

UNiversitas: Journal of Research, Scholarship, and Creative Activity

Volume 12
Number 1 *Forum Theme: UNI's Ecology*

Article 7

3-2017

Human Migration and Environmental Degradation: The Toll on Vulnerable Women and Children

Catherine Zeman
University of Northern Iowa

Mark Grey
University of Northern Iowa, mark.grey@uni.edu

Michele Devlin
University of Northern Iowa, michele.devlin@uni.edu

Follow this and additional works at: <https://scholarworks.uni.edu/universitas>

[Let us know how access to this document benefits you](#)

Copyright ©2017 Catherine Zeman, Mark Grey, and Michele Devlin

Recommended Citation

Zeman, Catherine; Grey, Mark; and Devlin, Michele (2017) "Human Migration and Environmental Degradation: The Toll on Vulnerable Women and Children," *UNiversitas: Journal of Research, Scholarship, and Creative Activity*. Vol. 12 : No. 1 , Article 7.

Available at: <https://scholarworks.uni.edu/universitas/vol12/iss1/7>

This Forum Theme 1 is brought to you for free and open access by UNI ScholarWorks. It has been accepted for inclusion in UNiversitas: Journal of Research, Scholarship, and Creative Activity by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.



Human Migration and Environmental Degradation: The Toll on Vulnerable Women and Children

Part of the journal section “Forum: UNI’s Ecology”

Catherine Zeman, Mark Grey, and Michele Devlin “Human Migration and Environmental Degradation: The Toll on Vulnerable Women and Children”

Overview:

1. The early years of the 21st Century have seen major changes in the world’s demographic profile. The world’s total population is currently just over seven billion. Middle-range projections by the United Nations Population Fund suggest the world’s population will grow to ten billion by about 2050 and about eleven billion at the end of the century. Higher and lower projections for the end of the 21st century are 16.5 billion and 7 billion respectively depending on trends in fertility rates, which in general are projected to decline. Global average fertility rates have also dropped from 4.5 children in 1970 to about 2.5 children in 2014. However, although fertility rates are falling, the world’s total population will continue to grow due to the fact that people are living longer. The average global life span in the early 1990s was 64.8 years, but today the average lifespan is 70.0 years. Expectations are for this upward trend to continue.^[1] The total size of the world’s human population will therefore present challenges, but perhaps even more difficult to address will be the size and dynamic nature of global human migration and the four major trends occurring related to population shifts.

2. The first trend is continued international economic migration. Since 1950, the general flow of economic migrants has been from low-income nations in the Global South towards wealthier nations in the Global North. Between 1950 and 2015, Europe, North America and Oceania have been net receivers of international migration. Africa, Asia, Latin America and the Caribbean have been net exporters of migrants. Between 2000 and 2015, the world’s high-income nations like the United States and Germany received an average of 4.1 million net migrants annually. Larger numbers of migrants are expected from poor nations to middle-income developing nations like Brazil in the Global South.^[2] Income disparities, though, between low- or middle-income nations and the world’s wealthier nations will continue to drive most economic migration. Indeed, between 2015 and 2050, the top net receivers of international migration will be the United States, Canada, the United Kingdom, Australia, Germany, the Russian Federation and Italy. In these nations and others, net international migration will provide badly needed population, as total births in high-income nations will continue to decline and populations age. For some high-income areas national net migration may account for as much as 82 percent of population growth between 2015 and 2050.^[3]

3. Urbanization is the second trend, and refers to the process through which nations and regions see the proportion of people living in rural areas decline while the proportion of people living in cities, suburbs and extra-legal settlements (“slums”) grows. Urbanization has been underway for thousands of years, but it accelerated in recent years. The United Nations estimated that 2007 was the first year that more than half of human beings could be found living in urban areas. By 2050, about 66 percent of the world’s population will live in cities with most living in peri-urban environments.[\[4\]](#)

4. The third major trend is forced migration, and is due to increased numbers of people leaving their home communities due to war, inter-ethnic conflict, and other reasons that would make people fear death or persecution. Today, we have seen more people forcibly displaced from their home communities at any time since World War II. Indeed, the United Nations High Commissioner for Refugees (UNHCR) estimates that 65.3 million people in the world have been displaced. Most, about 44 million, were displaced from their homes but remained in their nations of origin. Because they cross international borders, refugees around the world garner more media attention. However, Internally Displaced Persons (IDPs) actually outnumber refugees by a ratio of almost two-to-one. The UNHCR estimates the world’s refugee population today at 21.3 million, of whom more than half are under 18 years of age. In addition, there are some 10 million “stateless” people in the world with no nationality or rights to basic needs such as health care, employment, freedom of movement and education. As result of conflict or persecution, about 34,000 people around the world are forcibly displaced every day.[\[5\]](#)

