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FINDING A NEW GREEN IN POSTWAR IRAQ AND AFGHANISTAN: AN ARGUMENT FOR COOPERATION

NATHAN KENT MILLER*

INTRODUCTION

Imagine living in a country devastated by a recent conflict. Buildings are destroyed, homes reduced to nothing, and hope for a stable future is nowhere to be found. The outlook is difficult to think about as one hears explosions and gunfire in the distance. One of the last things that is likely on a citizen's mind in these dire situations is whether, when the rebuilding begins, the new structures in place will be environmentally friendly. Green building, however, can provide some major advantages to nations caught in these circumstances, and from uncertain times can come a chance to create something distinct and beneficial to the economies and well-being of war-torn countries.

As green building up to now has been primarily a Western and North American concept,¹ Iraq and Afghanistan can combine the lessons of history that are an inextricable part of their cultures with the benefits to be reaped from green building.² Postwar nations that have endured such difficulties may find strength in each other to move forward.³ Iraq and Afghanistan are uniquely positioned to work with one another and form a distinct green building system for their structures.⁴

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¹ See Jim L. Bowyer, *Green Building Programs: Are They Really Green?*, FOREST PRODUCTS J., Sept. 2007, at 7, available at <http://www.forestprod.org/07-sepf.pdf>.

² Afghanistan and Iraq, at the very least, share a history of being Muslim countries that were caught up in the imperialistic ventures of other nations. See generally *Afghanistan Country Profile*, BBCNEWS, http://news.bbc.co.uk/2/hi/south_asia/country_profiles/1162668.stm#facts (describing history of European and American activity in Afghanistan) (last updated Dec. 7, 2010); *Iraq Country Profile*, BBCNEWS, http://news.bbc.co.uk/2/hi/middle_east/country_profiles/791014.stm (describing Iraq's interaction with Asian, European, and American forces over the centuries) (last updated Dec. 22, 2010).

³ See *infra* Part II.

⁴ See *infra* Parts IV and V.

The question inevitably arises as to why countries like Iraq and Afghanistan should focus their scarce resources on green building initiatives. The answer lies in the gains to be made from green building. First, however, it is important to define the term. Sustainable development can, for example, improve structural efficiency, which could result in using less of resources valuable to Iraq and Afghanistan such as water and electricity.⁵ Additionally, the ability to begin anew in these countries, while difficult for its emotional and logistical problems, gives Iraq and Afghanistan the potential to announce themselves as leaders for the rest of the Middle East and emerging or re-emerging democracies around the world.⁶ The chance to begin again may also be an opportunity to prepare for the possibility of future destruction, whether manmade or natural.⁷

A cooperative venture between Iraq and Afghanistan does not need to be designed without a starting point for reference. In addition to learning from the green building programs already in existence,⁸ these countries (and other postwar and emerging democracies) can learn from how other nations respond to natural disasters. Experiences in New Orleans after Hurricanes Katrina and Rita, in Indonesia after tsunamis, and in other locations show the potential and already realized benefits of green building in areas that seek to rebuild.⁹

ARGUMENT STRUCTURE

Part I of this argument for a cooperative green building effort in Iraq and Afghanistan will seek to define what is meant by green building. After establishing that, Part II will examine the various green building systems that are in place around the world and their suitability for Iraq and Afghanistan. From that point, Part III will discuss the current situation in these two countries, followed by considering the possibility of a regional model. This will provide a better foundation for what Iraq and Afghanistan are experiencing now with green building. Part IV, in evaluating efficiency gains, will demonstrate further reasons for green building. In Part V, drawing comparisons with natural disasters may also reveal

⁵ See *infra* Part IV.

⁶ One way Iraq and Afghanistan can accomplish this is through creating green jobs. For U.S. efforts in green building leading to green jobs, see *Green Building Creates Green Jobs for a Green Economy*, U.S. GREEN BLDG. COUNCIL, <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1954> (last visited Jan. 1, 2011).

⁷ See *infra* Part V.

⁸ See *infra* Parts II.A–C.

⁹ See *infra* Part V.

some further insight into how Iraq and Afghanistan can embrace green construction. Part VI will try to provide a broader context for this discussion—in essence, determining why green building is meaningful at all, after analyzing specific arguments in favor of it. Doing so will hopefully show the general picture within which green building operates, apart from details. Part VII will examine barriers to implementing green building laws and how they affect Iraq and Afghanistan. Part VIII will study a few more examples of the Middle Eastern experience with green building in search of a comparative model useful to Iraq and Afghanistan. Part IX will consider how a partnership between these two countries could be beneficial as an example of the progress possible when two democratic governments in the region work together. This discussion will end with some final arguments for a cooperative model, along with closing remarks about how this potential experiment could affect local, national, and international institutions in the push for democratization and internal strengthening.

I. A DEFINITION OF GREEN BUILDING

“Green building” is a term that encompasses many different uses and standards.¹⁰ It can include concepts that are both broad and narrow.¹¹ Before discussing how postwar reemerging democracies can benefit from green building, it will be helpful to narrow down its definition. The U.S. Environmental Protection Agency (“EPA”) defines green building as “the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building’s life-cycle from siting to design, construction, operation, maintenance, renovation, and destruction.”¹² The Minnesota Pollution Control Agency, a function of the state government of Minnesota, defines a sustainable building as “one that is healthy and comfortable for its occupants and is economical to operate.”¹³ These definitions present two important elements that will be used here to describe green building: one, the efficient use of resources, and two, the health of the people using the buildings (and, implicitly as part of health and safety).¹⁴ The hybrid definition for this argument’s purposes

¹⁰ *Green Building Design: Why Design Green?*, ARIZ. STATE UNIV. FACILITIES & OPERATIONS, <http://cfo.asu.edu/fdm-green-building-design> (last visited Jan. 1, 2011).

¹¹ *Id.*

¹² *Green Building: Basic Information*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/greenbuilding/pubs/about.htm> (last updated Dec. 22, 2010).

¹³ *Green Building*, MINN. POLLUTION CONTROL AGENCY, <http://www.pca.state.mn.us/oea/greenbuilding/index.cfm> (last visited Jan. 3, 2011).

¹⁴ *Id.*; *Green Building: Basic Information*, *supra* note 12.

will hold “green building” to mean the design, construction, and planning of buildings that are safe and stable with a broader goal of the efficient use of national resources. For the purposes of this argument, green building and sustainable building will be treated as equal terms.

II. GREEN BUILDING AROUND THE WORLD

As noted earlier, green building to this point has been primarily a Western notion.¹⁵ Current green building regulations and efforts can be categorized into four main groups: those taking place on an international stage, those taking place in the United States, those taking place in Europe, and those now emerging in the developing world and other nations.¹⁶ Given the variety of green building systems to choose from, Iraq and Afghanistan could conceivably adopt one of them wholesale. The problem with doing so, however, is one common to many Western ideas that try to make their way into Arab and Asian nations: they are sometimes seen as foreign and culturally irrelevant.¹⁷ Iraq and Afghanistan need something organic that can take elements from their cultures to make green building a natural idea.¹⁸

A. *Green Building in the United States*

Green building efforts in the United States come from a variety of sources.¹⁹ Involvement occurs on the state and local government levels and at the federal level; it also includes nonprofit organizations.²⁰ Tracing the history of green building locates its origins in both the environmental movement that took place during the 1960s and 1970s, as well as change spurred by the oil crisis of the 1970s.²¹ Universities have been particularly amenable to green building, and a lot of progress in the field has been channeled

¹⁵ Bowyer, *supra* note 1.

¹⁶ See *infra* Parts II.A–D.

¹⁷ For a general discussion of the risks of exporting Western ideas, see Mark Rice-Oxley, *The American World: U.S. Culture's Dominance Is a Mixed Bag*, SEATTLE TIMES, Jan. 18, 2004, <http://community.seattletimes.nwsourc.com/archive/?date=20040118&slug=culture18>.

¹⁸ See *id.*

¹⁹ See *Green Building: Basic Information*, *supra* note 12.

²⁰ See, e.g., CALIFORNIA GREEN BUILDING INITIATIVE, CAL. EXEC. ORDER S-20-04 (Dec. 14, 2004), available at http://www.energy.ca.gov/greenbuilding/documents/executive_order_s-20-04.html; *Building Green*, OFFICE OF ENVTL. SUSTAINABILITY, CITY OF MILWAUKEE, <http://www.city.milwaukee.gov/BuildingGreen13216.htm> (last visited Jan. 1, 2011); *Welcome to USGBC*, U.S. GREEN BLDG. COUNCIL, <http://www.usgbc.org/> (last visited Jan. 1, 2011).

