

VISIONS

MAGAZINE



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VISIONS MAGAZINE is dedicated to the world we live in and the world we hope to create. *Visions* is a non-partisan, peer-reviewed publication that contains articles from disciplines associated with environmental studies. Just a few of these disciplines include communications, political science, economics, philosophy, religion, art and English. *Visions* is a faculty-student organized and operated publication that features the works of Elon University students. The ultimate goal of *Visions* is to allow students to explore scholarly research, writing, and review in a professional setting. In addition, *Visions* provides the opportunity to publish for students with interests in the environment and sustainable development.

Contributing to Visions:

Visions seeks compelling, interesting, well-written, creative contributions on environmentally related topics. Major contributions to the magazine should be grounded in scholarly literature and/or reflect the conventions of research and writing associated with a specific academic field of study. All submissions must receive positive blind peer reviews before consideration for publication. We discourage submissions that are political or purely editorial in nature. For the next issue of *Visions*, we are especially interested in fiction, poetry, and photographic submissions.

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for more information about the criteria for submissions and information about the magazine.

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Going Extinct for a Bowl of Soup:

An Examination of the Depiction of Shark Finning in American and Chinese Newspapers

By Claire Wall

ABSTRACT: This paper examines the depiction of shark finning in American and Chinese newspapers. Shark finning refers to the removal of shark fins for profit while leaving the rest of the fish. This study examines the role of the media in portrayals of shark finning through a narrative framing analysis, allowing the researcher to understand how the patterns and themes of American and Chinese articles may influence audiences' understandings of the issue.

INTRODUCTION & BACKGROUND

China's shark-fin industry has greatly increased with the growing Chinese middle class. Shark fin soup is a traditional Chinese luxury, costing up to \$100 a bowl. While shark finning is an issue in other parts of the world, the vast majority of finning is done by China.

One pound of shark meat can go for up to \$300, but the environmental costs are even higher. To obtain a shark's fin, one must catch the animal, remove its fins, and then dump it back into the ocean to slowly and painfully die. The shark meat is not particularly valuable and just takes up space on the boat, so fishermen collect only the fin. The practice is illegal in the waters of the European Union, United States, and Australia, but a black market still operates around the laws. For instance, if a ship is classified as a cargo vessel instead of a fishing boat, it can collect as much shark fin as it pleases. Nearly 1.5 million sharks are killed each week just so humans can use their fins (Mahr).

While overfishing is harmful to all species of fish, it is especially so for sharks. Sharks grow slowly and do not reach sexual maturity until 12 or 14 years of age, making their reproduction much slower than most fish.



Shark by chrisharvey from fotolia.com

Since the 1950s, certain breeds have declined up to 85 percent in the Atlantic, Pacific, and Indian oceans. In fact, 126 out of 460 shark species are now threatened by extinction. Because sharks are near the top of the food chain, the entire ecosystem is disturbed with their rapid decrease. Other species have started decreasing as a result of shark finning, such as the giant Humboldt squid off the North American West coast and the cow nose ray populations of the East coast (Mahr).

The shark's declining rate is weighed against the delicacy of cultural cuisine. The dish is often eaten not for the taste, but for tradition and respect—it is difficult to deny something that you know costs over \$100. Serving the dish is a symbol of the host's good fortune and declining may be perceived as rude and culturally incorrect. As Matt Rand, director of the Pew's Global Shark Conservation Division, says, "Sharks have made it through multiple mass extinctions on our planet. Now many species are going the way of the dinosaur—for a bowl of soup."

PURPOSE OF STUDY

The news media has long been studied in regard to its ability to transmit issues salient from the news media to the public, thereby "setting" the public's agenda (McCombs & Shaw, 1972). Agenda-setting theory promulgates the idea that media do not tell people what to think but what to think about. However, it is also important to consider how issues are presented via the media. According to Ghanem (1997), this may be accomplished by emphasizing certain attributes of a public issue, including cognitive elements (such as ideologies) and affective elements (such as positive and negative tones). The purpose of this study is to examine shark finning in newspapers in order to know more about the role the media has in the portrayal of this issue. Specifically, this study asked the following research question: How is the issue of killing sharks for their fins portrayed differently in Chinese and American newspapers?

NARRATIVE FRAMING APPROACH AND METHODOLOGY

For this research I examined articles concerning shark finning in two widely circulated newspapers, USA Today and China's People's Daily. USA Today is one of America's most read newspapers and is known for its accessibility, readability, and infographics. It is an agenda-setting media outlet with a large impact in the United States and a 1.8 million circulation (USAToday.com). People's Daily is an English-language newspaper of the Communist party in the People's Republic of

China. It provides direct information on the politics and viewpoints of the Party and is published worldwide with a circulation of 3 to 4 million (english.peopledaily.com). The articles selected for analysis were found by searching the websites of each newspaper. The timeframe used is from July 2008, which is when the United States House of Representatives amended an existing shark finning law, to December 2011. This study examined a total of 16 articles, 9 coming from USA Today and 7 coming from People's Daily.

Using a qualitative method of discourse analysis allowed me to study the text of each article, making note of how the newspapers portrayed the topic including the meaning behind the language used. I specifically used narrative analysis, a qualitative research method that emphasizes "stories" told by the subject matter being studied to see how people "impose order on the flow of experience to make sense of events and actions in their lives" (Riessman). The researcher's role is to identify patterns, themes, and discourses based on these stories and recognize a deeper meaning that is not evident through quantitative research methods.

FINDINGS

I identified four narratives regarding shark finning in my analysis. Overall themes focused on the environment, legislation, tradition and race.

1.

Environmental: Shark finning harms the environment by decreasing biodiversity, interrupting the food chain, and destroying the natural ecosystem.

Obtaining the shark's fin is a disputed action because of something greater than cruelty to animals: it actually harms the entire ecosystem surrounding it because of the delicate food chain that sharks are a part of. This concept is accepted as background knowledge to people who know a lot about shark finning, but for the average reader, it may not be clear. Only a few of the articles featured comprehensive background information on the environmental effects of shark finning. This means that the average person reading the article may assume that the issue surrounding shark finning is just one of animal rights. This, of course, is an issue, but the problems associated with the issue of finning are much deeper than animal cruelty, though cruelty is often what attracts many readers and activists to the issue. While the thought of a mutilated animal slowly dying at the bottom of the ocean churns the heart, the notion of an entire ecosystem collapsing as a result is even more serious.



Soft corals in the blue ocean by Makio Kusahara from sxc.hu

“When the ocean is the backdrop for an article, sharks may be seen as a pressing issue, but when shark finning is lined up against other major state and national issues, it may be lower on the public’s agenda.”

Overall, People’s Daily focused more on the environmental impacts of shark finning than USA Today. Articles in People’s Daily used headlines such as “China key to protecting endangered species” and “Environmentalists Circling Shark Fin Soup” as opposed to “Senate Passes Bill Banning Shark Finning in US Waters.” This is logical, since Chinese readers may not be as appalled at killing an animal for their fin as American readers due to the history and tradition of the practice. They can, therefore, allow themselves to see past the animal cruelty and into the environmental destruction. Cultural differences prove to play a major role in the media.

2.

Legislative: Shark finning is an important topic among legislative bodies that are attempting to end the practice.

The American governmental system requires legislation to be passed for an official decision to be made state or nationwide. Many of the USA Today articles were focused on decisions being made in Congress, shifting attention from an animal being harmed in the natural world to a group of individuals in suits in Washington making decisions about the outdoors. When the ocean is the backdrop for an article, sharks may be seen as a pressing issue, but when shark finning is

lined up against other major state and national issues, it may be lower on the public’s agenda. For example, a feature article focusing on the details and impacts of shark finning may convince a reader to stand against the issue, but in an article such as “Several New State Laws Set for 2012” that barely skims the surface of the issue, finning seems unimportant.

Five out of the nine USA Today articles studied had a primarily legislative narrative. That is, the article did not focus on the causes, impacts, or issues surrounding shark finning, but on the laws that are for or against it. Instead of details, they only provide a brief blurb about what shark finning actually is and what lawmakers are doing to stop it. Some simply mention the issue in passing; one article on various new state laws being implemented in 2012 states, “Sale, trade or distribution of shark fins, popular in Chinese cooking, is prohibited in most cases. Oregon has a similar new law” (Welch). Another article, “House moves to keep shark fins out of fancy soups” outlines in detail updates to a previous shark finning bill, using many details and giving quotes from officials and even the number of the bill in case readers want to pursue further research. Likewise, another article published in 2010 outlines how the UN protects one shark species but not others, giving scientific detail (this article was published in USA Today’s science section) on each species. The findings suggest the USA Today

may believe that readers want to know about specifics of the legal process rather than the implications of the topic in general and why it's harming the environment.

Interestingly, this narrative is much less prominent in People's Daily, as there are not as many pressing laws in China. While the USA Today articles have a tone of creating the rules for the common good, People's Daily articles seem more about obeying the rules that have been created for them.

3.

Tradition: Shark fin soup is a traditional Chinese delicacy that shows the high status of those who serve it.

The issue of tradition is very significant to the elimination of shark finning. It is featured predominantly in People's Daily articles, but also mentioned with lesser emphasis in USA Today articles. It is implied that this is the foremost reason that shark finning could never be eliminated. It is considered a bold move to remove shark fin soup from a menu. A recent article in USA Today, for example, documented the luxury Asian hotel line Peninsula removing shark fin soup from their menu. While this action is primarily pragmatic, it is also symbolic, since Peninsula is based in Hong Kong and associated with some of the most prolific properties in the world.

In addition to the issue of tradition, it is also important to note that shark fin soup is a strong symbol of status, and those who give up the soup also symbolically give up a sense of power. Hotel chains that host large events, especially weddings, are reluctant to give up shark fin soup in fear that they may not attract as many customers who want to host events at their venues. An article in People's Daily tells how even after a request to remove shark fin soup from the menu, the hotel

refused: "the hotel insisted that the banquet would be degraded without the shark fin soup. They were not willing to look for alternatives either" (Yijun).

The issue of tradition is being responded to by well-known Chinese figures. Celebrities of Chinese descent are making a strong statement by announcing to the public that they no longer eat shark fin soup. Yao Ming, a retired professional basketball player of Chinese descent, publicly gave up shark fin soup as a step towards ending the process of shark finning. This narrative, which is presented in several of the China Daily articles, is closely intertwined with tradition, since it takes a brave celebrity to deny his heritage's patterns and traditions. While his advertisements may not be seen prominently in America, there are ads of the popular basketball player proclaiming his choice not to eat shark fin soup all over China. We saw retired NBA star Yao Ming's public service advertisement against eating shark fin soup and became aware of shark protection," (Yijun), one former shark fin soup eater in China stated. Other Chinese athletes and a well-known Chinese lawmaker have also publicly given up shark fin soup. While USA Today reports on the importance of tradition as well, it is discussed more prominently and with greater weight in People's Daily.

4.

Racial: Some legislative officials, especially those of Chinese descent, find the shark finning bills racist.

This is the narrative I found most surprising and interesting. A bill before the California Legislature seeking to ban the trade, possession, or sale of shark fins split the Asian delegation into those who viewed the bills as racist against Chinese-Americans and those who did not. Senator Ted Lieu said, "This bill goes



Shark fin soup in the bowl by Wong Hock Weng from fotlia.com

“Shark finning is much more than an environmental issue, however; it is also a matter of culture, tradition, and changing times.”

out of its way to be discriminatory.” Lieu said, “They single out one cultural practice.” Senator Leland Yee, California’s first Chinese-American senator, was also adamant about the bill’s racism. “It sends a very bad message, not only to us here in California but throughout the rest of the world, that discrimination against Chinese-Americans is OK.” Yee told senators, “We shouldn’t have to defend our culture any more than you others should defend your culture, because we ought to be respectful of each others’ culture.”

