustainable development', 1:2 *International Journal of Global Environmental Issues* (2001), 130; J. Robinson *et al.*, 'Climate change and sustainable development: realizing the opportunity', 35:1 *AMBIO* (2006), 2; R. Swart, J. Robinson and S. Cohen, 'Climate change and sustainable development: expanding the options', 3:1 *Climate Policy* (2003), S19.

<sup>3</sup> World Commission on Environment and Development (WCED), *Our Common Future* (Oxford University Press, 1987), at para 27.

<sup>4</sup> United Nations Framework Convention on Climate Change (New York, 9 May 1992; came into force on 21 March 1994), at Article 3.1.

<sup>5</sup> N. Beg *et al.*, 'Linkages between climate change and sustainable development' 2:2 *Climate Policy* (2002), 129.

<sup>6</sup> WCED, n. 6 above, at para 28.

accountability for intergenerational equity to halt human activities that harm the well-being of future generations is lamentable.<sup>7</sup> The concept of intergenerational equity validates the necessity for the active involvement and participation of young people, who will bear the burden of climate change over the course of their lifetimes, as well as the consideration of unborn generations, whose well-being may be severely compromised.

Intragenerational equity is relevant to sustainable development as vulnerable populations are more likely to bear the impacts of climate change. It is linked to the distribution of climate change impacts and responsibilities for taking action on climate change. At a global level, developing countries are less to blame for emissions and more vulnerable to climate change than developed countries. Similarly, within a country, vulnerable groups and poor communities generate fewer carbon emissions and are less able to withstand climate impacts when they occur. Concurring with this view, the outcome document of Rio+20 in 2012, *The Future We Want* states:

. . . all countries, particularly developing countries, are vulnerable to the adverse impacts of climate change, and are already experiencing increased impacts including persistent drought and extreme weather events, sea level erosion and ocean acidification, further threatening food security and efforts to eradicate poverty and achieve sustainable development.<sup>8</sup>

The existing global development pathway is not sustainable and climate change poses a monumental challenge to progress on sustainable development. Frameworks for the implementation of sustainable development have existed for decades without significant progress. Improving living conditions while reducing poverty must remain a developmental priority, despite the increased frequency of extreme weather events and decreased agriculture productivity that will disproportionately impact vulnerable societal groups, while simultaneously reducing carbon emissions, adopting climate-appropriate measures and promoting resilience to climate change.

Aligning climate change and sustainable development has many challenges. A key barrier is the lack of coordination among policy-making and implementation agencies at global, regional, national and local levels.<sup>9</sup> Designing and effectively implementing national and regional development plans that are responsive to climate change is crucial for developing countries where climate change threatens to slow progress on sustainable development. The integration of climate change policy in local and regional development, both for mitigation and adaptation, can be enhanced through participatory approaches and social learning for effective local implementation with tangible benefits.<sup>10</sup> Accordingly, climate change-responsive policies and programs can act as catalysts for sustainable development.

### **(a) Youth in Climate Policy**

---

<sup>7</sup> Ibid., at para 25.

<sup>8</sup> *The Future We Want*, (UNGA A/RES/66/288, 27 July 2012 ), at para 190.

<sup>9</sup> N. Beg *et al.*, n. 8 above.

<sup>10</sup> L. Bizikova, J. Robinson & S. Cohen, 'Linking climate change and sustainable development at the local level', 7:4 *Climate Policy* (2007), at 271.

International frameworks on climate change and sustainable development policy support youth education and participation in responding to climate change. Youth are identified as one of the nine major groups of civil society in *Agenda 21* that is a major stakeholder with the right and responsibility to participate in sustainable development.<sup>11</sup> Youth participation promotes active citizenship and the empowerment of future generations to engage in environmental governance, including climate change governance.

The UNFCCC, through its Article 6 on Education, Training and Public Awareness, calls on governments to implement educational and training programs on climate change to educate, empower and engage all stakeholders. The Doha Work Programme on Article 6 of the Convention adopted in 2012 has also targeted youth as a major group for effective engagement in the formulation and implementation of decisions on climate change. Presently, actual implementation of policies at regional or national/local levels is typically lacking or insufficient, especially in developing countries.

Education on climate change, particularly for youth, is necessary for improving the capacity of people to address environmental and developmental issues related to climate change. Youth make up 17% of the world's population, or 1.2 billion people between the ages of 15 and 24, with the majority living in developing countries (87%).<sup>12</sup> Empowering today's youth to alleviate climate change impacts should be an educational priority since youth are the future citizens and decision makers that must live with the impacts of climate change and take action on implementing solutions. The active participation of youth provides intergenerational viewpoints of present and future citizens, which are fundamental to sustainable development.

This paper seeks to build greater understanding of the possibilities and challenges for youth participation in climate change, particularly in developing countries, where progress on sustainable development may be hindered by climate change. The paper will examine public participation in environmental decision-making, youth participation in decision-making, educational responses to climate change and youth participation in climate change action. A consideration of the situation on education and participation of youth in climate change issues in Thailand will be provided to gain perspectives from a middle-income country facing immediate and future climate change impacts.

## 2 Public Participation in Environmental Decision-Making

Based on Article 3.1 of the UNFCCC, following the ideals of democracy and equity, public participation is a fundamental component of sustainable development as a major strategy for engaging the public in environmental and developmental issues. The participation of citizens is a normative goal in the sustainable development agenda that was established at the Rio Earth Summit in 1992. Participation and engagement of citizens could counter anxiety or apathy that results in the feeling of being incapable of contributing to a complex, uncertain and intangible dilemma such as global climate

---

<sup>11</sup> United Nations Conference on Environment and Development, *Agenda 21* (United Nations, 1992).

<sup>12</sup> United Nations Department of Economic and Social Affairs, *The World Youth Report* (United Nations, 2012).

change.<sup>13</sup> Before considering the specific case of youth participation in environmental governance, we review the benefits and challenges of public participation in environmental decision-making.

Environmental and developmental problems are typically complex, multi-scale and affect multiple stakeholders and agencies. The public participation of citizens and citizen groups in decision-making is advocated within environmental policy and has become a normative goal in the development agenda. The concept of public participation promotes active citizenship to benefit the environment and society, based on the ideals of democracy and equity by involving stakeholders who are affected by or interested in environmental decisions at local, national and regional levels.

While public institutions and organizations worldwide are responding to demand for increased participation, the exact meaning of participation to these different actors can vary greatly. The World Bank defined participatory development as “a process through which stakeholders influence and share control over development initiatives, and the decisions and resources which affect them”.<sup>14</sup> The definition of participation used by the International Association of Public Participation (IAP2) includes all aspects of public involvement in identifying problems and opportunities, developing alternatives, and decision-making by those who are likely affected by the decisions.<sup>15</sup> Generally, participation is a process through which stakeholders influence and share control over policy setting, policy-making, resource allocation and related activities.