²¹ *Green Building: Basic Information*, *supra* note 12.

through academia.²² The U.S. Green Building Council (“USGBC”) uses Leadership in Energy and Environmental Design (“LEED”) as its certification mechanism.²³ USGBC has created different rating systems for a wide range of settings; for example, there are rating systems for new construction, schools, retail, and homes, among other types.²⁴

Iraq and Afghanistan, however, may not benefit as much from adopting the U.S. scheme. The three countries clearly have different histories; the environmental movements of the 1960s and 1970s in the United States and the later oil crises did not take place in and do not resonate with the other two nations.²⁵ As a result, the rationale for green building in Iraq and Afghanistan would not match up with the American system’s provenance.²⁶

B. *Green Building in Europe*

Europe finds itself currently at the forefront of green building efforts, even surpassing those of the United States in many ways.²⁷ While the U.S. had a lull in sustainable building interest in the 1980s due to questions about its profitability, Europe embraced and promoted green building techniques powered by a variety of architectural innovators.²⁸ Europe found substantial support on the supranational stage with cooperation between the European Union and national governments.²⁹ By the mid-1990s,

²² See Tiffany Hsu, *Colleges, Universities Take the Lead in Building Green*, L.A. TIMES, July 7, 2008, <http://www.latimes.com/news/local/la-me-ecocollege7-2008jul07,0,2908946.story>.

²³ *USGBC In the News: ‘Big Three’ Green Building Rating Tools to Be Aligned*, U.S. GREEN BLDG. COUNCIL (Mar. 3, 2009), <http://www.usgbc.org/News/USGBCInTheNewsDetails.aspx?ID=3993>.

²⁴ See generally *LEED Rating Systems*, U.S. GREEN BLDG. COUNCIL, <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=222> (last visited Jan. 1, 2011).

²⁵ While America in 1973 suffered through an oil crisis, the Iraqi government nationalized the oil companies in its territory. See *Saddam’s Rise to Power: 1979–1990*, CHI. TRIBUNE, <http://www.chicagotribune.com/news/nationworld/sns-iraq-history2,0,30269.story> (last visited Jan. 1, 2011). Afghanistan, likewise, was preoccupied with a military coup. See *Afghanistan: History*, MICH. STATE UNIV. GLOBAL EDGE, <http://globaledge.msu.edu/countries/history.asp?countryID=9®ionID=3> (last visited Jan. 1, 2011). For information on the American experience, see *The Seventies: Oil Urgency*, OAK RIDGE NAT’L LAB. (May 10, 1994), <http://www.ornl.gov/info/swords/seventies.html>.

²⁶ See *Saddam’s Rise to Power: 1979–1990*, *supra* note 25; MICH. STATE UNIV. GLOBAL EDGE, *supra* note 25; OAK RIDGE NAT’L LAB., *supra* note 25.

²⁷ Nicolai Ourousoff, *Why Are They Greener Than We Are?*, N.Y. TIMES, May 20, 2007, <http://www.nytimes.com/2007/05/20/magazine/20europe-t.html>.

²⁸ *Id.*

²⁹ *Id.*

Europe had new construction energy requirements in place.³⁰ During an interview with CNN in October 2007, urban ecologist Herbert Girardet noted the passage of legislation requiring new construction in the United Kingdom to be carbon-neutral by 2016 and legislation strengthening green architecture in Germany.³¹ Girardet acknowledged the importance of the climate change discussion to legislative solutions, asserting that “a tsunami of change is coming.”³²

Iraq and Afghanistan, though, may want to take a step back from Europe's storm. Europe benefits from the presence of a supranational entity in the European Union.³³ Iraq and Afghanistan do not share that benefit because their respective parts of the Middle East and Asia do not have a comprehensive regional entity like the European Union.³⁴ The international framework set up by the European Union works because of the strength of its institutions and its breadth: it can address issues ranging from security to human rights in ways that Iraq and Afghanistan currently cannot.³⁵

C. *Green Building in Other Nations*

Other nations are beginning to make inroads into green building as well. In India, those living in urban areas are beginning to invest in solar water heating systems.³⁶ Hyderabad, India was the home of the building with the world's highest LEED platinum rating as of August 2004.³⁷ Mexico has included environmental sustainability in its National

³⁰ *Id.*

³¹ Michelle Jana Chan, *Building the Future*, CNN (Oct. 31, 2007), <http://edition.cnn.com/2007/TECH/10/31/fs.greenbuild/>.

³² *Id.*

³³ See generally EUROPA: GATEWAY TO THE EUROPEAN UNION, http://europa.eu/index_en.htm (last visited Jan. 1, 2011) (providing links to websites showing benefits of membership in the European Union).

³⁴ Author Gavin Cawthra does not see good prospects for one either. See CHARLES GRAYBOW & DAVID O'BRIEN, CTR. ON INT'L COOPERATION, REVIEW OF RESEARCH: REGIONAL ORGANIZATIONS AND THEIR ROLES IN PEACE AND SECURITY, HUMANITARIAN ASSISTANCE, HUMAN RIGHTS, AND DEMOCRACY PROMOTION 11 (2000), available at http://www.cic.nyu.edu/archive/pdf/Review_of_Research.pdf (citing Cawthra in their report).

³⁵ See *id.* at 8–9, 11, 14, and 22 for a discussion of how those issues are confronted differently by Europe and the Middle East.

³⁶ See WILLIAM CHANDLER ET AL., PEW CTR. ON GLOBAL CLIMATE CHANGE, CLIMATE CHANGE MITIGATION IN DEVELOPING COUNTRIES 25 (2002), available at http://www.pewclimate.org/docUploads/dev_mitigation.pdf.

³⁷ Barnaby J. Feder, *Environmentally Conscious Developers Try to Turn Green into Platinum*, N.Y. TIMES, Aug. 25, 2004, at C5.

Development Plan for 2007–2012, although green building is not directly mentioned.³⁸ South Africa began providing free electricity to many of its impoverished citizens to prevent tree cutting and the use of more polluting power sources in the early 2000s.³⁹ South Africa also began setting up commercial energy regulations during the same time period.⁴⁰ Turkey began issuing environmental conservation regulations in the mid-1990s.⁴¹ The United Nations Development Programme began sponsoring promotion of and grants for straw bale construction technology in Lithuania in 2006.⁴² Other nations are developing their own green building standards, including Japan's CASBEE and Canada's own version of LEED.⁴³

D. *Green Building Internationally*

Green building policies have also come into existence on the international level. For example, the United Nations Development Programme ("UNDP") included environmental sustainability as one of its Millennium Development Goals ("MDGs").⁴⁴ In November 1999, representatives of eight nations' green building programs met in California to form the World Green Building Council ("WorldGBC"),⁴⁵ entrusting it with objectives like endeavoring to "[e]nsure [Green Building Councils] are successful and have the tools necessary to advance" and "[s]tand as the premier international voice for green building design and development."⁴⁶ Its functions include

³⁸ See COMM'N FOR ENVTL. COOPERATION OF NORTH AMERICA, GREEN BUILDING IN NORTH AMERICA: PAPER 3A: INSTITUTIONAL EFFORTS FOR GREEN BUILDING: THE CASE OF MEXICO, CENTRO MARIO MOLINA 5, http://www.cec.org/files/PDF/GBPaper3a_en.pdf (last visited Jan. 1, 2011). The authors note, however, that Mexico still needs to officially establish green building in its national plan and work to encourage local green planning as well. *Id.* at 7.

³⁹ See CHANDLER ET AL., *supra* note 36, at 37.

⁴⁰ See *id.* at 38.

⁴¹ See *id.* at 48.

⁴² Promotion of Straw Buildings' Construction for the Climate Change Mitigation, GEF Small Grants Programme (2006), http://sgp.undp.org/web/projects/10680/promotion_of_straw_buildings%E2%80%9999_construction_for_the_climate_change_mitigation.html.

⁴³ See JENS LAUSTSEN, INT'L ENERGY AGENCY EFFICIENCY REQUIREMENTS IN BUILDING CODES, ENERGY EFFICIENCY POLICIES FOR NEW BUILDINGS 73 (Mar. 2008), available at http://www.iea.org/g8/2008/Building_Codes.pdf.

⁴⁴ See *About the MDGs: Basics*, U.N. DEV. PROGRAMME, <http://www.undp.org/mdg/basics.shtml> (last visited Jan. 1, 2011).