The decision is being made in California because the state is the biggest market for shark fin outside of Asia. The bill had support from both Republicans and Democrats; in fact, the article suggests the bill almost transcends politics into more of inherent belief, with the exception of the senators who view the bill as racist and who do not hold the same beliefs. The USA Today article ironically has racist undertones as it accuses others of being racist. By writing about Asian senators viewing the bill as racist, USA Today is perpetuating the idea that all Asian-Americans live a backward, othered lifestyle that focuses solely in the past.

DISCUSSION AND ANALYSIS

Agenda setting is the idea that the media does not tell the people what to think, but what to think about. The agenda setting theory states that the news media does have the potential to impact what viewers consider newsworthy. Prominent newspapers such as USA Today and People’s Daily are likely to impact what

people think about shark finning, as it is not an issue that most people encounter on a day to day basis. This is why it is important to study the portrayal of the issue from the viewpoint of multiple papers — it reveals how the public interprets a serious issue.

People’s Daily gives more overall information on shark finning than USA Today. Most of the articles available on the USA Today website were blurbs summarizing a brief facet of the shark finning issue, often about legislative activity, while People’s Daily has feature articles with hard information, percentages, and pictures. Before researching, I would have hypothesized the opposite. As an American, I assumed People’s Daily, as a newspaper of the Communist Party, would have given less weight to the harmful practice their country participates in. Instead, this publication actually provided more information than USA Today, which only featured short blurbs.


The USA Today articles came from all over the newspaper—breaking news, the science section, and even the travel section. Shark finning is in some ways without an identity. It is not a pressing enough issue to gain front-page value, and it’s broad enough to bridge many different sections and areas of time. It is also not a time-sensitive issue for most people, so it may even be used as filler on a slow news day. As with many environmental issues, its importance is difficult to display because of its unobtrusive nature, meaning that is removed from one’s experience (Cox 2010). Most people are not eating shark fin soup, and many, particularly in America, have never even heard of the practice, thus presenting a challenge for news organizations to dedicate space to the issue. Shark finning is much more than an environmental issue, however; it is also a matter of culture, tradition, and changing times.

In both newspapers, the articles focused on the soup itself – cost, taste, whether or not hotels are serving it – rather than the destruction of the food chain or threat of overfishing. This issue is harming the environment, but that is something very rarely focused on in articles. Because of the unobtrusive nature of shark finning in the media, shark finning is pushed to



Flatnose Shark by dms1259 from sxc.hu

be a more sensational story focused on animal cruelty rather than environmental harm. The nature of the media narrows the subject to only the most dramatic components of the issue without fully articulating the greater consequences shark finning may have.

This study did have limitations. It would be more comprehensive with a larger sample size. Additional research could include more newspapers and examinations of print and online journalism. The language barrier was also a problem, as not all People's Daily articles are translated into English and the ones that are could be mistranslated. 

Claire Wall is an English major with minors in Communications and Women's and Gender Studies. She is the co-editor for Visions Magazine, Campus Kitchen Cooking Shift Leader, and a Study Abroad Student Ambassador. After graduation she plans to work in the nonprofit sector.

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Guest Editorial

Biofuels at a Crossroads: Getting the U.S. Off of Imported Oil

By Douglas A. Durante

In an era of severe budget cuts at all levels of government, can we still afford to go green? With reports of \$5 gasoline coming, we'd better.

The U.S. has been on a quest to reduce our reliance on imported oil for decades. Biofuels like ethanol are an important step. Effects of oil dependence include our presence in the Middle East, the flow of dollars to terror and drug regimes, environmental damage, and an overall punishing, debilitating impact on our society that comes from billions of dollars going to foreign countries. Yeah, let's go green.

There is a line in a Kermit the Frog song that laments, "It ain't easy being green." He certainly got that right. Green, clean, alternative fuels we make here at home are better than dirty, imported fuels that we depend on others for. And going green doesn't mean hugging trees, washing your clothes in a stream, or reusing your plastic bags, although you certainly can do that. What it does mean in terms of energy is getting away from fossil fuels for whatever reason you choose, including to make a buck. But it's not easy to transition out of a system that has been in place for over 100 years, and frankly, we are not very good at staying on what should be an obvious path towards economic, energy, and environmental security.

The alternative fuels movement in the United States has been plagued by stops and starts over the past 40 years and it shows. To the extent we have had any progress at all, the motives behind that progress vary, depending on the events in the world around us. Certainly there is nothing like high gasoline prices to get people fired up. At other times, recognition of environmental benefits of non-petroleum fuels takes precedence. Or, it may be the realization by even the most out-of-touch citizens that there is a connection between oil and the fact that we have to ensure its flow, and that means sending our sons and daughters to fight for it. Any one of these reasons justifies the decision to reduce our use of oil; taken together, these reasons should make this a startling, forehead-slapping no-brainer.

“There is a line in a Kermit the Frog song that laments, ‘It ain’t easy being green.’ He certainly got that right.”

PUBLIC POLICY AND THE ROLE OF GOVERNMENT

There is nothing wrong with using the tax code to stimulate a sector that lawmakers deem worthy. In fact, other than funding or conducting research, it is one of the few tools the government has. The tax code can and does drive public policy. There is no better example than the fact that government wants to encourage home ownership and as a result every homeowner in America is subsidized through the mortgage interest deduction.

Energy has been another area where tax incentives have dictated our choices. Among the options to replace oil, biofuels offer tremendous potential with fuel grade ethanol from renewable biomass already making a meaningful contribution to the fuel supply. However, the ethanol success story stems from 25 years of deliberate public policy measures, including tax breaks. This has resulted in the domestic ethanol industry supplying more oil on a gasoline equivalency basis than any country we import from with the exception of Canada. The associated tax revenue, job creation, reduction of pollution, and other benefits of these public policy measures prove that the tax incentive achieved its desired objective. Ethanol is just one of the biofuels; biomass diesel, butanol, algae-based fuels, and even green gasoline are coming. But make no mistake; it has been a rough road to this point. The naysayers and critics have no limits as to why we should stay dependent on oil. The multinational oil companies make billions of dollars off all of us and are not going to give up that monopoly easily.

With the previous four decades as evidence, beginning with the first Iranian Oil embargo in 1973 right up to the recent focus on reducing carbon emissions and addressing climate change, it is astounding to hear the lame excuses as to why we cannot develop alternative fuels. The anti-greens say climate change is a myth and alternative fuels offer no clear environmental advantages. Deficit hawks and budget cutters decry any intervention in the market, ignoring the fact that the

petroleum industry has been the beneficiary of billions of dollars in subsidies for 100 years, which has more than a little to do with why they are so entrenched. Until recently, ethanol was subsidized. This subsidy has now expired, but petroleum continues to inexplicably receive a wide range of taxpayer supported benefits.

So in this era of fiscal austerity, what can the government do? Quite a bit, actually, and at little or no cost. First of all, eliminate subsidies to the petroleum industry. Even Texas oilman George Bush was on record supporting that position. Secondly, Congress needs to stand fast in supporting the federal Renewable Fuels Standard they established in 2005 and expanded in 2007, which requires that oil companies include some small percentage of renewable fuels in the fuels they sell. That requirement has picked up where the tax incentive left off and has lowered the cost of gasoline to consumers by expanding supply beyond what comes from the oil barrel.

Ethanol is the most immediately available of the renewables and is leading the way to the development of fuel from a wide range of feedstocks, including agriculture wastes, trash, and specialty crops. Critics claim ethanol is made from food and unfortunately many otherwise intelligent people accept that statement without looking at the facts. Those facts include that corn used for ethanol production is not human food grade and nearly two-thirds of its value as a nutrient is returned to the food chain as high protein animal feed. While world grain prices have without a doubt increased, the U.S. ethanol industry uses 3% of the world's grain; the remaining 97% is being driven by other factors. The same countries that are bidding up oil prices are enjoying meat and dairy products for the first time and are willing to pay high prices for grain to get it. The use of feed grain for ethanol has very little impact on food prices. Government and private studies all agree that food prices are driven by energy costs, transportation, labor, packaging, taxes, and lastly, the cost of grain. The cost of oil, which ethanol replaces, has five times the impact on the price of a box of corn flakes than the corn itself. It is important to note

“So in this era of fiscal austerity, what can the government do? Quite a bit, actually, and at little or no cost.”

the Renewable Standard actually caps the amount of corn that can be used to comply with the requirement and stipulates the use of other feedstocks. A closing thought on the matter of using corn for fuel is that this demand has unleashed a period of extraordinary efficiency in which we are producing more corn on less land, with less fertilizer and energy inputs, than ever before. Creating demand sector for fuel has in fact resulted in American agriculture producing more food.

Others claim new cars, pumps, distribution systems, and anything else related to a new product is cost prohibitive. Nonsense. One month's oil bill would pay for a substantial shift to flex-fuel vehicles and pumps that would give consumers a choice, and by extension, reduce prices. A Merrill Lynch study in 2007 concluded that the addition of ethanol in the gasoline pool reduced the price of all gasoline to consumers by 15-50 cents per gallon. Over the course of a year, with the U.S. using 130 billion gallons of gasoline, that savings represents billions of dollars that stayed in consumers' pockets. As biofuels lower the price of crude oil, that benefit extends to hundreds of petroleum-based products, ranging from carpeting to plastic bags to lipstick. The auto industry can build vehicles that can run on up to an 85% blend of ethanol, and there are already 10 million such vehicles on the road today. With approximately 77,000 fuel pumps currently in use in the U.S., replacing the 10% that wear out every year with flex-fuel pumps means we could transition to a Brazil-like flex-fuel nation in a decade. Going green can produce green in the form of jobs and economic stimulus.

The grab bag of objections includes water usage, which is a non-issue in that water is needed for essentially any liquid fuel and refining oil into gasoline uses twice the amount of water as ethanol production. Or the so-called energy balance issue, which claims that ethanol consumes more energy than is produced. Again, nonsense. Government and private studies document a nearly 2:1 gain in net energy. To the extent wastes or other feedstocks with no new energy inputs are used, the net gain is staggering while helping solve landfill and waste disposal issues.

There is, plain and simple, no credible argument against the managed development of biofuels. Period.

ECONOMICS, ENERGY, AND NATIONAL SECURITY

Our trade deficit of hundreds of billions of dollars is fueled by our oil bill. We send 20 to 30 billion of our hard earned dollars every single month to foreign countries for the privilege of buying oil (sometimes finished gasoline), which we then refine, burn in our cars, and then repeat the process. We pay what they tell us to pay because we have no alternatives. Even the thought of conflict in Iran or a shortage somewhere results in higher prices. These countries do this because they can. There is no competition. High energy prices affect every consumer, every driver, and every citizen and taxpayer. Only in the last decade have we begun to make any measurable progress in reducing oil consumption. Some of that credit goes to the aforementioned success of the biofuels program; some is due to increased efficiency; and some to plain old conservation in the form of less driving. In addition, in somewhat of an ironic twist, the high cost of oil has actually made it economical to re-open some U.S. oil wells, which has resulted in a slight, and likely temporary, decrease in the percentage of oil we import. That changes nothing, however, in terms of our vulnerability to a supply disruption, or worse, a long term shortage. It wouldn't take much for the Straits of Hormuz or one of the other key chokepoints for the global oil trade to shut down and bring our economy to its knees in 10 days.

