

# **Rethinking Adventist Ecclesiology for a Climate-Impacted World**

Ben Holdsworth, PhD  
Union College  
Adventist Society of Religious Studies  
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## **Introduction**

This paper is an interdisciplinary consideration of how Adventist ecclesiology might interact with, and proactively respond to, the ecclesiological message of the church in our climate-impacted world. It dabbles at the intersection of a host of issues which directly or indirectly impact our global society and the Seventh-day Adventist Church. It is incomplete in scope or outcomes and the topic deserves far more work. Thus hopefully, this paper is a catalyst to a broader and more extensive conversation on ecclesiological concepts that will help the church as it shapes its future.

This morning, we explore the intersection of:

- SDA Fundamental Beliefs on Creation, Evangelism, and Apocalypse,
- SDA Official Statements on Climate and Development (Global Poverty),
- Adventism's Climate Conundrum and Dichotomy,
- The Future State: Global Environment and Society as the Adventist Church Environment,
- Current and Future Climate Change,
- Climate and Social Destabilization Risks,
- The Seventh-day Adventist Church at Risk,
- Proposing a Way Forward: In my conclusion, I propose initial key concepts for integration into SDA ecclesiology, to increase church institutions and members resilience and adaptation capabilities.
- Conclusions and Further Research

## **SDA Fundamental Beliefs on Creation, Evangelism, and Apocalypse: A Synopsis**

Adventist beliefs in three theological areas are pertinent to this discussion: Creation, Evangelism and the Apocalypse.

- 1) Creation: We hold that God created the world, that His activity was good, that humanity was to be fruitful and multiply and "subdue the earth"- actions tempered by divine

command in Genesis 2:15 to cultivate, preserve and protect Eden.<sup>1</sup> We also concur that “The earth is the Lord’s and all it contains, the world, and those who dwell in it.”<sup>2</sup> This perspective encourages Adventists to care for the world as the work of God and residence for a global humanity made in God’s image. At times we use environmental stewardship language to describe this linkage.<sup>3</sup>

- 2) Evangelism: Adventists are compelled by Christ’s end-time prophecies in the New Testament to spread the gospel.<sup>4</sup> While fulfilling Christ’s call, we are further admonished in Matthew 25 to care for the nations, as we care for Christ – providing food, water, clothing, shelter, healthcare and human rights to whom we preach the gospel, while we await Christ’s coming and God’s final judgment.<sup>5</sup>
- 3) Apocalypse: Adventism includes a third theological perspective – that of cataclysmic apocalypse. Given this, some assume our missiological focus should be on people, ignoring climate or environment, since it is ultimately incinerated by God’s fiery judgment.<sup>6</sup> However, ignoring humanity’s environment jeopardizes evangelism’s baptisms transitioning to effective life-long discipleship. This view also overlooks a direct relationship between creation care and final judgment. At the Seventh Trumpet in Revelation 11, the pronouncement of God’s judgment and outpouring of wrath includes “the time has come to destroy those who destroy the earth.”<sup>7</sup> The 24 elders’ acclamation proclaims judgment, not only against those who persecute God’s saints, but also on those who destroyed God’s creation.

### **SDA Official Statements: Climate and Development (Global Poverty)**

Several church statements have been issued in regard to the environment and one supporting global development.

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<sup>1</sup> Genesis 1:26-28; Gen 2:15. See also, the General Conference’s *Affirmation of Creation, Response to an Affirmation of Creation, and Statement on Creation: The Bible’s Worldview*, <http://www.adventist.org/beliefs/statements/index.html>

<sup>2</sup> Psalm 24:1, NASB.

<sup>3</sup> Paul Mhlanga, “Stewardship of the Environment: An Adventist Imperative” in *Institute for Christian Teaching*, (Silver Spring, MD, 2000). 251-270 (253-256). [http://ict.aiias.edu/vol\\_26A/26Acc\\_251-270.pdf](http://ict.aiias.edu/vol_26A/26Acc_251-270.pdf)

<sup>4</sup> For example, Matthew 24:3-44, 14; Matthew 28:19, 20.

<sup>5</sup> Matthew 25:31-46.

<sup>6</sup> See Acts 2:16-21, 2 Peter 3:7, 10-13; Revelation 20:7-15.

<sup>7</sup> Revelation 11:18, NET.

*Environment:*

The first established that we hold creation's "preservation and nurture to be intimately related to our service" to God. It also found that "human poverty and environmental degradation are interrelated," and pledged that the church was committed "to improve the quality of life for all people. Our goal is a sustainable development of resources while meeting human needs."<sup>8</sup>

The second Adventist statement made the case that unbridled consumption driven by human selfishness underlies "environmental disarray, and the threat of climate change" and notes climate change drivers, greenhouse gas emissions, ozone depletion, and deforestation are the outcome.<sup>9</sup>

The third SDA statement clearly establishes climate change as a church concern:

"Scientists warn that the gradual warming of the atmosphere as a result of human activity will have serious environmental consequences. The climate will change, resulting in more storms, more floods, and more droughts.

To keep climate change within bearable limits, the emissions of greenhouse gasses, especially carbon dioxide (CO<sub>2</sub>), need to be significantly reduced. Industrialized countries are the main source of these emissions, while the first victims are the small island states and low-lying coastal countries."<sup>10</sup>

While laudable for clarity on environmental concerns in regard to GHG emissions and CO<sub>2</sub>, the statement falls short on climate engagement by the Adventist Church. It is directed towards governments being called to action – not church entities or members. Furthermore, the economics of greenhouse gas emissions has changed and will continue to do so as we face the future.

The final church statement critiques climate change as caused by human greed and selfishness, leading to destruction of earth's resources and dire climate outcomes.<sup>11</sup>

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<sup>8</sup> *Caring for Creation – A Statement on the Environment*, October 12, 1992.

<http://adventist.org/beliefs/statements/main-stat5.html>

<sup>9</sup> *A Statement on the Environment*, June 29-July 8, 1995.

<http://adventist.org/beliefs/statements/main-stat9.html>

<sup>10</sup> *Dangers of Climate Change: A Statement to Governments of Industrialized Countries*, December 19, 1995, <http://adventist.org/beliefs/statements/main-stat8.html>

<sup>11</sup> "Unfortunately, men and women have been increasingly involved in an irresponsible destruction of the earth's resources, resulting in widespread suffering, environmental degradation, and the threat of climate change... These problems are largely due to human

### *Development (Reducing Global Poverty):*

On the other hand, the SDA church in 2010 released a statement supporting the Millennium Development Goals “for reducing poverty by at least 50 percent by 2015.” The church took the stance that “Seventh-day Adventists believe that actions to reduce poverty and its attendant injustices are an important part of Christian social responsibility.”

The Church Statement does so by advocating for “public policy that offers justice and fairness to the poor, for their empowerment and human rights. It means sponsoring and participating in programs that address the causes of poverty and hunger, helping people to build sustainable lives.”<sup>12</sup> What is not stated is the reality that economic development for the poor means that the church supports economic growth, which it did not link to climate impacts.

### **Adventism’s Climate Conundrum and Dichotomy**

What is evident in our beliefs and statements are two tensions. The first is between environmental care and an apocalyptic evangelical perspective. Watson, House and Stacey’s survey of Australian pastors summarized this well, as presented in Ministry Magazine.<sup>13</sup> I suggest this is a healthy tension, of caring for creation and people – both precious to God, and one that we will have to negotiate as we prepare for future climate change.

