

SUSTAINABILITY ADULT EDUCATION: LEARNING TO RE-CREATE THE WORLD

Wendy Griswold, Ph. D.¹

ABSTRACT: No crisis is as great as the environmental predicament we face. Globally, humans everywhere now confront problems of extreme weather, waste disposal, pollution, overpopulation, massive forest depletion, access to clean water, the depletion of natural resources, the destruction of natural habitats, and changes in the chemistry of the world's oceans. These ecological changes warrant our attention as global adult educators. Worldwide, adults will need to develop new ways of living. They will need to develop ecological intelligence and forms of eco-literacy that will support them in forging new patterns of sustainable life. Sustainability adult education is learning that helps prepare us to re-create the world to address current and future challenges through the development of new solutions and new ways of being. Adult education has a significant role to play in these efforts. This article explores the contested concepts of sustainability and sustainability education through a continuum of perspectives related to the environment and education.

Keywords: environmental adult education, sustainability, sustainability adult education,

Our environment and human impact upon it is a growing (and contested) concern. Sustainability and sustainable development have been advanced as a response to this increasingly pressing global issue. The term “sustainable development” (World Commission on Environment, 1987) entered our vocabulary in the 1980s and has been contested, politically charged, and evolving ever since. Conceptions of sustainability have been delineated into two philosophical camps - radical and conservative. Radical perspective views sustainability as focused on environmental protection, equity, local knowledge and the intersections of environmental, social, and economic issues. The conservative view is focused on environmental conservation, downplays the importance of equity, emphasizes expert knowledge, and views the environment as the primary focus of sustainability efforts (Jacobs, 1999). Regardless of one's philosophical view on sustainability, education is recognized as a key factor in moving toward sustainability (Kopnina, 2012; O'Sullivan, 1999; Stevenson, 2006; United Nations, 2014). However, what kind of education is needed (and who controls the educational agenda) is also contested, unsurprisingly along lines similar to sustainability itself. The radical perspective on sustainability education is largely transformative in nature, while the conservative perspective is transmissive (Jickling & Wals, 2008). While in practice, there are numerous examples of sustainability adult education representing both camps, the scholarly approach to sustainability education within the field of adult education has definitely trended toward the radical perspective. The purpose of this article is to (a) summarize the divergent and contested views of sustainability and sustainability education, (b) to position adult education within the overall context of sustainability and sustainability education, and (c) to summarize and expand upon how the field of adult education can continue to grow its contribution to sustainability efforts.

¹ wgrswold@memphis.edu

Sustainability Overview

The concept of sustainability has no singular definition or agreed upon meaning (Jacobs, 1999). One of the earliest and most widely accepted definitions of sustainability emerged from the Brundtland Commission: “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987, p. 43). Such vague definitions as this are thought to be problematic by some (Kopnina, 2012) for their potential for maintaining the existing power structures that produced the current environmental, economic, and social crisis; undermining critical questioning of the terminology and its underlying assumptions; and de-emphasizing the seriousness of current environmental damage. Additional criticism against the concept of sustainability is an out-of-balance concern for humans at the expense of non-humans and the environment (Williams & Millington, 2004).

The major tension within sustainability discourse and practice is the tension between maintaining the status quo and changing our existing power structures and relationships. This tension becomes evident when exploring the contested issues within the discourse on sustainability perspectives. Many have delineated these perspectives as a continuum using a variety of labels: conservative to radical (Jacobs, 1999), weak to strong, or shallow to deep (Williams & Millington, 2004). Regardless of the label, the contested issues center around four main concepts: environment, equity, participation, and quality of life (Jacobs, 1999). A sustainability perspective that is conservative, weak or shallow, views the environment as natural resources available for human use. Protection is warranted only so far as it does not hinder economic activity. Sustainability perspectives on the radical, strong, or deep end respect the environment and seek to live within its limits. Equity is ignored or de-emphasized on the shallower end of the continuum, particularly in the northern hemisphere, creating tensions at the global level (Davenport, 2015). Towards the deeper end, advocating resource redistribution and raising global living standards are key concerns. Participation follows a similar formula, with the contested issue being top-down (shallower) versus bottom up (deeper) approaches. The top-down approach is favored by government and business and involves participation mainly at the implementation level. Objectives are set at higher levels and are not participatory, but consultative at best. In the bottom-up approach, objective setting and implementation is participatory. Input is sought from a broader group, including citizens. Shallower conceptions of quality of life limit sustainability to only focusing on environmental issues. Deeper conceptions advocate a broader view which seeks to create a new paradigm of how humans exist with their environment. Williams and Millington (2004) offer the concept of moderate sustainability, which combines elements from both ends of the continuum. Moderate sustainability seeks to both reduce the demands that humanity places on the earth (advocated by the deeper end) and increase resources through the use of renewable energies or improved, more efficient technologies (advocated by the shallower end).