What the free marketers and the oil companies' propaganda fail to mention is the fact that there are some new kids on the block that are willing to bid for all that foreign oil and drive our prices up even more. China, India, and Korea are just some of the countries discovering that driving beats walking or bicycling. China now has more cars than the United States and—get ready for a newsflash— they run on petroleum. For these countries, improving their standard of living will require energy and they will use oil for both transportation and stationary source power.

“High energy prices affect every consumer, every driver, and every citizen and taxpayer.”

I am a minority in the alternative fuel movement; I never seriously thought we could or even should eliminate oil. We simply need to augment its use, and in so doing, we will break its stranglehold on us and devalue it. A diversified mix of transportation fuels ensures competition and keeps prices low. With 245 million cars on U.S. roads, it would take approximately 15 years to turn over the majority of the fleet to be flex-fuel, but it could be done, and even with a modest phase-in of cars and fuels, we would be making significant progress. Domestic oil, domestic biofuels, and a mix of electric and natural gas vehicles is the definition of diversity, and taken together, they could reduce our oil imports by another 25% in the next decade. With domestic oil production remaining at current levels and the renewable fuels staying on course, in short order we would be buying just 25% of our transportation fuel from overseas—down from 60% just a few years ago. The beauty of the flex-fuel cars is that they can use any combination of gasoline and alcohol fuel up to 85% and are available at no additional cost to consumers.

The strategic and national security considerations of reducing dependence on oil, and foreign oil in particular, have compelled some of the most influential people in the country to focus on this issue through the U.S. Energy Security Council. I have had the pleasure of working with former Director of Central Intelligence James Woolsey, who was the first true independent voice to link oil and security. General Lee Butler (USAF) who led the Strategic Air Command, Lt. Col William Holmberg (USMC, ret.), Admiral Denny McGinn (USN), and a few other military leaders also helped us carry this message forward, and today the Energy Security Council boasts a membership that includes other military leaders and heroes as well as Cabinet Secretaries, CEOs of major global corporations, and other leaders who share a common belief that oil's status as a strategic commodity undermines U.S. national security and weakens the U.S. economy. Reducing oil's strategic importance requires breaking its virtual monopoly over transportation fuel.

One of the battle cries of this group is to turn oil into salt. This is, in fact, the title of a book written by global energy analysts Gal Luft and Anne Korin who were behind the formation of the Security Council. The analogy of turning oil into salt is to simply look at how salt was once the only known and proven preservative, but once new technologies like refrigeration were invented, they reduced salt's role and value. These energy experts and military minds taught me and a generation of policy people that want to make a change an important lesson: even if oil were free, if we depend on others for it, then it becomes a weapon. Under our current level of dependence, war room scenarios of shortages and \$250-per-barrel oil are



Oil Spill by Geri-Jean Blanchard from sxc.hu

frightening and as stated previously could grind the U.S. economy to a halt in less than ten days. This is notable given that two-thirds of the known oil reserves lie in the turbulent states of the Persian Gulf. The Pentagon warns that the defense budget is spiraling out of control due to the high costs of oil to power the military. If anyone suggests that no part of our presence in the Middle East is tied to ensuring the flow of oil, then they are delusional. In early 2012, a period that should have been one of the lowest demand periods of the year, world crude and gasoline prices increased rapidly due to fears of something happening in Iran that could impact oil supplies. If we had devalued that oil, we could have shrugged it off and wished them all well.

BREATHING EASIER

And, lastly, let's look at the environment. Gasoline emits carcinogens, particulates, sulfur, carbon monoxide and a barrel full of things that are really, really bad for us.

Oil companies voluntarily use ethanol because it improves emissions and has been a critical component of our ozone, carbon monoxide, and greenhouse gas control programs. New science is emerging every day indicating the air toxins created by high aromatic compounds in gasoline present a greater risk than cigarette smoke, and urban residents in particular are exposed to lethal levels. One of ethanol's most compelling qualities is its high octane content, which can directly replace the toxics currently used for octane, a fact the U.S. EPA acknowledges. Carbon dioxide emissions are a reality the U.S. needs to deal with. Many global trading partners apply a carbon intensity, or content, index to products they import from us. Failure to reduce our overall carbon footprint could result in further economic sanctions in the form of carbon taxes or worse—the refusal to buy our products. While there still are climate change and global warming skeptics, the fact of the matter is that the U.S. Supreme Court has ruled the EPA must regulate carbon dioxide emissions to protect public health. So again, we do not need to replace oil, but we can clean it up. Other alternatives can help in this regard as well, but the biofuels have an edge in terms of carbon emissions, which are going to face increasingly rigorous sanctions in response to climate change concerns.

CONCLUSION

We have the way, but we need to have the will to stay on course and develop biofuels, beginning with ethanol, to their maximum potential. This is an economic, environmental, energy security, agricultural, and technology issue. We need a balanced approach to converting automobiles and fuel dispensing devices to distribute this fuel. We need to raise our energy IQ and understand the precarious position we are in with our reliance on foreign oil. We need to recognize the benefits that extend to all of us from a vibrant and healthy biofuels industry. Let's turn oil into salt.

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CNN and Fox News Networks' coverage of the Keystone XL Pipeline

By Grace Elkus

ABSTRACT: This research focuses on media coverage of the Keystone XL Pipeline, a proposed 1,700-mile pipeline that would connect Canada's oil sands through the Great Plains to Texas and the Gulf of Mexico. The pipeline, which has potentially significant environmental implications, has sparked political controversy and debate since the permit for the pipeline was filed in 2008. A content analysis and narrative analysis was conducted to determine how the issue has been framed in prominent news media sources, namely those deemed politically liberal and conservative. The analysis yielded four major narratives regarding the pipeline and found that Fox News articles contained significantly more pro-pipeline comments as well as significantly more Republican sources than CNN news articles.

INTRODUCTION AND RELEVANT LITERATURE

Providing news coverage of environmental issues is not an easy task. Journalists and television broadcasters suffer from content limitations and the need to cover timely topics that meet the requirements of "newsworthiness," such as timeliness, proximity, impact, and conflict. The unobtrusive nature of many environmental issues—the fact that they are often not easily visible and their effects frequently delayed—further compounds journalists' challenge to cover environmental news stories. Moreover, journalists are oftentimes not well-trained in the scientific issue they are covering, which leads to misreporting and a confused audience. Obtrusive events (e.g. oil spills) receive more news coverage because they are more likely to be considered newsworthy; meanwhile, unobtrusive events (e.g., ozone depletion and global warming) are frequently sensationalized in order to compete for space (Cox, 2010).

In many cases, news coverage of environmental issues focuses on issues that have sparked controversy between two opposing sides. The controversy becomes personal as supporters of both sides begin to voice their opinions and are pitted against each other in mainstream media. As more information is made available, more people become concerned and affected by the topic (Karlberg, 1997).

A recent news story with potentially significant environmental implications is the Keystone XL project, which involves a proposal to build a 1,700-mile pipeline connecting Canada's oil sands through the Great Plains to Texas and the Gulf of Mexico, making it the longest oil pipeline outside of Russia and China. TransCanada, the energy infrastructure company in charge of the project, filed the application for a presidential permit with the Department of State in 2008. The pipeline is a seven billion dollar project that requires President Obama's approval because it crosses an international border, which, according to the State Department, makes it a matter of national interest ("Times Topics: Keystone XL Pipeline," 2012). The proposed pipeline would carry more than half a billion barrels of oil a day.

The proposal has been controversial since it was first introduced because of the variety of factors involved: the implications of the pipeline for the U.S. economy through the creation of construction jobs; the potential environmental consequences of building the pipeline for both the immediately affected land and global climate change from oil extracted from oil sands; the implications for U.S. energy independence; etc. One of the first debates stemmed from concern regarding TransCanada's friendly relationship with U.S. State Department officials. TransCanada also hired Cardno Entrix, an environmental contractor with financial ties to the pipeline operator, to perform the



Gas-Transmission Pipeline by Sergiy Serdyuk
from fotolia.com

environmental study. Cardno Entrix had previously worked on projects for TransCanada and considers the pipeline company to be a “major client,” making legal experts question whether there was potential for conflicts of interest. The inspectors report released in February 2012, however, found no improper political influence in Cardno Entrix’s review. Concern has also been raised regarding whether the federal agency that oversees the network of pipelines is prepared to manage such a large and expansive project.

The pipeline has become a hot-button topic in politics because of the apparent divide between where Republicans and Democrats stand on the issue. Republicans argue that the construction of the pipeline and the jobs it would create is crucial to the nation’s economy and that it could help America become less dependent on oil from unstable regions like the Middle East. Meanwhile, many Democrats and environmentalists oppose the project due to the high emissions that will be created during the extraction of crude from oil sands and the spill threat posed to aquifers in close proximity to the pipeline (“Times Topics: Keystone XL Pipeline,” 2012).

The pipeline has been especially prevalent in recent news due to the November 10, 2011 decision by the State Department to authorize an extension on whether or not to construct the pipeline pending further study on the pipeline’s routing and

environmental consequences, a decision that angered Republicans and sparked further controversy between the two parties over energy policy and job creation.

Frustrated by the delay, Republicans inserted a provision in the payroll tax-cut bill in January that gave the administration a 60-day deadline to decide the fate of the pipeline. President Obama temporarily rejected the proposed pipeline, claiming the deadline was not enough time to fully assess environmental concerns and potentially devise a new route. Republicans, however, argue that Obama is delaying a decision on the pipeline until after the presidential election to avoid losing votes. The Keystone XL Project has become a prominent issue that has attracted significant attention from mainstream news media and the American public. The purpose of this study is to examine the ways in which the Keystone XL Project is framed in prominent news media sources.

THEORY AND METHOD

News frames are the central organizing idea for news that supplies a context and suggests what the issue is through the selection, emphasis and elaboration of certain topics (Entman, 1993). How articles are framed determine how a reader is going to perceive and interpret an issue. Media outlets use different frames to shape this perception, including “be worried” frames, “environmental stewardship,” “public health,” or “solutions” frames. One of the most frequently used frames in coverage of environmental issues is the adversarial frame, which deals with conflict between opposing groups (Karlberg, 1997). In the context of environmental reporting, this frame has potentially negative implications in that it often limits the range of perspectives and excludes any instances of mutualism or co-operation. Many environmental frames also use metaphors such as “wounded earth,” “battered planet,” and “environmental debt,” which often creates a stereotype detrimental to a reader’s understanding of the issue. Furthermore, some frames are issue-specific, while others appear to re-occur or form a pattern such as in policy debates.

This study compares how news sources, namely those often perceived as politically liberal and conservative, frame the issue of the Keystone XL Pipeline. Specifically the study examines all relevant online news stories found on CNN.com (n=21) and FOXNews.com (n=48) between November 11, 2011, the date of the decision by the U.S. State Department to put the project on hold, and February 16, 2012, the date the

U.S. House of Representatives passed an energy bill that would shift control of the pipeline permit away from President Obama. Articles within the specified time frame were not considered in the analysis if the pipeline was only briefly mentioned in the context of an entirely unrelated issue. The articles included in the analysis represented the opinion, world, politics, business, and news sections of the news websites.

The study included a quantitative content analysis of the number of the following variables for each news story: the number of Republican/Democrat sources used; the number of pro-pipeline sources used (e.g., “The Keystone pipeline should be under construction right now”¹); the number of anti-pipeline sources (e.g., “KXL will not be a major source of US jobs, nor will it play any substantial role at all in putting Americans back to work”¹); the number of environmentally focused sources (e.g., “It is not in the national interest to lock the United States into supporting an expensive and dirty form of oil for years to come”²); and the number of economically-focused sources (e.g., “Keystone is a shovel-ready project, whose construction would create badly needed jobs”³). In addition to examining what was said, this study also involved a qualitative narrative analysis of how the issue of the Keystone XL Pipeline was presented. Narrative framing analysis is a qualitative research method that encourages the reader to identify themes and patterns

within the articles and analyze how most audiences will make sense of the discourse (Altheide, 1996).