Governments and other agencies can use public participation as a tool to promote citizen engagement in environmental governance and policy-making processes. Environmental governance can be strengthened through the participation of civil society, including persons and organizations in five key areas, namely: 1) information collection and dissemination; 2) policy development and consultation; 3) policy implementation; 4) assessment and monitoring; and 5) advocacy for environmental justice.<sup>16</sup> Furthermore, participation may be instrumental, viewed as a means of accomplishing a goal or outcome, or transformative, where the process is an end itself.<sup>17</sup> Reflecting these views, the success of public participation is often evaluated on its participatory process, as well as the outcome of the process.<sup>18</sup>

Rather than involving only governments in the decision-making process, public participation allows citizens to give input and influence policies and programs that are relevant to their communities. The

---

<sup>13</sup> T. J. Doherty and S. Clayton, ‘The psychological impacts of global climate change’, 66:4 *American Psychologist* (2011), 265.

<sup>14</sup> World Bank, *The World Bank and Participation* (World Bank, 1994), at 11.

<sup>15</sup> International Association for Public Participation, found at: <<http://www.iap2.org>>.

<sup>16</sup> B. Gemmill and A. Bamidele-Izu, ‘The role of NGOs and civil society in global environmental governance’, in: D. C. Esty and M. H. Ivanova (eds.), *Global Environmental Governance* (Yale Center for Environmental Law & Policy, 2002), 77.

<sup>17</sup> A. Cornwall, ‘Unpacking ‘participation’: Models, meanings and practices’, 43:3 *Community Development Journal* (2008), 269.

<sup>18</sup> C. Chess and K. Purcell, ‘Public participation and the environment: Do we know what works?’, 33:16 *Environment, Science & Technology* (1999), 2685.

IAP2 used a situational approach to derive a continuum of five participatory relationships, consisting of informing, consulting, involving, collaborating and empowering.<sup>19</sup> By working together to establish trust and partnership, participation may lead to improved quality of environmental decisions and a sense of ownership over processes and outcomes that may in turn help to reduce implementation costs and increase effectiveness.<sup>20</sup>

The framework of social goals offered by Beierle takes a broader view of the outcomes of participatory processes beyond decisions, conclusions or recommendations to include: 1) educating the public; 2) incorporating public values, assumptions, and preferences into decision-making; 3) increasing the substantive quality of decisions; 4) fostering trust in institutions; 5) reducing conflict; and 5) making decisions more cost-effectively.<sup>21</sup> The framework can be used to evaluate participatory programs and whether various mechanisms are suited for specific needs.

Effective public participation itself is contingent on the public having access to sufficient and accurate information to facilitate informed decision-making, and thereby is linked to the right to information and public awareness. Although participation can vary according to the context, purposes, participants and resources, it has become embedded into international and national policy and decision-making due to the interrelated nature of environmental and development problems that requires a variety of knowledge and viewpoints, including local and scientific knowledge. Among the public, there is even disagreement about what 'good' public participation looks like, although a study found general agreement that the process should be legitimate, search for common values, realize democratic values of fairness and equality, promote equal power among all participants and viewpoints, and that it should foster responsible leadership.<sup>22</sup>

Participation seeks to reach the goal of ecological and socioeconomic equity by involving the public in environmental and developmental issues, although there are many challenges for implementation. There are many criticisms of participation as being ineffective and costly,<sup>23</sup> as well as challenging to evaluate.<sup>24</sup> Building trust for collaborative decision-making in large groups with diffuse interests is difficult, and requires heavy time commitments from citizens and government. Unbalanced

---

<sup>19</sup> International Association for Public Participation, *Spectrum of Public Participation* (2007), found at: <<http://www.iap2.org>>.

<sup>20</sup> M. S. Reed, 'Stakeholder participation for environmental management: A literature review' 141:10 *Biological Conservation* (2008), 2417.

<sup>21</sup> T.C. Beierle, 'Using social goals to evaluate public participation in environmental decisions', 16:3-4 *Review of Policy Research* (1999), 75.

<sup>22</sup> T. Webler, S. Tuler and R. Krueger, 'What is a good public participation process? Five perspectives from the public', 27:3 *Environmental Management* (2001), 435.

<sup>23</sup> R. A. Irvin and J. Stansbury, 'Citizen participation in decision-making: Is it worth the effort?', 64:1 *Public Administration Review* (2004), 55.

<sup>24</sup> J. Abelson *et al.*, 'Deliberations about deliberative methods: Issues in the design and evaluation of public participation processes', 57:2 *Social Science & Medicine* (2003), 239; G. Rowe and L. J. Frewer, 'Public participation methods: A framework for evaluation', 25:1 *Science Technology Human Values* (2000), 3; T. C. Beierle, n. 24 above.

representation of stakeholders can result in decisions that favor more powerful or persuasive groups, which can result in decisions that are not beneficial to the wider public. There is no consistent method for the participation process itself, nor for the evaluation of the success or failure of the process,<sup>25</sup> thus making comparisons of participatory processes and practices difficult. These challenges can detract from the beneficial impacts of participation as the public becomes frustrated or distrustful of participatory practices.

Participation aims to develop processes of inclusion, although there are challenges of non-participation and self-exclusion. Non-participation can be due to an inability to take part because of work, the timing and duration of activities, or family commitments, whereas self-exclusion is an active choice not to participate that can result from a lack of confidence, fear of reprisals, feelings of having nothing to contribute, or lack of benefit for participating.<sup>26</sup> Reasons for non-participation should be considered in order to facilitate the inclusion of diverse groups of citizens.

In the face of the numerous challenges surrounding participation practice, there is a call for new approaches for effective public participation.<sup>27</sup> Innes and Booher proposed reframing participation to be more collaborative, focusing on dialogue and interaction in a multi-dimensional model that builds networks and institutional capacity.<sup>28</sup> The commonly used 'tool-kit' approach to participation, which focuses on the selection of appropriate tools for the job, needs to be replaced with a tailored, flexible and contextualized approach that emphasizes empowerment, equity, trust and learning in the participation process.<sup>29</sup>

Through proper awareness and participation, an informed and involved citizenry would be capable of understanding difficult socio-scientific situations and visualizing holistic solutions to support better policy decisions and to promote better social and environmental outcomes. While many benefits of the participation process may not be immediately realized, they can support social goals and lay foundations of trust and understanding for further collaboration and more effective environmental governance.

### 3 Youth Participation in Decision-Making Processes

Youth, as a social group, have traditionally been underrepresented in decision-making processes and offered few opportunities to have their voices heard regarding issues concern them. Youth describes a transition between childhood and adulthood that encompasses the period of adolescence and young

---

<sup>25</sup> Ibid.

<sup>26</sup> A. Cornwall, n. 20 above.

<sup>27</sup> J. Abelson *et al.*, n. 27 above; J. E. Innes and D. E. Booher, 'Reframing public participation: strategies for the 21st Century', *5:4 Planning Theory & Practice* (2004), 419; C. S. King, K. Feltey and B. O'Neil Susel, 'The question of participation: Toward authentic public participation in public administration' *58:4 American Society for Public Administration* (1998), 317.