Sustainability Education Overview

Like sustainability, sustainability education is a contested concept with many critiques (Jickling & Wals, 2008; Rathzel & Uzzell 2009). Education for Sustainable Development (ESD) is an early manifestation, emerging also from the Brundtland Commission (McKeown, 2006). ESD involves “improving basic education, reorienting existing education to address sustainable development, developing public understanding and awareness, and training” (McKeown, 2006, p. 15). One major critique with ESD is the shift from an emphasis on the environment to an emphasis on development (Kopnina, 2012). More recent conceptions of ESD seek to shift the emphasis away from development by reframing it as education for sustainability (EfS). Jaimie Cloud of the Cloud Institute for Sustainability Education (borrowing from Donella Meadows’ definition of sustainability) defines EfS as “an education that prepares people to be far-seeing enough, flexible enough, and wise enough to contribute to the regenerative capacity of the physical and social systems upon which they depend” (2009, p. 4). These differing definitions of sustainability education highlight the opposing philosophical viewpoints that underlie educational approaches and the overall discourse on sustainability itself.

The continuum of sustainability education can be viewed along the same lines as sustainability: radical/conservative, strong/weak, deep/shallow. The differences are visible in terms of educational perspectives, approaches and outcomes. With regard to perspectives, the continuum ranges from anthropocentric (shallower) to ecocentric (deeper). At the heart of it is the relationship between humans and nature or the environment. In an anthropocentric perspective, humans are naturally the focus and the environment is a natural resource available for their use (Williams & Millington, 2004). This perspective is concerned with fair distribution of resources among humans, positing humans as the impetus for action and moral concern. An ecocentric approach extends this concern to non-human species and views the environment as its own entity (Kopnina, 2012). Kopnina (2012) further illustrates the distinction by differentiating between environmental and ecological justice. Environmental justice is “the distribution of environmental benefits and burdens among human beings (Kopnina, 2012, p. 703). Ecological justice is “justice between human beings and the rest of the natural world” (Low & Gleeson, 1988, as cited in Kopnina, 2012, p. 703).

In general, approaches used in sustainability education tend to be transmissive (shallow) or transformative (deeper). Transmissive education involves curricula created and controlled by a few and either recreates the accepted social order or a new order determined by its creators (generally government and industry) (Jickling & Wals, 2008). Transformative education is co-created knowledge that has been socially constructed by a broad base of participants and has the capacity to move us beyond sustainable development (Jickling & Wals, 2008). Transmissive education, in a sustainability context, focuses on individual behaviors and concerns, consists of discrete facts about the environment, and relies on rational ways of knowing. Transformative curricula emphasizes community or society, places environmental concerns in the context of local

issues, and incorporates emotions, values and spirituality as ways of knowing (Stevenson, 2006).

In a shallow approach to sustainability education, the environment is a problem to be solved. A deeper approach claims the focus on environmental problems does not allow for a healthy environment to be the norm and leads to oversimplification of environmental issues on the part of educators in their curricula (Stevenson, 2006). Furthermore, a human-centered paradigm prevents the development of an environmentally minded population necessary to address current environmental damage (Kopnina, 2012). Shallower approaches also position the environment, economics and social issues as separate spheres, which places them in opposition to each other, and leads us to deal with them as problems within separate arenas instead of part of the same whole (Rathzel & Uzell, 2009). A deeper approach seeks to illuminate the interrelation among them, an approach which will:

encourage people to formulate and understand in more comprehensive ways what they know through their experience in the everyday, thereby revealing the structural relations and ways in which we are all part of reproducing these relations through our daily practices (Rathzel & Uzell, 2009, p. 271).

