

## I. Indoor Air quality

- A. Addressing the links between indoor air pollution, household energy and human health.” WHO, 2000. *The health burden of indoor air pollution, deforestation and fuel supply, effects of poverty, the economics of obtaining biofuels, quality of life in the home.*  
[http://www.who.int/mediacentre/events/HSD\\_Plaq\\_10.pdf](http://www.who.int/mediacentre/events/HSD_Plaq_10.pdf)
- B. “Childhood Asthma and Indoor Woodsmoke from Cooking in Guatemala.” Schei, et. al.,  
<http://ehs.sph.berkeley.edu/krsmith/admin/pubs/Schei%20et%20al%20IA021.pdf>  
*Study on the increased prevalence of respiratory illness among children living in households where cooking is done on an open fire*
- C. “Cooking up Problems for Babies: Wood Smoke and Low Birth Weight.” Julia Barrett, *Environmental Health Perspectives*, 2001.  
<http://www.ehponline.org/docs/2002/110-1/ss.html>  
*Summarizes a study on women and children in Guatemala relating low birth weight to the mother’s inhalation of woodsmoke associated with indoor cooking.*
- D. “Critical Review of the Health Effects of Woodsmoke.” Naeher, et. al., March 31, 2005.  
[http://209.85.173.104/search?q=cache:otBK5k-I4gcJ:ehs.sph.berkeley.edu/krsmith/publications/2005%2520pubs/HC%2520woodsmoke%2520report%2520Mar%252031%252005%2520\(rev\).pdf+woodsmoke+inside+the+home+honduras&hl=en&ct=clnk&cd=2&gl=us](http://209.85.173.104/search?q=cache:otBK5k-I4gcJ:ehs.sph.berkeley.edu/krsmith/publications/2005%2520pubs/HC%2520woodsmoke%2520report%2520Mar%252031%252005%2520(rev).pdf+woodsmoke+inside+the+home+honduras&hl=en&ct=clnk&cd=2&gl=us)  
*Specific assessments of the health effects of indoor pollution caused by woodsmoke, based on research gathered in several developing countries.*
- E. Environmental Health Perspectives (ehp), PubMed Central website, *see various journal articles:*  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1241060>
- F. EPA Standards for outdoor air quality particulate matter. *For PM<sub>10</sub>, for OUTDOOR AIR is 50µg/m<sup>3</sup> as an annual average per day. The EPA standard for average daily PM<sub>10</sub> is 150µg/m<sup>3</sup> which should be exceeded only once per 100 days. There are no standards for indoor air.*  
<http://www.epa.gov/pm/standards.html>
- G. EPA Standards for outdoor Ambient Air quality Carbon Monoxide. *The EPA states that The U.S. National Ambient Air Quality Standards for Carbon Monoxide in OUTDOOR AIR are 9 ppm (40,000 m/m<sup>3</sup>) for 8 hours, and 35 ppm for 1 hour. There are no standards for indoor air, but a*

*Carbon Monoxide reading in a typical U.S. home is usually 0.*  
<http://www.epa.gov/iaq/co.html#Steps%20to%20Reduce%20Exposure%20to%20Carbon%20Monoxide>)

- H. Evaluation of the Costs and Benefits of Household Energy Health Interventions. Hutton, G. et al. WHO, 2006. *General calculations of regional costs of Disability Adjusted Life Years (DALYs) and savings and economic benefits if appropriate interventions are employed.*  
[http://www.who.int/indoorair/publications/summary\\_household\\_energy\\_health\\_intervention.pdf](http://www.who.int/indoorair/publications/summary_household_energy_health_intervention.pdf)
- I. “Fuel for Life, Household Energy & Health, 2006” World Health Organization.  
<http://www.who.int/indoorair/publications/fuelforlife.pdf>  
*Household energy indoor air pollution and health, household energy and millennium development tools (forest degradation, effects on women and children, trapped by energy poverty), modern stoves and fuels, investing in household energy programs pays off.*
- J. Global Burden of Disease 2004 update (2008). World Health Organization.  
[http://www.who.int/healthinfo/global\\_burden\\_disease/GBD\\_report\\_2004update\\_full.pdf](http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf)  
*Global Burden of Disease analysis provides a comprehensive and comparable for all regions of the world. The overall burden of disease is assessed using the disability-adjusted life year (DALY), a time-based measure that combines years of life lost due to premature mortality and years of life lived in states of less than full health.*
- K. “Greenhouse Implications of Household Stoves: An Analysis for India.” Smith, K.R., Uma, R., Kishore, V.V.N., Zhang, J, Joshi, V., Khalil, M.A.K. Annual Review of Energy and the Environment. 2000.  
<http://www-ramanathan.ucsd.edu/Project%20Surya/References/Smith-et-al-aree25-2000.pdf>  
*Explanation of Products of Incomplete Combustion as a contributor to global warming beyond CO<sub>2</sub> emissions, policy implications including focus on improved stoves that not only save fuel and reduce indoor air pollution but also achieve lower Global Warming Commitment (all gases that affect global warming.)*
- L. “Health Impact of Exposure to Indoor Air Pollution from Developing countries: Knowledge, Gaps, and Data Needs,” Kammen, Daniel M. and Ezzati, Majid 1Risk, Resource, and Environmental Management Division, Resources for the Future, Washington, DC, USA; 2Energy and Resources Group and Goldman School of Public Policy, University of California, Berkeley, California,