⁴⁵ See *History of World GBC*, WORLD GREEN BLDG. COUNCIL, <http://www.worldgbc.org/about-worldgbc/who-we-are/history> (last visited Jan. 1, 2011). The nations represented were the United States, Australia, Spain, the United Kingdom, Japan, the United Arab Emirates, Russia, and Canada. *Id.*

⁴⁶ *The Singapore Green Building Council Attains World Green Building Council-Established Member Status and Wins World GBC International Congress Hosting Rights*, FIVEFOOTWAY (Mar. 20, 2010), <http://www.fivefootway.com/2010/03/20/the-singapore>

coordinating the national groups and providing a common connection for information.⁴⁷ Another international institution, the International Energy Agency (“IEA”), has issued building energy efficiency requirements for both new buildings and building codes.⁴⁸

Some international agreements speak directly to the situations in Iraq and Afghanistan. The international community affirmed a commitment to Iraq’s environmental well-being via sustainable development through U.N. Security Council Resolution 1483, ¶ 8(e), which makes a Special Representative for Iraq responsible for reporting on U.N. activities related to sustainable development.⁴⁹ For Afghanistan’s situation, the international community has worked to apply its MDGs for sustainable development.⁵⁰

The international solutions may be more accessible to Iraq and Afghanistan than the individual national ones. The WorldGBC had a signee from an Arab nation (the United Arab Emirates), providing at least some representation from the Middle East/southwestern Asia region.⁵¹ The specific actions directed at Iraq and Afghanistan mentioned previously can be tailored especially for their environments and needs, something that would be more difficult if the two nations sought to import another country’s green building system.⁵²

While this may offer some initial hope for green building in these two nations, the international community’s statements and overtures are severely limited. The Security Council’s resolution was not drafted for reasons of green building; it was a general call for aid from member nations to help Iraq rebuild.⁵³ Smaller measures, like those described in Lithuania but localized to Iraqi and Afghani resources, involving training and some help from an international organization, may prove to be a better first step because of their accessibility to the average citizen.⁵⁴

-green-building-council-attains-world-green-building-council-established-member-status-and-wins-world-gbc-international-congress-hosting-rights/.

⁴⁷ See LAUSTSEN, *supra* note 43, at 73.

⁴⁸ See generally LAUSTSEN, *supra* note 43 (discussing the IEA studying and recommending requirements).

⁴⁹ S.C. Res. 1483, ¶ 8(e), U.N. DOC. S/RES/1483 (May 22, 2003).

⁵⁰ See *Millennium Development Goals in Afghanistan*, U.N. DEV. PROGRAMME, <http://www.undp.org.af/MDGs/index.htm> (last visited Jan. 1, 2011).

⁵¹ See *History of World GBC*, *supra* note 45.

⁵² See generally S.C. Res. 1483, *supra* note 49; *Millennium Development Goals in Afghanistan*, *supra* note 50.

⁵³ See S.C. Res. 1483, *supra* note 49.

⁵⁴ See generally GEF SMALL GRANTS PROGRAMME, *supra* note 42. Other nations in the region soon joined in the successes of Lithuania, a blueprint that may be useful in an area like the Middle East in combining resources. See *id.*

III. THE CURRENT LANDSCAPE OF GREEN BUILDING IN IRAQ AND AFGHANISTAN

Green building policies in Iraq and Afghanistan are few and far between, if not nonexistent.⁵⁵ In Iraq, one former soldier and Newsweek contributor, David Botti, noted that “[a]t the time of the U.S. invasion of Iraq in 2003 the country had no system of environmental regulations or laws.”⁵⁶ Exacerbating the problem was the conduct of U.S. troops in Iraq and Afghanistan, as noted in a report by the RAND Corporation commissioned by the Army Environmental Policy Institute (“AEPI”).⁵⁷ Environmentally unsafe conduct by U.S. soldiers stationed in Iraq and Afghanistan included dumping waste and hazardous materials, spilling fuel into a lake used for drinking water, and improperly disposing of items like batteries and insecticides.⁵⁸ Other than the obvious environmental problems these activities cause, the RAND report notes yet another dimension: “[p]oor U.S. environmental practices in host nations in the region that support U.S. forces can cause diplomatic problems that affect operations.”⁵⁹ The report cited earlier diplomatic issues in Japan and Germany, resulting in restricted access for U.S. military personnel, as examples of how the problem could worsen if left to its own devices.⁶⁰ The report recommended that military leaders install an “environmental ethic” in the Army to avoid future complications and damage to the host country’s environment.⁶¹

Green building has been established in the Western world, including the United States.⁶² Because, however, Iraq and Afghanistan have limited experience in dealing with environmental issues like green building, how the U.S. Army handles environmental concerns may be the first impression that leaders and citizens of these countries get regarding those

⁵⁵ David Botti, *The Challenge [sic] of Making Iraq and Afghanistan Battlefields “Green,”* SOLDIER’S HOME BLOG—NEWSWEEK (Oct. 3, 2008, 11:37 EST) <http://blog.newsweek.com/blogs/soldiershome/archive/2008/10/03/the-challenge-of-making-iraq-and-afghanistan-battlefields-green.aspx>.

⁵⁶ *Id.*

⁵⁷ *See id.*, citing DAVID E. MOSHER ET AL., GREEN WARRIORS: ARMY ENVIRONMENTAL CONSIDERATIONS FOR CONTINGENCY OPERATIONS FROM PLANNING THROUGH POST-CONFLICT, RAND CORP., 193, 195, 197, 201, 202 (2008), available at http://www.rand.org/pubs/monographs/2008/RAND_MG632.pdf.

⁵⁸ *See Botti, supra* note 55.

⁵⁹ *Id.*

⁶⁰ *See id.*

⁶¹ *See id.*

⁶² *See Bowyer, supra* note 1, at 7.

practices.⁶³ Green building policies may be one way that the U.S. Army can build the “environmental ethic” that the RAND report recommended, at least in terms of conserving and reusing resources.⁶⁴

A. *Possible Regional Models*

As noted earlier, there is at least some Arab/Middle Eastern/southwestern Asian presence in international green building policymaking; the United Arab Emirates (“U.A.E.”) was one of the founding members of the World GBC.⁶⁵ The U.A.E. has been an innovator in green building in the region⁶⁶ as other nations in the Middle East have begun to see the significance and usefulness of sustainable construction.⁶⁷ Given the rapidly expanding business construction environment in the U.A.E.,⁶⁸ many environmental initiatives have focused on corporate responsibility as their centerpiece, combining campaigns of multinational corporations with governmental efforts and the creation of new nonprofit organizations and/or nongovernmental organizations (“NGOs”).⁶⁹

⁶³ See Botti, *supra* note 55. For more on how some parts of the U.S. military address environmental issues, see generally Anne L. Burman & Teresa K. Hollingsworth, *JAGs Deployed: Environmental Law Issues*, 42 A.F. L. REV. 19 (1997) (describing the Air Force Environmental Quality Program).

⁶⁴ See Botti, *supra* note 55. The RAND report explains that high base camp resource use has an impact on the logistics system necessary to support it; thus, reducing energy needs “can reduce the logistical burdens of an operation.” *Id.*

⁶⁵ See *History of World GBC*, *supra* note 45.

⁶⁶ See *First “LEED” Platinum Rated Green Building, in the Middle East, Inaugurated in Dubai*, MOTOR TREND AUTO NEWSWIRE (Oct. 25, 2007), <http://www.motortrend.com/features/newswire/32070/index.html>. The chairman of the company who will use the first platinum rated building in the Middle East, Pacific Controls, noted his company’s “commitment to the U.A.E. government’s drive towards achieving sustainable development in the region,” suggesting a greater environmental culture and advocacy at work within the national government. *Id.* Pacific Controls has also promoted other efforts in the field on the corporate end, including introducing technology-based products to limit energy consumption. See Press Release, Pacific Controls, Pacific Controls Launches Smart Energy Meters (Oct. 13, 2009), available at <http://finance.yahoo.com/news/Pacific-Controls-Launches-prnews-3958492824.html?x=0&.v=41>.

⁶⁷ See, e.g., Orlando Crowcroft, *The Middle East’s Five Best Green Buildings*, CONSTRUCTION WEEKONLINE (June 2, 2010), <http://www.constructionweekonline.com/article-8517-the-middle-east-s-five-best-green-buildings/> (listing green buildings in the Middle East).

⁶⁸ See *United Arab Emirates Country Profile*, BBC NEWS, http://news.bbc.co.uk/2/hi/middle_east/country_profiles/737620.stm (last visited Jan. 1, 2011).

⁶⁹ See, e.g., *Dow Supports the Emirates Environmental Group’s 2008 “Green” Activities*, DOW CHEM. CO. (Mar. 31, 2008), <http://www.dow.com/imea/me/news/2008/20080407.htm> (acknowledging Dow Chemical’s participation and founding member status in the Emirates Environmental Group (EEG), an NGO based in the U.A.E.).