The perspectives held and approaches used by differing branches of sustainability education produce different outcomes. The anthropocentric and transmissive perspectives and approaches prevalent at the shallower end of the continuum are viewed as a mechanism for maintaining corporate and governmental hold on the status quo. The use of such curricula may lead to homogenization and diminished levels of self-determination, autonomy, and local solutions. Transmissive education, serves to recreate the accepted social order or at best a new order or ideology determined by a select few (Jickling & Wals, 2008). Jickling and Wals (2008) identify three realms of possibility for the intersections of sustainability and education, based on the above perspectives: big brother sustainable development (highly authoritarian and transmissive), feel good sustainable development (some freedom, but most important issues in the hands of a few), and enabling thought and action: beyond sustainable development (transformative and participatory). It is beyond sustainable development that deep sustainability education seeks to take learners, seeking an “education free of specified ends” (Jickling & Spork, 1988, as cited in Kopnina, 2012, p. 711).

Adult Education and Sustainability

Much of the effort to provide sustainability and environmental education has been aimed at children (Walter, 2009). While children are an important audience as they will ultimately be charged with the stewardship of the planet, their education will not produce the changes that need to be made now. We simply cannot wait for our children to undo the damage that our ways of being in the world have produced. According to the National Institute of Adult Continuing Education (1993, as cited in St. Clair, 2003), “there is insufficient time to wait for younger generations to mature before environmental action is

taken” and “adults must change if the environmental education of children is to have credibility” (p. 73). There is a need to facilitate a mass transformation in the worldview of adults in order to accomplish this. Thus, a focus on adult education for sustainability is clearly needed. The field of adult education could (and should) be a key player in moving toward global sustainability (Clover & Hill, 2003).

The fields of adult education and sustainability experience similar tensions, which is the pull between maintaining the status quo and creating social change. Indeed, this is perhaps an inherent tension in human history. Ostrom, Martin and Zacharakis (2008) identified this tension as a “divide between those for whom adult education is a tool for social progress, and those who view it as a means for individual human development” (p. 306). Parallels can be drawn between the practices of adult education for individual development with conservative/shallow/weak sustainability and between adult education focused on social change and radical/deep/strong sustainability (Ostrom, Martin & Zacharakis, 2008). These parallels are present within the subfield of environmental adult education to a lesser extent (Walter, 2009). Walter (2009) offers a typology of the philosophies of environmental adult education, based on the work of Elias and Merriam (1995), which outlined the five philosophical traditions of adult education as liberalism, behaviorism, humanism, progressivism, and radicalism. While “radical adult environmental education draws on humanistic and progressive traditions and, to some extent, liberal traditions of adult education” (Clover, 2002, as cited in Walter, 2009, p. 18), the philosophies, approaches, and outcomes of some liberal and humanistic environmental adult education efforts are clearly on the shallow/weak/conservative edge of the continuum. In the liberal environmental adult education tradition, rational adults aided by experts with knowledge about nature and the ecosystem will be able to better protect the existing natural environment (Walter, 2009). While humanistic environmental adult education acknowledges the wisdom of nature, it is largely focused on experiences of a metaphysical nature leading to individual self-awareness and growth (Walter, 2009). While activities in the liberal and humanistic traditions are valuable to a certain extent in their own right, on their own they do not move humanity to the level of action and critical questioning required to change our collective way of being. This is the work of radical environmental adult education.

The foundation for this work that has been laid as radical adult environmental education has traditionally been engaged in the type of learning called for by the radical/strong/deep branch of the sustainability movement (Walter, 2009). Not only have we been doing it in the environmental education arena, but have a long history of education for social change to draw upon. Clover (2003) outlined the common conceptual frameworks and strategies of radical environmental adult education, which include:

- making explicit the links between the environment, society, economics, politics and culture;
- utilizing engaged and participatory learning process not limited to individual behavior change and information transmission;
- focusing on root causes and critical questioning of market/consumer driven capitalism and globalization; and
- learning that is community oriented and contextually shaped.

Within the adult sustainability and environmental education literature (a relatively small, but growing body of work), much of the scholarship is rooted in non-formal, informal and community learning contexts (Lange, 2004; Moyer & Sinclair, 2016; Plumb, Leverman, & McGray, 2007; Quinn & Sinclair, 2016; Vandenabeele & Wildemeersch, 2012; von Kotze, 2002). An additional vein of the literature is focused on philosophy or defining the field (Clover, 2003; Hill, 2006; Taylor, 2006; Walter, 2009). Still an under-investigated field (Hill, 2006), there is ample opportunity for research and application of adult education theory and practice within these and additional adult learning contexts.