USA <http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1241060&blobtype=pdf>

- M. “Honduras Stove Project Phase II, 2007: Global Health and International Medicine.” Mandzuk, C. and Schrowe, L. Indiana University School of Medicine (IUSOM), Department of Family Medicine (DFM) and the IUSOM, Department of Public Health (DPH)  
<http://medicine.iu.edu/documents/DPHDocuments/InternationalHealth/Phase%20II%20-%20AMT%20Version.pdf>  
*Study of improvements in inside the home air quality after an improved Lorena rocket stove intervention in a setting similar to that of Atima.*
- N. “Household Energy, Indoor air pollution and health: Overview of experiences and lessons in Guatemala.” Partnership for Clean Indoor Air. Under the USEPA – Winrock Cooperative Agreement XA-83122601-0  
[http://www.pciaonline.org/files/Guatemala\\_Household\\_Energy\\_and\\_Health\\_Overview.pdf](http://www.pciaonline.org/files/Guatemala_Household_Energy_and_Health_Overview.pdf)
- O. “INDO-US COLLABORATION ON ENVIRONMENTAL AND OCCUPATIONAL HEALTH PROCEEDINGS Joint Workshop On Environmental Risks Of Respiratory Disease Recommendations and Abstracts 2008 Chandigarh, India, Hosted by Department of Pulmonary Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh India. Compiled by Dr. Jindal, S.K, Dr. Singh, N.  
*“Research presentations on health effects of indoor airpollution and outdoor airpollution including asthma, allergies, and other respiratory illnesses.”*
- P. “Indoor Air Pollution and Respiratory Health Among Honduran Women.” Clark, et. al., Colorado State University, Fort Collins, Colorado, 2006. Poster downloadable at [http://www.bioenergylists.org/ser\\_iap](http://www.bioenergylists.org/ser_iap)  
*Good visual aid with concise information showing how replacing traditional cookstoves diminishes respiratory illness in Honduran women.*
- Q. “Indoor air pollution in developing countries a major environmental and public health challenge.” Bruce, N., Perez-Padilla, R., Albalak, R. WHO, 2000. <http://www.scielosp.org/pdf/bwho/v78n9/v78n9a04.pdf>
- R. “Indoor Smoke from Solid Fuels: Assessing the environmental burden of disease at national and local levels.” Desai, Mehta, S., Smith, K.R., World Health Organization, 2004.  
[www.who.int/entity/quantifying\\_ehimpacts/publications/en/Indoorsmoke.pdf](http://www.who.int/entity/quantifying_ehimpacts/publications/en/Indoorsmoke.pdf)  
*Global study on the disease burden associated with solid fuel use. Provides useful information on the burden of health impact on women and children, and the relative risk of children vs. adults. Estimate that in Honduras, 66% of households use solid wood fuels. Acute Lower*

*respiratory illness is an important cause of death in the elderly with the largest impact on children. Globally 2.6% of all ill health is attributable to indoor smoke from solid fuels nearly all in poor regions.*