FINDINGS

The analysis included 21 CNN.com articles and 48 FOXnews.com articles from between November 11, 2011 and February 16, 2012, suggesting FOXnews.com placed greater emphasis on the topic overall. Table 1 below demonstrates the frequencies for each variable included in the content analysis. Independent-samples t-tests were conducted to evaluate differences in reporting on the pipeline by the different media sources (Fox v. CNN). Given the unequal sample sizes between the two news sources, the t value that does not assume equal variances is reported. In the Fox news articles, there were significantly more pro-pipeline comments included in the article [t(66.98) = 2.88, p = .00] as well as significantly more Republican sources [t(57.40) = 2.07, p = .04]. Although not statistically significant, other differences included the fact that CNN included more Democratic news sources than Fox, and Fox news stories contained a stronger focus on the economic implications of the pipeline than the environmental implications. Both Fox and CNN were fairly balanced in regard to the number of sources who opposed the pipeline and the number of articles focusing on the pipeline’s environmental implications. See Table 2 below.

TABLE 1. Frequency of source type for Fox News and CNN News in regard to coverage of the Keystone XL Pipeline

	Pro-Pipeline	Anti-pipeline	Republican	Democrat	Env-focused	Econ-focused
FOXNews.com	54	14	34	12	55	100
CNN.com	9	5	7	10	23	26

TABLE 2. Mean differences between Fox News and CNN News in regard to coverage of the Keystone XL Pipeline

	Mean (Fox)	Mean (CNN)	Mean Difference between Groups
Pro-pipeline sources used	1.13 (SD = 1.41)	.43 (SD = .60)	0.7
Anti-pipeline sources used	.29 (SD = .65)	.24 (SD = .44)	0.05
Republican sources used	.71 (SD = .89)	.33 (SD = .58)	0.38
Democrat sources used	.25 (SD = .53)	.48 (SD = .93)	-0.23
Environmentally focused quotations	1.15 (SD = 1.90)	1.10 (SD = 1.04)	0.05
Economic focus quotations	2.08 (SD = 2.56)	1.24 (SD = 1.58)	0.84

In addition to the quantitative content analysis, the narrative analysis yielded four major narratives regarding the Keystone XL pipeline. The dominant narratives were primarily seen in the Fox news articles and included the following: President Barack Obama is delaying making a decision on the Keystone XL pipeline until the 2012 presidential election is over, the Keystone XL pipeline is fundamental to job security and energy independence, and the Keystone XL pipeline would significantly harm the environment. CNN's coverage mostly discussed the pipeline in reference to the payroll tax cut and contained fewer identifiable frames. Of the 21 CNN articles, 11 (52%) had no sources that could be designated as supportive or opposed to the pipeline. The one identifiable frame for CNN focused on political maneuvering tying the pipeline to the tax bill.

Narrative #1: President Barack Obama is delaying making a decision on the Keystone XL pipeline until the 2012 presidential election is over.

A number of FOXnews.com articles feature arguments made by Republicans and pipeline supporters that President Obama is delaying making a decision on the pipeline to avoid losing votes in the 2012 presidential election. In a November 15 article, for example, those in the White House who don't support the pipeline are referred to as "keystone cops," and are said to have done an "injustice" to the American people ("State Department Rejects," 2011). In a January 15 article, pipeline supporters acknowledge that making a decision on the pipeline would require Obama to lose votes from either environmentalists or labor unions, two of his core constituencies, which is something he wants to avoid having to do. The supporters argue that the White House is "stonewalling" under competing pressures from these two constituencies ("As Keystone pipeline decision looms," 2012). A December 17 Fox article quotes Republicans who say it would be "crazy to deny the project just to please radical environmentalists," and argues that Obama cannot avoid choosing between his "radical environmental friends and their destructive global warming agenda" and "the majority of the American people who want to strengthen energy security and create hundreds of thousands of jobs," ("Keystone Pipeline Faces," 2011).

The idea that America cannot wait for job creation is also a central argument made by pipeline advocates. The sources quoted in the Fox article from November 15 argue that Obama is sacrificing jobs for his own convenience, and Republicans and representatives of the oil industry

argue that Obama "sacrificed 20,000 new American jobs to save one and that was his own job." Meanwhile, an article published on January 19 on Fox.com argues that Obama is looking for a "convenient excuse to get (the proposal) beyond the election." The author refers to Obama's argument that the pipeline needs more time under review as "laughable and (that it) reeks of political gamesmanship," and states that the decision revealed Obama's true priorities, and creating jobs is not one of them ("Nebraska Gov. Dave Heineman Expects," 2012).

Obama's decision to delay the pipeline was called "hypocritical, incoherent and un-presidential" in an article published on December 8 ("Obama's Hypocritical," 2011), and Obama was accused of "playing politics" in a January 18 article ("Obama Administration Rejects," 2012). One particularly opinionated article stated that Obama "stands naked as an ideologue willing to sacrifice workers on the altar of special-interest politics," ("President Obama Reveals," 2012).

CNN was not immune to framing articles in a similar way, although on a more limited scale. A CNN article published December 13 mentions that Obama's move to put off the issue until after next year's presidential election has been labeled by Republicans as political, and references an argument made by House Majority Leader Eric Cantor, R-Virginia, that the payroll tax cut is doing just what Obama has been calling for by creating new jobs through the pipeline project. In addition, the article offers the opinion of John Boehner, R-Ohio, who argues that "the only thing arbitrary about this decision is the decision by the president to say, 'Well, let's wait until after the next election,'" ("House Passes," 2011).

Narrative #2: The Keystone XL pipeline is fundamental to job security and energy independence.

The Keystone pipeline is referred to time and time again in FOXnews.com as being the most "shovel-ready" project in America. The dominant frame in many of the articles focuses on the number of jobs the project would create and the energy independence America would gain. A December 17 Fox article, for example, includes arguments made by those who support the pipeline, who say that the construction meets the administration's stated energy security goals and that the pipeline's construction would allow Canada to send one million barrels of oil a day into the United States, lessening domestic reliance on imports. They argue that the pipeline is "literally ready to go" and that if the decision keeps getting pushed back, the oil will end up "someplace

in China” (“Payroll Tax Cut Extension,” 2011). In terms of energy independence, pipeline supporters argue that until the pipeline is constructed, the United States will be forced to continue to import “conflict oil” from the Middle East, Venezuela and other foreign countries (“Obama Administration Rejects,” 2012).

Those enthusiastic over energy independence also feel strongly that the construction of the pipeline will create thousands of jobs at a time of high national unemployment. A January 2 FOX article mentions that the jobs would be created “without costing a dime of taxpayer money,” and could change the dire situation in which hard-working Americans are out of work.



Oilfield Pump Jack by Destiyvp from fotolia.com

The article argued that for members of the Laborers’ International Union of North America, the project is “not just a pipeline, it is a lifeline,” and that the pipeline will generate revenue for the federal government and states (“Obama, Congress Begin,” 2012). One article summed up the feeling of many pipeline supporters with the comment that “thousands of jobs were cast aside with no more thought than yesterday’s socks.

Demolished, too, is the promised commitment to energy independence,” (“President Obama Reveals,” 2012).

Narrative #3: The Keystone XL pipeline would significantly harm the environment.

To a smaller extent, environmental concerns were also brought to light in FOXnews.com articles. According to a January 2 article, environmental advocates are already disappointed with Obama’s failure to achieve climate change legislation and have made it clear that if he approves the pipeline it will “dampen enthusiasm” in the upcoming November election (“Obama, Congress Begin,” 2012). The major concern of environmentalists is the dirtiness of the crude oil and the potential for dangerous oil spills. In a December 17 Fox article, the project was referred to as a “carbon bomb” (“Keystone Pipeline Faces,” 2011), and a January 2 article quoted Jane Kleeb, executive director of the group Bold Nebraska, as saying Obama “must do the right thing for our land, water and families’ health by denying the pipeline permit.”

An article published on FOXnews.com on January 18 listed six reasons that the Keystone pipeline was a bad idea, and more than one reason dealt with the negative environmental impact. The article mentioned that the transportation of the dirty oil requires a significant amount of energy to extract, and mining the tar sands would release carbon into the atmosphere, having a detrimental effect on the environment. The article also brought up the point that the proposed pipeline would be an extension of a pipeline that has already leaked 12 times in the past year, and in Michigan, where a similar tar sands pipeline spilled over 840,000 gallons of oil into the Kalamazoo River in 2010, residents are still “complaining of headaches, dizziness and nausea.” A minor spill, the same article argues, could jeopardize hundreds of thousands of jobs and the safety and health of millions of people. The aquifer that the pipeline would run through in Nebraska supplies clean drinking water to over 2 million Americans and fuels the region’s agriculture industry, and therefore a spill would wipe out an entire community (“Six Reasons,” 2012).

Environmentalists suggest that the pipeline is not the last resort in terms of job creation and energy independence and that good paying jobs that do not hurt the environment can be created. This viewpoint was more widely represented in Fox articles than CNN articles. In a January 18 Fox article, the Natural Resources Defense Council report argued that “the pipeline undermines the clean energy alternatives that would

bring genuine energy security” (“Obama Administration Rejects,” 2012). In a second article published by Fox on January 18, Obama is quoted as saying “In the months ahead, we will continue to look for new ways to partner with the oil and gas industry to increase our energy security,” (“State Dept. Blocks,” 2012).

A number of CNN articles also spent a significant amount of time discussing environmental concerns. A December 13 article brought up that the pipeline bolsters U.S. reliance on a type of oil that results in 5% to 50% more greenhouse gas emissions during production and has a potentially harmful impact on natural resources. The article mentioned the Sand Hills region and Ogallala Aquifer in Nebraska, which environmentalists are worried will come under threat if the pipeline is approved. The article countered the argument that the pipeline will create jobs by citing a study from Cornell, which found that the pipeline could cost jobs “by hurting the development of alternative energy and allowing for the export of oil from the Midwest, driving up the cost of gasoline in that region.” (“Keystone Pipeline a Tough Decision,” 2011). Another CNN article discussed the greenhouse gas pollution associated with this type of oil, describing it as “a low grade Canadian pseudo oil that is strip mined out of the sandy soil in Canada’s Alberta province all the way down to Houston” (“GOP Played Keystone Card,” 2012).

Narrative #4: Political Maneuvering: Tying the Pipeline to the Tax Bill.

Both CNN and Fox published articles during the sample period focusing on the Republican decision to tie the pipeline to the payroll tax cut. While Obama has argued that the pipeline is not related to making sure taxes do not go up and Republicans should not be tying an extraneous issue to the bill, Republicans argue that the American people cannot wait for the jobs the pipeline would create.

In a December 11 Fox article, for example, Senate Minority Leader Mitch McConnell is quoted as calling Obama’s threat to veto a bill tied to the pipeline “posturing,” arguing that there needs to be something in the bill that would create jobs (GOP Leader Claims,” 2011). A December 13 Fox article quoted John Boehner as saying “our bill includes sensible, bipartisan measures to help the private sector create jobs”; the same article, however, quoted Senate Majority Leader Harry Reid as calling the provision “ ideological candy” for the tea-party set (“House Passes Payroll,” 2011). This back-and-forth debate was present in the majority of Fox and CNN articles.