5. The fourth and newest trend in human migration, though, is referred to as the growth in “environmental” or “climate change” refugees. Carbon cycle disruption and warming sea waters are contributing to major changes in climate patterns, and severe weather events are displacing people in growing numbers. The link between climate change and severe weather events, while controversial in the early 2000s has become increasingly evident in the first decade of this century. Indeed, the International Organization for Migration (IOM) states that “gradual and sudden environmental changes are already resulting in substantial population movements. The number of storms, droughts and floods has increased threefold over the last 30 years with devastating effects on vulnerable communities, particularly in the developing world.” Already millions of people have become “climate change refugees” or “environmental refugees” and their numbers are expected to grow. Forecasts for the number of environmental refugees between now and 2050 range from 25 million to 1 billion, although the IOM suggests the figure most commonly projected is 200 million.[\[6\]](#)

6. Growth in the number of global environmental refugees was first recognized as an “emergent security issue” as early as 1995. At that time, the conservative estimate was that there were 25 million environmental refugees in the world with the largest acknowledged population found in the Africa. In any location, these refugees “are people who can no longer gain a secure livelihood in their homelands” because of rising sea levels, drought, desertification and other environmental issues. “In their desperation, these people feel they have no alternative but to seek

sanctuary elsewhere...all have abandoned their homelands on a semi-permanent if not permanent basis, with little hope of a foreseeable return.”^[7] It was recognized as early as 1995 that one critical challenge for people displaced by climate change is the reluctance of governments and international agencies to even recognize the environmental refugee problem and/or to even determine an appropriate label for these migrants, a problem we share in public safety and emergency management agencies in Iowa.^[8] These people do not fit under the category of “forced migration” nor do they readily fit United Nations or US Department of State definitions of “refugees” or even Internally Displaced Persons (IDPs). In Iowa, their status is even further complicated because some of the hard-hit Pacific Islanders residing in the state come from nations with a “Compact of Free Association”, allowing them to live and work here regardless of climate migration. Others may not come from nations with Compacts of Free Association and their status as climate migrants is unclear.

The Environmental Impact of Human Growth and Migration:

7. As of this writing, the precise total world population was 7, 451, 997,478.^[9] Worldometer’s population ticker extrapolated 79 additional births in 30 seconds time or, roughly, three new human lives every second, this is offset to some degree by about 2 deaths every second globally, but the momentum is still in the direction of growth.^[10] These individuals are born into a human reality of both unprecedented privilege and stark impoverishment, part of a global society of massive contradiction, such promise amid such suffering. Given these realities, conflict, warfare, and environmental refugee crises are not really surprising.^[11]

8. As demographers and environmental scientists of all backgrounds have come to understand since the failed predictions of Ehrlich’s “*Population Bomb*”^[12], simply because the neo-Malthusian doomsday they predicted has not yet occurred, does not mean all is well. We still have a population problem, it is still a global concern, but it has not become by sheer numbers a mass starvation issue. In today’s world, select corners of the globe starve, uniquely powerless, unprivileged peoples have, do and will bear the brunt of resource depletion, global climate change, and what will be explained later as emerging, “wicked” environmental problems.^[13] The issues they face, while alarming now, are opening into a crisis that is already tearing away the veneer of the privileged classes, who very soon, barring major political-will changes and technology implementation and innovation, will no longer be able to shield themselves from the impacts that the world’s poorest and powerless are experiencing. This is a sobering reality. While it is important to remain optimistic, humanity can no longer remain foolishly optimistic in the absence of real change or action. Our policy makers, especially, need to take note of this.