Our knowledge about transformative learning is one theoretical base that has benefited from its application to sustainability education. Transformative learning is a key theory in sustainability education for its potential for breaking us away from our habitual habits of mind and helping us to be open to new possibilities and ways of being. As the theory evolved, various views have emerged, one of which is the planetary perspective (Taylor, 2008). According to a planetary perspective or ecological consciousness (O'Sullivan & Taylor, 2004), transformative learning "recognizes the interconnectedness among universe, planet, natural environment, human community, and personal world. Most significant is recognizing the individual not just from a social-political dimension but also from an ecological and planetary one" (Taylor, 2008, pp. 9-10). O'Sullivan and Taylor (2004) juxtapose instrumental and ecological consciousness. Instrumental consciousness (dominant Western worldview) views the universe as a machine and only values what is produced. Education is simply information dissemination and knowledge is fixed and compartmentalized. The world economy is driven by material wants and needs and human experience is divorced from nature. Ecological consciousness emphasizes humanity's connection to the world and universe in which we are embedded. Relationships are valued. Education is an ongoing process of learning in relation to the people and world around us. Knowledge is co-created within relationships and "education is understood to be an ongoing process of learning and knowledge as temporary synthesis in ongoing change" (O'Sullivan & Taylor, 2004, p. 22). Major tenets of ecological consciousness include reciprocity and relationships, especially concerning the co-creation of knowledge. The environment shapes social constructs, as well as individual experience and world views. Key perspectives facilitating the development of ecological consciousness include enhancing systemic awareness, cultivating a sense of place, nourishing a semi-permeable self, practicing dialectical-paradoxical thought, and standing on the cusp of mystery (Parks Daloz, 2004). Educators wishing to foster ecological consciousness need to address the following key factors: multiple frames in the context of the whole, safe mentoring communities, conscious focus on vocation, judicious use of ritual, contemplative time, reliable information on critical issues, and beautiful natural surroundings (Parks Daloz, 2004).

While instrumental learning and consciousness have been traditionally downplayed in transformative learning theory, recent research exploring adult sustainability education in a variety of contexts using the lens of transformative learning indicate an important role for instrumental learning (Moyer & Sinclair, 2016; Quinn & Sinclair, 2016). According to Mezirow (2003), "instrumental learning is about controlling and manipulating the

environment, with emphasis on improving prediction and performance” (p. 59). Instrumental learning is about the technical and the rational, while communicative learning helps us understand and develop skills about human communication and make meaning of social experiences (Mezirow, 2003). Devising new ways of being in the world requires a certain amount of instrumental learning and behavioral change. The interplay between instrumental and communicative learning may occur in a parallel manner, serve as triggers for one another, and/or influence and support one another (Quinn & Sinclair, 2016). In their study on adults learning about clothing sustainability, Quinn and Sinclair (2016) identified skills, knowledge, and cognitive understanding as instrumental learning outcomes. Communicative learning outcomes related to instrumental learning were focused on learner insights about their personal values and interests related to clothing sustainability, the values and interests of others, and shared or collective values and interests.

The contributions to both transformative learning theory and sustainability education through such research is but one example of the potential impact adult education can make on the sustainability movement. There is much more to explore and learn as humanity prepares to undertake its most serious challenge yet.

Moving Toward (and Beyond) Adult Sustainability Education

The goal of radical/strong/deep sustainability education is not achieving our current conceptions of what sustainability may be. It is developing a citizenry capable of re-creating the world as needed to ensure a healthy and equitable existence for all. Several adult sustainability and environmental educators have provided guidance on how to facilitate “education free of specified ends” (Jickling & Spork, 1988, as cited in Kopnina, 2012, p. 711).