<sup>28</sup> J. E. Innes, n. 32 above.

<sup>29</sup> M.S. Reed, n. 23 above; T. Webler, n. 25 above.



adulthood. The youth themselves comprise a heterogeneous group diverse in age, gender, religion, socioeconomic status and levels of physical, emotional and cognitive maturity.

The definition of 'youth' varies from country to country according to the influences of socio-cultural, institutional, economic and political factors. The United Nations defines 'youth' as those persons between the ages of 15 and 24 years<sup>30</sup>, which overlaps with the definition of children by the United Nations Convention on the Rights of the Child (CRC) as persons up to the age of 18.<sup>31</sup> While these boundaries are useful for statistical consistency, there is no universal agreement, and some definitions consider individuals less than 30 years of age to be youth.<sup>32</sup>

Youth participation in decisions that affect their lives can occur in many settings, including the family unit, educational institutions, community and workplace, and at various levels, from local to global. *The Participation Rights of Adolescents* offers different meanings of adolescent participation including:

- seeking information, forming views, expressing ideas;
- taking part in activities and processes;
- being informed and consulted in decision-making;
- initiating ideas, processes, proposals, projects;
- analyzing situations and making choices; and
- respecting others and being treated with dignity.<sup>33</sup>

The definition of youth participation for the purposes of this paper is *a process where young people are involved, as active citizens, in expressing views on and influencing decision-making on issues that affect them.*

Much of the literature on youth participation is focused on the influences and outcomes of civic aspects of participation, such as political participation (voting and members in political organizations), civic engagement (community involvement, volunteering, youth programs) and action research. The benefits of youth participation are widely touted within youth development fields as an inherently 'good thing' for young people in society, often without critique, and the focus is primarily on methodological development.<sup>34</sup>

Most youth programs designed to improve civic development focus on personal, cognitive and social skills instead of looking to challenge the status quo and create equitable societies through social

---

<sup>30</sup> United Nations, Secretary-General's Report to the General Assembly, (UNGA A/36/215), at para 8 of annex; United Nations, General Assembly Resolutions A/RES/36/28, 1981.. International Youth Year: Participation, Development, Peace (UNGA A/RES/36/28,13 November 1981).

<sup>31</sup> Convention on the Rights of the Child (New York, 20 November 1989; came into force 2 September 1990), Article 1.

<sup>32</sup> S. Mokwena, *Putting Youth Engagement Into Practice: a toolkit for action* (Commonwealth Secretariat, 2006).

<sup>33</sup> R. Rajani (ed.), *Participation Rights of Adolescents* (UNICEF, 2001).

<sup>34</sup> R. Farthing, 'Why youth participation? Some justifications and critiques of youth participation Using New Labour's Youth Policies as a Case Study', 109 *Youth and Policy* (2012), 71.

transformation.<sup>35</sup> Participation studies often evaluate the effects of participation on an individual level for outcomes such as knowledge, skills, and well-being,<sup>36</sup> but measuring effects on a community or societal level is more problematic.<sup>37</sup> Research on exploring organizational and community-level outcomes of youth participation are primarily in community-based or nongovernmental organizations, rather than public institutions.<sup>38</sup>

Viewing youth as resources and competent citizens in their own right contrasts with the view of youth as problematic, passive recipients of services.<sup>39</sup> Tokenistic treatment of a few youth representatives in adult-dominated processes does not realize the potential of youth as assets with valuable contributions to make. On the other hand, providing young people with opportunities to participate meaningfully in decision-making processes fulfills their rights to inclusion in society. When young people are empowered, rather than having passive roles, they develop personal and social competencies as they exercise their rights and responsibilities as citizens within a democratic society.<sup>40</sup> However, young people must be supported in developing the skills required for effective participation through education and practice.

Recalling that participation can occur along a continuum from consulting, involving, collaborating and empowering, youth must be guided through these different levels of participation. Scaffolding to support participation can include providing information, education, and training and aiding in the practical application of participation skills. As young people and adults work together in their communities, they recognize each other as resources, learn from one another and expand opportunities for participation.<sup>41</sup> A study of secondary school students found youth participation was linked to continued civic participation, voting and volunteer service as young adults, and can support lifelong civic engagement.<sup>42</sup> Thus, the process and experience of participation itself becomes both a goal and an outcome.

---

<sup>35</sup> S. D. Evans and I. Prilleltensky, 'Youth and democracy: Participation for personal, relational, and collective well-being' 35:6 *Journal of Community Psychology* (2007), 681; S. Mokwena, n. 41 above; R. J. Watts and C. Flanagan, 'Pushing the envelope on youth civic engagement: A developmental and liberation psychology perspective', 35:6 *Journal of Community Psychology* (2007), 779.

<sup>36</sup> J. Youniss *et al.*, 'Youth Civic Engagement in the Twenty-First Century', 12:1 *Journal of Research on Adolescence* (2002), 121.

<sup>37</sup> B. Checkoway, 'What is youth participation?' 33:2 *Child & Youth Services Review* (2011), 340.

<sup>38</sup> J. L. O'Donoghue, B. Kirshner and M. W. McLaughlin, 'Moving youth participation forward', 16 *New Directions for Youth Development: Theory, Practice and Research* (2003), 15-26.

<sup>39</sup> B. Checkoway, n. 48 above; B. N. Checkoway and L. M. Gutierrez, 'Youth participation and community change', 14:1-2 *Journal of Community Practice* (2006), 1; B. Checkoway, T. Allison and C. Montoya, 'Youth participation in public policy at the municipal level', 27 *Child & Youth Services Review* (2005), 1149; J. L. Finn and B. Checkoway, 'Young people as competent community builders: A challenge to social work', 43:4 *Social Work* (1998), 335.

<sup>40</sup> B. Checkoway, n. 48 above.

<sup>41</sup> J. L. Finn, n. 50 above.

<sup>42</sup> J. Youniss and D. Hart, 'The virtue in youth civic participation', 2 *Diskurs Kindheits- und Jugendforschung Heft*, (2006), 229.

Opportunities and diverse channels should exist for participation that motivates and engages the concerns of all youth populations. While there is increasing interest in youth participation, there are many barriers to the authentic inclusion of young people in practice. Youth participation often remains at a superficial level, in the sense that young people are often included in one-time discussions and their contributions have a limited effect on policy decisions. The primary obstacle to meaningful youth participation in adult-led organizations and institutions is adults' refusal to share power with youth and the belief that youth are not capable and responsible partners.<sup>43</sup> By not enabling and engaging youth appropriately, what is missed is the opportunity to develop young people who have the skills to participate effectively, instead of waiting until they are adults.