Green Building Councils are also in development in four other nations in the region: Israel, Jordan, Qatar, and Saudi Arabia.⁷⁰ While these emerging entities show promise for the future of green building in the region, they are still in their initial stages because they are in development.⁷¹ It is also important not to equate World GBC membership as the end process of successful green building; while membership is certainly useful for its information-sharing and other functions, being a part of the WorldGBC does not guarantee green building success, nor is it the only avenue of achieving it.⁷²

IV. EFFICIENCY OF USE

One of the stigmas that follows green building in many places, and one that bears a direct impact on Iraq and Afghanistan given their current situations, is that green building is far too expensive.⁷³ A recent study by the World Business Council for Sustainable Development (“WBCSD”) discovered that those surveyed in the real estate and construction industries overestimated the costs of building green.⁷⁴ The WBCSD asserts that the actual costs above standard construction are estimated to be five percent, while those surveyed offered seventeen percent more as the expense required.⁷⁵ Correcting the misconception that green building is pricey may make its use far more widespread and accessible to many more people and cultures.⁷⁶

⁷⁰ *GBC Directory*, WORLD GREEN BLDG. COUNCIL, <http://www.worldgbc.org/green-building-councils/gbc-directory> (last visited Jan. 1, 2011). Qatar has also made initial ventures into green building laws, at least in relation to oil and gas production. See *A “Green” Home for Oil and Gas*, CNN (June 2, 2008), http://www.cnn.com/2008/TECH/science/06/02/emadi.doha/?section=cnn_latest.

⁷¹ *GBC Directory*, *supra* note 70.

⁷² See *infra* Part VII (discussing obstacles to, and solutions for the promotion of green building in Iraq and Afghanistan). In addition to achieving international recognition, the efforts in the Middle Eastern countries mentioned should work on providing a good national and local foundation. Green building gains strength from national and local efforts to support the international efforts. See, e.g., COMM’N FOR ENVTL. COOPERATION OF NORTH AMERICA, *supra* note 38. Also of note are California’s various plans listed *supra* note 20.

⁷³ Rob Fanjoy, *Busted! Eight Green-Building Myths*, HGTV PRO, http://www.hgtvpro.com/hpro/nws_ind_nws_trends/article/0,2624,HPRO_26519_4953809,00.htm/ (last visited Jan. 1, 2011).

⁷⁴ See *Global Survey Shows “Green” Construction Costs Dramatically Lower Than Believed*, WORLD BUS. COUNCIL FOR SUSTAINABLE DEV. (Aug. 21, 2007), available at <http://www.wbcsd.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=MjU5MTM>.

⁷⁵ *Id.*

⁷⁶ See *id.*

Another important advantage that green construction may hold for Iraq and Afghanistan is resource conservation. The Middle Eastern and Asian regions to which the two countries belong suffer from a shortage of water.⁷⁷ Green building can be utilized to regulate water usage much more efficiently, making the management of Iraq's and Afghanistan's scarce water supply more feasible.⁷⁸ It may also be a valuable way to include other members of the region in cooperative efforts aimed at green building, or it may help to at least begin the conversation, given that the nations face a similar problem.⁷⁹

The water shortage issue also presents another reason for distinguishing the American model from one that would best suit the needs of Iraq and Afghanistan. The United States does not have a similar history of water shortage on the scale that these two countries now face.⁸⁰ While the western areas of the United States must work to conserve water resources, the region has had the benefit of a supportive federal government addressing those concerns through institutions like the Bureau of Reclamation.⁸¹ As a result, American policies may not have the urgency that would be apparent in a model developed organically in the Middle East.⁸² Green development policies in the U.A.E. may provide a closer guide for Iraq and Afghanistan due to the U.A.E.'s limited water availability and shared suffering of a water shortage.⁸³

⁷⁷ See U.N. DEV. PROGRAMME, HUMAN DEVELOPMENT REPORT 2006: WATER SCARCITY CHALLENGES IN THE MIDDLE EAST AND NORTH AFRICA (MENA) 3, U.N. Doc. DP/2006/31 (2006) (Håkan Tropp & Anders Jägerskog) [hereinafter HUMAN DEVELOPMENT REPORT 2006], available at <http://hdr.undp.org/en/reports/global/hdr2006/papers/siwi2.pdf>; *Afghanistan Water, Agriculture, and Technology Transfer Project (AWATT)*, USAID, <http://afghanistan.usaid.gov/en/Activity.110.aspx> (last visited Jan. 2, 2011).

⁷⁸ See *WaterSense*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/watersense/index.html> (last visited Jan. 2, 2011), for examples of and reasons behind the efficient management of water resources in the United States.

⁷⁹ HUMAN DEVELOPMENT REPORT 2006, *supra* note 77, at 4; USAID, *supra* note 77.

⁸⁰ See *The National Water-Use Information Program*, U.S. GEOLOGICAL SURVEY, <http://water.usgs.gov/watuse/wufactsheet.html> (last visited Jan. 3, 2011) (noting the "abundant water sources" available to the United States).

⁸¹ See MARCA WEINBERG, ET AL., CONG. BUDGET OFFICE, WATER USE CONFLICTS IN THE WEST: IMPLICATIONS OF REFORMING THE BUREAU OF RECLAMATION'S WATER SUPPLY POLICIES 1 (1997), available at <http://www.cbo.gov/ftpdocs/0xx/doc46/wateruse.pdf>.

⁸² See generally U.S. GEOLOGICAL SURVEY, *supra* note 80 (describing how the U.S. has an abundance of resources which, although they need to be conserved, are not as of yet in short supply).

⁸³ HUMAN DEVELOPMENT REPORT 2006, *supra* note 77, at 4.

V. GREEN BUILDING AND NATURAL DISASTERS

A useful, though admittedly imperfect, analogy to the devastation of war found today in Iraq and Afghanistan is visible in the destruction following natural disasters. Both can involve large-scale rebuilding projects, and both clearly involve a strong emotional response.⁸⁴ While the sources may be different, it is the challenge of reemerging from devastation that remains the same.

One possible advantage in the dark days following a natural disaster, however, is the chance to begin anew. The residents of Greensburg, Kansas, salvaged this opportunity out of the aftermath of a tornado on May 4, 2007 which damaged ninety percent of the town.⁸⁵ Greensburg decided to rebuild as a green community, aiming for LEED's highest certification, platinum, in its structures.⁸⁶ Town leaders also recognized one of green building's added benefits: green jobs, the addition of which could help reduce flight from the town by the younger generations.⁸⁷ The city hopes to have one hundred percent renewable energy, aided considerably by the construction of wind turbines, and the eventual creation of a biodiesel facility.⁸⁸ Local businessman Mike Estes saw green building as a financial solution rather than a must-have trend, stating that "[w]e're looking at saving money here . . . [w]e're running a business. If we can't make this make sense, why would we do it?"⁸⁹

The lessons learned by the townspeople of Greensburg, Kansas, are many: green building can lead to job growth and financial prosperity—with the added benefit of becoming a guiding light for other parts of the world.⁹⁰

Another location that has found some solace in sustainable building practices is post-Hurricane Katrina New Orleans. In the aftermath of billions of dollars of damage, New Orleans has set a new course with a variety of green improvements.⁹¹

⁸⁴ See, e.g., *Hurricane Katrina and Its Aftermath*, USA TODAY, Mar. 4, 2009, <http://www.usatoday.com/news/nation/katrina-coverage.htm>.

⁸⁵ Marsha Walton, *In Wake of Twister, Kansas Town Is Rebuilding Green*, CNN (May 2, 2008), <http://www.cnn.com/2008/TECH/05/02/greensburg.green/index.html>.

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ Walton, *supra* note 85.

⁹¹ See Husna Haq, *New Orleans in the Forefront of a Green Building Revolution*, CHRISTIAN SCI. MONITOR (Nov. 4, 2009), <http://features.csmonitor.com/environment/2009/11/04/new-orleans-in-the-forefront-of-a-green-building-revolution/>. For more on New Orleans's experiences with environmental justice following Hurricane Katrina, see Janell Smith &

The involvement of community and nonprofit leaders has spurred green building initiatives in New Orleans.⁹² Programs like the Holy Cross sustainable neighborhood project, biodiesel buses, and LED stoplights, aim to make sustainability available to everyone in New Orleans instead of a select few,⁹³ while plans for green schools, green home rebuilding, and green waste management practices will further those purposes.⁹⁴ With these new innovations, New Orleans hopes to serve as a model for other cities stricken with disaster.⁹⁵

Sustainable rebuilding does not have to be an event isolated to recovering Western nations, however. Indonesia experienced terrible destruction at the hands of a tsunami that had the energy equivalent of 23,000 atomic bombs.⁹⁶ Officials reported 130,000 fatalities, damage estimates of \$4.5 billion, and recovery estimates of \$5.1 billion.⁹⁷ From this devastation, though, many Indonesians sought a new start where they could improve upon what they had before the tsunami.⁹⁸ After the disaster, many realized that using sustainable fisheries, timber materials, and agriculture may help avert greater catastrophe if something of the tsunami's magnitude happens again.⁹⁹ Advancing sustainable development guidelines for the region became one of the important ways through which the international community stepped forward to guide Indonesia's green rebuilding attempts.¹⁰⁰

Rachel Spector, *Environmental Justice, Community Empowerment and the Role of Lawyers in Post-Katrina New Orleans*, 10 N.Y. CITY L. REV. 277, 294 (2006).