A December 14 Fox article argued, “America can’t wait for job creation,” while highlighting the nearly universal Democratic opposition to tying the pipeline to the bill. The article cited White House Communications Director Dan Pfeiffer statement that the bill “simply shortens the review process in a way that virtually guarantees that the (Keystone) pipeline will NOT be approved,” (“President, Senate Democrats Consider,” 2011). In another Fox article the State Department referred to the bill’s provision as a “reckless rider,” (“Obama, Congress Begin,” 2012).

CNN also spent a considerable amount of time discussing the implications of tying the pipeline to the payroll tax cut. A December 9 article, for example, indicated that Senate Democrats “bristled” at the inclusion of the pipeline and contained an argument from House Democratic Leader Nancy Pelosi that the pipeline provision is “a poison pill designed to sink the payroll tax cut” (Pipeline Showdown Escalates, 2011). In another article, the pipeline was referred to as a political move to “gain support from conservative Republicans who have been reluctant to back any more short-term extensions” (“House GOP Leaders,” 2011). A December 15 article, meanwhile, mentioned Democrats’ frustration at the attempt to hurry the decision and that it should not be “fast-tracked as part of a political calculation by Republicans” (Leaders Meet Over Spending,” 2011).

DISCUSSION AND CONCLUSIONS

CNN and Fox are agenda-setting media outlets; they have a potentially large influence on their audiences in that they tell them not what to think, but what to think about (McCombs & Shaw, 1972). They are also inter-media agenda setting media, in that they influence what other media sources cover (McCombs & Shaw, 1993). Analyzing how the articles are framed allowed me to consider the consequential implications on readers’ perceptions of the issue as well as CNN’s and Fox’s values and stipulations regarding objectivity.

Most of the CNN articles represented both arguments evenly as evidenced by both the fairly balanced number of anti-pipeline and pro-pipeline sources used and the economic versus environmental viewpoints presented (See Tables 1 and 2). The Fox coverage, however, contained significantly more sources in favor of the pipeline, as well as significantly more Republican sources, than CNN. Additionally, economic impacts of the pipeline, which are mostly seen as favorable, were referenced almost twice as often as environmental impacts, which are mostly

seen as negative (100 to 55, respectively) in the Fox coverage. Framing the articles in such a way that one side of the argument was given more attention could influence and potentially misinform a reader who is not fully versed on the Keystone XL Pipeline.

Another point to consider from this analysis is the fact that many CNN articles (52%) did not contain any quotes in reference to the pipeline. Moreover, the amount of coverage FOX devoted to the issue during this time period (n=48) was more than double the amount of CNN's coverage (n=20), suggesting FOX may consider the pipeline a more newsworthy topic than does CNN. Another possible interpretation, however, is that CNN chose to broadcast information regarding the pipeline through other mediums.

The Keystone XL Pipeline continues to be a hotly-debated topic. Since the completion of this analysis, TransCanada said it would reapply for a permit to build the pipeline and would request immediate permission to move forward with the southernmost portion of the project, in hopes that part of the pipeline could be in service by the end of 2013. The White House supported the decision to move ahead with part of the pipeline, but rejected two measures on March 8 that would have expedited the construction. Meanwhile, on March 13, a report was released that concludes the economic damage caused by the potential spills from the pipeline would far outweigh the benefits of jobs. TransCanada dismissed the report, which was conducted by Cornell University's Global Labor

Institute, standing by its initial argument that the pipeline would create thousands of jobs ("Study Warns," 2012).

The Keystone pipeline will continue to be discussed and debated in months to come because the issue goes beyond being simply politically charged; it is also clearly a component in the campaign strategies of the 2012 presidential election. The volume of coverage devoted to the pipeline, as well as the dominant narratives regarding the pipeline presented in agenda-setting media, may have implications regarding the relative importance American voters place on the issue in the 2012 election.

LIMITATIONS

For this analysis of the Keystone XL Pipeline, I solely looked at online news articles from FOXnews.com and CNN.com and did not consider broadcast scripts in my analysis. I also only analyzed articles published in a specific time period, limiting my sample size. Future research on the topic should expand the sample frame to include other media organizations and sample time period and conduct an intercoder reliability assessment on the content analysis data. 🦋

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Oil and Gas Industry by Cozyta from fotolia.com

ENDNOTES

- ¹ "State Dept. Blocks," 2012.
- ² "Obama Administration Rejects," 2012.
- ³ "Lawmakers Spar," 2012.

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Elizabeth Kolbert Speaks to Elon Students About Climate Change

By Barona Napoli, Meri McGloin, and Peter Gallagher



Elizabeth Kolbert is a journalist and author, most recently known for her 2006 book, *Field Notes from a Catastrophe*. She is primarily an observer and commentator on environmentalism for *The New Yorker*. Her various accomplishments for the magazine include book reviews, comment pieces, and widespread writings on climate change. One of her pieces, a three-part series on global warming entitled “The Climate of Man,” won the 2006 National Magazine Award for Public Interest, the 2005 American Association for the Advancement of Science Journalism Award, and the 2006 National Academies Communication Award.

After graduating high school, Kolbert studied literature at Yale University for four years. In 1983, she was awarded a Fulbright Scholarship to study at the University of Hamburg in Germany. Kolbert first worked as a reporter at *The New Yorker* from 1984 to 1999, and then went on to become a staff writer in 1999. She currently resides in Massachusetts with her husband and three sons.

On Thursday, March 10th, 2011, Elizabeth Kolbert was invited to speak at Elon University about her previous work as well as her new examination of the relationship between global climate change and food. Kolbert began her presentation by recalling a talk she gave at a university in St. Louis about two years ago. She explained that after her presentation on the dramatic impacts of climate change, a couple approached her genuinely inquiring why they should care about these effects. In this moment, Kolbert realized that the answer was simple: If you like to eat, then you should care about climate change.

Explaining further, Kolbert stated that the devastating effects of global warming include transformations of our land and therefore agricultural capabilities. Hoping to foster an emotional connection between humans and the environmental movement, Kolbert then cited many examples of the way in which our food production systems could be affected, basing most of these scenarios around the notion that the productive capabilities, in terms of food, of most geographic areas will likely change. The presentation that followed this

introduction went further in-depth into what exactly is causing climate change, what its impacts are, and what needs to be done to prevent further damage.

Kolbert’s discussion of what exact changes we need to prepare ourselves for in the future of global climate change was enlightening, yet intimidating. She explained the shifts in weather patterns that are likely to occur, as well as the changes we can expect to see in the composition of oceans. Kolbert presented these facts in a unique to-the-point manner by explaining what changes will occur rather than citing them as hypothetical possibilities. The majority of her presentation following this discussion surrounded developing strategies for combating further change and harm.

To summarize our approach to global climate change, Kolbert cited a Harvard professor who explained the three options now facing our planet: mitigation, adaptation, or suffering. According to Kolbert, adaptation is essential because many people have yet to accept the fact that climate change is already occurring. While some focus on determining methods to prevent global warming, Kolbert urged the audience to understand that climate change is not a looming disaster; it is a harsh reality. For this reason, Kolbert believes that our strategy in this environmental era must incorporate a combination of mitigation and adaptation. It is too late to prevent climate change, so we must now work to reduce the magnitude of these changes while simultaneously adapting to this new age of environmental stewardship.

Kolbert concluded her presentation by addressing the audience directly. She claimed that as a fellow inhabitant of the Earth, what humans are doing to this planet is immoral and unacceptable. Kolbert then urged us as the generation of the future to get involved on a personal, university, and national level. Americans are privileged individuals who have yet to acknowledge the serious lifestyle transformations that need to be made in response to global climate change. ■

Innovative Program Supports Widows, HIV/AIDS Orphans, and the Environment

By Yasmine Arrington



Zambia, Africa is home to one of the world's greatest wonders, Victoria Falls, and it is also the second largest producer of copper in all of Africa and the eighth largest producer in the entire world. However, despite its majestic wonder and richness in natural resources, it is like many other African countries: stricken with a massive AIDS epidemic and immense poverty. According to UNICEF, there is a 15% prevalence in AIDS in Zambian women ages 15-49 years old. Because of this, mothers are dying young, leaving behind children who are often taken in by grandmothers and aunts. It is very common to find a widowed woman struggling to care for 10 or more children in a one or two room shack. However, there is a small community, Ng'ombe, in the peri-urban outskirts of Zambia's capital city of Lusaka that is home to Chikumbuso, a project that not only combats AIDS and poverty, but also provides a safe haven for widows and a learning community for orphaned children.

The Chikumbuso, or "remembrance," project began in 2005 with one woman, Linda Wilkinson, reaching out to help a widow provide for her family. Now, there are a total of 73 widows and over 350 students that make up the project community (www.chikumbuso.com).

Many of the women are either teachers or cooks for the children. One of the most notable and most successful

projects within Chikumbuso is the "Widows Micro-Enterprise." In their spare time, when the women are not teaching or cooking, they are learning the craft of knitting, but the women do not knit yarn, they knit plastic bags!

The women recycle bags that have been thrown onto the streets of Lusaka as well as plastic bags in a variety of colors that have been donated to them. With these bags, they create handbags, wine holders, bracelets, and other items (www.chikumbuso.com). As such, when the women sell their products, they not only receive money to support their families and Chikumbuso, but they also help to address the solid waste issues that plague their region. Lusaka, like other rapidly growing cities in Africa and elsewhere in the world, struggles to control its ever-growing volumes of trash generated by increasingly consumer-oriented lifestyles (Myers, 2005).



A recycled bag for sale to support Chikumbuso

The author visited Chikumbuso in 2011 and was impressed with the outcomes. Not only are the women helping to eliminate trash cluttering the streets and compounds, but they are able to make a living off of their efforts and support an ongoing project that constantly brings more and more young orphans into a safe environment where they get an education and food to eat. Chikumbuso's next step is to continue to teach

more women how to make handicrafts from recycled items and to pull young homeless girls that have been raped or are at risk for AIDS into this safe community. This way, the girls will have support, food, and housing. They will be able to learn a craft and their children will have access to years of free education. Chikumbuso also wants to expand the grade levels they teach, which currently end at fifth grade. They also want to have a better way of tracking the students and making sure they are safe when they have outgrown the program.

Although Chikumbuso has made great strides in Ng'ombe, Zambia as a whole needs many more sustainable programs that support women, children, and the environment. Chikumbuso has considerable promise to grow and remain successful because it has ongoing support from philanthropists and organizations in the United States, such as the Kimsey Foundation, and from high school programs, such as LearnServe International in Washington, DC, that send students to Chikumbuso with donations. It also has local support from the Zambian women and teachers who are invested in the program.

Chikumbuso began with one person who had a sense of global citizenship and was interested in making a difference while learning from local people the best means to do so. Many successful programs that support sustainable development are started in this way (Smith, 2009). The key to success is follow through by obtaining feedback and making adjustments as needed based on local conditions and culture (Easterly, 2007). Zambia is

an excellent country not only to visit, but also in which to undertake development initiatives in partnership with local communities. Such giving can not only make a difference in others' lives, but can also enrich one's own.

Yasmine Arrington is a first year student and Jack Kent Cooke College Scholar. She is the founder of the non-profit ScholarCHIPS, an organization that provides financial support to high school students with incarcerated parents.

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Urban Agriculture in Latin America and the Caribbean: Development Dream or Practical Alternative

By Rebecca Berube

ABSTRACT: This paper examines the viability of Urban Agriculture (UA) to improve food security and reduce poverty. It focuses on the activities of the Food and Agriculture Organization of the United Nations and related programs in Latin America and the Caribbean. Although UA has been practiced in the region for hundreds of years, it has gained the attention of development organizations largely in the past few decades as urban populations globally have risen rapidly.