The second tension is the dichotomy between church positions in regard to the environment, and our core cultural value of SDA institutional development and people/membership in relation to those institutions. For our purposes this morning, institutions include our churches, hospitals, schools, publishing and food production facilities. As the church grows in membership and institutions, it educates, provides healthcare, social leadership, and helps people improve

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selfishness and greed which result in ever-increasing production, unlimited consumption, and depletion of nonrenewable resources.” *Statement on Stewardship of the Environment*, October 1-10, 1996, <http://adventist.org/beliefs/statements/main-stat10.html>

<sup>12</sup> *Seventh-day Adventist Statement on Global Poverty*, June 23, 2010, <http://adventist.org/beliefs/statements/global-poverty.html>

<sup>13</sup> “We found that Australian Adventist ministers find themselves struggling to reconcile an expectation of inevitable environmental decay associated with end-time events and the need to be proactive in protecting the environment. Most agreed or strongly agreed (94.4 percent) that the Bible forecasts widespread environmental destruction at the end of time; a similarly high number (92.3 percent) agreed or strongly agreed that the Bible does require humankind to protect what God created.” Watson, Brad; House, Murray; and Stacey, Graham, “Crisis or Opportunity? Adventist Pastors Speak on Creation Stewardship”, (2009). *Theology Papers and Journal Articles*. Paper 46. [http://research.avondale.edu.au/theo\\_papers/46](http://research.avondale.edu.au/theo_papers/46)

their socio-economic status. Indirectly, this social improvement includes businesses and economic development by its church members on a global scale.

Thus we are institutionally supportive of economic development and ending global poverty as evidenced in church development and membership growth that directly supported Millennium Development Goals' achievement before 2015, although it has not been articulated this way - that I am aware of.<sup>14</sup>

In summary, as the church builds institutions and improves members' socio-economic status, we directly and indirectly contribute to negative climate change through use of resources, while improving members' standards of living.

## **The Future State: Global Environment and Society as the Adventist Church Environment**

### Population Growth

Global population growth has been and will continue to be a key driver of economic activity, and an impetus for Adventist evangelism. From 2014's 7.24 billion, the UN Population Division forecasts a global population of approximately 8 billion in 2025, 9.5 billion in 2050, and 10.85 billion in 2100.<sup>15</sup> Recent research suggests a global population between 9.6 to 12.3 billion in 2100 and that even major global catastrophe will still result in higher population – 8.5 billion in 2100.<sup>16</sup> Much of this growth will occur in Africa, South Asia, and North and South America. Population growth consumes more resources, stressing the global climate and economic systems.

### Economic Development to End Poverty

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<sup>14</sup> "Seventh-day Adventists join the global community in supporting the United Nations' Millennium Development Goals for reducing poverty by at least 50 percent by 2015." *Seventh-day Adventist Statement on Global Poverty*, June 23, 2010, <http://adventist.org/beliefs/statements/global-poverty.html>

<sup>15</sup> See World Population Prospects: The 2012 Revision, Medium Variant, [http://esa.un.org/unpd/wpp/unpp/panel\\_population.htm](http://esa.un.org/unpd/wpp/unpp/panel_population.htm)

<sup>16</sup> Patrick Gerland, Adrian E. Raftery, et. al., "World population stabilization unlikely this century," Published Online September 18 2014, *Science* 10 October 2014: Vol. 346 no. 6206 pp. 234-237, DOI: 10.1126/science.1257469, <http://www.sciencemag.org/content/346/6206/234.short>; Corey J. A. Bradshaw and Barry W. Brook, "Human population reduction is not a quick fix for environmental problems," (Proceedings of the National Academy of Sciences, 2014), <http://www.pnas.org/content/early/2014/10/23/1410465111.full.pdf+html>

The World Bank has established two new goals for global poverty reduction. The first is to essentially end extreme poverty, by reducing the share of people living on less than \$1.25 a day to less than 3 percent of the global population by 2030. The second goal is to promote shared prosperity by improving the living standards of the bottom 40 percent of the population in every country.<sup>17</sup> Each step in future poverty reduction will accelerate water, energy, food, transportation and urban development demands. To consider that demand in another perspective, an estimated “three billion people live on less than US\$2.50 per day.”<sup>18</sup>

“Worldwide, an estimated 768 million people remain without access to an improved source of water – although by some estimates, the number of people whose right to water is not satisfied could be as high as 3.5 billion – and 2.5 billion remain without access to improved sanitation. More than 1.3 billion people still lack access to electricity, and roughly 2.6 billion use solid fuels (mainly biomass) for cooking.”<sup>19</sup>

“Global water demand (in terms of water withdrawals) is projected to increase by some 55% by 2050, mainly because of growing demands from manufacturing (400%), thermal electricity generation (140%) and domestic use (130%). As a result, freshwater availability will be increasingly strained over this time period, and more than 40% of the global population is projected to be living in areas of severe water stress through 2050.”<sup>20</sup>

The UN IPCC AR5 summary report succinctly describes the impact of these human economic development need factors on climate change: “Globally, economic and population growth continues to be the most important drivers of increases in CO2 emissions from fossil fuel combustion. The contribution of population growth between 2000 and 2010 remained roughly identical to that of the previous three decades, while the contribution of economic growth has risen sharply (*high confidence*).”<sup>21</sup>

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<sup>17</sup> World Bank Global Monitoring Report, Ending Poverty and Sharing Prosperity 2014/2015, p. 1, [http://www.worldbank.org/content/dam/Worldbank/gmr/gmr2014/GMR\\_2014\\_Full\\_Report.pdf](http://www.worldbank.org/content/dam/Worldbank/gmr/gmr2014/GMR_2014_Full_Report.pdf)

<sup>18</sup> United Nations World Water Development Report 2014, Water and Energy, Volume 1, p. 2, <http://unesdoc.unesco.org/images/0022/002257/225741E.pdf#page=153>

<sup>19</sup> United Nations World Water Development Report 2014, Water and Energy, Volume 1, p. 2, <http://unesdoc.unesco.org/images/0022/002257/225741E.pdf#page=153>

<sup>20</sup> United Nations World Water Development Report 2014, Water and Energy, Volume 1, p. 2, <http://unesdoc.unesco.org/images/0022/002257/225741E.pdf#page=153>

<sup>21</sup> United Nations, IPCC Summary, Longer Report, November 2, 2014, p. SYR-11, [http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR\\_AR5\\_LONGERREPORT.pdf](http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_LONGERREPORT.pdf)

Economic growth will not only end poverty but, combined with population growth, will also have a significant impact on climate change and a greenhouse gases increase to which future climate change is attributed.

## Current and future climate change

### Current Climate Change

The science is very compelling that climate change and its impacts have been driven by human activity, and will continue. The IPCC AR5 report concludes: “Human influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, and in global mean sea-level rise; and it is *extremely likely* to have been the dominant cause of the observed warming since the mid-20th century.”<sup>22</sup>

Of core concern are continued, accelerating increases in atmospheric greenhouse gases with dire long term impacts.<sup>23</sup> It is estimated that even with moderate reductions in emissions that the planet will exceed a 2C global temperature increase and that significant emissions cuts need made to achieve that mark.<sup>24</sup> However, some climate reports suggest that target’s achievement is unreachable.<sup>25</sup>

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<sup>22</sup> IPCC AR5 Summary, Longer Report, (United Nations, November 2, 2014), p. SYR-12, [http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR\\_AR5\\_LONGERREPORT.pdf](http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_LONGERREPORT.pdf)

<sup>23</sup> For increasing and accelerating annual global CO2 trends, see the ESRL Global Monitoring Division, Annual Mean Global Carbon Dioxide Growth Rates, [http://www.esrl.noaa.gov/gmd/ccgg/trends/global.html#global\\_growth](http://www.esrl.noaa.gov/gmd/ccgg/trends/global.html#global_growth); also, WMO *Greenhouse Gas Bulletin No. 10*, (WMO, November, 2014), [http://www.wmo.int/pages/prog/arep/gaw/ghg/documents/GHG\\_Bulletin\\_10\\_Nov2014\\_EN.pdf](http://www.wmo.int/pages/prog/arep/gaw/ghg/documents/GHG_Bulletin_10_Nov2014_EN.pdf)

<sup>24</sup> For GHG emissions gaps, see: *The Emissions Gap Report 2013*, (UNEP, September, 2014), [http://www.unep.org/pdf/UNEP\\_EmissionsGapReport2013.pdf](http://www.unep.org/pdf/UNEP_EmissionsGapReport2013.pdf)

<sup>25</sup> “In broad terms, increasing the required probability of success from 50% to 80% is equivalent to lowering the temperature target by about 0.7 degrees. In terms of the available cumulative emissions to meet a warming target of 2 degrees, the same increase (50% to 80% probability of success) reduces the cumulative GHG budget by a factor of 4, from 440 to 105 GtCeqEmis (Table S1), and decreases the quota time scale from 37 years to an impossible 9 years. The combination of a 2 degree warming target with high probability of success is now unreachable.” Michael R. Raupach, Ian N. Harman and Josep G. Canadell, *Global climate goals for temperature, concentrations, emissions and cumulative emissions* (The Centre for Australian Weather and Climate Research, September, 2011), p. 2 [http://www.cawcr.gov.au/publications/technicalreports/CTR\\_042.pdf](http://www.cawcr.gov.au/publications/technicalreports/CTR_042.pdf)

As the AR5 report summarizes: “Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.”<sup>26</sup>

## Future Climate Impacts

Increasing historical climate cost impacts are evident in economic and insurance cost/loss reports available from Munich Re, Aon Benfield, and Swiss Re with climate related costs increasing each decade since 1980.<sup>27</sup> These trends provide a basis for the assumption of future climate loss risk growth and social stability implication consideration.