⁹² Haq, *supra* note 91.

⁹³ *Id.*

⁹⁴ *Id.* The Holy Cross neighborhood, in the Lower Ninth Ward of New Orleans, will serve lower-income residents; this may provide an "element of justice" in making such innovations affordable, according to Matt Peterson, CEO of the environmental nonprofit Global Green. *Id.*

⁹⁵ *Id.*

⁹⁶ *The Deadliest Tsunami in History?*, NAT'L GEOGRAPHIC NEWS, http://news.nationalgeographic.com/news/2004/12/1227_041226_tsunami.html (last updated Jan. 7, 2005).

⁹⁷ *Rebuilding in Many Aceh Communities Has Meant Starting from Scratch*, UNDP TSUNAMI RECOVERY, U.N. DEV. PROGRAMME, <http://web.archive.org/web/20070611175359/http://www.undp.org/tsunami/indonesia.htm> (accessed by searching for UNDP Tsunami Recovery in the Internet Archive index) (last visited Jan. 2, 2010).

⁹⁸ See Press Release, World Wildlife Foundation, One Year After the Tsunami: Building Back the Right Way (Dec. 15, 2005), *available at* <http://www.worldwildlife.org/who/media/press/2005/WWFPresitem823.html>.

⁹⁹ *Id.*

¹⁰⁰ See U.N. ENV'T PROGRAMME, SUSTAINABLE BUILDINGS & CONSTRUCTION INITIATIVE, AFTER THE TSUNAMI: SUSTAINABLE BUILDING GUIDELINES FOR SOUTH-EAST ASIA 6 (2007), *available at* http://postconflict.unep.ch/publications/dmb_bb_tsunami.pdf.

Before improvements like those implemented in places like Greensburg, New Orleans, and Indonesia can be considered however, Iraq and Afghanistan must make efforts to shore up internal failures.¹⁰¹ Corruption is a major problem in both countries. Both Iraq and Afghanistan rank in the bottom five (between 176 and 180) in the November 2009 Corruption Perceptions Index produced by Transparency International.¹⁰² Transparency International's director of policy and research noted in an interview with the Associated Press that nations achieve improvement when "citizens believe that they have a government that works for them."¹⁰³ The study also asserts that Iraq suffers from inadequate "non-security institutions" and structural problems.¹⁰⁴

Policymakers seeking to draw conclusions from these efforts should keep in mind a primary concern that happens with distributing aid, ensuring that the people who are in need are the ones actually served by these policies.¹⁰⁵ In Greensburg, Kansas, it would not be so helpful if only the mayor's office was redesigned for green use; in New Orleans, it would be a waste to see only the government buildings and old-style mansions renovated for more efficient use. Similarly, the beneficial effects of green building as defined here would be wasted if the people of Afghanistan and Iraq would not be seeing those returns.

Removing corruption, then, is an important step either before or in conjunction with other improvements like green building.¹⁰⁶ Eliminating corruption, however, is not something that can be done overnight; it is a slow process predicated on strengthening internal mechanisms and institutions.¹⁰⁷ The advantage here of cooperation between Iraq and Afghanistan is that, because both are facing the persistent and difficult problem of corruption, they can both be patient in finding a common solution and in

¹⁰¹ See *infra* notes 102–109 and accompanying text (discussing the problems that corruption in Iraq and Afghanistan pose for the green-building agenda).

¹⁰² Kirsten Grieshaber, *Afghanistan Slips in Corruption Index Despite Aid*, ABCNEWS (Nov. 17, 2009), <http://abcnews.go.com/print?id=9103042>.

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ Changes to the U.S. aid program with North Korea are an excellent example. See Susan Cornwell, *U.S. to Give North Korea 500,000 Tonnes of Food Aid*, REUTERS (May 16, 2008), <http://www.reuters.com/article/idUSWAT00949720080516>.

¹⁰⁶ Some argue, though, that the corruption concern has been overstated. For another perspective on Afghan corruption, namely that of the Afghan government, see Sayed Salahuddin, *Afghanistan Hits Back at Western Critics Over Aid*, REUTERS (Feb. 1, 2009), http://www.reuters.com/article/idUSISL67553_CH_2400.

¹⁰⁷ Shantayanan Devarajan, *Aid and Corruption*, AFRICA CAN . . . END POVERTY (Nov. 19, 2009, 09:42 GMT), <http://blogs.worldbank.org/africacan/aid-and-corruption>.

building up their institutions together.¹⁰⁸ Similarly, green building may address a lot of the same needs in both countries and could provide a unique opportunity for fixing corruption and improving efficiency.¹⁰⁹

VI. GREEN BUILDING IS MEANINGFUL

The importance of having sound environmental law and policy has not gone completely unnoticed in Afghanistan, nor has it in Iraq, even though the current body of green building laws is lacking.¹¹⁰ In 2006, the Afghan government formed legislation thought to be the first lawmaking attempt at ecology and conservation in Afghanistan.¹¹¹ Likewise, Iraq has made national efforts in areas like ozone protection,¹¹² and the international community has been heavily involved with other environmental issues.¹¹³

The concern naturally arises as to what all of this means in a broader context. Countries like China and India are rapidly industrializing, often at the expense of their own environments.¹¹⁴ China is projected to have more cars on its roads by 2020 than the United States.¹¹⁵ India has many problems with its electrical grid, in both transmission and production of energy.¹¹⁶ India and China are projected to have over three billion people

¹⁰⁸ Grieshaber, *supra* note 102.

¹⁰⁹ Climate change could present a unique development opportunity for many African nations—they are the ones potentially most harmed by climate change (similar to how Iraq and Afghanistan are feeling some of the worst of armed conflict's effects). See Shantayanan Devarajan, *Climate Change as a Development Opportunity*, AFRICA CAN . . . END POVERTY (Dec. 7, 2009, 16:40 GMT), <http://blogs.worldbank.org/africacan/climate-change-as-a-development-opportunity>.

¹¹⁰ Botti, *supra* note 55.

¹¹¹ Press Release, Environment Programme, Environmental Legislation Comes of Age in Afghanistan, U.N. Press Release 2005/61 (Jan. 3, 2006), <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=466&ArticleID=5100&1=en>. Afghanistan has also become involved with the Energy Charter Treaty. See Edna Sussman, *The Energy Charter Treaty's Investor Protection Provisions: Potential to Foster Solutions to Global Warming and Promote Sustainable Development*, 14 ILSA J. INT'L & COMP. L. 391, 398 (2008).

¹¹² See Press Release, Environment Programme, Iraq Moves Forward on Ozone Protection, U.N. Press Release (July 10, 2009), <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=593&ArticleID=6252&1=en>.

¹¹³ See Press Release, Environment Programme, UNEP Outlines Strategy for Protecting People and the Environment in Post-War Iraq, U.N. Press Release (Apr. 24, 2003), <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=309&ArticleID=3965>.

¹¹⁴ See Paul Maidment, *Pollution and Prosperity*, FORBES (Nov. 27, 2006), http://www.forbes.com/2006/11/27/china-india-energy-biz-energy-cx_pm_1127energy.html; Paul Maidment, *India's Powerful Dilemma*, FORBES (Nov. 28, 2006), http://www.forbes.com/2006/11/28/india-energy-environment-biz-cx_pm_1128indiaenergy.html?partner=links.

¹¹⁵ See *Pollution and Prosperity*, *supra* note 114.

¹¹⁶ See *India's Powerful Dilemma*, *supra* note 114.

combined by 2050.¹¹⁷ Given the sheer increase in the use of resources and levels of pollution in these two nations,¹¹⁸ it is reasonable to wonder whether smaller countries like Iraq and Afghanistan should be focusing their few resources on improving a global entity like the environment.