The first step in this process is to clarify our worldviews about the environment and develop our own visions of what a sustainable society looks like (Stevenson, 2006). Then we need to consciously find ways to communicate our worldview and vision through our teaching. If our language is devoid of words that convey respect and connection to nature, what does that communicate about our worldview (Hill & Johnson, 2003)? Once we have clarified our own perspectives and visions, we can create space for our learners to do the same. We can begin by simply making space in our curricula for exploring the connections between ourselves and the environment (Karlovic & Patrick, 2003). This curricula inclusion requires us to reflect critically on our own teaching and look for opportunities to help our learners critically reflect “on tensions between daily-life decisions and emotional connections to social and ecological concerns” (Karlovic & Patrick, 2003, p. 59). These opportunities need to be rooted in local issues of relevance and concern to your learners. As we well know,

adults tend to be more motivated to learn and to act by things they care about rather than by abstract concerns, and one critical role of educators is to show people why they should care about the environment before expecting them to acknowledge its importance and begin to build environmental literacy. (St. Clair, 2003, p. 74)

For too long, the ecological dimension has been missing from learning and education. We are disconnected from the fact that we are dependent up on the earth for our own survival. The job of sustainability and environmental adult education is to address this deficiency (Sumner, 2003). In fact, any adult educator concerned about or working in the areas of social and/or economic justice must broaden their theory and practice to include the environment. These issues are too inextricably linked to address piecemeal. Our attitudes and worldviews toward the environment are bound up in our current system, which perpetuates the injustice we seek to end. If we stubbornly continue this disconnect, our efforts toward justice will fail in the long term.

Conclusion

Adult education has a significant role to play within the sustainability movement. Every adult educator has a worldview that includes perspectives, attitudes and values about the environment and education. These worldviews fall somewhere along the continuum described above. Responsible practitioners will engage in critical reflection to uncover and make explicit their assumptions about the environment and their role as educators in the movement beyond sustainability.

References

- Cloud Institute for Sustainability Education. (2009). *What is Education for Sustainability (EfS)?* Retrieved from <http://cloudinstitute.org/our-approach/>
- Clover, D.E. (2003). Environmental adult education: Critique and creativity in a globalizing world. In D. Clover & L. Hill (Eds.), Special Issue: Environmental adult education: Ecological learning, theory, and practice for socioenvironmental change. *New directions for adult and continuing education*, 99. (pp. 5-15). Hoboken, NJ: Wiley & Sons.
- Clover, D.E., & Hill, L.H. (2003). Learning patterns of landscape and life. In D. Clover & L. Hill (Eds.), Special Issue: Environmental adult education: Ecological learning, theory, and practice for socioenvironmental change *New directions for adult and continuing education*, 99. (pp. 89-95). Hoboken, NJ: Wiley & Sons.
- Davenport, C. (2015, December 12). Nations approve landmark climate accord in Paris. *The New York Times*. Retrieved from http://www.nytimes.com/2015/12/13/world/europe/climate-change-accord-paris.html?_r=0
- Elias, J. L. & Merriam, S. B. (1995). *Philosophical foundations of adult education* (2nd ed.). Malabar, FL: Kreiger.
- Hill, L.H., & Johnson, J.D. (2003). Adult education and humanity's relationship with nature reflected in language, metaphor, and spirituality: A call to action. Special Issue: Environmental adult education: Ecological learning, theory, and practice for socioenvironmental change. In D. Clover & L. Hill (Eds.), *New directions for adult and continuing education*, 99.. (pp. 17-26). Hoboken, NJ: Wiley & Sons.
- Jacobs, M. (1999). Sustainable development as a contested concept. In A. Dobson (Ed.), *Fairness and futurity: Essays on environmental sustainability and social justice* (pp. 21-45). New York, NY: Oxford University Press.