For example, a National Research Council report, *Climate and Social Stress: Implications for Security Analysis*, summarized short term climate (decadal) impact expectations in 2012: “It is prudent to expect that over the course of a decade some climate events—including single events, conjunctions of events occurring simultaneously or in sequence in particular locations, and events affecting globally integrated systems that provide for human well-being—will produce consequences that exceed the capacity of the affected societies or global systems to manage and that have global security implications serious enough to compel international response. It is also prudent to expect that such consequences will become more common further in the future.”<sup>28</sup>

The report recommended that 12-15 countries initially be “stress-tested” for climate-impacted stability, and when other factors, such as foreign policy and humanitarian needs are included, “then the number of countries to be monitored and stress-tested regularly over the next decade may rise to between 50 and 60.”<sup>29</sup>

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<sup>26</sup> IPCC AR5 Summary, Longer Report, (United Nations, November 2, 2014), p. SYR-18, [http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR\\_AR5\\_LONGERREPORT.pdf](http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_LONGERREPORT.pdf)

<sup>27</sup> For the most recent Munich RE Global Cat trend analysis see: *2014 Half Year Natural Catastrophe Review*, (Munich Re, July 9, 2014), [http://www.munichre.com/site/mram/get/documents\\_E756846964/mram/assetpool.mr\\_america/PDFs/4\\_Events/2014\\_hy\\_natcat/MunichRe\\_III\\_NatCatWebinar\\_07201.pdf](http://www.munichre.com/site/mram/get/documents_E756846964/mram/assetpool.mr_america/PDFs/4_Events/2014_hy_natcat/MunichRe_III_NatCatWebinar_07201.pdf) For the Aon Benfield, *Global Cat Report*, November, 2014, see: [http://thoughtleadership.aonbenfield.com/documents/20141105\\_if\\_october\\_global\\_recap.pdf](http://thoughtleadership.aonbenfield.com/documents/20141105_if_october_global_recap.pdf) For the Swiss Re climate events and losses trend analysis, see *Sigma* No1/2014, pp. 18-19, esp. Fig. 8, [http://media.swissre.com/documents/sigma1\\_2014\\_en.pdf](http://media.swissre.com/documents/sigma1_2014_en.pdf)

<sup>28</sup> John D. Steinbruner, Paul C. Stern, and Jo L. Husbands, Eds, National Research Council, *Climate and Social Stress: Implications for Security Analysis*, (Washington, DC, National Academy Press, 2012), S-5. [http://www.nap.edu/catalog.php?record\\_id=14682](http://www.nap.edu/catalog.php?record_id=14682)

<sup>29</sup> *Climate and Social Stress: Implications for Security Analysis*, S-12-13

## Climate and Social Destabilization Risks

Climate risk based upon temperatures, rainfall, drought, and social stability vulnerability in relation to climate change and economic stability has been assessed by numerous organizations.<sup>30</sup> For example, the 2012 DARA Climate Vulnerability Monitor analyzed 34 climate and economic impact factors and clearly demonstrated that developing countries in Africa, South and Southeast Asia, and Central and South America bear high to acute climate risk to future economic growth and stability.<sup>31</sup> This link between climate and stability risk, and social and economic costs of climate-enhanced destabilization is further discussed and quantified in a recent Environmental Justice Foundation Report.<sup>32</sup>

Military leaders recognize this relationship. "If the destabilizing effects of climate change go unchecked, we can expect more frequent, widespread, and intense failed state scenarios creating large scale humanitarian disasters and higher potential for conflict and terrorism ... The Department of Defense and national intelligence communities recognize this clear link between climate change, national security, and instability and have begun strategic plans and programs to both mitigate and adapt to the most likely and serious effects in key areas around the globe."<sup>33</sup>

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<sup>30</sup> A recent analysis of 50 research papers supports the linkage between climate change and social vulnerability. See Solomon M. Hsiang, Marshall Burke, "Climate, conflict, and social stability: what does the evidence say?", *Climatic Change* (2014) 123:39–55, DOI 10.1007/s10584-013-0868-3 <http://link.springer.com/article/10.1007%2Fs10584-013-0868-3#page-2>; For more rigorous analysis of 55 research papers, Marshall Burke, Solomon M. Hsiang, Edward Miguel, "Climate and Conflict", National Bureau of Economic Research, NBER Working Paper No. 20598, (NBER, October, 2014), <http://www.nber.org/papers/w20598>

<sup>31</sup> DARA, *Climate Vulnerability Monitor*, 2<sup>nd</sup> Ed., 2012, pp. 16-23. See <http://www.daraint.org/wp-content/uploads/2012/09/executive-and-technical-summary.pdf>

<sup>32</sup> Environmental Justice Foundation, *The Gathering Storm, Climate Change Security and Conflict*, March 2014, pp. 30-33. See:

<http://www.ejfoundation.org/climate/gatheringstormreport#.VGYfHst0yUk>

<sup>33</sup> Vice Admiral Dennis McGinn, USN (Ret.) in Fitzsimmons, J. (2012). '15 military leaders who say climate change is a national security threat,' (Media Matters, 30 May, 2012),

<http://mediamatters.org/blog/2012/05/30/15-military-leaders-who-say-climate-change-is-a/184705> from <http://www.amnh.org/news/2010/06/dennis-mcginn-discusses-climate-change/>.

See also, Solomon M. Hsiang, Kyle C. Meng, & Mark A. Cane, "Civil conflicts are associated with the global climate" in *Nature* 476, 438–441 (25 August, 2011), doi:

10.1038/nature10311,

<http://www.nature.com/nature/journal/v476/n7361/full/nature10311.html>, Also see, CNA,

Military Advisory Board, *National Security and the Threat of Climate Change*, 2007,

<http://www.cna.org/sites/default/files/National%20Security%20and%20the%20Threat%20of%20Climate%20Change%20-%20Print.pdf>, Recently, CNA added an update, Military Advisory

Furthermore, two recent reports illustrate the overlay of potential climate risk and current social stability. First, the Center for Systemic Peace's, *Global Report 2014: Conflict, Governance and State Fragility*, maps and provides a table of the nexus of climate vulnerability, state fragility, social destabilization and conflict in mid-2014.<sup>34</sup> Second, the ODI's *The Geography of Poverty, Disasters and Climate Extremes in 2030*, pointedly details multi-hazard climate risk and poverty in 2030, with serious potential social in stability results. It illustrates the poverty, governance risk, and climate hazards impacts on the most fragile states. Both reports illuminate countries at risk which contain a large Adventist presence.<sup>35</sup>

## **The Seventh-day Adventist Church at Risk**

The Adventist Church is not immune to the historic, current or future effects of the nexus of poverty, climate and social vulnerability. As a global church, it has a significant presence in the areas of current and future risk. The assessment of its risk is examined from two different perspectives, first as institutions and second as membership.

### Potential Climate Risk to SDA Institutions

There is significant climate risk to SDA institutions, both numerically and monetarily. The General Conference was not very open to sharing global church asset values, or insurance risk losses, so the following are a sampling, based upon online research.