Iraq and Afghanistan, however, have at least three incentives for adopting green building laws and policies. First, green building systems will allow Iraq and Afghanistan to make better use of their scarce resources,¹¹⁹ and may help safeguard other nations from the loss of their own resources through climate change.¹²⁰ Second, green building may help these countries become more economically competitive.¹²¹ Lastly, green building policies can help make these countries more stable and secure for their citizens by reinforcing national security.¹²²

First off, part of the answer comes from efficiently using resources. Better managing scarce resources can obviously benefit Afghanistan and Iraq, so there is an internal gain, even if the global environment falters due to increased resource use in China and India.¹²³ Perception is also an issue; the environmental impact of smaller local or national actions is also often difficult to see.¹²⁴

Iraq and Afghanistan must also realize that environmental damage is not limited to larger nations like India and China. Smaller nations are seriously at risk from the comprehensive effects of climate change.¹²⁵ In addition to practical concerns, there is the global picture to consider.

¹¹⁷ *World Population Projected to Reach 7 Billion by 2011*, CNN (Aug. 12, 2009), http://articles.cnn.com/2009-08-12/tech/world.population_1_fertility-rates-world-population-data-sheet-population-reference-bureau?_s=PM:TECH.

¹¹⁸ See *Pollution and Prosperity*, *supra* note 114; *India's Powerful Dilemma*, *supra* note 114.

¹¹⁹ See *Green Building Resource Center*, OAKLAND PUBLIC WORKS, CITY OF OAKLAND, <http://www.oaklandpw.com/page273.aspx> (last visited Jan. 2, 2011).

¹²⁰ See Press Release, General Assembly, Small Island Countries Say Climate Change Already Threatens 'Very Existence'; Urge Immediate Aid to Vulnerable States, in General Assembly Debate, U.N. Press Release GA/10689 (Feb. 12, 2008), *available at* <http://www.un.org/News/Press/docs/2008/ga10689.doc.htm> (describing how climate change threatens resources of developing countries).

¹²¹ See Jennifer Crawford et al., *Benefits of Going Green*, EDA AMERICA (Econ. Dev. Admin., U.S. Dep't of Commerce, Washington, D.C.), Summer 2008, at 3, *available at* <http://www.eda.gov/PDF/EDAamericaSummer2008.pdf>.

¹²² See U.S. GREEN BLDG. COUNCIL, *BUILDING MOMENTUM: NATIONAL TRENDS AND PROSPECTS FOR HIGH-PERFORMANCE GREEN BUILDINGS 11* (2003) [hereinafter *BUILDING MOMENTUM*], *available at* http://www.usgbc.org/Docs/Resources/043003_hpgb_whitepaper.pdf.

¹²³ See *supra* Part IV.

¹²⁴ See, e.g., TUFTS FOOD AWARENESS PROJECT, <http://www.tufts.edu/~eco/tfap/tfap.html> (last visited Jan. 2, 2011) (describing the environmental impact of using locally grown food rather than imported food).

¹²⁵ See U.N. Press Release GA/10689, *supra* note 120, at 1.

Green building may also help improve the competitiveness of a national economy in the long run. Corporations and other businesses could reap both economic gains, like reduced energy usage and lower insurance rates, and non-economic gains, like improving employee quality of life, from green building laws.¹²⁶ Green building does not need to be a government edict forced down upon reluctant businesses; instead, it can be something welcomed by a corporate world that seeks to reduce costs and improve worker productivity.¹²⁷ For Iraq and Afghanistan, these factors make green building appealing regardless of whether there is a net gain in climate change worldwide.

Lastly, green building could improve national security in two nations that have seen very little of it in recent times. Invasions and insurgency have been commonplace in Iraq and Afghanistan for some time now.¹²⁸ It would be exceedingly optimistic to think that, even if Afghanistan and Iraq do successfully rebuild, they will never face armed conflict, either from external sources or internal ones, again. The tumultuous history of the Middle East, combined with specific conflicts prone to reemerge, makes further instability a strong possibility.¹²⁹

Officials in the United States have established green building as a matter of national security, pointing to reliance on fossil fuels as a potential weakness to American economic independence and self-sufficiency.¹³⁰ While that might not be a concern shared in Iraq and Afghanistan given their proximity to the Middle East's oil reserves,¹³¹ other national security benefits are available. For example, modern industries and businesses obviously depend upon a source of energy for their operations; in a time of crisis, it is important for that source to still be available so that the economy can continue to be productive.¹³² Some green building scholars believe having more sustainable energy sources located on-site lessens the chance of service being interrupted during a disaster.¹³³ The military forces of

¹²⁶ Crawford et al., *supra* note 121, at 3.

¹²⁷ *See id.*

¹²⁸ See generally *Afghanistan Country Profile*, *supra* note 2 and *Iraq Country Profile*, *supra* note 2 for a brief discussion of the two countries' war-torn past and present.

¹²⁹ See *Afghanistan Country Profile*, *supra* note 2; *Iraq Country Profile*, *supra* note 2; see, e.g., *Iraq Protests at Turkish Shelling of N. Iraq*, REUTERS (July 19, 2007), <http://www.reuters.com/article/idUSL19225589> (noting Turkish armed involvement with the Kurdistan semi-autonomous region in Iraq).

¹³⁰ See BUILDING MOMENTUM, *supra* note 122, at 11.

¹³¹ See Bright E. Okogu, *Middle East to Dominate World Oil for Many Years*, IMF Fin. and Dev. (Mar. 2003), <http://www.imf.org/external/pubs/ft/fandd/2003/03/okog.htm>.

¹³² See BUILDING MOMENTUM, *supra* note 122, at 11.

¹³³ *Id.*

these two countries may also benefit from conducting operations far more efficiently, with less exposure to risk from insurgents and others targeting their fuel supplies.¹³⁴

VII. IMPLEMENTING GREEN BUILDING LAWS

Extensive problems with corruption and lack of internal structures have already been discussed as barriers to providing green building regulations.¹³⁵ Other obstacles remain, however, even after successfully completing the challenging task of overcoming these concerns. Many of the green building initiatives in the United States and in the Western world began on the local level.¹³⁶ City and state governments have taken account of their individual interests and difficulties, serving as testing grounds for laws that meet their own needs.¹³⁷

Iraq and Afghanistan, however, are not yet at a stage where these ideas can be adequately developed on the local level, as seen through American funding efforts to increase the role of the local government in everything from basic stabilization to eliminating drug trafficking.¹³⁸ Local government has recently been focused on restoring essential services to citizens.¹³⁹ With local and provincial governments showing much stronger returns in responding to citizens' needs (at least in Iraq), however, local governments may be ready to begin considering new responsibilities, like promoting economic growth and favoring policies that best use local resources.¹⁴⁰ One possible way to incentivize green building policies to the provincial or local official, and make it more appealing for him or her to use Iraq's still fragile framework to build energy efficiency, is to demonstrate that the improvements are tangibly related to making life better in that province.¹⁴¹

¹³⁴ For an argument in favor of the United States following a similar policy, see Alexandra Zavis, *Military Embraces Green Energy, For National Security Reasons*, L.A. TIMES, Apr. 26, 2009, available at <http://articles.latimes.com/2009/apr/26/local/me-army-green26>.

¹³⁵ See Part V, *supra*.

¹³⁶ See Lisa Wing Stone, *Green Building Laws*, ENVTL. TRANSACTIONS AND BROWNFIELDS COMM. NEWSLETTER (ABA, Chicago, IL), July 2008, at 1, available at http://www.abanet.org/environ/committees/envtab/newsletter/july08/ETAB_July08.pdf.

¹³⁷ See *id.*

¹³⁸ See Mary Dalrymple, *House Aid Package Cuts Iraq, Afghan Funds*, ASSOCIATED PRESS, June 9, 2006, available at http://www.usatoday.com/news/nation/2006-06-10-aid_x.htm?csp=34.

¹³⁹ IRAQ LOCAL GOVERNANCE PROGRAM, U.S. AGENCY FOR INT'L DEV., 2007 ANNUAL REPORT 7 (2008), available at http://pdf.usaid.gov/pdf_docs/PDACM058.pdf.

¹⁴⁰ *Id.* at 1, 15.

¹⁴¹ *Id.* at 4.