9. More optimistically, in 1963 the global growth rate peaked (2%), and it has been steadily decreasing to the current estimated rate of 1.13%, still adding about 80,000,000 people per year. The bad news on the other side of this population coin is embodied in one of the insights that Paul Ehrlich definitely got right.^[14] That insight was the impact of a civilization on it’s environment could not be measured by sheer numbers alone but is mediated by technology. His

formula for this observation simply stated was, “total environmental impact is equal to the consumption (goods and services) per person as mediated by the efficiency of the production of those services”.^[15] Thus far, humanity has been able to “game” the system with our technology, extracting more resources (more or less efficiently) over time to provide more food, raw materials, energy, etc. to an ever increasing and ever more privileged and expanding percentage of the global population, granted this has not been evenly distributed. Further, it has not been fervently and consistently pursued (parsimony of production) nor comprehensively driven and supported by good policy.

10. Generally, the benefits of a greater availability of calories and resources have concentrated in urban centers of the developed west, urban centers which are able to exist and grow by drawing down on the resources of the surrounding hinterlands, including human resources. It is not surprising then, that beginning in the 1950s a trend toward urbanization began wherein masses of people left agrarian lifestyles in the hinterlands for paid labor in urban centers where the amenities they desired could be obtained. At that time, only about 30% of the world’s population lived in urban centers, today that percentage is at least 54%.^[16] This mass migration is expected to continue and is accomplished with greater or lesser success around the globe depending on the overall wealth of the country (ie. ability to provide stability and economic growth, public health infrastructure, etc.) experiencing urbanization and its technical and planning expertise.^[17] In many areas around the world urbanization has contributed to the growth and sprawl of massive, unplanned and unhealthy shanty towns where absolute poverty is the norm (ie. Lagos, Nigeria and Dhaka, Bangladesh). But in many other areas, rising standards of living and access to unprecedented energy and resources has lulled the population into thinking that this can continue indefinitely and be extended to an ever widening group of humanity...even in the absence of real technological and social justice changes.^[18]

11. At the same time, the agrarian and nomadic-herding hinterlands in developing parts of the world have emerged from a social-cultural subsistence pattern that relied on large families with many children to provide farm labor and security for their parents as they aged out of the labor force. They are also benefiting from the changes brought by modern sanitation and medical care while undergoing rapid economic development with the population striving to emulate a western living standard.^[19] These societies continue to have high birth rates, younger populations overall, and much population growth momentum with short population doubling times due to falling death rates and increasing longevity.^[20] Thus emerges a regionally nuanced and perhaps even potentially deadlier picture of the population, environment, development problems the world currently faces than the “population bomb” that Paul and Anne Ehrlich predicted at the end of the 1970s. From this brew of intersecting environmental, development, and human justice issues arises the “wicked” problems we face in many parts of the world experiencing the greatest population growth along with accelerating environmental and social instability.^[21]

12. The fastest growing populations have a high percentage of individuals in their reproductive prime (average age in their 20s and 30s) and most can be found in SE Asia, and Sub-Saharan Africa.^[22] Superimposing a map of the areas of arid to semi-arid biomes most sensitive to

global climate change produces a very close fit. Thus, biomes least able to provide for a rapidly growing population with short doubling times are the very populations that are experiencing the worst impacts of global climate change.^[23] The only post-industrial, developed nation in the top ten fastest growing countries is the United States, US. This is not insignificant when you consider the massively disproportionate resource use per capita in the US compared to the countries of SE Asia and Sub-Saharan Africa in the top ten. Considering only food calories per day, per capita the average U.S. citizen consumes about 3,750 kcal while the average consumption of the remaining top ten is about 2,336 kcal, thus; every child born into the U.S. will have a 61% greater impact on food calories alone; This does not consider energy use per person which is equally skewed.^[24] As Jared Diamond noted in his work, “Collapse”^[25], a map of the most politically unstable areas around the globe, many plagued by violent extremism, correlates well with the areas of massive population growth, ecosystem stress and arid or semiarid resource bases.

13. This illustrates, sadly, the various aspects of what have been called “wicked” problems. The term does not denote any moral standing but refers to problems that arise from complex system interactions and which are difficult to address.^[26] The UC Berkley philosopher and system scientist, C.W. Churchman instituted the use of the term in the late 1960s. Today adherents to systems analysis from across a wide swath of professions recognize some general characteristics of wicked problems. They include: being only partially comprehensible until one begins to act on them, offering few alternative solutions but to work “through” them (not entirely avoidable), having many unbounded interactions that lead to further problems (no stopping rules), and alternative solutions do not exist or they are very limited.^[27] The term “wicked problems” aptly describes the milieu of challenges in the environmental, population, and development areas. These wicked problems compound and magnify because they tend to be system problems. They cannot be solved if they are not understood as system problems. Their intractability to intervention often means that masses of people will flee from such problems, refugees are victims of systems failures in complex environments.