Young people are often limited in their ability to create change, whether by their lack of interest or belief in their ability to do so, or lack of skill or resources to implement their actions.<sup>44</sup> Youth who are knowledgeable and confident are more likely to be involved, whereas less informed or vulnerable groups may be overlooked. Studies show that most young people are uninvolved or minimally involved in public affairs and that most active participants are not representative of the general population.<sup>45</sup> The active, informed, voluntary and inclusive involvement of youth in decision-making, both locally and globally, is imperative to allow young people to have their voices meaningfully heard in issues of environmental governance such as climate change.

#### **(a) Young People and Climate Change**

Climate change exacerbates the existing vulnerabilities of young people. Young people are concerned about the unprecedented threats posed by global climate change and many are already experiencing its impacts, such as increasing water scarcity, declining food security, and increasing disasters and disease risks. Young people not only have a right to participate in responding to climate change, but they also have a need to be involved since climate change is a defining issue of their present and future lives.

Recalling the Brundtland definition of sustainable development, there is also an element of intergenerational equity for the unborn generations who cannot voice their concerns and desires. The youth of today represent this intergenerational aspect that serves as the voice of the next generation of citizens and leaders when considering issues of sustainable development and climate change.

Although young people are increasingly viewed as valuable assets in responding to climate change, they have been relatively absent in the climate change policies and plans formulated by many countries. Genuine participation of young people in responding to climate change is lacking, as programs are still designed for them, rather than engaging with them as partners.<sup>46</sup> There is a gap between the stated

---

<sup>43</sup> S. Mokwena, n. 41 above.

<sup>44</sup> S. Checkoway, n. 48 above.

<sup>45</sup> Ibid.

<sup>46</sup> D. Selby and F. Kagawa, 'Runaway climate change as challenge to the 'closing circle' of education for sustainable development', 4:1 *Journal of Education for Sustainable Development* (2010), 37.

need to educate and involve youth in climate change policies and programs and actual implementation at the national and local levels, especially in developing countries.

### **(b) Youth Understanding of Climate Change**

Knowledge and understanding of the causes and consequences of climate change is a vital prerequisite for informed participation by the general public as well as youth. Climate change differs from other environmental issues due to issues of scale, uncertainty and complexity, as well as temporal delays and ethical considerations. Being a problem that is anthropogenic, or caused by human activity, and only comprehensible through science, climate change is an example of a 'modern environmental problem' where the altered and interlinked relationship of nature, science and society poses challenges for understanding and action.<sup>47</sup> There are many psychological, human-evolutionary, and social-ecological processes that impede individuals' ability to notice or respond to (e.g. through adaptation and mitigation behaviors) climate impacts, and that may pose challenges to the learning process.<sup>48</sup> In particular, the temporal and spatial dimensions of climate change make it difficult for individuals to overcome short-term thinking and understand issues of a broader scale.

Many studies try to evaluate what students understand about climate science and climate change. A Canadian study found that participants described the problem of climate change but could not describe its causes and consequences or the impact on their lives.<sup>49</sup> Due to the importance of understanding an audience's beliefs and attitudes towards climate change in the educational process, Brownlee and colleagues suggested the use of focus groups, targeted interviews and quantitative surveys to determine the audience's specific opinions regarding climate change.<sup>50</sup>

Students have various misconceptions and deficiencies in their knowledge of global warming and climate change, such as having difficulty differentiating between climate and weather, failing to see the impact of climate change other than as increasing temperatures, and confusing issues of ozone layer depletion with global warming.<sup>51</sup> Addressing common student misconceptions about climate change and focusing on how students can engage in actions to limit their personal impact on climate change can help support students' critical science agency, or ability to use scientific knowledge to take action at the

---

<sup>47</sup> J. Naustdalslid, 'Climate change – the challenge of translating scientific knowledge into action', 18:3 *International Journal of Sustainable Development & World Ecology* (2011), 243.

<sup>48</sup> M. T. J. Brownlee, R. B. Powell and J. C. Hallo, 'A review of the foundational processes that influence beliefs in climate change: opportunities for environmental education research' 19:1 *Environmental Education Research* (2013), 1.

<sup>49</sup> D. Pruneau *et al.*, 'People's ideas about climate change: A source of inspiration for the creation of educational programs' 6:1 *Canadian Journal of Environmental Education* (2001), 121.

<sup>50</sup> M. T. J. Brownlee, n. 62 above.

<sup>51</sup> D. P. Shepardson *et al.*, 'Seventh grade students' conceptions of global warming and climate change', 15:5 *Environmental Education Research* (2009), 549; D. P. Shepardson *et al.*, 'Students' conceptions about the greenhouse effect, global warming, and climate change', 104 *Climate Change* (2010), 481; D. P. Shepardson *et al.*, 'Conceptualizing climate change in the context of a climate system: implications for climate and environmental education', 18 *Environmental Education Research* (2012), 323.

individual or community level.<sup>52</sup> Teacher education and training is also required, as teachers hold some of the same misconceptions as their students and may have difficulty teaching using an interdisciplinary approach.<sup>53</sup>

Research on environmental attitudes and knowledge suggests no strong link between a person's environmental attitudes and knowledge and his or her willingness to engage in pro-environmental issues. It is acknowledged that there is often a 'gap' between knowledge and action.<sup>54</sup> In relation to climate change, Boyes and Stanisstreet used survey methods to relate students' attitudes and beliefs about the usefulness of specific actions and their willingness to adopt them in the context of global warming and carbon emissions.<sup>55</sup> The survey found that two-thirds of the students believed global warming was a real phenomenon and about half expressed concerns about the consequences of global warming. The students also linked global warming with carbon emissions from personal transport and energy production. The majority of students identified tree planting, recycling, public transport use, and energy conservation as ways to reduce global warming, although they failed to make this connection with buying fewer new items, reducing the use of artificial fertilizers and decreasing meat consumption.

A similar study of Greek secondary students revealed that students were aware of reducing carbon emissions by reducing personal transport, using renewable energy and planting trees, but were less knowledgeable about the less direct effects of meat production and material consumption.<sup>56</sup> The role of lifestyles in producing carbon emissions is often not addressed in educational materials, and the use of a personal greenhouse gas calculator can help young people realize that importance of attaining equitable and sustainable emissions levels.<sup>57</sup> Without coordinated climate change education in the education system, the main source of information about climate change for young people is mass media.<sup>58</sup>

The gap between knowledge and action poses a major challenge to behavioral responses to climate change despite growing knowledge and awareness. Education for sustainable development and action competence provide a framework for viewing the role of climate change education in developing the

---

<sup>52</sup> K. L. McNeill and M. Houle Vaughn, 'Urban high school students' critical science agency: Conceptual understandings and environmental actions around climate change', 42:2 *Research in Science Education* (2010), 373; C. Schreiner, E. K. Henriksen and P. J. Kirkeby Hansen, 'Climate education: Empowering today's youth to meet tomorrow's challenges', 41:1 *Studies in Science Education* (2005), 3.

<sup>53</sup> R.W. Fortner, 'Climate change in school: Where does it fit and how ready are we?', 6:1 *Canadian Journal of Environmental Education* (2001), 18.