In a recent Spectrum article, net asset values, which roughly represent property plant and equipment, were summarized for the North American Division colleges. Not including Southern Adventist University or Kettering Memorial, the net property plant assets totaled \$1.043 billion.<sup>36</sup>

More reliable audited financial statements, however despite requests, these were not made available. However, two suffice for a property risk sampling. The GCAS audited 2010 Southern

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Board, *National Security and the Accelerating Risks of Climate Change*, (CNA, May, 2014,)

[http://www.cna.org/sites/default/files/MAB\\_2014.pdf](http://www.cna.org/sites/default/files/MAB_2014.pdf)

<sup>34</sup> Monty G. Marshall, Benjamin R. Cole, *Global Report 2014: Conflict, Governance and State Fragility*, (Center for Systemic Peace, 2014), p. 14, 45-51,

<http://www.systemicpeace.org/vlibrary/GlobalReport2014.pdf>

<sup>35</sup> Andrew Shepherd, Tom Mitchell, Kirsty Lewis, Amanda Lenhardt, Lindsey Jones Lucy Scott, Robert Muir-Wood, *Geography of Poverty, Disasters and Climate Extremes in 2030*, (ODI, October, 2013) 53-63, esp. p. 54 Figure 23, <http://www.odi.org/publications/7491-geography-poverty-disasters-climate-change-2030>

<sup>36</sup> This information was presumably compiled from Federal Form 990's. T. Joe Willey, "Tensions between Secularization and Sectarianism in Adventist Higher Education," Spectrum Online, April 14, 2014, <http://spectrummagazine.org/blog/2014/04/14/tensions-between-secularization-and-sectarianism-adventist-higher-education>

California Conference net plant assets, totaled about \$53.7 million. Additionally, the audited 2012 Texas Conference net plant assets totaled about \$95.1 million.<sup>37</sup> It is helpful to remember that these are asset values at acquisition – not replacement costs.

The inherent damage and displacement risk is discernable in church institutions recently suffering catastrophe. SDA church losses over the last decade have varied based upon the number, place and severity of the events. There is no single source for SDA church or institution losses that is readily available, since Adventist Risk Management is reticent to share. Thus, the following are a sample of events and losses impacting Adventist institutions in the last decade.

During the 2004 Atlantic Hurricane season, “more than 400 locations in the North American and Inter-American Divisions of the Seventh-day Adventist Church were damaged.” Gencon “made payments in excess of \$13.5 million to assist the church in the recovery of those storms.”<sup>38</sup> Keep in mind that \$13.5 million is equivalent to 25% of the SCC net asset values, mentioned above.

In 2005, the US experienced Hurricanes Katrina and Rita, which inflicted millions in additional damage on North American Division institutions. An estimated 120 church properties were damaged and 15 churches were submerged, but the greater cost was the Adventist climate refugees who fled after Katrina to new locations for jobs and shelter, who left struggling churches in their wake.<sup>39</sup>

During 2012, hurricanes, typhoons and tornados demonstrated future climate risk to SDA institutions. April tornados destroyed and damaged churches and dozens of member’s homes across the Southeastern U.S.<sup>40</sup> According to Adventist Risk Management, Hurricanes Ernesto, Isaac and Sandy conservatively caused more than \$1.2 million in losses, and damaged over 90

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<sup>37</sup> These sources are intentionally not included.

<sup>38</sup> The Southwestern Union Record Online, <http://www.swurecord.net/news.php?storyid=580>

<sup>39</sup> For the number of churches damaged, see: Paula Webber, “ARM Working to restore church properties,” <http://www.swurecord.net/news.php?storyid=580>; “Before the hurricane, there were thousands of Adventists worshipping in the city (New Orleans); the number now stands around three hundred. The SWRC churches numbered seven church structures there; now only two churches are functioning. Before, there were two church schools in operation; now, there is only one: New Orleans Adventist Academy.” Willie E. Hucks II, “Ministering in the wake of disaster”, Ministry, 2007, <https://www.ministrymagazine.org/archive/2007/12/ministering-in-the-wake-of-disaster.html>

<sup>40</sup> See “Adventists Affected by the Storms,” <http://www.southernunion.com/article/281/news-events/storm-damage-and-response/adventists-affected-by-the-storms>

churches.<sup>41</sup> Typhoon Bopha severely damaged more than 20 SDA churches in the Philippines, along with schools and other institutions.<sup>42</sup>

In 2013, Typhoon Haiyan damaged or destroyed over 200 SDA churches and numerous schools - one of numerous disasters that hit the Philippines that year.<sup>43</sup>

2014 has witnessed SDA church properties being damaged or destroyed by floods, landslides, and other calamities.<sup>44</sup> These losses occurred globally, and are a sample of the kinds of risk, not including socio-political destabilization that the church institutions face now and provide an indicator of possible future risk.

## 2) Potential Future Climate Risk to SDA Membership

To determine SDA risk to membership requires measurement of several indicators. Appendix A contains a countries table with risk measures, poverty indices, and 2013 Adventist churches and membership statistics. The risk indices used to assess SDA church risk include:

- 1) The GAIN Index,
- 2) The World Risk Index,

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<sup>41</sup> Carina Franca, "Hurricane Season 2012 Preliminary Report - By Numbers," Adventist Risk Management, January 2013, <http://www.adventistrisk.org/Prevention/SolutionsNewsletter/tabid/94/articleType/ArticleView/articleId/280/Hurricane-Season-2012-Preliminary-Report--By-Numbers.aspx>

<sup>42</sup> Rhoen Catolico/ANN staff, "ADRA heading to devastated areas in Philippines in wake of typhoon," Adventist News Network, December 07, 2012, <http://news.adventist.org/all-news/news/go/2012-12-07/adra-heading-to-devastated-areas-in-philippines-in-wake-of-typhoon/>

<sup>43</sup> "We can help rebuild", <http://www.adventist.ca/project-rebuild/>; "Adventists making slow but steady progress after super typhoon Haiyan," South Asia-Pacific Division, November 19, 2013, <http://ssd.adventist.asia/news/adventists-making-slow-but-steady-progress-after-super-typhoon-haiyan/>

<sup>44</sup> Landslides, Landslide partially damages church in Penampang, October 11, 2014, <http://www.therakyatpost.com/news/2014/10/11/landslide-partially-damages-church-penampang/#ixzz3HvJfnWOC>, Flooding, Rachel Logan, "Riverside Adventist Academy in India Flooded, Teacher Drowned", Spectrum, 25 September 2014, <http://spectrummagazine.org/blog/2014/09/25/riverside-adventist-academy-india-flooded-teacher-drowned>, Miroslav Pujic, "The Worst Floods in Serbia and Bosnia Since Records Began," Posted May 22, 2014, <http://www.adventistreview.org/church-news/%E2%80%8Bthe-worst-floods-in-serbia-and-bosnia-since-records-began>, Linden Chuang, "Solomon Islands Capital Hit by Deadly Floodwaters, April 4, 2014, <http://www.adventistreview.org/church-news/solomon-islands-capital-hit-by-deadly-floodwaters>,

- 3) The Center for Systemic Peace State Fragility Index
- 4) The ODI Poverty Vulnerability Index 2030 Index
- 5) The ODI Multi-Hazard Risk Vulnerability 2030 Index
- 6) The 2013 Seventh-day Adventist Church statistics.<sup>45</sup>

What follows briefly notes the number of churches and members at risk based upon each index.

#### The Gain Index

The countries at highest risk of climate vulnerability and inability to adapt to climate change or threat of destabilization (39.93-31.57) contained 12,131 churches, 15,396 companies, and 2,966,344 or about 16.4% of its members. Countries in this category include the DRC, Burundi, Haiti, Papua New Guinea, Madagascar, Uganda, Malawi, and Kenya. Of these, eight are in Africa, an area of significant concern in future African growth and development.

#### The World Risk index

The countries at very high risk (36.50-16.41) of exposure to and susceptibility to disaster with low capacity to cope or adapt contained 7,686 churches, 6,172 companies, 1,744,920 members in 2013. Countries with substantial members included the Philippines, Guatemala, Costa Rica, El Salvador and Papua New Guinea. The very high risk group represents 9.7% of global membership.