It seems, though, that green building is becoming more of a national solution as well. Some in the United States have recently called for a national green building code, known as the International Green Construction Code, to be implemented for commercial developments.¹⁴² Organizations involved in the residential building market previously developed national green standards for residences in 2008.¹⁴³ The resulting commercial code could develop into a broader effort across the planet,¹⁴⁴ but as explained previously in Part II, Iraq and Afghanistan may want something more suited to their situations.¹⁴⁵ Green construction may well continue, however, to be a synthesis of national and local policies, especially as long as funding is available on both levels.¹⁴⁶ Research into green building also comes from many different sources, resulting in a wider variety of viewpoints and policy perspectives that make green research more diverse.¹⁴⁷

Green building faces challenges, though, from specific infrastructure needs in addition to the institutional ones. As discussed previously, water rights will play a major role in how sustainable development plays out in the region due to the dearth of suitable water sources.¹⁴⁸ Conveying the water to its destination in the first place presents its own series of problems, at least in Iraq. The nation's water infrastructure has been devastated by numerous armed conflicts, leading to leakage rates in the range of sixty percent in southern Iraq.¹⁴⁹ Cooperation between local and international entities has improved the structural deficiencies to some extent and has provided a suitable model for future efforts, but there is still a long way to go.¹⁵⁰ The U.N. Office for Project Services has explained the need for "resourceful solutions" to conduct this work in a warzone.¹⁵¹ The severe contamination of Iraq's water supply has also been cited as a major problem for the Iraqi people, and it is yet another infrastructure concern that

¹⁴² Diane Mastrull, *National Green Building Code is in the Works*, PHILA. INQUIRER, Nov. 26, 2009, available at 2009 WLNR 23896239.

¹⁴³ *Id.*

¹⁴⁴ *Id.*

¹⁴⁵ See *supra* Part II.

¹⁴⁶ See *Funding Opportunities*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/greenbuilding/tools/funding.htm> (last updated Dec. 22, 2010).

¹⁴⁷ See *Green Building: Basic Information*, *supra* note 12.

¹⁴⁸ See *supra* Part IV.

¹⁴⁹ *Rehabilitating Water Networks in Iraq*, U.N. OFFICE FOR PROJECT SERV., <http://www.unops.org/default.htm> (last visited Jan. 3, 2011).

¹⁵⁰ See *id.*

¹⁵¹ *Id.*

must be addressed.¹⁵² The Iraqi people must have clean water available before they can have efficient water, given the humanitarian implications.¹⁵³

What sets Iraq apart from others in this dire situation is its high level of potential. Iraq has impressive oil reserves, but has failed to capitalize on them because of a variety of factors including a lack of foreign investment, a lack of upgraded oil processing facilities, and poor leadership.¹⁵⁴ Iraq has also essentially been in a warlike state since 1988.¹⁵⁵ Despite all of these issues, Iraq continues to have a fertile agricultural base that previously made it self-sufficient in food production.¹⁵⁶ A shortage of farm machinery and other necessary farming tools, combined with an inability to cope with a quickly expanding population, made that dream-turned-reality disappear.¹⁵⁷ Iraq, with time and improvements, could again be a truly prosperous nation.¹⁵⁸

Afghanistan faces different obstacles, yet has redeeming economic features as well. Afghanistan has been historically fractured by warlord control, and has governed without common centralized institutions like a census, which has made national rule difficult.¹⁵⁹ Afghanistan does enjoy the benefit of a substantial oil reserve, first discovered in 1959, that has not been extensively explored.¹⁶⁰ A wide array of mineral resources also lie under Afghan soil, ranging from gold and iron to cobalt, chromium, and precious gemstones like rubies and emeralds.¹⁶¹ This diversity of resources could support multiple economic engines given that the mineral resources

¹⁵² See Interview by Bernard Gwertzman with Gerald Martone, Director of Emergency Response, Int'l Rescue Comm., *Relief Expert Says Iraq's Food Supply Adequate, but Contaminated Water Supply Poses Large Health Risk*, COUNCIL ON FOREIGN RELATIONS (Apr. 9, 2003), <http://www.cfr.org/publication/5835/>.

¹⁵³ *Id.*

¹⁵⁴ See Emma Clark, *Iraq's Stunted Economic Potential*, BBCNEWS (Sept. 6, 2002), <http://news.bbc.co.uk/2/hi/business/2233554.stm>.

¹⁵⁵ *Id.*

¹⁵⁶ Lea Winerman, *Iraq Looks to Revive Agriculture Sector*, PBS NEWSHOUR (Jan. 30, 2008), http://www.pbs.org/newshour/indepth_coverage/middle_east/iraq/jan-june08/agriculture_01-30.html.

¹⁵⁷ *Id.*

¹⁵⁸ Clark, *supra* note 154.

¹⁵⁹ Daryn Kagan, *David Grange: Comparing Afghanistan and Iraq*, CNN (Feb. 26, 2003), <http://www.cnn.com/2003/ALLPOLITICS/02/26/otsc.grange/index.html>.

¹⁶⁰ Halfdan Carstens, *Oil and Gas Available in Afghanistan*, GEOEXPRO, http://www.geoexpro.com/hot_spot/oil-and-gass/ (last updated Sept. 14, 2009).

¹⁶¹ Interview by Jessica Robertson with Stephen Peters, USGS, *Significant Potential for Undiscovered Resources in Afghanistan*, U.S. GEOLOGICAL SURVEY (Nov. 13, 2007), <http://www.usgs.gov/corecast/details.asp?ID=47>.

are used for products as wide-ranging as building industry components and jewelry.¹⁶²

Recovery of these resources, however, is contingent on having the appropriate infrastructure in place to extract the minerals and on having support for the mining laws put into effect.¹⁶³ Productive industries such as these could increase foreign investment in Afghanistan and could also support the development of local industries, especially in precious jewels.¹⁶⁴

There is also historical support for a new agricultural beginning in Afghanistan. As with Iraq, Afghanistan has had its previous agricultural stability, a former staple of Afghan society, disrupted by war.¹⁶⁵ Afghanistan fought the Soviet Union, then endured years of civil war, before the current conflict.¹⁶⁶ In addition to the wartime experiences, Afghanistan currently confronts more internal instability due to a major opium production trade, which in turn is suspected of financing the insurgency.¹⁶⁷

As the potential of Iraq and Afghanistan shows, green building does not have to be an unobtainable luxury for these nations because both have resources at their disposal to develop a strong infrastructure and enforce sustainable building laws. Reinforcing public health and supporting local industries, while eliminating internal disruptions, will be key to making green building a possibility.¹⁶⁸

VIII. MORE ON THE MIDDLE EASTERN EXPERIENCE: DUBAI

The Middle East's foray into green building thus far, with the U.A.E. as its front-runner in many ways, is still in its early stages.¹⁶⁹ Dubai has built its green building reputation through a fusion of corporate elements and design elements.¹⁷⁰ Having shown the great potential

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ *Id.*

¹⁶⁵ *Afghanistan*, USAID, <http://www.usaid.gov/pubs/cbj2003/ane/af/> (last updated May 29, 2002).

¹⁶⁶ *Id.*

¹⁶⁷ Interview by Bernard Gwertzman with Max Boot, Senior Fellow, Council on Foreign Relations, *Altering Afghanistan's Balance of Power*, COUNCIL ON FOREIGN RELATIONS (Feb. 15, 2010), http://www.cfr.org/publication/21437/altering_afghanistans_balance_of_power.html?breadcrumb=%2Fregion%2F280%2Fafghanistan.

¹⁶⁸ See, e.g., Gwertzman, *supra* note 152; see Robertson, *supra* note 161; see Gwertzman, *supra* note 167.

¹⁶⁹ See *supra* Part III.A.

¹⁷⁰ *Id.*

that both Iraq and Afghanistan hold within their borders for economic development, examining Dubai's venture into sustainable building may be instructive for establishing an economically sound future version of these two nations.

Dubai spent most of the twentieth century as a minor pearl and fishing trade post.¹⁷¹ Its ascendancy into commercial importance began with the discovery of oil in the late 1960s.¹⁷² Foreign businesses soon afterwards set up shop in the emirate, which allowed Dubai to diversify away from oil.¹⁷³ As a result of its newfound wealth, Dubai was able to construct a distinct and vibrant skyline with unique construction projects like artificial islands, massive malls, and indoor skiing areas.¹⁷⁴ Previously preoccupied with building extravagance, Dubai's government has begun to understand some of the environmental implications of the construction surge, as seen with orders in 2008 to make construction projects more environmentally friendly.¹⁷⁵

Before Iraq and Afghanistan make plans to emulate Dubai's experiences, however, there are drawbacks to the Dubai system. The recent economic crisis has clearly impacted the emirate. Disappearing credit and falling oil prices have led to questions as to whether future construction projects will get the support that they need to continue Dubai's track record of prosperity.¹⁷⁶ Dubai recently found itself in dire financial condition, following a close encounter with defaulting on a developer's bond.¹⁷⁷ Funding from neighboring Abu Dhabi in the amount of \$10 billion saved Dubai at a late hour.¹⁷⁸

Dubai's transformation from fishing village to business center has also had associated negative effects that may tarnish some of the positives that come with green building policies. Foreign investors dominate the commercial scene in Dubai, to the point that natives represent only

¹⁷¹ *History in Dubai*, FROMMER'S, <http://www.frommers.com/destinations/dubai/3866020044.html> (last visited Jan. 3, 2011).