<sup>54</sup> A. Kollmuss and J. Agyeman, 'Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior?', 8:3 *Environmental Education Research* (2002), 239.

<sup>55</sup> E. Boyes and M. Stanisstreet, 'Environmental education for behaviour change: Which actions should be targeted?' 34:10 *International Journal of Science Education* (2012), 1591.

<sup>56</sup> G. Malandrakis, E. Boyes and M. Stanisstreet, 'Global warming: Greek students' belief in the usefulness of pro-environmental actions and their intention to take action', 68 *International Journal of Science Education* (2011), 947.

<sup>57</sup> M. Lenzen and J. Murray, 'Role of equity and lifestyles in education about climate change: experiences from a large-scale teacher development program' 6:1 *Canadian Journal of Environmental Education* (2001) 32.

<sup>58</sup> C. Schreiner, n. 69 above.

awareness, motivation and skills necessary for youth participation in climate change to overcome these challenges.

#### 4 Learning and Action for Sustainable Development

Education is a crucial tool in raising awareness on global issues and promoting behavior change among youth and the public that is conducive to sustainable development. Educating and empowering the next generation of stewards, decision makers and community leaders who will be responsive to the future uncertainties can be achieved by respecting and engaging youth as active and capable citizens today.

According to *Agenda 21*, '[t]he involvement of today's youth in environment and development decision-making and in the implementation of programmes is critical to the long-term success of *Agenda 21*'.<sup>59</sup> It further elaborates that youth involvement in decision-making processes is beneficial due to youths' intellectual contributions, ability to mobilize support, and unique perspectives. To facilitate youth participation and be more responsive to youth issues, *Agenda 21* tasks government 'to develop educational and awareness programs specifically targeted to the youth population on critical issues pertaining to youth'.<sup>60</sup> These statements articulate the participation of youth as key stakeholders in decision-making processes and validate the role of education in supporting this participation.

In light of the importance of education for sustainable development, the United Nations Decade of Education for Sustainable Development (2005-2014) promotes the integration of principles, values, and practices of sustainable development in all levels and modes of education. Education for sustainable development is based on five pillars: learning to know, learning to be, learning to live together, learning to do and learning to transform oneself and society.<sup>61</sup> The Decade of Education for Sustainable Development has actively emphasized education for sustainable development as a holistic and interdisciplinary strategy. It seeks to instill the knowledge, skills and values needed for citizens to improve their quality of life for a sustainable future.

The field of education for sustainable development derives many of its roots from environmental education. The fields of education for sustainable development and environmental education are distinct, although they do overlap, with education for sustainable development emphasizing the link between environment and development where environmental education does not. Education for sustainable development is based on the principles and values of sustainable development and the three dimensions of sustainability: environment, society and economy. Furthermore, education for sustainable development comprises of four main thrusts, namely: improving access to and retention in quality basic education; re-orienting existing education programs to address sustainability; increasing

---

<sup>59</sup> UNCED, n. 14 above.

<sup>60</sup> Ibid.

<sup>61</sup> J. Delors, *Learning: The Treasure Within. Report to UNESCO of the International Commission on Education for the Twenty-first Century* (UNESCO, 1996).

public awareness; and providing training.<sup>62</sup> Education for sustainable development is a continually evolving concept that seeks to enhance human potential and development in an inclusive and equitable manner.

Fostering skills for action and participation to empower individuals to influence environmental governance should be a goal of environmental education and education for sustainable development.<sup>63</sup> The concept of action competence, an educational ideal, envisions 'students capable of envisioning alternative ways of development and to be able to participate in acting according to these objectives', since social and structural changes are needed to solve environmental problems.<sup>64</sup> In relation to education for sustainable development, action competence means building 'the students' ability, motivation and desire to play an active role in finding democratic solutions to problems and issues connected to sustainable development'.<sup>65</sup> Action competence links education to practical action that supports youth participation in environmental governance and sustainability.

Despite advocacy for education for sustainable development, there is limited research and analysis of the effect of environmental education and education for sustainable development on individuals' understanding of sustainability and the lasting implications for societies.<sup>66</sup> A study of 14- and 15-year-old geography students' understanding of sustainable development, following education for sustainable development mainstreaming in the United Kingdom, found that students were better able to explain tensions in sustainable development, although they tended to focus on environmental perspectives, and were more able to relate sustainability to their own lives.<sup>67</sup> Similarly, a study of the impact of the inclusion of environmental education in the national education program in Malaysia found that environmental education had raised environmental consciousness in secondary school students but was ineffective at modifying students' habits and behaviors towards sustainable consumption and lifestyles.<sup>68</sup> The result is a lack of understanding on how education for sustainable development has affected knowledge, attitudes and the behaviors of youth.

### (a) Educational Responses to Climate Change

---

<sup>62</sup> United Nations Educational, Scientific and Cultural Organization – United Nations Environmental Programme, *Climate Change Starter's Guidebook: An Issues Guide for Education Planners and Practitioners* (UNESCO, 2011).

<sup>63</sup> B. L. M. Levy and M. T Zint, 'Toward fostering environmental political participation: framing an agenda for environmental education research', 19:5 *Environmental Education Research* (2013), 1.

<sup>64</sup> B. B. Jensen and K. Schnack, 'The action competence approach in environmental education' 3 *Environmental Education Research* (1997), 163, at 164.

<sup>65</sup> F. Mogensen and K. Schnack, 'The action competence approach and the 'new' discourses of education for sustainable development, competence and quality criteria' 16 *Environmental Education Research* (2010), 59.

<sup>66</sup> A. W. Little and A. Green, 'Successful globalisation, education and sustainable development', 29:2 *International Journal of Educational Development* (2009), 166; N. Walshe, 'Understanding students' conceptions of sustainability', 14 *Environmental Education Research* (2008), 537; N. Walshe, 'Exploring and developing student understandings of sustainable development', 24:2 *The Curriculum Journal* (2013), 224.

<sup>67</sup> Ibid.

<sup>68</sup> A. Mat Said, N. Yahaya and F. Ahmadun, 'Environmental comprehension and participatoin of Malaysian secondary school students', 13 *Environmental Education Research* (2007), 17.

Recognizing that climate change and related climate policy will have lasting implications for youth, Article 6 of the UNFCCC mandates Parties to consider education, training and public awareness as integral to climate change responses in national policy. Although children and youth are not explicitly mentioned in the UNFCCC, youth are specifically targeted within the Doha Work Programme on Article 6 of the Convention adopted in 2012 for education and participation in the formulation and implementation of decisions on climate change.<sup>69</sup> Increasingly, national plans are including education-specific components; however, the extent and effect of these plans and policies to invoke change in programs, teacher training, practices and learning is yet to be determined.