#### The Center for Systemic Peace State Fragility Index

The countries with the weakest state mechanisms and considered high risk for failure, or under security, political or social stability stress (readings of 24-16), contain 12,024 churches, 13,123 companies and 3,606,066 members, or 19.95% of global membership. The countries with high SDA membership include the DRC, Ethiopia, Burundi, Uganda, Nigeria, Rwanda, Zimbabwe, Angola, Cameroon and Malawi – all located in Africa.

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<sup>45</sup> The GAIN Index is the University of Notre Dame Global Adaptation Index, designed to measure a country's vulnerability to climate change and readiness for adaptation. See <http://index.gain.org/>; The World Risk Index measures a country's exposure and susceptibility to disaster and its coping and adaptability capacity. See <http://www.worldriskreport.com/Report.435.0.html?&L=3>; The Center for Systemic Peace State Fragility Index, assesses 15 factors of security, political, economic and social stability indicators. See the 2014 Global Report: <http://www.systemicpeace.org/vlibrary/GlobalReport2014.pdf>; The ODI Poverty Vulnerability Index and Multi-Hazard Risk Vulnerability Indices, see: *Geography of Poverty, Disasters and Climate Extremes in 2030*, (ODI, October, 2013) 53-63, esp. p. 54 Figure 23, <http://www.odi.org/publications/7491-geography-poverty-disasters-climate-change-2030>; SDA Church Statistics are from the 2014 Annual SDA Church Statistics Report

## The ODI Poverty Vulnerability Index 2030 Index

The ODI Poverty Vulnerability Index is a baseline reading of climate risk and poverty vulnerability in 2030. The “Very High” vulnerability consists of countries where more than 10% of the population is expected to earn less than .75 a day in 2030. That group of countries contains 11,316 churches, 11,617 companies, and 3,725,056 adherents or 20.61% of total membership in 2013. Countries in that group include Burundi, DRC, Haiti, Honduras, Madagascar, Malawi, Rwanda, Tanzania, and Zimbabwe. Again almost every country is African, except Haiti.

## The ODI Multi-Hazard Risk Vulnerability 2030 Index

The ODI Multi-Hazard Risk Vulnerability Index assesses future temperature, heatwave, precipitation, drought and flood impacts for 2030. Its “Very High” risk category (35-30) includes numerous countries including a large Adventist presence, with 25,211 churches, 18,767 companies and 6,383,531 members representing 35.33% of its total global presence. It includes India, Mexico, United States, China, Guatemala, Honduras, Nicaragua, the Philippines, Haiti, Indonesia, Canada and El Salvador. Most are countries vulnerable to major storms, such as typhoons and hurricanes,

In summary, a number of indices include the same countries with high Adventist membership and institutional presence. Continuing to maintain existing facilities or create new institutions in the face of increasing climate and social stress will pressure the future church. It will stress members, tax leadership, use more financial resources, and may make continuing to evangelize and care for members in some countries problematic. It is in dialogue with these pressures that the following ecclesiological principles are considered.

### **Proposing a Way Forward: Practical SDA Ecclesiology for a Climate-Impacted World**

The Adventist church needs to create an ecclesiology that helps sustain its unity and capacity to adapt and grow in an increasingly vulnerable, climate changed world. As a catalyst to this conversation, I propose four principles as a consistent message to sustain the SDA church organization, its institutions and members as we face a more uncertain world.

#### *1. Mutuality*

The early Christian church practiced a mutual concern and care for other Christian communities across cultures and ethnicities in a climate-stressed period of the first century.<sup>46</sup> Paul’s efforts

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<sup>46</sup> For books, see J. Donald Hughes, *Pan’s Travail: Environmental Problems of the Ancient Greeks and Romans* (Baltimore and London: The Johns Hopkins University Press, 1994); For climate impacts of food security, see Peter Garnsey, *Famine and Food Supply in the Graeco-Roman World: Responses to Risk and Crisis* (Cambridge, UK: Cambridge University Press, 1989), esp. pp. 218-243.

to collect an offering for the saints in Jerusalem, delivered by a delegation of church leadership representatives, provides a Biblical basis for encouraging reciprocal SDA financial and personal support in the face of future disaster and climate change effects. For example, in Romans 15, Paul's rationale of gift delivery to Jerusalem was one of Christian obligation and mutual assistance.<sup>47</sup>

While the SDA church has a history of sending people and resources to evangelize, build institutions, and operate church organizations, either through official GC channels or unofficial mission projects, that church system's sustainability becomes more challenged in a climate-changing world. Sustainability is impacted in two ways:

First, the ability for church resources to be shared as developed nations experience major climate impacts which in turn drive up costs of mitigation, adaptation and sustainability and as climate related scarcity drives up inflation. When costs or risks become too high, they will impact mutuality and support self-preservation.

Second, as climate risk increases, it lowers the ability to enter and operate in climate-impacted countries due to adverse social stability, including evangelism, and discipling new church communities.

The reinforcement of Christian mutuality provides the global church with economic and theological capacities for resilience and adaptability to future climate impacted change.

## 2. Resilience

Paul encouraged his churches to practice resilience, a topic of U.S. climate adaptation and mitigation strategies. Resilience will be personal, communal, and organizational for SDA church communities. Paul's perspective of personal resilience is summarized in Philippians 4:6-7, 11-13.<sup>48</sup> The principle of dependence on God in the face of trial by natural causes as a way of

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<sup>47</sup> Romans 15:25-29 LEB " But now I am traveling to Jerusalem, serving the saints. <sup>26</sup> For Macedonia and Achaia were pleased to make some contribution for the poor among the saints in Jerusalem. <sup>27</sup> For they were pleased *to do so*, and they are obligated to them. For if the Gentiles have shared in their spiritual *things*, they ought also to serve them in material *things*. <sup>28</sup> Therefore, *after I* have accomplished this and sealed this fruit *for delivery* to them, I will depart by way of you for Spain, <sup>29</sup> and I know that *when I* come to you, I will come in the fullness of the blessing of Christ."

<sup>48</sup> Philippians 4:6-7, 11-13 LEB: "Be anxious for nothing, but in everything by prayer and supplication with thanksgiving let your requests be made known to God. <sup>7</sup> And the peace of God that surpasses all understanding will guard your hearts and your minds in Christ Jesus... <sup>11</sup> Not that I speak from need, for I have learned to be content in whatever *circumstances* I am. <sup>12</sup> I know *how both to make do with little* and I know *how to have an abundance*. In everything and in all *things* I have learned the secret both to be filled and to be hungry, both *to have an abundance* and to go without. <sup>13</sup> I am able *to do all things* by the one who strengthens me."

resilience in hardship is proclaimed in Ps 46:1-3, as a reminder of God's majesty and power.<sup>49</sup> The Lord's reminder to Joshua, that he was called to lead people in the face of uncertainty, reminds us to have resilience as we continue to focus on Christ.<sup>50</sup>

### 3. Endurance

Jesus, Paul and James use the principle of endurance as an element embedded in Christian experience that leads to a deeper walk with God and ultimately - salvation.

Jesus' use of endurance is placed in context of prophetic framework of his return and the geo-political and climate-related conflict preceding that event. Matthew 24:6-14 summarizes Christ's perspective, in which "the one who endures to the end will be saved."<sup>51</sup>

In Romans 5:1-5, Paul places endurance in the progression of building the relationship with God as a strengthening of faith and hope while living in anticipation of the Lord's return.<sup>52</sup>

James uses a similar thought structure in James 1:2-4 as an initial premise of the Christian experience while awaiting Christ's return.<sup>53</sup> He returns to this motif in James 5:11, when

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<sup>49</sup> Psalm 46:1-3 LEB: "God is our refuge and strength, a very sufficient help in troubles.