- S. “Kitchen Performance Test, 2007” Prepared by Dr. Rob Bailis with input from Kirk R. Smith and Rufus Edwards, Household Energy and Health Programme, Shell foundation. *The principal field based procedure to demonstrate the effect of stove interventions on household fuel consumption.*  
[http://ehs.sph.berkeley.edu/hem/hem/protocols/KPT\\_Version\\_3.0\\_Jan2007a.pdf](http://ehs.sph.berkeley.edu/hem/hem/protocols/KPT_Version_3.0_Jan2007a.pdf)
- T. “Lung Function and symptoms among indigenous Mayan women exposed to high levels of indoor air pollution, 2007.” Diaz, E., Bruce, N., Pope, D., Lie, R.T., smith, K.R. and Smith-Sivertsen, T. *International Journal of Tuberculosis and Lung Disease* 11(12): 1372-1379. *Study estimates the prevalence of respiratory symptoms and lung function among women in rural Guatemala and an assessment of the effect of improved cookstoves on their health.*  
[http://ehs.sph.berkeley.edu/guat/publications/diaz\\_lung%20function\\_2007.pdf](http://ehs.sph.berkeley.edu/guat/publications/diaz_lung%20function_2007.pdf)
- U. “Outdoor Air pollution and acute respiratory infections among children in developing countries. 2002.” Romieu, I., Samet, J. Smith, K.R., Bruce, N.  
[http://ehs.sph.berkeley.edu/krsmith/publications/02\\_romieu\\_1.pdf](http://ehs.sph.berkeley.edu/krsmith/publications/02_romieu_1.pdf)
- V. Partnership for Clean Indoor Air website  
<http://www.pciaonline.org/partners/search?page=4>  
*Website listing over 300 public and private organizations have joined the Partnership for Clean Indoor Air and are contributing their resources and expertise to improve health, livelihood, and quality of life by reducing exposure to indoor air pollution, primarily among women and children, from household energy use. The Partnership focuses on four priority areas which have proved to be essential elements for sustainable household energy and health programs in developing countries: (i) Meeting Social/Behavioral Needs; (ii) Developing Local Markets; (iii) Improving Technology Design and Performance; and (iv) Monitoring Impacts of Interventions.*
- W. Smith, Kirk R. University of California, Berkeley, website with links to multiple research papers.  
<http://ehs.sph.berkeley.edu/krsmith/page.asp?id=1>  
<http://ehs.sph.berkeley.edu/krsmith/page.asp?id=5>
- X. Smith, K.R. Biofuels, Air Pollution and Health: a global review, New York, Plenum Press, 1987,

- Y. "Smoke, Health and Household Energy: Vol. 1." Ed. Bates, May 2005  
Downloadable at: [http://practicalaction.org/?id=smoke\\_background](http://practicalaction.org/?id=smoke_background)  
*Includes useful WHO statistics on people dying from illnesses caused by indoor smoke. Emphasizes that women & children are at a higher risk. Emphasizes poverty as a risk factor for exposure, basic information on primitive cookstoves, improved stoves in Kenya, monitoring levels of Carbon Monoxide inside homes.*
- Z. Smoke The Killer in the Kitchen: Indoor Air Pollution in Developing Countries, Warwick, H. Doig, A. London, 2004.  
[http://www.ehw.org/Healthy\\_House/documents/kitchensmoke.pdf](http://www.ehw.org/Healthy_House/documents/kitchensmoke.pdf)  
*"A crisis affecting poor women and children, how smoke kills and injures, reducing exposure to indoor air pollution, stove programmes"*
- AA. "Water Boiling Test, January 2007" Prepared by: Rob Bailis, Damon Ogle, Nordica McCarty, and Dean Still, with input from Kirk R. Smith and Rufus Edwards for the Household energy and Health Programme, Shell Foundation.  
[http://ehs.sph.berkeley.edu/hem/hem/protocols/WBT\\_Version\\_3.0\\_Jan2007a.pdf](http://ehs.sph.berkeley.edu/hem/hem/protocols/WBT_Version_3.0_Jan2007a.pdf)  
*Assists in understanding how well heat is transferred from the fuel to the cooking pot.*

## II. Global Warming

- A. "A laboratory comparison of the global warming impact of five major types of biomass cooking stoves" By: Nordica MacCarty, Dean Still, Damon Ogle, Dr. Tami Bond, Christoph Roden, June, 2008  
<http://www.aprovecho.org/webcontent/publications/assets/MacCarty%20E%20SD%20GWP.pdf>
- B. Aprovecho Research Center Website <http://www.aprovecho.org/>  
*Studies on fuel efficient stoves, principles for different kinds of stoves, cultural factors in designing stoves.*
- C. Certifying Carbon Credits with the Gold Standard  
<http://www.cdmgoldstandard.org/Certifying-GS-Carbon-Credits.112.0.html>  
*Describes the process of certifying offsets.*
- D. Gold Standard  
<http://www.cdmgoldstandard.org/About-Gold-Standard.62.0.html>