¹⁷² *Id.*

¹⁷³ *Id.*

¹⁷⁴ Robert F. Worth, *Boomtown Feels Effects of a Global Crisis*, N.Y. TIMES, Oct. 4, 2008, http://www.nytimes.com/2008/10/05/world/middleeast/05dubai.html?_r=1.

¹⁷⁵ See Habiba Al Marashi & Jasleen Bhinder, *From the Tallest to the Greenest—Paradigm Shift in Dubai*, CTBUH 8TH WORLD CONG. 6 (2008), available at http://www.ctbuh.org/Portals/0/Repository/T1_AlMarashi.ec25feeb-c7e3-4e10-9fed-1fdfac4e74c3.pdf.

¹⁷⁶ Worth, *supra* note 174.

¹⁷⁷ *A Second Life: Abu Dhabi Rescues Dubai After All*, ECONOMIST (Dec. 17, 2009), http://www.economist.com/business-finance/displaystory.cfm?story_id=15127299.

¹⁷⁸ *Id.*

twenty percent of the population.¹⁷⁹ Traffic congestion continues to be a major problem; automobiles are increasing at a rate of ten percent per year.¹⁸⁰ Dubai has one of the world's highest waste levels, where per capita levels now exceed those found in the United States, Australia, and the United Kingdom.¹⁸¹

Dubai is addressing some of these concerns as it tries to find a balance between impressive growth and sustainability. In addition to the 2008 government-issued green building standards,¹⁸² Dubai is working on a metro line to alleviate the pollution caused by automobile usage.¹⁸³ Community-based organizations are also playing no small part in developing sustainability policies.¹⁸⁴

Dubai's neighbor and fellow emirate, Abu Dhabi, has also established a presence in the green world. Abu Dhabi is constructing a six square-kilometer zero-carbon city called Masdar, which may hold up to 50,000 people.¹⁸⁵ Green building features in this new city will include a solar-powered desalinization plant and photovoltaic panels for electricity production.¹⁸⁶

While Iraq and Afghanistan may learn some important information from their geographic neighbor, differences between the two groups warrant cause for concern. First off, Dubai—and the U.A.E. in general—has largely been able to escape the wartime destruction that has troubled Iraq and Afghanistan.¹⁸⁷ This peaceful era has permitted the Emirates to develop and strengthen their economic base.¹⁸⁸ Additionally, the U.A.E. is very different politically from the systems being instituted in Iraq and Afghanistan. While the U.A.E. has gained a reputation for being culturally

¹⁷⁹ Vishal Pandey, *How Sustainable is Dubai?*, URBAN LAND, June 2007, at 61, available at http://www.uli.org/~media/Documents/ResearchAndPublications/Magazines/UrbanLand/2007/June/UL_07_06_Pandey.ashx.

¹⁸⁰ *Id.*

¹⁸¹ *Id.* at 64.

¹⁸² Al Marashi & Bhinder, *supra* note 175, at 6.

¹⁸³ Vivian Salama, *Dubai's RTA to Provide Additional Funding for Metro*, BLOOMBERG (Feb. 20, 2010, 7:12 EST), <http://www.bloomberg.com/apps/news?pid=20601104&sid=aN2NiHhjh.cY>.

¹⁸⁴ Al Marashi & Bhinder, *supra* note 175, at 8.

¹⁸⁵ WWF, *Abu Dhabi Unveil Plans for Sustainable City*, WORLD WILDLIFE FUND (Jan. 13, 2008), <http://www.panda.org/index.cfm?uNewsID=121361>.

¹⁸⁶ *Id.*

¹⁸⁷ *See generally Timeline: United Arab Emirates*, BBCNEWS, http://news.bbc.co.uk/2/hi/middle_east/country_profiles/828687.stm (last updated July 27, 2010) (outlining dates and descriptions of key events, showing lack of conflict).

¹⁸⁸ *See id.*

progressive, its political profile remains centered on authoritarian power.¹⁸⁹ The U.A.E. did not even hold its first partial elections until late 2006.¹⁹⁰ In contrast, Iraq and Afghanistan are refining recently established participative democracies.¹⁹¹ The top-down declaration of national policy favored in the U.A.E. would naturally conflict with the government processes in Iraq and Afghanistan.¹⁹² The two nations are also dealing with a far larger scale than the Emirates due to the differences in size. The U.A.E. has less than one-fifth of the population of either Afghanistan or Iraq; it has one-sixth of the land size of Iraq and one-eighth of the land size of Afghanistan.¹⁹³

IX. DEMOCRATIC IMPLICATIONS OF AN IRAQI-AFGHAN PARTNERSHIP

A cooperative effort between Iraq and Afghanistan has the potential to be the start of a new beginning, similar to how a few other nations banded together after another major conflict nearly sixty years before and half a world away. In 1951, six war-weary countries in Europe signed an agreement to share management ideas for their coal and steel resources.¹⁹⁴ The idea behind the accord was that, if the nations were to link themselves economically and politically, they would have a greater opportunity to establish peace.¹⁹⁵ This simple economic community would later become the European Union.¹⁹⁶

While the end result of cooperative green building standards may not be as ambitious as something like the European Union, Iraq and Afghanistan may still contribute some needed stability to a volatile region. The Middle East and surrounding areas have been plagued with conflict, especially in recent times.¹⁹⁷ A stable Iraq and a stable Afghanistan could

¹⁸⁹ *United Arab Emirates Country Profile*, *supra* note 68.

¹⁹⁰ *Id.*

¹⁹¹ Afghan elections and the drafting of an Afghan constitution took place in 2004. *Afghanistan Country Profile*, *supra* note 2. Iraqi elections and the drafting of an Iraqi constitution took place in 2005. *Iraq Country Profile*, *supra* note 2.

¹⁹² The new green building policies in Dubai were handed down in declaration form. *See* Al Marashi & Bhinder, *supra* note 175.

¹⁹³ *See Afghanistan Country Profile*, *supra* note 2; *Iraq Country Profile*, *supra* note 2; *United Arab Emirates Country Profile*, *supra* note 68.

¹⁹⁴ *The History of the European Union: 1945–1959*, EUROPA: GATEWAY TO THE EUROPEAN UNION, http://europa.eu/abc/history/1945-1959/index_en.htm (last visited Jan. 3, 2011).

¹⁹⁵ *The History of the European Union*, EUROPA: GATEWAY TO THE EUROPEAN UNION, http://europa.eu/abc/history/index_en.htm (last visited Jan. 3, 2011).

¹⁹⁶ *Id.*

¹⁹⁷ *See, e.g., History of Middle East Conflict*, BBCNEWS, http://news.bbc.co.uk/2/hi/in_depth/middle_east/2001/israel_and_the_palestinians/340237.stm (last updated Feb. 7, 2001).

make the peace process easier for the region, for it would be one less concern for countries involved in trying to achieve a lasting agreement.¹⁹⁸

CONCLUSION

Iraq and Afghanistan would greatly benefit from working cooperatively to make green building a reality. While other green building systems are currently in use, they do not address the specific challenges and circumstances that these two countries have faced.¹⁹⁹ While the emirates of the U.A.E. may be of a closer relation in terms of culture and geography, the differences between the two nations and the Emirates are significant enough to avoid direct implementation of their system.²⁰⁰

By drawing upon green building experiences throughout the world following natural disasters, Iraq and Afghanistan can incorporate sustainable construction as a major part of their rebuilding efforts.²⁰¹ The conservation of scarce resources like water and electricity are concepts that both countries can readily understand.²⁰² Both must contend with the daunting tasks of eliminating corruption, building and reinforcing infrastructure, and getting their citizens to believe in their governments again.²⁰³

Iraq and Afghanistan can work together, at paces suitable to them, to find these answers and create green building policies that are appropriate for their citizens' needs. In doing so, their cooperation may lead them to greater goals, and they may one day be a prominent example of how nations devastated by war were able to aspire to making their citizens' lives better.

¹⁹⁸ Instability caused by displacement of large numbers of people is one such concern. See Jeremy Bowen, *Middle East Fears Broken Iraq*, BBCNEWS (Mar. 22, 2007), http://news.bbc.co.uk/2/hi/middle_east/6476907.stm.

¹⁹⁹ See *supra* Part II.

²⁰⁰ See *supra* Part VIII.

²⁰¹ See *supra* Part V.

²⁰² See *supra* Part IV.

²⁰³ See *supra* Part VII.