Recognition of education's potential role in addressing climate change is growing. The area of climate change education is still in its infancy and often regarded as part of the science curriculum, as a component of geography and earth science. It can focus on changing lifestyles, such as mitigation behaviors that promote individual action to reduce carbon emissions. However, the role of education should not be merely to teach prescriptive behaviors, but rather to develop knowledge, skills and capacities for critical-thinking and problem solving to address uncertainties of climate change that can be supported through access to high quality education.<sup>70</sup> Climate change education can also support climate change adaptation, such as enhancing adaptive capacity, reducing vulnerabilities, disaster risk reduction and preparation in schools and communities for uncertain futures.

Education for sustainable development provides a framework for climate change education through quality education, interdisciplinary learning, use of problem-solving and critical thinking that empowers individuals and communities to make informed decisions and take responsible action.<sup>71</sup> While climate change education may involve new curriculum inputs, the key challenge is to determine how quality education can prepare people for drastically different futures and the capacities to address rapid change and uncertainty.<sup>72</sup> Moreover, education can influence society's ability and willingness to change by recognizing humanity's role in creating and managing impacts, altering behavior, and facilitating the uptake of new technologies, thus enabling individuals to respond to and cope with the unpredictability of climate change.<sup>73</sup> As climate change threatens sustainable development of countries around the world, climate change education can be instrumental in preparing young people for unpredictable futures.

---

<sup>69</sup> Decision 15/CP.18, Doha Work Programme on Article 6 of the Convention (UN Doc. FCCC/CP/2012/8 Add.2, 28 February 2013)

<sup>70</sup> C. Bangay and N. Blum, 'Education responses to climate change and quality: Two parts of the same agenda?', 30:4 *International Journal of Educational Development* (2010), 359.

<sup>71</sup> A. Anderson, *Combating Climate Change Through Quality Education* (Brookings Institution, 2010); UNESCO-UNEP, n. 79 above.

<sup>72</sup> C. Bangay, n. 89 above; R. McKeown and C. Hopkins, 'Rethinking climate change education', 89 *Green Teacher* (2010), 17.

<sup>73</sup> E. L. Tompkins and N. W. Adger, 'Defining response capacity to enhance climate change policy' 8:6 *Environmental Science & Policy* (2005), 562.



Climate change education is often addressed within science and geography curricula and limited to knowledge and understanding of climate change science. In order to educate for change, climate change education should go beyond climate science to analyze scientific, political, and ethical issues related to climate change and their implications for community and personal decision-making, political processes, social justice and behavior change.<sup>74</sup> Discussions related to climate change can confront students' denial, anxiety and despair as well as combat consumerism and ideals of the 'good life'.<sup>75</sup> A place-based approach to climate change education that includes community knowledge, resources, and processes that facilitate adaptation and local solutions to climate change simultaneously builds motivation for action.<sup>76</sup>

For climate change education to be relevant, it has to relate global and abstract issues to how humans in general impact climate change, and should equip learners with the requisite skills, knowledge, values, and competencies to deal with future challenges. In a study of youth, lack of hope or pessimism about climate change was linked with a lack of action.<sup>77</sup> As a prerequisite for action on climate change, individuals need to be empowered by a combination of cognitive resources, such as knowledge and skills, and affective resources, such as motivation, hope and vision.<sup>78</sup> Further, Schreiner, Henriksen and Hansen suggested that a person empowered to respond to climate change issues has sufficient knowledge about climate change, possible personal and collective actions and channels for influence, as well as motivation for taking action, engagement in environmental protection and a general feeling that one's actions can influence the future.

The monitoring of the learning outcomes and effectiveness of climate change education is limited in this nascent field. A multi-dimensional measurement tool called the Attitudes towards Climate Change and Science Instrument (ACSI) measures secondary students' science-related attitudes, pro-environmental behavior and climate change knowledge.<sup>79</sup> This instrument can be used to explore students' science and environmentally-related attitudes, behavior and knowledge in order to understand and assess the impacts of environmental and climate change curricula in different educational settings.

Barriers to authentic participation include lack of interest from younger citizens, lack of formal and informal education on citizen participation, the techniques of participation, administrative processes, and lack of information and that can be addressed using a three-pronged approach of 1) empowering

---

<sup>74</sup> R. McKeown, n. 93 above.

<sup>75</sup> D. Selby, n. 60 above.

<sup>76</sup> D. Pruneau, A. Khattabi and M. Demers, 'Challenges and possibilities in climate change education' 7:9 *US-China Education Review* (2010), 15.

<sup>77</sup> M. Ojala, 'Hope and climate change: the importance of hope for environmental engagement among young people', 18 *Environmental Education Research* (2012), 625.

<sup>78</sup> C. Schreiner, n. 69 above.

<sup>79</sup> E. M. Dijkstra and M. J. Goedhart, 'Development and validation of the ACSI: Measuring students' science attitudes, pro-environmental behaviour, climate change attitudes and knowledge', 18 *Environmental Education Research* (2012), 733.

and educating citizens 2) re-educating administrators, and 3) enabling administrative structures and processes.<sup>80</sup> When designing and implementing educational responses to climate change, a similar approach can be adopted to overcome barriers to youth participation due to administrative structures, processes, the administrators and the youth themselves.

Climate change education that empowers young people considers environmental, social, economic and scientific components of climate change in a holistic manner. The combination of teaching climate science and developing critical thinking and analysis skills can help develop an informed citizenry capable of reviewing available information on climate change and taking appropriate action. Thus, climate change education builds the foundation and capacity for effective youth participation.

### **(b) Youth Participation in Responding to Climate Change**

While negotiations on climate change focus on the global level, the implementation of climate change and sustainable development responses will be at regional and national levels. The differential impact of climate change on countries and communities requires localized responses based on the local context. Responding to climate change offers an opportunity to address and prioritize sustainable development if the broader system of interdependent economic, social and environmental forces is also considered.

Youth participation, in responding to climate change, can help reorient development pathways toward sustainability. A narrow perspective that is overly focused on the scientific and technical aspects of climate change can ignore the economic and social forces behind the problem. A participatory approach to issues of environmental governance that includes youth is therefore essential in many developing countries. For instance, in Pakistan the awareness of youth participation is limited and there is no governmental body to design, implement and monitor such processes at different administrative levels.<sup>81</sup>

Scientific knowledge about climate change has not resulted in the strong political will or widespread behavior changes that are needed bring about societal change. The International Alliance of Leading Education Institutes (IALEI) gave recommendations for the education sector to use a comprehensive education for sustainable development approach to drive radical changes in consumption, production and behavior to meet challenges of climate change and sustainable development.<sup>82</sup> Since carbon emissions are inherently linked with economic development and societal choices, education for sustainable development that includes climate change education, sustainable consumption and sustainable lifestyles can be crucial for transitioning to more sustainable, less carbon-intensive development pathways. Education that includes opportunities for in-depth learning and participation is

---

<sup>80</sup> C. S. King, n. 34 above.

<sup>81</sup> S. Noor and M. Fatima, 'Engaging the youth community in environmental management: A participatory approach', 6 *Annals of Environmental Science* (2012), 29.