14. Consider some sobering examples of wicked problems contributing to and accelerating a global development and sustainability challenge for human civilization, which threatens to increase current human refugee crises and create new ones. Increasing release of ancient carbon from its solid to gas phase through the burning of fossil fuels (carbon dioxide), contributes to global climate change and warming. The shift in the global carbon cycle is occurring simultaneously with shifts in the global nitrogen cycle wherein human activity is shifting insoluble nitrogen gases into a soluble state. Carbon cycle shift is impacting the resiliency of established biomes by creating multiple changes in regional climate patterns due to a gradual increase in overall global temperature, while the nitrogen shift is pumping ever higher levels of soluble nitrogen into biomes which further destabilizes the species mix in those biomes already stressed by carbon cycle destabilization.^[28] Both are likely stressing human health, as recent research indicates that inflammatory disease in animals and in humans is increased under carbon and nitrogen cycle perturbations. Increased nitrogen and temperature do not just impact larger species mixes in biomes but impact even the foundation of biomes the microbiological species

mix. In the arctic microbial communities that stabilize ice sheets are shifting leading to a thinning of and melting of ice sheets which leads to flooding in low lying nations, creating more environmental refugees. Increasing rainfall and higher temperature contributes to the spread of disease carrying mosquitos across larger ranges with extended breeding seasons. Even food production is impacted across various bioregions and becomes even more unpredictable and inherently less nutritious, especially in arid and semi-arid environments, further accelerating a wicked problem as undernourished people have less vigorous immune systems and are less able to fight of disease agents.[\[29\]](#)[\[30\]](#) Two environmental problems both somewhat wicked on their own, carbon and nitrogen cycle shift, can now combine to create an even more complicated problem, making it imperative that we begin to address these systems problems with comprehensive, interdisciplinary, and compassionate action.

The Human Toll on Women and Children:

15. One of the most disturbing outcomes of these new trends in human migration, expansion, and environmental degradation is the particular toll that is being experienced in some of the world's most vulnerable populations: women and children. According to UNHCR in 2016, approximately 80% of the world's refugees are women and children, with young people comprising 41% of the world's displaced individuals. The UNHCR estimates that half of these children are unable to go to primary school and may not ever finish their education, thus impacting the socioeconomic growth potential and public health status of their families and communities for future generations. Female refugees are also more likely than men to experience assault, including rape, during their flight and resettlement phases, and many of these mothers and children face severe food insecurity and malnutrition challenges while refugees. Relief rations in refugee camps, particularly if not managed well, can often end up in the hands of organized gangs or political strongmen, and do not necessarily reach the mothers and children that need the assistance the most. Refugee camps are often developed rapidly in the some of the most environmentally vulnerable areas of neighboring countries, such as flood plains, swamps, and deltas, which puts these families at continuing risk of harm.

16. Even resettlement in a third country for the small number of refugees that are eventually granted asylum can be a difficult process that disproportionately affects women. In the United States, federal funding for refugee resettlement has been severely cut over recent years, and immigrant women often face significant language, cultural, gender, financial, geographic, transportation, social, and related barriers to services and care. Mental health concerns like acculturation stress, cultural bereavement, anxiety, depression, and post traumatic stress can affect mothers and even their children for years. In some cases, these barriers can be so overwhelming, in addition to being separated from their extended families back home, that these refugees are being "re-traumatized" as forced migrants even in nations as rich as the United States. From an emergency response standpoint, many of these refugee women and children live in crowded conditions, poor tenements, mobile homes, and other such dwellings in parts of communities that are particularly vulnerable to floods, hurricanes, and other environmental disasters.

17. It make sense, then, that the expanding literature on natural disasters, environmental degradation, and forced human migration has a strong emphasis on concepts and the theory of vulnerability, particularly of women and children. A commonly accepted and shared definition for “vulnerability” refers to the “characteristics of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from the impact of a natural hazard. It involves a combination of factors that determine the degree to which someone’s life and livelihood is put at risk by a discrete and identifiable event in nature or in society.”^[31]

18. The factors that contribute to vulnerability are significant. For instance, impoverished families, often headed by females while their husbands work in urban centers, tend to cluster in densely populated areas and increasingly near coast lines that make them vulnerable to natural events like tsunamis and hurricanes, epidemiological events, and man-made or technological events such as rising sea levels and terrorist attacks.^[32] Poverty is more likely to leave women and children at risk during and after disasters because they often do not share the same rights or access as men to jobs, property, financial institutions, post-disaster aid, and health care. Domestic and sexual violence also tends to increase during and after disasters and in the chaos and social dislocation resulting from disasters, women and children often lose the familial and social support networks that used to provide some degree of protection from violence.^[33] These challenges will likely grow in future years and continue to affect vulnerable women and children disproportionately until comprehensive interventions are developed that include addressing the global environmental health factors that increasingly contribute to human migration.

