

Book Review: Resilience – the Ultimate Sustainability

by [recoverydiva](#) Additional comments by Edward Thomas

Resilience – the Ultimate Sustainability, by Aris Papadopoulos, Resilience Action Fund ISBN #978-0-9861816-1-0, eBook - \$10, hard copy \$19.

Reviewed by Dr. John Plodinec, Associate Director, Community and Regional Resilience Institute Aris Papadopoulos manages to pack a lots of facts, figures, and recommendations for the future in this small (177 pp of text) book. Many are not going to like what he has to say – the American Wood Council, the NAHB, the ICC, FEMA, and most proponents of urbanization, to name a few. But for those of us who believe that resilience should be the prime paradigm of our age, this book buttresses that belief.

The book focuses on the built environment and natural disasters in the US. Papadopoulos opens by looking at the increasing cost and number of lives impacted by natural disasters. He points out that the US is the *only* developed country that has the dubious distinction of being in the top 10 nations for both. He then posits his Four Laws of Disaster Risk:

1. Disaster risk grows exponentially with hazard risk.
2. Disaster risk grows exponentially with urban density, even when hazard risk remains constant.
Proponents of urbanization too often forget that cities concentrate risk.
3. Disaster risk is inversely proportional to Resilience Capacity.
4. The Emergency Capacity required is inversely proportional to Resilience Capacity.

“Resilience Capacity” is the book’s key concept. Papadopoulos sees the Resilient Capacity of the built environment as a combination of the built environment’s resistance to the perils assailing it plus redundancy. “Emergency Capacity” then is the difference between what may be lost to a disaster and what it will take to replace what is lost (I know that’s not what the Fourth Law says, but that’s how he applies it in the text). Pushed to its logical extreme, Papadopoulos is saying that if buildings are completely resistant to a natural hazard then there is virtually no need for emergency capacity to replace them. Conversely, if we keep concentrating risk without building in Resilience Capacity, then the butcher’s bill for major natural disasters will continue to grow exponentially. And, of course, that’s what we seem to be seeing.

Papadopoulos provides nice capsules of the history of the LEED standards, the property insurance industry (esp. FMGlobal – an important story there), and the evolution of building codes. For anyone interested in the resilience of the built environment, these are must-reads; Papadopoulos tells the tale of how we got here well. Throughout the book, he emphasizes the importance of residential construction – the most important investment most of us will make in our lives – and how lax building codes put our investments at risk. He shoots huge holes in the idea that disaster-resistant housing has to be unaffordable – most notably Moore, Oklahoma’s experience that increasing the required resistance of new construction so that a house could withstand 135 mph winds only increased construction costs by \$1 per square foot (i.e., by about 1% – budget dust!).

At the end, Papadopoulos offers 30 practical recommendations that he breaks down as Strategy, Tactics and Applications. His Strategy focuses on government action (esp. at the federal level) to make the built environment more disaster-resistant, spotlighting the residential sector. Elsewhere in the book he has nice things to say about NIST's resilience efforts; I hope they read this book. He also hints at an economic development/social justice argument for built environment resilience – I wish this had been developed further.

Two of Papadopoulos's Tactics especially resonated with me. He recommends collecting and publicizing national statistics on building losses vs type of construction (Here he echoes a recent National Academies' recommendation.). He also strongly makes the point that "Green policies and programs are not a substitute for resilience" – building it twice is not sustainable.

Both his Tactics and Applications speak to the need for incentives. In the Applications area, he points out that the insurance community can be the natural partner in improving resilience, but only if they are allowed to appropriately reflect risk in their rates. My state of South Carolina is one of the few states that allow property insurers to do this; Louisiana is perhaps the worst offenders in preventing insurers from doing this.

This is a useful and very readable book (except I wish someone had done a better job of editing – but that's to be expected of a self-published book). Papadopoulos makes strong statements, but backs them up with facts (and doesn't torture them to make them speak). I don't fully agree with everything Papadopoulos recommends, but his aim point – a more resilient built environment – is bang on. If you care about the built environment – either its resilience or its sustainability – you should read this book.

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Additional Comments – Edward Thomas Esq.

This is an excellent and thoughtful review of an excellent and thoughtful book. I recommend reading both the book and this review to all. Overall, Resilience The Ultimate Sustainability is a brilliant and insightful, must read book from an expert in the construction industry designed to change development practices and code development. It is suitable for study and follow through by anyone who cares about Disaster Risk Reduction.

I would like to add to Dr. John Plodinec's excellent review comments two thoughts:

A) *The author's comments on the National Flood Insurance Program contained in Chapter 8 need serious reconsideration, and placement in context with the overall system of government appropriated and non-appropriated support, at all levels of government, for even the most risky forms of development; as well as consideration of the vast cornucopia of post-disaster assistance made available by foundations, charities, government: federal state and local. The NFIP is but a sliver of support for both pre and post disaster development. Considering only the NFIP when discussing disaster "risk stimulus" is a bit like taking a nonfunctional auto to the repair shop and demanding that the shop look only at the carburetor. We instead need to look at pre and post disaster "risk stimulus" on a systematic basis in order to fix problems. [For further elucidation of this thought, See, e.g., Reforming Federal support for Risky Business, Authors: David Conrad and Edward A. Thomas Esq., in 15 Ways to Rethink the Federal*

Budget, Edited by Greenstone, Harris, Li, Looney and Pastashnik, Brookings Institute Hamilton Project, 2013. Located at:

<http://www.brookings.edu/research/papers/2013/02/reform-federal-support-risky-development> ;

Hazard Mitigation in Disaster Recovery, by Edward A. Thomas, Esq., and Lincoln Walther, FAICP, in Planning for Post Disaster Briefing Papers, American Planning Association, 2015. Located at:

<https://www.planning.org/research/postdisaster/briefingpapers/hazardmitigation.htm> ; and A THREE-LEGGED STOOL ON TWO LEGS: FEDERAL LAW RELATED TO LOCAL CLIMATE RESILIENCE PLANNING AND ZONING, by Sarah J. Adams-Schoen and Edward A. Thomas, peer reviewed article in American Bar association publication *The Urban Lawyer*, 47 URB. LAW. 3 (2015). Located at:
http://nhma.info/wp-content/uploads/2016/02/UL-47-3_08Adams-Schoen-Thomas.pdf]

B) I really wish that Aris had not chosen to call out two unusually effective Civil Servants by name, suggesting that they were not quite qualified for the positions they hold. In my opinion, and the opinion of many other knowledgeable observers these two folks are doing an especially fine job.

I very much hope that the the reception of the book, including the comments from John Plodinec and me encourage Mr. Papadopoulos to quickly move to produce a third edition of the book, ASAP!

Great job, Aris!

*Respectfully Submitted,
Edward A. Thomas Esq.*