<sup>82</sup> International Alliance of Leading Education Institutes, *Climate Change and Sustainable Development: The Response from Education* (IALEI, 2009).

essential for these societal transformations to occur by encouraging long-term behavior changes, participation and a sense of responsibility among the general public

Youth can acquire valuable experiences and leadership skills when given the opportunity to participate in decision-making processes at national and international levels. The rights of young people that are guaranteed in the CRC can be leveraged to push for access to information, representation, and participation in climate change policy processes and adaptation at national and local levels.<sup>83</sup> It is in this context that young people have more to contribute based on the knowledge and experiences directly related their lives. An enabling environment of parents, teachers, community, government, private sector, media and civil society is needed to provide the opportunities and support to develop the potential of youth. A report on children and climate-related disaster response found that changing adult perception of young people and their capabilities is vital for creating a safe, enabling environment for realizing the rights of young people and building agency for action.<sup>84</sup> Thus, youth participation can be a powerful motivator for youth engagement in responding to climate change, building young people's capacity as leaders and active citizens.

Youth can play a role in informing and educating other youth, sharing information and building capacity, campaigning, lobbying and advocacy, engaging in consultations, leading initiatives, and participating in policy development and decision-making.<sup>85</sup> A study of Inuit youth who are on the frontlines of climate change revealed that youth voices about their experiences, their observations, and their perceptions of climatic and environmental change are a valuable source for dialogue on climate change, but are largely absent from published literature.<sup>86</sup> Due to the intergenerational nature of climate change and vulnerability of children to its impacts, vocal participation of young people is required to effectively respond and build resilience to climate risks for future generations.<sup>87</sup>

The United Nations Children's Fund (UNICEF) study in several Asian countries revealed that the types of climate risks children face are diverse, ranging from direct physical impacts, such as cyclones, storms and extreme temperatures, to impacts on their education, psychological stress and nutritional challenges.<sup>88</sup> Through child-sensitive climate change education and disaster risk reduction programs, children and youth were shown to be strong advocates and capable of playing integral roles in helping their families, schools and communities adapt and find solutions to climate change. The study encouraged the mainstreaming of climate change into policy documents relating to children in order to

---

<sup>83</sup> E. D. Gibbons, 'Climate change, children's rights, and the pursuit of intergenerational climate justice', 16 *Health & Human Rights Journal* (2014), 19.

<sup>84</sup> Fran Seballso *et al.*, *Children and Disasters: Understanding Impact and Enabling Agency*. (Children in a Changing Climate, Institute of Development Studies, 2011).

<sup>85</sup> United Nations Department of Economic Social Affairs, *The World Youth Report 2010* (United Nations, 2010).

<sup>86</sup> J.Petrasek MacDonald *et al.*, 'A necessary voice: Climate change and lived experiences of youth in Rigolet, Nunatsiavut, Canada', 23 *Global Environmental Change* (2013), 360.

<sup>87</sup> J. Lawler and M. Patel, 'Exploring children's vulnerability to climate change and their role in advancing climate change adaptation in East Asia and the Pacific' 3 *Environmental Development* (2012), 123.

<sup>88</sup> *Ibid.*

support a coordinated multi-sectoral effort to address the impacts of climate change on children. The involvement of children and youth also leads to a more engaged and knowledgeable youth population that is less susceptible to the socioeconomic and psychological impacts of climate change.

Preparing young people to respond to climate change is a long-term investment that requires education and information in order to create the foundations for effective participation. By building their capacity to participate, young people will be empowered to take climate change responsive action as youths and to protect future societies when they become adults. As the youth of today grow into adulthood and become the leaders of tomorrow, the result would be a societal change conducive to alternative development pathways, rather than a focus on techno-scientific solutions to climate change and sustainable development.

## 5 The Case of Youth Participation and Climate Change in Thailand

Climate change poses a threat to sustainable development, particularly in developing countries that are likely to suffer disproportionate impacts from climate change and which lack technologies and resources to mitigate and adapt to those impacts. The predicted impacts of climate change on developing countries are relatively large, especially where agriculture is strongly linked with national income and employment, there are larger populations of poor and vulnerable people, and there is limited economic and technological capacity to adapt.<sup>89</sup>

Climate change poses a significant developmental problem for Southeast Asian nations. The IPCC Fourth Assessment Report of the Working Group II identified sea-level rise, freshwater constraints, and risk from flooding in heavily populated mega deltas as major climate-related impacts in the Southeast Asian region.<sup>90</sup> The current and future implications of climate change on Southeast Asian countries include a temperature increase of 0.5 - 2° C by 2030, and 1 - 7°C by 2070, decreases in fresh water availability, sea level rise, coastal erosion, increases in mortality due to disease, and reductions in crop yields leading to the risk of hunger.<sup>91</sup> Aside from the direct, physical impacts of climate change such as disasters and extreme events, the implications for declining agricultural productivity, food security and water security due to climate change is expected to exacerbate progress on poverty alleviation, with disproportionate consequences for young people. Consequently, climate change presents an immediate and long-term dilemma for development in Southeast Asia.

As a middle-income country with long coastlines and dependency on the agricultural sector, Thailand is vulnerable to changes to the hydrological cycle that threaten agricultural productivity and is susceptible to sea level rise and coastal erosion. Both of these climate-related challenges are harmful to rural and coastal populations, with livelihoods dependent on agriculture, the fishery and tourism, and represent a major obstacle for national development.

---

<sup>89</sup> O. Mertz *et al.*, 'Adaptation to climate change in developing countries', 43 *Environmental Management* (2009), 743.

<sup>90</sup> IPCC, n. 1 above.

<sup>91</sup> *Ibid.*

Climate change is a challenging issue for policy and decision-making processes in developing countries such as Thailand, where the effects of the changing climate are predicted to compound underlying social inequalities. The UNFCCC's national focal point is the Office of Natural Resources and Environmental Policy and Planning (ONEP), under the Ministry of Natural Resources and Environment, which acts as the coordinating agency of the UNFCCC and its Kyoto Protocol. Within ONEP, the Climate Change Management and Coordination Division works to coordinate with line ministries, the private sector, academia and civil society.

The National Strategy on Climate Change for 2008-2012, developed by ONEP and approved by the National Climate Change Policy Committee, was the first national framework on climate change that includes, inter alia, greenhouse gas inventories, mitigation, reducing vulnerabilities and supporting adaptation through research, capacity building and international cooperation. Related to climate change and participation, Strategy 4 of the National Strategy on Climate Change promoted raising public awareness and encouraged public participation through public campaigns, community participation, public hearings and climate change education in schools. At present, the draft of the National Strategy on Climate Change for 2013-2017 has not been finalized due to political circumstances.