*The Gold Standard Foundation is a non-profit organization under Swiss law that operates a certification scheme for premium quality carbon credits.*

- E. Rosenthal, Elisabeth. "Soot from Third World Stoves is new target in climate fight." New York Times, April 16, 2009.  
[http://www.nytimes.com/2009/04/16/science/earth/16degrees.html?\\_r=1&scp=1&sq=April%2016,%202009%20Elisabeth%20Rosenthal&st=cse](http://www.nytimes.com/2009/04/16/science/earth/16degrees.html?_r=1&scp=1&sq=April%2016,%202009%20Elisabeth%20Rosenthal&st=cse)  
*New information indicates that global warming may be more influenced by soot from inefficient cookstoves than previously thought.*
- F. Tollefson, Jeff. "Climate's Smoky Spectre." Nature, Vol. 460, pg 29-32. July 2009  
[http://www.earthjustice.org/our\\_work/issues/international/black-carbon/documents/tollefson-in-nature-2009-climates-smoky-spectre.pdf](http://www.earthjustice.org/our_work/issues/international/black-carbon/documents/tollefson-in-nature-2009-climates-smoky-spectre.pdf)  
*Crucial difference in lifetime of CO2 vs. soot, curbing soot could result in more immediate climatic benefits, controlling up to 30% of global warming if you could control soot, hope is there that concerns over climate change will energize efforts ... to replace inefficient cooking stoves,*
- G. Wallack, Jessica Seddon and Ramanathan, Veerabhadran. "The other climate changers: why black carbon and ozone also matter." Foreign Affairs, 88.5 (Sept-Oct 2009): p105(9).  
*The warming effect of black carbon was discovered only recently, excellent description of black carbon as a form of particulate air pollution, how suspended particles absorb sunlight warming up the atmosphere and the earth itself, , short lived climate altering pollutant, can be significantly limited at low cost with technology that exists, , updated designs for biomass fueled stoves can substantially cut the amt of black carbon and other pollutants.*

### **III. Deforestation & Degradation**

- A. Addressing the links between indoor air pollution, household energy and human health." WHO, 2000.  
[http://www.who.int/mediacentre/events/HSD\\_Plaq\\_10.pdf](http://www.who.int/mediacentre/events/HSD_Plaq_10.pdf)  
*Stoves used in developing countries have a low efficiency (around 15%) with (for example) nearly 10% of the energy of wood being lost as products of incomplete combustion*
- B. Butler, R.A., from project on Tropical Rain Forests.  
<http://rainforests.mongabay.com/20honduras.htm>  
*Honduras forest figures including coverage, rate of deforestation, removal*

*for wood fuel, etc. information on illegal timber production, In 2000 independent estimates put forest cover at 48% while the government claimed 56%. More than 37.1% of Honduran forests have disappeared since 1990. Worse, since 1990, Honduras's rate of forest loss has increased by 9 percent and averages about 252,400 acres per year.*

- C. Causes and Consequences of deforestation among the prehistoric Maya. Journal of Human Ecology December 29, 2004. Abrams, E. and Rue, D. <http://www.springerlink.com/content/m7k5n9434560n9nu/?sortorder=asc&v=expanded>

*The collapse of the Classic Maya state is investigated from an ecological perspective. Settlement and palynological data from the Maya center of Copan, Honduras, are presented which indicate that substantial clearing of the upland pine forest had occurred prior to and during the abandonment of that urban center. A comparative use-rate analysis suggests that the increased clearing of pine was primarily caused by demands for domestic fuel wood by an expanding urban population. This forest mismanagement is directly linked to accelerated erosion rates which are considered primary elements in the collapse of the Maya state.*