- Jickling, B., & Wals, A. E. J. (2008). Globalization and environmental education: Looking beyond sustainable development. *Journal of Curriculum Studies*, 40(1), 1-21.
- Karlovic, L., & Patrick, K. (2003). Environmental adult education: Women living the tensions. In D. Clover & L. Hill (Eds.), Special Issue: Environmental adult education: Ecological learning, theory, and practice for socioenvironmental change. *New directions for adult and continuing education*, 99. (pp. 59-68). Hoboken, NJ: Wiley & Sons.
- Kopnina, H. (2012). Education for sustainable development (ESD): The turn away from 'environment' in environmental education? *Environmental Education Research*, 18(5), 699-717.
- Hill, R.J. (2006). Environmental adult education: Producing polychromatic spaces for a sustainable world. In S.B. Merriam, B.C. Courtenay, & R.M. Cervero (Eds.). *Global issues and adult education: Perspectives from Latin America, Southern Africa, and the United States*. (pp. 265-277). San Francisco, CA: Jossey-Bass.
- Lange, E.A. (2004). Transformative and restorative learning: A vital dialectic for sustainable societies. *Adult Education Quarterly*, 54(2), 121-139.
- McKeown, R. (2006). *Education for Sustainable Development toolkit*. Paris, France: United Nations Educational, Scientific, and Cultural Organization. Retrieved from www.unesco.org/education/desd
- Mezirow, J. (2003). Transformative learning as discourse. *Journal of Transformative Education*, 1, 58-63.
- Moyer, J.M., & Sinclair, A.J. (2016). Stoking the dialog on the domains of transformative learning theory: Insights from research with faith-based organizations in Kenya. *Adult Education Quarterly*, 66(1), 39-56.
- Ostrom, C.S, Martin, W.J., & Zacharakis, J. (2008). Autopoiesis and the cosmology of postmodern adult education. *Adult Education Quarterly*, 58(4), 299-317.
- O'Sullivan, E. (1999). *Transformative learning: Educational vision for the 21st century*. London, England: Zed Books.
- O'Sullivan, E., & Taylor, M. (2004). *Learning toward an ecological consciousness: Selected transformative practices*. New York, NY: Palgrave Macmillan.
- Parks Daloz, L.A. (2004). Transformative learning for bioregional citizenship. In E. O'Sullivan & M. Taylor (Eds.), *Learning toward an ecological consciousness: Selected transformative practices*. (pp. 29-45). New York, NY: Palgrave Macmillan.
- Plumb, D., Leverman, A., & McGray, R. (2007). The learning city in a 'planet of slums'. *Studies in Continuing Education*, 29(1), 37-50.
- Quinn, L.J., & Sinclair, A.J. (2016). Undressing transformative learning: The roles of instrumental and communicative learning in the shift to clothing sustainability. *Adult Education Quarterly*, 66(3), 1-20.
- Rathzel, N., & Uzzell, D. (2009). Transformative environmental education: A collective rehearsal for reality. *Environmental Education Research*, 15(3), 263 - 277.
- St. Clair, R. (2003). Words for the world: Creating critical environmental literacy for adults. In D. Clover & L. Hill (Eds.), Special Issue: Environmental adult education: Ecological learning, theory, and

- practice for socioenvironmental change. *New directions for adult and continuing education*, 99. (pp. 69-78). Hoboken, NJ: Wiley & Sons.
- Stevenson, R. B. (2006). Tensions and transitions in policy discourse: Recontextualising a decontextualised EE/ESD debate. *Environmental Education Research*, 12(3-4), 277-290.
- Sumner, J. (2003). Environmental adult education and community sustainability. In D. Clover & L. Hill (Eds.), Special Issue: Environmental adult education: Ecological learning, theory, and practice for socioenvironmental change *New directions for adult and continuing education*, 99. (pp. 39-45). Hoboken, NJ: Wiley & Sons.
- Taylor, E.W. (2006). The greening of the adult education academy. In S.B. Merriam, B.C. Courtenay, & R.M. Cervero (Eds.), *Global issues and adult education: Perspectives from Latin America, Southern Africa, and the United States*. (pp. 254-264). San Francisco, CA: Jossey-Bass.
- Taylor, E.W. (2008). Transformative learning theory. In S.B. Merriam (Ed.), Special Issue: Third Update on Adult Learning Theory, *New Directions for Adult and Continuing Education*. 119. (pp. 5-15). Hoboken, NJ: Wiley and Sons.
- United Nations. (2014). *Prototype global sustainable development report - Executive summary*. Online Edition. New York, NY: United Nations Department of Economic and Social Affairs, Division for Sustainability Development.
- Vandenabeele, J., & Wildemeersch, D. (2012). How farmers learn about environmental issues: Reflections on a sociobiographical approach. *Adult Education Quarterly*, 61(1), 56-72.
- von Kotze, A. (2002). Producing knowledge for living. *Studies in Continuing Education*, 24(2), 233-246.
- Walter, P. (2009). Philosophies of adult environmental education. *Adult Education Quarterly*, 60(1), 3-25.
- Williams, C., & Millington, A. (2004). The diverse and contested meanings of sustainable development. *The Geographical Journal*, 170(2), 99-104.
- World Commission on Environment and Development. (1987). *Our common future*. Oxford, England: Oxford University Press.