Global hunger reached an unprecedented high in 2009, affecting a startling one billion million people worldwide (FAO, 2011). As hunger and urbanization increase, many have looked to urban agriculture as a potential solution to feeding the world's urban poor. Urban agriculture (UA) has the potential to contribute to increased levels of food security, decreased poverty rates and maintained stability (FAO, 1999). On the other hand, urban agriculture may break laws, jeopardize farmers' safety, and endanger the health of consumers. Figuring out this balance between the benefits and constraints remains essential to making sound policy decisions for urban agriculture's expansion. According to the Food and Agriculture Organization (FAO) of the United Nations, the increasingly accelerating processes of urbanization, the effects of the economic recession, increasing food prices, and the impacts of climate change all threaten the possibility of achieving sustainable and equitable development. Urban agriculture's potential has important implications for poverty alleviation as well as food security, and with the benefits and constraints of UA, the issue holds importance for any student of environmental issues and sustainable development.

DEFINITION AND SCOPE

Luc Mougeot defines urban and peri-urban agriculture as encompassing "the production of food and nonfood plant and tree crops and animal husbandry (livestock, fowl, fish, and so forth), both within (intra-) and fringing (peri-) built-up urban areas" (Mougeot, 2000). Critics such as Frank Ellis and James Sumberg argue that this overly broad definition hinders the effective analysis of the causes and consequences for poverty and food security of food production in urban and peri-urban areas (Ellis, 1998). This definition, they argue, neglects the various rural-urban interactions which underpin the concept. Definitional queries such as "Where does 'peri-urban' stop and 'rural' begin?" certainly complicate this field of study. To deal with these discrepancies, a different type of categorization may be necessary, for example, focusing on urban farms that produce food versus those who produce other non-food crops. Urban and peri-urban agriculture (UPA) take a variety of forms depending on land access, water availability, the type of urban farmer, and the proximity to other resources. Public land, including roadsides, river banks, open spaces, and land acquired for roads, power line and other infrastructural projects, is often used illegally or at the very least with no formal tenure agreement (Ellis, 1998). Private lands include backyard gardens but also land designated for building or development that has not yet been utilized. Access to private lands seems to come from more informal tenure agreements with landowners. A primary feature of UA, which distinguishes it from rural agriculture, is its integration into the urban economy and ecosystem (Mougeot, 2000).



About 800 million people benefit from urban farming; 200 million of these are market producers. UA contributes to food security for the 50% of the world's population who are city dwellers (Fournier, 1992). Urbanization is an increasing global trend (See Figure One), and some researchers have estimated that by 2020, at least 35-40 million urban residents will depend on UA to feed themselves (Mougeot, 2000). Data on this is somewhat unreliable as all urban farming is not necessarily reported and collected in state statistics, and therefore its impact could be significantly higher.

People engage in urban agriculture for a variety of reasons. Crops may be grown for sustenance or for sale to markets, providing crucial supplementary income (IDRC, 1994). Often urban agriculture has been adopted in times of harsh economic downturns and periods of food insecurity as a livelihood strategy for subsistence, rather than as a planned strategic endeavor.

The most poor use it as a survival strategy, often occupying lands illegally (Ellis, 1998). Women work in UA to increase their familial income, and research shows that female involvement in food production amplifies the household's food security (Maxwell, 1998). Women play an important role as the ones responsible for seeking markets, transporting products, negotiating prices and quantities, etc. (Bohrt, 1994). Some studies have shown that UA can give women greater control over household resources and monetary decision-making. Furthermore, when women make additional household income, they are more likely than men to re-invest their savings into their children's education or benefits for the entire household (Mougeot, 2000).

What once was a fringe idea and little-researched phenomenon has become increasingly well known. Many universities, especially in the global South, now include a variant of urban agriculture in their

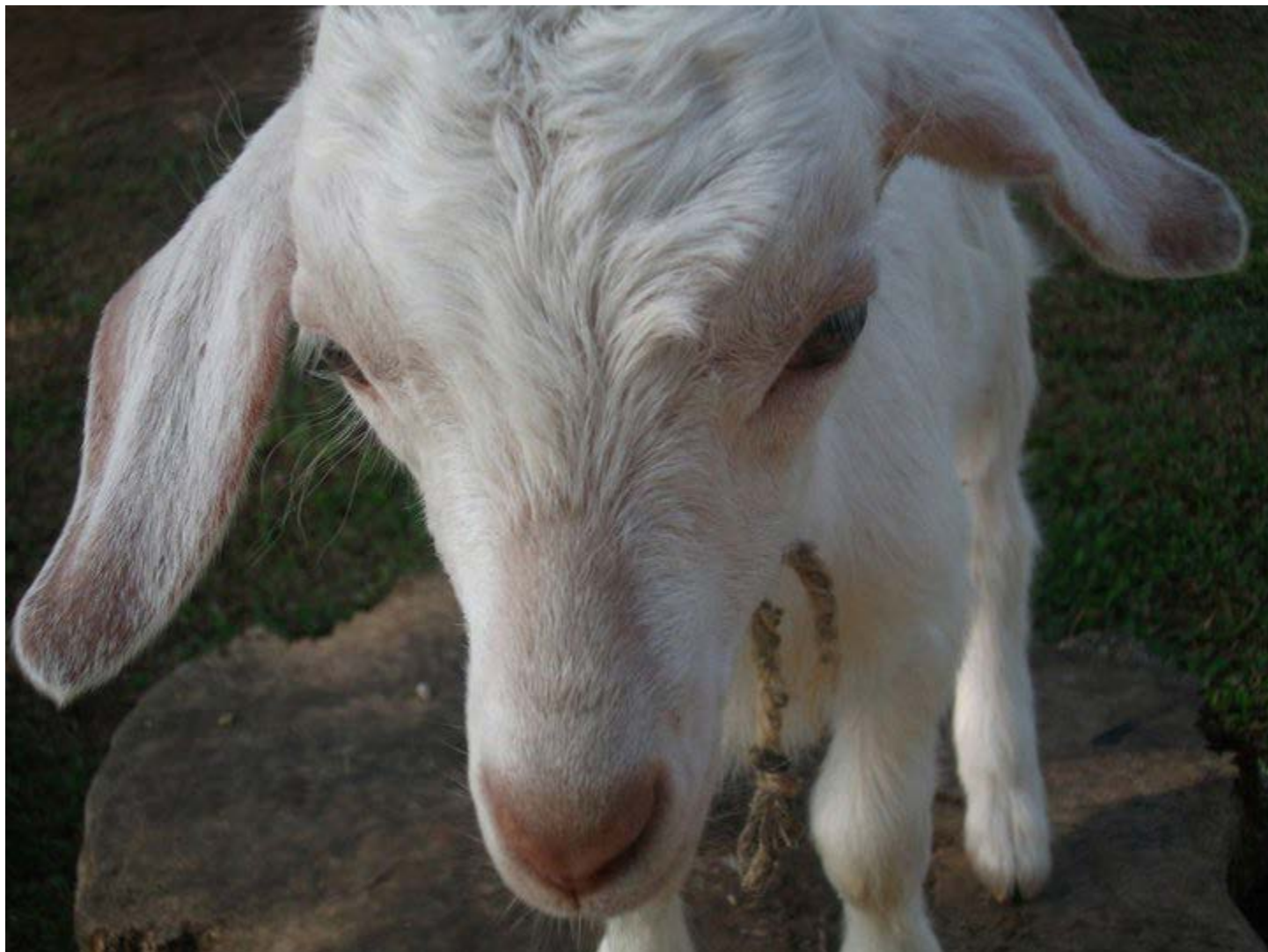
curriculum, helping to train and promote professionals educated in UA and urban planning techniques (IDRC, 1994). Much of the current literature that explores this topic has been conducted in Africa (Addo; Maxwell; Freeman). Others focus on explicit case studies and programs in Latin American and the Caribbean (Guénette; Fontaine; Koont; Madaleno). Most sources are cautiously hopeful about the potential for urban agriculture (Mougeot; IDRC). Most recently, several sources note significant detrimental effects that also warrant consideration (Bryld; Ellis; FAO; Freeman).

HISTORY OF URBAN AGRICULTURE IN LATIN AMERICA AND THE CARIBBEAN

Farming in urban areas is not a conceptually new practice, as civilizations throughout history have incorporated food production into their city living spaces (IDRC, 1994). Historically, cities and city-states participated in UA to maintain stability of food

supply, which could be endangered due to civil strife or environmental fluctuations (Ellis, 1998). The Incas, Aztecs and Mayas developed sophisticated urban farms to serve as stable food sources. The Incas created Machu Picchu to be entirely self-sufficient from the city and its nearby satellite agricultural city. Through terracing, innovative irrigation systems and tree plantings, they derived two harvests a year, an astounding accomplishment for an altitude with frost much of the year (UNDP, 1996). With this historical legacy, urban agriculture is being rediscovered in the region.

Latin America and the Caribbean, though in some ways similar to other developing regions, present a distinct set of problems and opportunities for UA. A variety of stakeholders are involved in supporting, documenting, and understanding UA. The International Development Research Center (IDRC, 1994) was the first major international agency to support formal research in the field of urban agriculture more than 20 years ago



(IDRC). Together, with the FAO and UN Habitat, they have collaborated on events at global summits, regional forums and workshops across the world. In 2007, they produced The Urban Producer's Resource Book, which focuses on issues of central concern to urban producers globally, including access to resources for production, financial constraints, policy and regulatory environments, local government and institutional support, environmental and food quality, safety standards, and group organization. It also encourages organizations and groups to work together rather than just individual farmers. Furthermore, it lays out strategies for how urban producers can seek assistance in forming organizations or strengthening existing organizations (FAO, 2007). The FAO plays a leading role in providing technical support for urban agriculture initiatives.

Since 1992, the FAO's Regional Office Plant Production Program has focused on urban and peri-urban agriculture (UPA) activities which systematize expertise, providing a knowledge base for the design of strategies, policies and projects of urban and peri-urban agriculture. In 2009, FAO-supported UPA projects numbered over 87 worldwide (See Figure Two). Indeed, the FAO cites UPA projects as a critical tool for poverty alleviation, generating sources of employment and income, and reducing food insecurity. Activities in Latin America and the Caribbean have centered on the dissemination of adequate technologies for horticultural crops under controlled conditions (including hydroponics projects), training initiatives regarding the concepts of UPA, and the development of adequate technologies (FAO, 2011). Additionally, they created the Interdisciplinary Group on Urban and Peri-Urban Agriculture and Education on Nutrition to connect and facilitate the cooperation of a variety of stakeholders involved in the development of urban agriculture projects. Since then, region-specific research and support networks have emerged. With support from both the IDRC and the FAO, the Latin American Urban Agriculture Research Network (AGUILA) began in 1997, with the goal of "promoting policies, technologies, and methods that improve the productivity, accessibility, and sustainability of urban production systems" (Fontaine, 1997).

As support for UA in the region grew, people lobbied for more formal declarations of support as well as integrated plans for policy measures. In 1998, the South American conference convened to discuss climate change, indigenous issues, and urbanization. The resulting Quito Declaration contains a commitment by Latin American and Caribbean states to the protection of economic, social, and cultural

rights in the region (CESR, 1998). The Declaration supports UA and food security in Latin America:

[We] reaffirm our commitment to improve urban management through the promotion of Urban Agriculture experiences in our cities, ... to enhance food security, address urban poverty, improve urban environmental and health management, and develop more participatory and less excluding governance processes, as well as to protect urban biodiversity (CESR, 1998).