#### **IV. Soil condition, water quality**

- A. "Stymieing Soil Erosion on Hillsides in Honduras: A New Rural Agenda." Jennifer Hashley, ASPI, December, 2003  
[ocw.tufts.edu/data/32/374546.pdf](http://ocw.tufts.edu/data/32/374546.pdf)  
*Thorough study on soil erosion in Honduras.*
- B. "Natural Disasters in Honduras." Manuel Winograd, International Center for Tropical Agriculture, Cali, Colombia.  
<http://www.cru.uea.ac.uk/tiempo/portal/archive/issue43/t43a2.htm>  
*Describes why deforested lands are vulnerable to natural disaster due to soil erosion. Honduras' vulnerability to landslides & the corresponding effect on water supplies*
- C. "Cross-level Institutional Processes and Vulnerability to Natural Hazards in Honduras." Lisa Segnestam, et. al., Stockholm Environment Institute, 2006.  
<http://www.sei.se/risk/> (click on SEI\_Segnestam\_Honduras\_2006.pdf)  
*Vulnerability to natural disaster in Honduras due to soil erosion & deforestation.*

#### **V. Biodiversity**

- A. "TED Case Studies: Honduras and Deforestation."  
<http://www.american.edu/TED/honduras.htm>  
*Honduran biologist Ernesto Vargas observes that "the process of deforestation has disrupted the ecological equilibrium in Honduras" (qtd. in Gollin 1994). Many rare plants and animals inhabit the Honduran rain forest, including the quetzal, the harpy eagle, the iguanas, the tapir and*

*orchids that depend upon the biodiversity of the forest area. The loss of the ecological niche for these species would eventually result in the loss of the species themselves.*

- B. “The Illegal Logging Crisis in Honduras.” Environmental Investigation Agency, 2005  
[http://www.illegal-logging.info/item\\_single.php?item=document&item\\_id=262&approach\\_id=15](http://www.illegal-logging.info/item_single.php?item=document&item_id=262&approach_id=15)  
*Includes information and statistics on the biodiversity that exists within Honduras, including number of endangered species and concentration of forested areas.*
- C. “Honduras: Environmental Profile.” Mongabay, 2005.  
<http://rainforests.mongabay.com/20honduras.htm>  
*General statistics on Honduras & deforestation in Honduras. Provides that “65% of the country’s energy comes from fuelwood.”*

## **VI. Life of the Poor in Honduras**

- A. “The Quest for Fire: Hazards of a Daily Struggle – Focus.” Environmental Health Perspectives, January 2003.  
<http://www3.interscience.wiley.com/journal/119183210/abstract?CRETRY=1&SRETRY=0>  
*Discusses the hazards associated with gathering and transporting firewood, and health negative effects associated with firewood consumption. Discusses the role of fuelwood consumption in deforestation, specifically in Asia. Also supports #1 – Air Quality.*
- B. “Solar Cookers for Developing Countries.” Currit & Jones, Brigham Young University.  
<http://solarcooking.org/Solar-Ovens-for-Developing-Countries.htm>  
*Discusses the economic benefits of replacing traditional cookstoves with solar cookers. Useful to our argument because it emphasizes time spent gathering wood as a significant economic burden for developing countries.*
- C. “Design Principles for Wood Burning Cook Stoves.” Bryden, et. al., Aprovecho Research Center & Shell Foundation.  
<http://bioenergylists.org/stovesdoc/Pcia/Design%20Principles%20for%20Wood%20Burning%20Cookstoves.pdf>  
*Chapter 2 outlines Larry Winiarski’s design principles, which have provided the basis for constructing the La Justa stove. The principles show the importance of maximizing heat transfer for cleaner burning fires, and illustrate how “a hot raging fire is clean, but a cold fire can be very dirty.”*

- D. "Identifying the Drivers of Sustainable Rural Growth and Poverty Reduction in Honduras." Jansen, et. al., International Food & Policy Research Institute, April 2005.  
[www.ruta.org/admin/biblioteca/documentos/350\\_EN.pdf](http://www.ruta.org/admin/biblioteca/documentos/350_EN.pdf)  
*Analyzes the nature and causes of poverty in rural Honduras. Identifies 8 specific "livelihood strategies" whereby household resources are successfully put to use to maximize economic benefit. Includes in-depth analysis of the financial state of rural Honduran households. Compares the relative poverty of female-headed households vs. male-headed households. Poverty is widespread and deep in rural Honduras, particularly in hillside areas where most households have limited assets on which to base their livelihood strategy. High poverty density in hillside areas & the fact that 80% of all rural poor are located in these areas..."*
- E. "Fact sheet: Honduras - Women, agriculture and rural development." Food and Agricultural organization, quoting World Bank Atlas, 1994.  
<http://www.fao.org/docrep/v9650e/v9650e00.HTM>  
*The section titled "Role of women in agriculture" describes the role of women in rural Honduran society and clarifies women's position in the economic scheme relative to that of men.*