Studies at the University of Northern Iowa:

19. *The University of Northern Iowa is attempting to meet the clear need for the growing number of interdisciplinary professionals to address these pressing topics of the 21st century, where climate change, human migration, and family vulnerability meet in the global arena. Three strong degree programs are now available at UNI that provide extensive academic and field training in these specialty areas for students interesting in pursuing careers in these subjects: a) the in-person BA in Environmental Health; b.) the hybrid in-person/online BA in Global Health; and c.) the new online BAS in Tactical Emergency Services with Vulnerable Populations. These degrees can be pursued as individual programs, but also make excellent double majors with a variety of other fields, such as foreign languages, international relations, geography, family services, pre-medicine, biomedicine, social work, and anthropology. Students can also continue their studies by earning an M.A. in Community Health at the University of Northern Iowa as well. For more information about these award-winning academic training programs and UNI’s response to these “wicked” global health challenges, please contact catherine.zeman@uni.edu; michele.devlin@uni.edu; or mark.grey@uni.edu at the University of Northern Iowa.*

[1]United Nations Population Fund, World Population Trends, updated 6 October 2015. [\[Return to Text\]](#)

[2]United Nations Social and Economic Affairs/Population Division, World Population Prospects, 2015 Revision. [\[Return to Text\]](#)

[3]United Nations Social and Economic Affairs/Population Division, World Population Prospects, 2015 Revision. [\[Return to Text\]](#)

[4]United Nations Population Fund, World Population Trends, updated 6 October 2015; Mike Davis (2006) *Planet of Slums*, New York: Verso. [\[Return to Text\]](#)

[5]United Nations High Commissioner for Refugees, Global Trends 2015. [\[Return to Text\]](#)

[6]International Organization for Migration, Migration, Climate Change and the Environment, 2015. [\[Return to Text\]](#)

[7]Norman Myers and J. Kent (1995). Environmental Exodus: An Emergent Crisis in the Global Arena. The Climate Institute, Washington, D.C. and Norman Myers (2001). Environmental Refugees: Our Latest Understanding, *Philosophical Transactions of the Royal Society B*:356: 16.1-16.5.: [\[Return to Text\]](#)

[8]Norman Myers (2005). Environmental Refugees: An Emergent Security Issue, 13th Economic Forum, Prague, 23-17 May 2005. [\[Return to Text\]](#)

[9]Worldometers. (2016). *World population clock data*. Retrieved from <http://www.worldometers.info/world-population/>. [\[Return to Text\]](#)

[10]Moseley, W.G., Perramond, E., Hapke, H.M. and Laris, P. (2013). *An introduction to human-environment geography local dynamics and global processes*. Hoboken, NJ: Wiley. [\[Return to Text\]](#)

[11]Brückner, M. (2010). Population size and civil conflict risk: Is there a causal link? *The Economic Journal*, 120 (May), 535-550. [\[Return to Text\]](#)

[12]Ehrlich, P.R. (1995, c1971). *The population bomb*. Cutchogue, N.Y.: Buccaneer Books. [\[Return to Text\]](#)

[13]Rosin, C.J., Campbell, H., and Stock, P.V. (2012). *Food systems failure: the global food crisis and the future of agriculture*. Abingdon, Oxon; NY: Earthscan. [\[Return to Text\]](#)

[14]Moseley, et al., (2013). [\[Return to Text\]](#)