More than 32 nations and 50 cities have now signed the declaration (IDRC, 1994). Even with this declared support, urban farmers in Latin America and the Caribbean often face a reality of noncohesive policies and constraints to growth. Despite these constraints, the benefits outweigh the negatives for many engaged in urban agriculture.

URBAN AGRICULTURE CASE STUDIES: HAVANA; CUBA; QUITO; ECUADOR; AND ROSARIO, ARGENTINA

One cannot look at UA in the region without understanding the history and successes of urban agriculture in Cuba. In Cuba's case, urban agriculture was born out of necessity through years of blockades and its geographical position as an island. The collapse of the Soviet Union meant the end of large-scale agriculture in Cuba supported by the technical and physical assistance of the Soviet Union. Almost overnight, Cuba's agricultural system had to adapt dramatically. With heavy policy planning and technical assistance from the government, urban agriculture became the norm.

Over the last fifteen years, Cuba has developed one of the most successful examples of urban agriculture in the world, and Havana is a prime example of UA's potential for success in cities. Currently, about 90 percent of Havana's fresh produce comes from local urban farms (Addo, 2010). Cuba's modern food system uses only biological fertilizers and biological pest control techniques, meaning that almost all urban agriculture follows organic best practices (Koont, 2009). An estimated 350,000 farmers cultivate more than 70,000 hectares in Cuba. While in 1994, 4,000 tons of vegetables were harvested in Cuban cities, the Ministry of Agriculture recently reported that during the first three months of 2009 the total harvest of vegetables exceeded 400,000 tons (Dueñas et al., 2009). Cuba consumes more nationally produced fruits and vegetables than any other country in the region, and indeed it is the only nation above the recommended consumption of 400 grams/capita/day (See Figure Two). This shows astounding growth, and

represents a still growing sector of the Cuban economy. Though Cuba remains politically different from other states in the region, its urban agriculture movement serves as the exemplary model of the possibilities for UA development in other states when policy, technical assistance, and determination are combined.

Technical advisors have also been crucial to developing urban agriculture in Quito, Ecuador. Though it began as a method of ensuring food security, the urban agriculture program of the municipality of Quito now helps residents to organize, produce, and sell food produced from their urban farms. This initiative has established more than 460 gardens in the metropolitan area of Quito, with an estimated 48,000 beneficiaries and consumers (Guénette, “Quito” 2006). Martha Rodríguez, an urban grower, says she saves \$10-15 per month from the food she grows, a crucial income boost for someone who makes only \$300 a month.

These technical advisors, as part of the municipal program AGRUPAR (Agricultura Urbana Participativa), trained 3,700 Ecuadorians in agricultural techniques, organizing, and commercialization (Guénette, “Quito” 2006). As a lasting reminder of the potential of UA, the group installed more than a hundred “demonstration” gardens managed by trainees, which incorporate best practice methods and demonstrate their reproducibility in individual endeavors. Alexandra Rodríguez Dueñas, AGRUPAR’s coordinator, notes that the gardens improve not only the food security of urban farmers themselves but also of their neighbors and communities which now have access to chemical-free, local, and affordable food.

The city of Rosario, Argentina, has also benefited from a program supported by the IDRC and UN-HABITAT’s Urban Management Program (UMP). Rosario, a city of one million people located about 300 kilometers northwest of Buenos Aires, is home to some 136,000 squatters living in 91 communities. Faced with significant unemployment and increasing poverty due to the extensive privatization and deregulation programs implemented by the government in the 1990s, the partnership launched Rosario’s Programa de Agricultura Urbana (PAU) in early 2002, with the original intention of supplementing the city’s food donation programs to the poor (Guénette, “Rosario” 2006).

The dire economic situation in Argentina and overwhelming response to the programs resulted in 800 new urban farms within the course of five years. A national assistance program called “Plane Jefas y Jefes de Hogar Desocupados” (unemployed heads

of household plan) helped to train people in urban farming. As the crisis lessened, some people moved away from farming, and a more consistent constituency committed to urban agriculture as a livelihood emerged. PAU provided significant support in increasing the sale potential of urban produce by creating seven weekly markets in different parts of Rosario and also by coordinating the transportation of produce from gardens to markets (Guénette, “Rosario” 2006).

BENEFITS AND CONSTRAINTS OF URBAN AGRICULTURE

Benefits often derived from urban farming include increased availability of fresh produce, contributions to food security and sustainable livelihoods, and potential sources of supplementary income. Low-income UA in particular reduces food insecurity by improving the food quality intake of households and by raising children’s nutritional status (Mougeot, 2000). Urban agriculture may provide an alternative to ecologically unhealthy development of large urban agglomerations and offers substantial opportunities for environmental protection through organic waste recycling and natural resource conservation (Addo, 2010).

UA provides certain opportunities distinct from rural agriculture, including:

- less need for packaging, storage and transportation of food;
- potential agricultural jobs and incomes;
- non-market access to food for poor consumers;
- availability of fresh, perishable food;
- proximity to services, including waste treatment facilities;
- waste recycling and re-use possibilities.

However, UA also presents distinct risks, including:

- environmental and health risks from inappropriate agriculture and aquaculture practices;
- increased competition for land, water, energy, and labor;
- reduced environmental capacity for pollution absorption (FAO, 2011).

Urban farming may also contribute to the preservation of natural areas and even increase land value, turning empty or deserted lots into aesthetically appealing green spaces (Borne et al., 2003). Plants and trees help reduce dust by occupying soil space and can absorb air pollutants through their foliage. While this has beneficial

implications for air quality, depending on the plant, pollution absorption reduces nutritional quality. A study measuring pollutants in India found a negative effect on crop yield overall (Argrawal, 2003). Trees and plants can also increase the humidity in dry climates and reduce desertification of empty plots and arid areas (Bryld, 2003).

Urban agriculture has the potential to contribute to food security in three main ways. First, UA may reduce food insecurity by providing greater availability and access to food sources – that is, there is more food being produced within a closer proximity to the urban poor. Even if farmers grow their food for self sufficiency, surplus food provides relief from utilizing a vast amount of the household earnings on food, which means that resources formerly used for purchasing food may now be used on other pressing needs, such as school fees, medical treatment, or rent (Bryld, 2003). Second, UA enhances the freshness of food available to urban consumers, as food travels from a closer proximity to market, limiting time constraints and refrigeration concerns. In developing countries, poor infrastructure may multiply the damaging effects of long distances, bad roads, poorly maintained trucks and lack of cold storage, resulting in the substantial post-harvest losses of 30–50 percent or more (FAO, 2011). Fresher food may lead to higher nutritional statuses. Daniel Maxwell's research shows urban agriculture has a positive, significant association with the higher nutritional status of children (Maxwell, 1998). He concludes urban agriculture is a successful strategy in buffering the impact of economic hardship on nutritional status. Lastly, UA offers employment opportunities with low barriers to entry. Case study data indicates that poor farming households have both food availability and incomes significantly higher compared to those of non-farmers (FAO, "UPA").

Some scholars contend that UA increases ecological sustainability through waste transformation, natural resource conservation, soil erosion prevention, and pollution reduction (Madaleno, 2000). For example, waste water, when properly treated, can be used to fertilize crops. Mexico City pumps over half of its

sewage to fields north of the city, where farmers use it to irrigate 100,000 hectares for livestock feed (Smit and Nasr, 1992). Wastewater provides large quantities of nitrogen and phosphorous, minimizing the amount of additional fertilization plants need (WHO, 2006). The FAO estimates that about 2 million hectares are

currently irrigated with wastewater of varying quality (FAO, 2011). The World Health Organization (WHO) issued guidelines for the safe use of wastewater in agriculture (WHO, 2006).



At the same time, with UA's expansion many environmental issues have surfaced. These constraints cannot be ignored in assessing UA's potential. Food production on a large scale in urban areas raises regulatory issues related to quality control, public hygiene, waste disposal, water and power supplies, and public nuisances different than those of just subsistence farmers (Mosha, 1991). For one, many urban farmers may be receiving inherent subsidies through

using free land or city power, shifting the cost of inputs from the individual to the city. Urban farming may tax already overstretched city public services, such as diversion of water supplies meant for domestic uses. Animal rearing in urban areas incurs the negative externalities of noise, smell, waste disposal and the potential for harboring disease vectors of both animals and humans (Ellis, 1998). Meanwhile, a rise in urban food production by itself presents no guarantee that the nutritional needs of those most vulnerable to food insecurity are better met; access to this increased quantity of food remains an issue for many of the urban poor.

The most pressing constraint to UPA's sustainable expansion remains issues of land tenure. In many developing countries, urban agriculture is still de jure and/or de facto illegal (Bryld, 2003). Land prices in cities are most often prohibitively expensive for urban poor. Thus, urban farmers cultivate plots often without land tenure agreements. As cities expand, open space becomes increasingly rare, and urban farmers often have the least resources to be able to voice their needs

and opinions (FAO, 2011). Urban farmers take the risk of farming land not belonging to them because the benefits of the harvest make it worthwhile. In urban farms without tenure agreements, short term production crops become much more common (FAO, 1999). Some urban farmers face the problem of theft – with such informal plots, reports of crops being stolen just before harvest are common in the African literature. Additionally, guards from city council occasionally destroy/slash crops on public or municipal land even in times of food shortage (Freeman, 1991).

Water use also presents both environmental and economic concerns. The concentration of habitations with rudimentary sanitation arrangements and unregulated municipal and industrial effluents commonly found in urban areas of low- to medium income nations means higher contamination of local sources of water such as groundwater, streams, urban drains, piped water, and wastewater (FAO, 2011). While wastewater can be a highly nutritious soil amendment when appropriately treated, its use straight from the pipe poses significant health risks. Pathogens from untreated waste water can contaminate plants directly or seep back into aquifers, jeopardizing drinking water quality (WHO, 2006). Crops grown on roadsides or railways may absorb toxins from passing cars and trains, diminishing the quality and safety of the food (Freeman, 1991). Air pollutants can adversely affect plants, such as lead, which concentrates in the foliage of green leafy vegetables (Bryld, 2003).

Finally, a methodological problem arises in assessing the potential for urban agriculture's contribution to household food security from a sample of families engaged in food production and then applied to the urban population as a whole (Ellis, 1998). A variety of factors could alter individual potential, making extrapolation of the statistics subject to question. Similar problems persist throughout the literature. While much research has been done in Africa, this information is not simply transferable to Latin America, as region-specific factors may vary results significantly. Furthermore, the case studies outlined here provide only a glimpse, and cannot wholly speak to UA's affects when extrapolated to a larger scale. A holistic approach to urban food systems is rarely reflected in the case studies. Therefore caution must be taken in drawing general, worldwide conclusions (Jacobi, 2000).


POLICY

Scholars are divided on the best policy actions for UA. Some advocate municipalities take no policy

actions, predicated on the fact that benign ignorance of urban farmers is the best step a government could take (Ellis, 1998). Others advocate for integration of UA into city planning and comprehensive municipal policies (Bryld, 2003). Tolerance may be in some cities the most helpful action a municipal government could take by simply allowing urban farmers to proceed as the market dictates. This approach, however, ignores the negative repercussions associated with UA. Among those advocating policy implementation, two types of policies have emerged in response to the growth of urban agriculture. The municipal planning category focuses on issues of land access while the agricultural policy category concentrates on the inputs and outputs of urban agriculture as farming systems, emphasizing services that could potentially raise productivity and output (Ellis, 1998). Unilateral policy actions could have negative effects as well. Policies attempting to make land more available or accessible or employing technical education campaigns could discriminate against the people who rely on urban agriculture the most, instead supporting those with the minimum basic needs to take advantage of these services. Whatever the follow-up approach, an essential starting point is the legalization of urban agriculture. The illegal status has left a governance vacuum with inconsistent procedural approaches (Bryld, 2003).