<sup>2</sup> Therefore we will not fear though *the* earth change, and though the mountains totter into *the midst of the sea*, <sup>3</sup> though its waters roar *and* foam, though mountains shake with its surging *water*. *Selah*

<sup>50</sup> Joshua 1:9 LEB: "Did I not command you? Be strong and courageous! Do not fear or be dismayed, for Yahweh your God is with you *wherever you go*."<sup>1</sup>

<sup>51</sup> Matthew 24:6-14, LEB: "And you are going to hear about wars and rumors of wars. See to it that you are not alarmed, for this must happen, but the end is not yet. <sup>7</sup> For nation will rise up against nation and kingdom against kingdom, and there will be famines and earthquakes in *various* places. <sup>8</sup> But all these *things are* the beginning of birth pains. <sup>9</sup> "Then they will hand you over to persecution and will kill you, and you will be hated by all the nations because of my name. <sup>10</sup> And then many will be led into sin and will betray one another and will hate one another, <sup>11</sup> and many false prophets will appear and will deceive many, <sup>12</sup> and because lawlessness will increase, the love of many will grow cold. <sup>13</sup> But the one who endures to the end—this person will be saved. <sup>14</sup> And this gospel of the kingdom will be proclaimed in the whole inhabited earth for a testimony to all the nations, and then the end will come."

<sup>52</sup> Romans 5:1-5 LEB: "Therefore, *because we* have been declared righteous by faith, we have peace with God through our Lord Jesus Christ, <sup>2</sup> through whom also we have *obtained* access by faith into this grace in which we stand, and we boast in the hope of the glory of God. <sup>3</sup> And not only *this*, but we also boast in our afflictions, *because we* know that affliction produces patient endurance, <sup>4</sup> and patient endurance, proven character, and proven character, hope, <sup>5</sup> and hope does not disappoint, because the love of God has been poured out in our hearts through the Holy Spirit who was given to us."

<sup>53</sup> James 1:2-4 LEB: "Consider *it* all joy, my brothers, whenever you encounter various trials, <sup>3</sup> *because you* know that the testing of your faith produces endurance. <sup>4</sup> And let endurance have *its* perfect effect, so that you may be mature and complete, lacking in nothing."

encouraging the church in appropriate relationships and discipleship - to have patience with endurance until the Lord returns.<sup>54</sup>

Revelation 2 also includes endurance a characteristic of the Church of Ephesus, in the face of hardship for Christ.<sup>55</sup>

Given that some situations will take time to resolve, or that some people may have extended periods of loss and hardship, this passage will link together understandings of Christ's care while persons are still called to work for Christ.

#### 4. Productivity

Despite living in anticipation of the soon appearance of Jesus, Thessalonian Christians were exhorted to remain productive members of society, despite hardship. In 1 Thessalonians 3, Paul directs them, "to aspire to live a quiet life, and to attend to *your own business*, and to work with your hands, just as we commanded you, so that you may live decently toward those outside, and may have need of nothing."<sup>56</sup> The admonition may have arisen out of a confluence of events which impacted climate and food security in the 40's and early 50's in the Mediterranean world. Agabus' prophetic call resulted in the sharing of goods with Judean Christi-followers and modeled mutuality. The time of instability was years long – and required endurance, even by the Thessalonian members.<sup>57</sup>

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<sup>54</sup> James 5:7-11 LEB: "Therefore be patient, brothers, until the coming of the Lord. Behold, the farmer waits for the precious fruit of the soil, being patient concerning it until it receives the early and late rains. <sup>8</sup>You also be patient. Strengthen your hearts, because the coming of the Lord is near. <sup>9</sup>Brothers, do not complain against one another, in order that you may not be judged. Behold, the judge stands before the doors! <sup>10</sup>Brothers, take *as an* example of perseverance and endurance the prophets who spoke in the name of the Lord. <sup>11</sup>Behold, we consider blessed those who have endured. You have heard about the patient endurance of Job, and you saw the outcome from the Lord, that the Lord is compassionate and merciful."

<sup>55</sup> Revelation 2:1-3 LEB: "This is what the one who holds the seven stars in his right hand says, the one who walks in the midst of the seven gold lampstands: <sup>2</sup>'I know your works, and your labor and patient endurance, and that you are not able to tolerate evil, and you put to the test those who call themselves apostles and are not, and you found them *to be* false. <sup>3</sup>And you have patient endurance, and have endured *many things* because of my name, and have not become weary."

<sup>56</sup> 1 Thessalonians 3:9-12 LEB

<sup>57</sup> Acts 11:28-29 LEB: "And one of them *named* Agabus stood up *and* indicated by the Spirit *that* a great famine was about to come over the whole inhabited earth (which took place in the time of Claudius). <sup>29</sup>So from the disciples, *according to their ability to give*, each one of them determined to send *financial aid* for support to the brothers who lived in Judea, <sup>30</sup>which they also did, sending *the aid* to the elders by the hand of Barnabas and Saul."

Paul's call to live productive lives is reinforced in 2 Thessalonians 3:6-12. While the message may be directed at those not working, it had an impact on those who did, enabling them to meet the needs of families, the church, and for outreach.<sup>58</sup>

## Conclusions

There are several perspectives that developed from writing this paper. First, the global church needs to begin serious engagement by leadership, institutions and membership concerning climate change and its impacts, including ministry, message and resources. There is a real interest by denominations and academic organizations in clearly stating their views and support efforts of their churches and the global community to support care for the environment, and climate mitigation and adaptation by faith communities.<sup>59</sup>

Second, the church needs a new statement on climate and sustainable development that reconciles the dichotomy of previous positions on the environment and economic development or poverty reduction.

Third, we will need to develop the messages that shape our culture and identity as a denomination facing climate impacts. For example, are we going to preach more evangelistic

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<sup>58</sup> 2 Thessalonians 3:6-12 LEB: "But we command you, brothers, in the name of our Lord Jesus Christ, *that* you keep away from every brother who lives irresponsibly and not according to the tradition that they received from us. <sup>7</sup> For you yourselves know how it is necessary to imitate us, that we did not behave irresponsibly among you, <sup>8</sup> nor did we eat bread from anyone without paying, but with toil and labor, *we were* working night and day in order not to be a burden to any of you, <sup>9</sup> not that we do not have the right, but so that we may give ourselves *as* an example to you, so that *you* may imitate us. <sup>10</sup> For even when we were with you, we used to command this to you: that if anyone does not want to work, neither should he eat. <sup>11</sup> For we hear *that* some among you are living irresponsibly, working *at* nothing, but being busybodies. <sup>12</sup> Now we command and we exhort such people in the Lord Jesus Christ that, working with quietness, they eat their own bread."

<sup>59</sup> For academic interest, see Steven Kull, John Steinbruner, et. al, *Faith and Global Policy Challenges: How Spiritual Values Shape Views on Poverty, Nuclear Risks, and Environmental Degradation*, (Center for International and Security Studies at the University of Maryland, December, 2011),

[http://www.cissm.umd.edu/papers/files/faith\\_and\\_global\\_policy\\_challenges\\_final.pdf](http://www.cissm.umd.edu/papers/files/faith_and_global_policy_challenges_final.pdf); For

Catholic efforts see: Statement of the Joint PAS/PASS Workshop on Sustainable Humanity, Sustainable Nature: Our Responsibility, (May, 21, 2014),

<http://www.casinapioiv.va/content/accademia/en/events/2014/sustainable/statement.html> ; For

evangelical interest and efforts see: Jennifer Weeks, July 24, 2014, "What would Jesus do (about climate change)?" Boston Globe, <https://www.bostonglobe.com/magazine/2014/07/24/what-would-jesus-about-climate-change/iXB3iYEkdIwQz6MgCpX3YJ/story.html>

sermons on signs of Christ's coming or will we focus on message of hope and care – including those in need in fellowship and outreach with others – that leads to longer term relationships.

Fourth, we will need a deeper call to supporting our brothers and sisters in Christ on a global scale. Many church entities will not be able to recover from future disaster without mutual support – monetary and by our presence in time of need.

Fifth, no country or community is immune to potential climate impacts, and funding for repairs from disaster and hardship will have to be reassessed.

Sixth, while we may not like it, Adventist Risk Management will likely be raising insurance rates substantially in the years to come, which will increase church and institutional costs at the local and national level. We will have to reallocate or pass through costs in budgets that will need explanation and defense to members already stretched by increasing personal insurance costs.

Seventh, ADRA's operations provide a means of mutual assistance that will make a difference for the church and the communities which it assists. The reality is, ADRA will likely need more funding and personnel with emergency management, climate adaptation and sustainable development expertise.