- [15] Ehrlich Equation, (2016). A review of the Ehrlich equation. Retrieved from <http://www.colorado.edu/econ/courses/roper/sustainable-economics/resource-productivity/ipat.html>. [\[Return to Text\]](#)
- [16] Spencer, J.H. (2015). *Globalization and urbanization: the global urban ecosystem*. Lanham, MD: Rowman & Littlefield. [\[Return to Text\]](#)
- [17] *Health & Medicine Week* (Ed.). (2016). Researchers from United Nations university describe findings in public health (urbanization, extreme events, and health: The case for systems approaches in mitigation, management, and response, 3788. [\[Return to Text\]](#)
- [18] Jameton, A. (2002). Outline of the ethical implications of Earth's limits for health care. *Journal of Medical Humanities*, 23(1), 43-59. [\[Return to Text\]](#)
- [19] Hirakawa, H. & Aung, T.T. (2011). Globalization and the emerging economies: East Asia's structural shift from the NIEs to Potentially Bigger Market Economies (PoBMEs). *Evolutionary and Institutional Economics Review*, 8: 39. doi:10.14441/eier.8.39 [\[Return to Text\]](#)
- [20] Moseley, et al., 2013. [\[Return to Text\]](#)
- [21] Balint, P.J. , Stewart, R.E., Desai, A., and Walters, L.C. (2011). *Wicked environmental problems: Managing uncertainty and conflict*. Washington, DC: Island Press. [\[Return to Text\]](#)
- [22] Moseley et al., 2013. [\[Return to Text\]](#)
- [23] Lioubimtseva, E. and Adams, J.M. (2004). Possible implications of increased carbon dioxide levels and climate change for desert ecosystems. *Environmental Management*, 33, Supplement 1, S388-S404. [\[Return to Text\]](#)
- [24] FAO . (2008) "*FAO Food Consumption Nutrients spreadsheet - 2008*". Food and Agriculture Organization of the United Nations. Retrieved from http://www.fao.org/fileadmin/templates/ess/documents/food_security_statistics/FoodConsumptionNutrients_en.xls. [\[Return to Text\]](#)
- [25] Diamond, J. (2005). *Collapse: How societies choose to fail or succeed*. New York, NY: Viking. [\[Return to Text\]](#)
- [26] Balint et al., 2011. [\[Return to Text\]](#)
- [27] Balint et al., 2011. [\[Return to Text\]](#)

[28]Kjellstrom, T. and McMichael, A.J. (2013). Climate change threats to population health and wellbeing: The imperative of protective solutions that will last. *Global Health Action*, 6:20816. doi:103402/gha.v6i0.20816 [\[Return to Text\]](#)

[29]Myers, S.S., et al. (2014). Increasing CO2 threatens human nutrition, *Nature*, 510, 139-142. [\[Return to Text\]](#)

[30]Stephenson, J., Crane, S.F., Levy, C., and Maslin, M. (2013). Population, development, and climate change: Links and effects on human health. *The Lancet*, 382, 1665-1673. [\[Return to Text\]](#)

[31]P.M. Blaikie, T. Cannon, I. Davis and B. Wisner. *At Risk: Natural Hazards, People's Vulnerability and Disasters* (London: Routledge, 1994), 9. [\[Return to Text\]](#)

[32]For a thorough discussion of urbanization along coasts and the implications for conflict, see David Kilcullen, *Out of the Mountains: The Coming Age of the Urban Guerilla* (New York: Oxford University Press, 2013). [\[Return to Text\]](#)

[33]Fisher lays out a thorough argument increases in domestic and sexual violence are well documented in developing and developed counties, including the United State and Canada, see Sarah Fisher. "Violence Against Women and Natural Disasters: Findings from Post-Tsunami Sri Lanka," *Violence against Women* 16, no. 8 (2010), 905-906. Literature on the vulnerability of women to climate change mirrors the literature about their vulnerability to disasters. Indeed, Wenden submits that "Institutionalized gender inequality in terms of rights, resources, and voice, these socially ascribed roles and responsibilities make women especially vulnerable to the direct and indirect threats to human security, which come in the wake of climate change, that is ,threats to security of survival, livelihood and human dignity." Anita L. Wenden. "Women and Climate Change: Vulnerabilities and Challenges." In *Climate Change and Human Well-Being*, ed. Inka Weissbecker, (New York: Springer, 2011), 121. Geraldine Terry notes that "When gender issues are mentioned at all in discussion of climate change, it is usually with reference to women's gendered vulnerability....[but] how far is women's vulnerability due to their poverty and how far to non-economic issues, notably cultural norms?" Geraldine Terry. "Introduction." In *Climate Change and Gender Justice*, ed. Geraldine Terry (London: Oxfam, 2009), 3. [\[Return to Text\]](#)



This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#)