Despite inclusion of education on climate change and public participation in the National Strategy on Climate Change, the mainstreaming of climate change into policy and the coordination of activities is difficult for various ministries and governmental agencies. There has also been limited integration of climate change education in educational policy in Thailand. The *Basic Education Core Curriculum*, developed by Thailand's Office of Basic Education Commission (OBEC) under the Ministry of Education, addressed climate science in the science and geography curricula, although climate change is not specifically mentioned.<sup>92</sup> This limited coverage of climate change is insufficient to build a deep understanding of climate change causes, impacts, and possible solutions that empowers youth to take action, individually and collectively. Furthermore, it does not develop the necessary skills and motivation for participation that prepares young people to deal with climate change issues throughout their lifetimes.

The Programme for International Student Assessment (PISA), which is a part of the Organization for Economic Co-operation and Development (OECD), has organized international examinations every three years since 2000. For the 2012 PISA test of fifteen-year olds from 65 participating countries, Thailand ranked 50<sup>th</sup>, 48<sup>th</sup> and tied for 48<sup>th</sup> out of 65 countries, in mathematics, science, and reading respectively.<sup>93</sup> The PISA results, especially in science, reflect the inferior quality of science education in Thailand. The lack of holistic coverage of climate change in the formal education system and low level of science literacy presents difficulties for Thai youths to acquire adequate knowledge of climate change as a foundation for further action.

---

<sup>92</sup> Office of Basic Education Commission, *Basic Education Core Curriculum* (OBEC, 2008).

<sup>93</sup> Organization for Economic Co-operation and Development, *PISA 2012 Results in Focus* (OCED, 2013).

There is limited research on education for sustainable development in Thailand. Most of the published literature is related to environmental education and disaster risk reduction in school-based or community-based projects. Many studies use the term 'global warming' instead of the term 'climate change', reflecting the predominate use of 'global warming' in Thailand. From a study of media about global warming influences on Thai youth, the researchers stated that Thai youth have heard about global warming but are not aware of its consequences and fail to adopt lifestyle activities that alleviate global warming.<sup>94</sup> Another study found that the general Thai public lacks a sense of personal efficacy and responsibility for environmental problems since taking environmental action is beyond an individual's responsibility, although they acknowledged that global warming required collective action.<sup>95</sup> The respondents identified education, particularly environmental education and community learning, as a primary means of raising environmental awareness and understanding the relationship between humans and nature.

Environmental education efforts to increase environmental awareness and action to support environmental sustainability demonstrate promising progress on providing integrated learning and practical action. An action research study around Chulabhorn Dam in Chaiyaphum Province focused on the preservation of forest resources and was successful in increasing students' awareness of the importance and benefit of trees for the environment and society.<sup>96</sup> A collaborative school-community learning project was piloted in Chiang Mai Province involving adults, teachers and children in eight local schools to support forest conservation. The children engaged in various learning activities in the village and forest related to the project, including large-scale tree plantings and the elimination of forest burning, which significantly changed forest practices in nearby communities. These studies are examples of how educational quality and environmental learning can be mutually reinforcing and support youth participation. However, the studies did not link forest conservation with reduction in carbon emissions from deforestation and increasing carbon sinks by tree plantings and consequently failed to address climate change topics.

Many publications on disasters and climate change, focusing on disaster risk reduction and climate change adaptation, provide examples of young people acting as capable agents of change in their communities. Many of these initiatives to strength youth capacity and participation began as a response to disasters, such as the 2004 Indian Ocean Tsunami and the 2011 flood in Thailand. In schools, children can identify and map risks and safe areas, develop emergency procedures and disseminate information to the community.<sup>97</sup> Youth engaged in disaster risk reduction and climate change activities were

---

<sup>94</sup> K. Chokriensukchai and R. Tamang, 'Thai youths and global warming: Media information, awareness and lifestyle activities', 9:3 *Applied Environmental Education & Communication* (2010), 198.

<sup>95</sup> O. Panya and S. Sirisai, 'Environmental consciousness in Thailand: Contesting maps of eco-conscious minds', 41:1 *The Southeast Asian Studies* (2003), 59.

<sup>96</sup> K. Thathong and S. Leopenwong, 'The development of environmental education activities for forest resources conservation for the youth', 116 *Procedia - Social and Behavioral Sciences* (2013), 2266.

<sup>97</sup> W. Chaimontree, *Living with Disasters and Changing Climate: Children in Southeast Asia telling their stories about disaster and climate change* (Save the Children, 2010).

motivated to gain knowledge and experience, act as role models, and participate in their communities as part of their disaster preparedness program.<sup>98</sup> Through these and similar initiatives in schools and communities, young people can develop their capabilities to reduce risks and respond to disasters and climate change.

Thailand has developed national policies on climate change, although they insufficiently address the education and engagement of youth in climate change issues, and the importance of these issues to their present and future lives. While environmental education offers a foundation for building environmental concern, a reorientation to education for sustainable development and the inclusion of climate change education is necessary. There are few opportunities for Thai youth to participate in climate policy and decision-making processes. In order to prepare current and future generations to be agents of change and effectively mobilize youth, the Thai government must adequately support young people and provide opportunities for them to become informed participants through appropriate education, information, resources and guidance in accordance with *Agenda 21*,<sup>99</sup> Article 6 of the UNFCCC,<sup>100</sup> and *The Future We Want*.<sup>101</sup>

## 6 Conclusion

In the face of climate change, especially in developing countries where the reduction of vulnerabilities is crucial, mainstreaming youth issues represents a struggle for administrative structures to integrate into development and climate change agendas. In the emerging field of climate policy evaluation, theory suggests that approaches need to recognize the complexities and multidimensionality of climate policy making, be reflexive and openly question policy goals, and be participatory, although observed evaluation practices deviate from these criteria.<sup>102</sup> The development of research, institutional capacity to respond to climate change, and the evaluation of climate policy must include issues related to youth, both in terms of education and participation.

Education and participation strategies targeted at youth represent a long-term investment in increasing the adaptive capacity and participation skills of future generations to be responsive to unpredictable futures. National policies that facilitate the coordination of relevant governmental ministries, non-governmental organizations, scientific and research institutes are required to design and implement programs targeted towards youth, and to provide appropriate education and participation for effective responses to climate change. Investing in education and genuine youth participation is vital to building a capable citizenry rather than limiting youth to tokenistic inclusion.

---

<sup>98</sup> United Nations International Strategy on Disaster Reduction & Plan International, *Children's Action for Disaster Risk Reduction: Views from Children in Asia* (UNISDR & Plan International, 2012).

<sup>99</sup> UNCED, n.14 above, at ch 5.

<sup>100</sup> UNFCCC Doha, n. 88 above.

<sup>101</sup> UNCSO, n. 11 above, at para 229-231.

<sup>102</sup> D. Huitema *et al.*, 'The evaluation of climate policy: theory and emerging practice in Europe', 44:2 *Policy Science* (2011), 179.

Barriers to integration and implementations are diverse due to the highly contextualized nature of climate change impacts and varying levels of existing capacity for participation in local development. Strong political will and coordinated national policy are needed to facilitate the bottom-up, local implementation of programs. Within these regional, national and local contexts, youth represent an untapped resource with the potential to strengthen action on climate change and sustainable development for the long term.