Eighth, we have an opportunity to encourage members – as the body of Christ - to volunteer to help in disaster, by becoming part of the Red Cross or other community organizations. Those contacts and relationships build good will towards the church, and friendships that may lead to others joining. One thing I learned from responding to Hurricane Floyd in 1999, that when we engage with others in disaster response, we make a difference in public understanding of who Seventh-day Adventists are and what we believe. The one regret I have from that experience was the local SDA pastor and church could not understand that providing a few days of aid at a local mall was sacrificing the opportunity to work daily for weeks to come with hundreds of people from the community who worked tirelessly to help others in an SDA managed goods warehouse.

### **Further Research**

In my mind, this is a first attempt at modeling risk, in connection with an ecclesiological approach to determining how to Biblically shape church culture to prepare members for personal, church and communal impacts to come. It is a work in progress. How to anticipate and prepare for risk mitigation and adaptation to climate will be an ongoing conversation.

This also needs refinement – so comments and critique are welcome.

### **Bio:**

Ben Holdsworth is a Professor of Religion at Union College. Ben has an active interest in the topics of this paper, and has presented previously on these issues in the first century setting. His Ph.D. from Durham University, UK focused on the audience reception of Romans in its first century context and is entitled: *Reading Romans in Rome: A Reception of Romans in the Roman Context of Ethnicity and Faith*, <http://etheses.dur.ac.uk/214/>

## Rethinking Adventist Ecclesiology for a Climate-Impacted World

Adventist Society of Religious Studies

San Diego, CA, November 20, 2014

Ben Holdsworth, PhD

### Notes:

2030 Multi-Hazard ratings from ODI  
 2030 Poverty Vulnerability Index from ODI  
 2013 Global Adapability Index:  
<http://index.gain.org/>  
 2014 World Risk Index:  
<http://www.worldriskreport.com/Report.435.0.html?&L=3>  
 2013 SDA Statistics from 2014 SDA Annual Statistics Report:  
[http://docs.adventistarchives.org//doc\\_info.asp?DocID=183816](http://docs.adventistarchives.org//doc_info.asp?DocID=183816)  
 2013 State Fragility Index - Center for Systemic Peace  
 2013  
<http://www.systemicpeace.org/inscrdata.html>

### ODI Poverty Vulnerability Index

6 = VHV = Highest vulnerability >10% \$0.75/day

5 = HV = High vulnerability >1,000,000 \$0.75/day

4 = MV = Moderate vulnerability either >10% \$1.25/day or >1,000,000 \$1.25/day

3 = LV = Lower vulnerability either >10% \$2.00/day or >1,000,000

2 = VLV = Lowest vulnerability either >10% \$4.00/day or >1,000,000 \$4.00/day

1 = NV = Not vulnerable <10% \$4.00/day and <1,000,000 \$4.00/day

High	Low	Low	Low	Low
Score	Score	Score	Score	Score
better	better	better	better	better

Name	GAIN 2013	World Risk Index 2014	Systemic Peace State Fragility Index 2013	ODI Poverty Vulnera bility Index Base 2030	ODI Multi- Hazard Risk Index 2030	Adventist Churches 2013	Adventist Companies 2013	Members Yr End 2013
Afghanistan	35.6133	9.71	22	4	20			
Albania	55.2026	10.17	2	2	26	5	-	384
Algeria	50.0651	7.63	14	1	NA			
Angola	40.0621	6.67	16	2	22	1,107	1,754	431,809
Argentina	57.2546	3.68	2	1	29	563	438	106,634
Armenia	59.0172	6.21	7	3	19	19	16	833
Australia	80.1114	3.93	2	1	29	421	105	58,219
Austria	77.6182	3.58	0	1	NA	50	9	4,045
Azerbaijan	52.9880	6.04	10	1	NA	5	6	524
Bahamas, Cayman, Turks	64.6227	4.19	NA	1	31	79	13	31,596
Bahrain (Gulf Field)	58.0359	1.78	9	1	NA	13	1	1,264
Bangladesh	42.2679	19.37	13	5	34	121	296	28,300
Barbados - E Carib Conf	66.7703	1.21	NA	1	NA	117	9	40,054
Belarus	64.4893	3.12	4	1	NA	65	29	4,058
Belgium	69.4808	3.41	2	1	NA	32	3	2,369
Belize	50.2826	6.59	NA	3	33	85	40	39,971
Benin	40.3212	11.42	10	6	21	18	41	6,146
Bhutan	47.7842	7.83	8	2	NA			
Bolivia	48.1828	5.04	10	2	29	347	729	97,908
Bosnia and Herzegovina (N Conf)	55.1491	6.20	4	1	NA	88	-	3,566
Botswana	61.4623	5.45	3	4	17	95		37,557

Brazil	56.8476	4.30	5	4	29	7,780	8,118	1,447,470
Bulgaria	64.2795	4.21	2	2	20	119	140	7,380
Burkina Faso	39.5714	9.62	16	6	19	11	63	4,099
Burundi	33.7821	10.59	18	6	23	351	411	98,153
Cambodia	44.0024	17.12	11	4	30	6	27	6,164
Cameroon	44.7754	11.20	16	4	23	835	493	84,310
Canada	78.2224	3.14	0	1	30	372	73	66,579
Cape Verde	52.8049	10.32	5	3	NA	32	31	7,593
Central African Republic	33.9924	6.78	24	6	22	51	45	5,927
Chad	31.5688	11.28	19	6	22	42	14	2,223
Chile	68.4612	11.30	2	1	26	670	382	109,592
China	61.0426	6.90	6	5	33	1,284	3,303	419,378
Colombia	57.6899	6.83	10	5	28	1,469	940	313,751
Congo-Brazzaville	37.6114	7.53	13	2	22	15	5	774
Congo, the Dem Rep	34.0131	0.00	23	6	22	1,863	1,535	498,421
Costa Rica	58.1670	17.33	1	2	28	231	78	71,761
Cote d'Ivoire	39.9316	9.29	16	4	22	60	88	5,126
Croatia	63.5318	4.28	2	1	NA	84	11	2,779
Cuba	50.9632	6.42	5	3	31	310	153	34,018
Cyprus	66.1289	2.76	3	1	NA	2	-	89
Czech Republic	69.9763	3.46	1	1	NA	143	27	7,525
Denmark	81.4123	2.93	0	1	NA	45	1	2,516
Djibouti	40.6490	9.93	13	4	16			
Dominican Republic	50.2502	11.50	5	2	29	720	455	294,814

Ecuador	50.6329	7.63	8	3	28	232	412	58,297
Egypt	52.8229	2.29	12	3	22	18	10	839
El Salvador	49.5030	17.12	4	3	30	700	243	210,996
Equatorial Guinea	46.6928	4.71	12	1	NA	18	7	1,749
Eritrea* Attached Fields	33.7989	6.26	15	6	16	60	173	21,814
Estonia	69.7875	2.43	0	1	NA	20	-	1,584
Ethiopia	40.6946	7.57	20	5	22	828	333	144,132
Fiji	52.9186	13.65	6	4	NA	154	106	23,973
Finland	81.5028	2.24	0	1	NA	69	6	4,877
France	75.6391	2.69	1	1	NA	122	20	13,332
French Guyana Mission	NA	NA	NA	NA	NA	147	24	30,534
Gabon	50.3806	6.26	11	2	22	15	14	2,653
Gambia	40.0020	12.23	14	6	21	5	7	294
Georgia	58.2717	6.80	7	3	26	8	7	369
Germany	78.8440	3.01	0	1	NA	560	30	34,901
Ghana	51.2448	8.77	11	5	19	1,281	1,820	337,382
Greece	64.6227	7.10	2	1	NA	10	11	409
Grenada	58.0785	1.44	NA	4	NA	45	3	13,668
Guatemala	48.5156	20.68	8	5	33	824	215	248,228
Guinea	38.1599	8.53	18	4	23	2	25	1,597
Guinea-Bissau	37.2622	13.75	18	6	23	4	11	2,679
Guyana	46.0428	11.81	11	3	22	149	60	60,301
Haiti	35.6295	12.00	15	6	31	539	521	407,349
Honduras	45.2539	10.80	7	6	33	446	220	265,373

Hungary	66.3526	5.46	0	1	NA	105	18	4,683
Iceland	78.8045	1.56	NA	1	NA	16	1	482
India + And Is + E Him Field	48.7169	7.04	12	5	35	4,323	4,937	1,501,467
Indonesia	52.0564	10.55	9	4	31	1,615	558	191,919
Iran, Islamic	54.0795	4.88	11	2	21	2	1	87
Iraq (East Med Field)	43.7562	4.84	19	2	21			
Ireland	74.8220	4.52	0	1	NA	10	6	707
Israel	67.0189	2.38	8	1	NA	11	9	795
Italy	67.9002	4.48	0	1	NA	110	19	9,571
Jamaica	53.1102	12.20	3	2	NA	665	56	278,213
Japan	76.0512	13.38	0	1	33	107	43	15,255
Jordan (East Med Field)	54.3662	4.75	8	2	21			
Kazakhstan	62.8436	3.74	9	1	NA	43	23	2,787
Kenya	39.7209	7.00	10	5	20	4,776	4,617	795,161
Kiribati	NA	1.72	NA	NA	NA	14	15	2,450
Korea, DPR	NA	0.00	8	5	20			
Korea, Republic of	74.7760	4.80	0	1	NA	714	184	237,211
Kuwait	56.3739	3.34	3	1	NA			
Kyrgyzstan	54.3917	8.33	12	3	18	13	14	760
Lao People's DR	43.4511	5.75	12	3	34	4	11	2,139
Latvia	64.6214	3.45	0	1	NA	52	-	4,030
Lebanon	50.6585	5.01	6	2	23	10	6	557
Lesotho	41.4171	7.03	8	6	16	39	25	7,674
Liberia	37.3762	7.90	16	6	22	69	67	15,457
Libyan Arab Jamahiriya	45.7561	4.00	12	1	NA			

Lithuania	67.5922	3.01	1	2	12	17	-	879
Macedonia, FYR	59.1870	6.14	2	3	26	15	8	553
Madagascar + Reunion Is	38.2855	11.20	11	6	27	804	1,163	124,200
Malawi	39.6158	8.21	16	6	22	1,365	1,677	429,292
Malaysia	65.1724	6.51	6	1	25	266	158	53,707
Mali	38.2922	8.85	18	6	21	4	21	1,606
Mauritania	38.1685	8.17	16	3	16	6	5	600
Mauritius	60.6607	14.78	1	2	NA	33	5	4,740
Mexico	57.4537	6.27	5	5	35	3,403	4,132	681,345
Moldova, Republic of	54.7266	4.92	10	3	18	152	90	9,650
Mongolia	58.0144	3.00	7	2	17	4	6	1,986
Montenegro	58.8914	0.00	2	3	NA	23	-	590
Morocco (Maghreb Section)	52.9853	6.80	7	3	20	4	5	295
Mozambique	41.8130	9.03	13	5	27	1,011	1,589	313,080
Myanmar	39.3729	9.14	19	4	34	228	100	28,082
Namibia	49.7972	5.61	5	6	17	91	39	18,398
Nepal	45.3703	5.29	14	6	34	26	80	8,859
Netherlands	73.3326	8.25	0	1	NA	56	17	5,624
New Zealand	82.1782	4.20	2	1	25	142	85	18,646
Nicaragua	49.0916	14.87	10	4	33	259	163	128,351
Niger	35.5720	11.45	18	5	17	2	7	245
Nigeria	42.0071	8.24	17	5	23	1,033	1,281	200,311
Norway	82.6922	2.31	2	1	NA	62	2	4,530
Oman	65.0770	2.74	5	1	NA			
Pakistan	46.8098	7.07	16	5	30	122	100	7,531

Panama	56.5656	7.41	5	1	28	295	145	99,862
Papua New Guinea	37.6421	16.74	11	4	29	951	2,798	238,273
Paraguay	52.3591	3.74	9	3	24	61	65	13,347
Peru	55.9926	6.91	6	3	28	2,215	3,156	421,937
Philippines	50.7002	28.25	11	5	33	4,566	2,109	872,267
Poland	70.2727	3.28	0	1	NA	117	32	5,790
Portugal	68.0392	3.61	0	1	NA	96	25	9,207
Puerto Rico	NA	NA	NA	NA	NA	301	21	34,971
Qatar	62.7515	0.08	4	1	NA			
Romania	59.3864	6.55	4	2	21	1,097	244	66,651
Russian Federation, CU FEU	67.1637	3.85	7	1	30	654	508	44,298
Rwanda	44.5998	7.30	17	6	NA	1,665	571	604,110
Saint Kitts & St Vincent, S L Is Miss	59.9789	0.00	NA	NA	NA	43	5	12,663
Saint Lucia	59.4589	0.00	NA	4	NA	48	10	17,641
Saint Vincent - NCC	60.4494	0.00	NA	NA	NA	31	4	14,641
Samoa	NA	NA	NA	4	NA	41	33	10,685
Sao Tome and Principe	43.8534	NA	NA	4	NA	9	39	4,922
Saudi Arabia	61.1398	1.17	9	1	NA			
Senegal	43.0238	10.96	9	6	21			
Serbia	57.4834	6.91	4	2	24	84	-	3,229
Seychelles	59.2700	2.51	NA	NA	NA	5	7	892
Sierra Leone	38.6467	10.57	15	3	22	50	97	10,989
Singapore	75.9884	2.25	2	1	NA	7	2	2,916
Slovakia	66.6557	3.57	1	1	NA	40	15	2,236
Slovenia	73.7212	3.64	0	1	NA	14	2	541

Solomon Islan	41.9428	19.18	10	4	NA	186	250	46,158
Somalia	NA	NA	20	6	15			
South Africa	57.4956	5.38	8	5	18	1,042	327	116,936
Spain	69.9397	3.20	0	1	NA	107	41	16,526
Sri Lanka	53.4007	7.43	11	3	28	37	22	2,757
Sudan, North (Fgypt Field)	35.4888	8.08	22	6	20			
Suriname	52.0598	8.42	7	2	21	15	3	3,444
Swaziland	41.4800	7.66	9	6	18	21	33	6,891
Sweden	81.5577	2.19	0	1	NA	33	4	2,781
Switzerland	77.8083	2.48	1	1	NA	49	7	4,456
Syrian Arab R	44.9571	5.58	15	3	21			
Taiwan	NA	NA	0	NA	NA	56	29	6,077
Tajikistan	47.3566	7.17	11	4	18	6	4	195
Tanzania, United Rep.	43.8112	8.11	11	6	21	2,289	2,208	420,640
Thailand	60.1264	6.38	7	5	34	47	78	14,936
Timor-Leste	41.5983	16.41	11	2	25	1	-	514
Togo	40.3981	10.47	13	6	18	40	97	6,385
Tonga	54.6011	28.23	NA	6	NA	15	26	2,987
Trinidad and Tobago S Carib Conf + Tob	54.9722	7.49	4	1	NA	150	29	64,942
Tunisia	56.4626	5.47	5	2	13			
Turkey	61.8358	5.34	8	3	28	2	2	109
Turkmenistan	44.2542	6.76	9	1	NA	1	2	94
Tuvalu	NA	NA	NA	NA	NA	1	2	270
Uganda	39.0838	6.69	18	5	22	878	1,953	274,277
Ukraine	59.6312	3.11	6	2	18	900	299	51,683

United Arab Emirates (Gulf Field)	70.5100	1.91	4	1	NA			
United Kingdom	79.9832	3.54	0	1	NA	250	41	33,805
United States	78.8953	3.88	3	1	35	5,076	711	1,117,816
Uruguay	62.5945	4.00	3	NA	NA	54	34	8,009
Uzbekistan	49.3718	8.67	12	3	18	12	5	757
Vanuatu	51.8744	36.50	NA	4	NA	85	130	19,272
Venezuela + Antilles	51.1197	5.85	10	2	26	1,056	544	287,627
Viet Nam	51.1063	13.09	7	4	34	15	133	11,314
Yemen	37.8565	6.07	19	5	16			
Zambia	45.4326	7.61	13	5	NA	2,229	3,774	903,326
Zimbabwe	41.1289	10.01	17	6	22	1,498	2,569	766,079