In Latin America and the Caribbean, organizations have conducted research surveys to determine the best policy options. The Urban Management Program for Latin America and the Caribbean (UMP-LAC) is a program responsible for carrying out City Consultations with interested local governments and civil society actors. The consultations have three main focuses: urban poverty alleviation, urban environmental management, and participatory urban governance. Furthermore, the Regional Office for Latin America works with dozens of municipalities and institutions in the region in order to promote city consultations, construct plans of action, and exchange information and experiences on different topics related to urban management. The hallmark lessons learned from this program's operations include showing the city consultation process to be an efficient and effective participatory tool which can be used to support both action-oriented activities and policy formulation (Dubbeling, 2001). Furthermore, academics praise the methodology used in the process (City Consultation – Action Plan – Priority Action Program), citing its innovative structure in linking research and action, combining concrete project implementation and policy formulation, and building connections among public, private, and non-governmental and community-based actors (Dubbeling, 2001).

CONCLUSION

Urban agriculture has become a vital element to the livelihoods of many urban dwellers. UA in most cities is not subject to much regulation, especially in places where it has expanded haphazardly and without an overall strategic plan for the city. This has led to adverse environmental and health impacts, such as the use of untreated wastewater for irrigation and questionable safety of urban food crops. However, over 800 million people worldwide depend on urban agriculture for part or their entire livelihood. For them, the risks associated with illegal urban farming and health concerns outweigh the potential detriments. Urban agriculture, when conducted appropriately, has the potential to increase food security and better the livelihoods of urban dwellers. Better research and methods for analysis are a necessity to determining best policies, which will not be universally applicable. Overall, the long term sustainability and viability of UA depend on its integration into resource management and environmental conservation processes. 

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Editorial

The World's First Carbon Neutral Country:

A Potential First Step

Towards a Sustainable Planet

By Thomas Berry

The Holy See, also known as Vatican City, is the ONLY country in the world that is completely carbon neutral (“Environmental Issues...”). That said, the land area is only .17 square miles with only approximately 829 people living in the country (Stone). Though some might be unimpressed with the Holy See’s carbon neutrality because the country is so small, bigger countries have the potential to reach this level as well. Although the Vatican does not have any of the carbon-producing practices that almost every other country must employ, namely, power plants, industry and agricultural production, the Vatican accomplished its carbon neutrality by outfitting buildings with solar panels; buying green energy credits; and offsetting carbon production via planting trees, a joint effort with Hungary to help them to reforest some of their national parks (Stone).

The Vatican, head of the Catholic Church, has taken some steps on the path of environmental protection and respect. We might ask ourselves: Why? These steps that the Vatican has taken were made possible because of the current Pope, Benedict the XVI’s, stance on eco-theology. Pope Benedict XVI, dubbed the “green Pope” by some, has asked: Can we remain indifferent before the problems associated with such realities as climate change, desertification, the deterioration and loss of productivity in vast agricultural areas, the pollution of rivers and aquifers, the loss of biodiversity, the increase of natural catastrophes and the deforestation of equatorial and tropical regions?” (“Environmental Issues...”)

In short, Pope Benedict has been asking whether all people, Catholics and non-Catholics alike, can be better stewards of all creation because “if we wish to build true peace, how can we separate, or even set at odds, the protection of the environment and the protection of human life” (White). Today, the Catholic Church’s eco-theological views see people as the stewards of a planet they must protect because both the natural environment and humanity are linked together in existence.

This pro-environment stance with the Catholic Church was also reflected by Pope John Paul II when he stated in 1990 that

“...humans have ‘a grave responsibility to preserve [the earth’s] order for the well-being of future generations’ (Stone).”

humans have “a grave responsibility to preserve [the earth’s] order for the well-being of future generations” (Stone). This eco-theological mindset that marks humans as stewards of the environment is a great first step on the trail towards environmental sustainability. Indeed, the Vatican has even announced a few new sins that require repentance. Of the seven new sins, “number four on the list was ‘polluting the environment.’ Among the others were ‘causing social injustice’ and ‘becoming obscenely wealthy,’ which are also both linked to taking care of the earth, says a Vatican spokesman” (Stone).

Although the aforementioned areas represent considerable strides toward sustainability, what else can be done? The Vatican is now carbon neutral, but what about if all Catholic churches were carbon neutral as well? Imagine ALL the catholic churches across the globe, which number more than 270,000, were all carbon neutral (Catholic)! Not only would the buildings be carbon neutral, but also they would take into account the carbon produced by the people who attend mass and all the carbon released in the building and maintenance of the church—including the furniture inside and all

the carbon produced in the creation of everything IN/ON/FOR the church. The entire church service, in effect, could be carbon neutral. Going to church would then become a “green” activity. Also, what if all Catholic schools, all 135,000+ of them worldwide, also became carbon neutral? Just like the churches, these schools would then be held accountable for their total carbon output. It would be incredible (Catholic)!

Carbon neutrality is just the start. What if all these Catholic buildings were green building LEED certified Platinum? What if also all Catholics, approximately one-quarter of the world’s approximately seven billion people, lived carbon neutral lifestyles? What if all non-Catholics did as well? Don’t just imagine that today, but see what you can do to make it a reality.

Thomas Berry is a philosophy major with a leadership studies minor. When he is not outside exploring the local area, he enjoys working in the environmental and aesthetic sides of philosophy.

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Vatican City by Paul Speed from fotolia.com



Tomatoes by James Lin from sxc.hu

Update: Elon Community Garden

By Julia Murphy

Students started the Elon Community Garden in 2006, and six years later, students are still getting their hands dirty and making progress one day at a time. Currently three classes are working weekly in the garden, two Environmental Studies classes and an Ecological Art class. All are working to improve the garden spiritually, mechanically and aesthetically. The garden provides open space for students to grow vegetables, roots and herbs either in individual plots or in communal space. It is also an opportunity for students without green thumbs to learn new skills such as double-digging, building fencing, staining benches and turning compost piles. Professors and students work together to build a sustainable garden starting from seeds in the greenhouse to full heads of lettuce, cabbage, Bok Choy and a wide range of other vegetables. Later in the semester the

ENS Garden Studio class will host a plant sale featuring tomatoes and peppers with all proceeds going towards the future of the garden. The Ecological Art class intends to improve the aesthetics of the garden for all gardeners who lend a hand by painting the picket fencing, cleaning up the pond, designing a possible butterfly garden and improving habitats for the wildlife. The garden is also connected to Campus Kitchen and donates portions of the harvest. Students working and learning in the garden is an example of Elon's mission of engaged-learning. The Elon Community Garden is located between the Truitt Center for Religious and Spiritual Life and the Powell House on E. College Avenue. All are welcome to walk through and grab a handful of herbs or vegetables for the dinner table. ■

The Prevalence of Japanese Honeysuckle in Deciduous Hardwood and Coniferous Pine Woodlands

By David Muñoz

ABSTRACT: Japanese honeysuckle, *Lonicera japonica*, is one of many exotic plant species that exhibit invasive characteristics. In North Carolina, *L. japonica* is found throughout the state, and it is often considered to be a part of the southern culture. The plant has detrimental effects however, for it significantly reduces the growth of young trees, can disturb natural amounts of shade, and can alter ecosystem composition. It has been identified in other studies that the amount of shade is the most determinant factor for the presence and prevalence of *L. japonica*. Since coniferous woodlands have more shade year-round, it was hypothesized that the invasive plant would be less common compared to its presence in deciduous woodlands. Using the NC Vegetation Survey protocol, 13 plots of each forest type were surveyed. With a p-value of 0.0003, there is strong evidence to suggest that the population mean number of Japanese honeysuckle individuals is higher in deciduous woodlands than coniferous woodlands.

INTRODUCTION

Ecosystems are the biological unit that involves both biotic and abiotic entities and the ways in which they interact. Ecosystems evoke a sense of interdependence,

for waste from one species is food for another, and each species in an ecosystem directly or indirectly relies on the functionality of the others. When these systems are disrupted, it is very difficult to fully assess the damage. It becomes even more difficult to discern the issues behind ecological damage when the changes to an ecosystem are subtle. Invasive species can be one such change that is subtle to discern. Invasive species have a wide range of effects on ecosystems—sometimes they are beneficial, other times they completely overtake and destroy an ecosystem. Since invasive species are inherently suited to out-compete native species, they have significant consequences for protecting biodiversity. Considering it is estimated that we are witnessing the sixth mass extinction event, it is important to take all measures that ensure the vitality of natural ecosystems (Barnosky et al, 2011).

The problem of invasive species expands beyond the scope of the biodiversity crisis, though. In the United States it is estimated that all invasive species cause over 130 billion dollars in damage—agriculturally, ecologically, and in the realm of human health (United States Department of Agriculture, 2011). Because of this, there are intensive management programs aimed at preventing, controlling, and eliminating invasive species (Chornesky et al., 2005). There are risk assessment



Honeysuckle by Terri Heisele from sxc.hu

models such as the qualifications of “degrees of menace.” Degrees of menace assess the effects of an invasive species and rank its impact (Meinesz, 2003). The effects of the invasive species are based off of its natural history traits and off of research conducted. Some risk management policies allow for early detection of invasive species, and it was not until relatively recently that this method became viable. The Federal Interagency Committee for the Management of Noxious and Exotic Weeds has been developing a highly organized early identification and removal system. Suspected plants are reported, verified, and new records are put in the regional and national databases (Westbrooks, 2004).

While the management and policy of invasive species are important, it is necessary to understand the biological characteristics of invasive species. Several major characteristics are common to all invasive species. Almost all of their natural inhibitors are removed (Seasted, 2009). In an organism’s original habitat, there are predators, pathogens, bacteria, fungi, and other organisms that play a role in moderating the growth of that species. Once the organism is placed in a new habitat, all of those inhibitors are gone, so it is able to propagate much more easily without any comparative threat. Another quality common to invasive species is that they have prolific reproduction (Seasted, 2009; Smith, 2008). So, with these two characteristics in mind, it makes sense as to why invasive species have such a competitive advantage over native species.

The Japanese honeysuckle (*Lonicera japonica*) is a prominent invasive species in North Carolina and across the United States. It was originally introduced from Japan for the horticulture trade (ornamental plant use) in the 1800s (Pelczar, 1995). Today it is still used for landscaping and architecture (Smith, 2008). The plant mostly inhabits regions that have 100cm or more of annual rainfall with the average coldest temperature higher than 0 degrees Celsius (Merriam, 2003). *L. japonica*, exhibits both semi-evergreen and evergreen tendencies in North Carolina, and it is capable of forming dense clumps due to its above-ground running shoots and underground rhizomes. Coupled with copious amounts of fruit, the seeds are spread widely via animal consumption (Smith, 2008). In North Carolina, it is one of the most prevalent invasive plant species due to its presence at approximately 26% of all edge sites studied across the state (Merriam, 2003). Even though disturbed habitats are prime conditions for the plant, *L. japonica* can invade shaded forest areas. In a study of 11 different microhabitat factors,

the only conclusive factor was canopy openness—openness was 15 to 22% where present and 12 to 15% where not present (Honu & Gibson, 2006).

Because Japanese honeysuckle’s leaves are semi-evergreen and evergreen, the amount of light it receives throughout the year varies seasonally. In deciduous forests, light increases from autumn to winter, and it decreases from spring to summer. Because coniferous forests have near-constant shade year-round, it is hypothesized that the reduction in available light detrimentally affects the success of *L. japonica* in coniferous forests. Subsequently, there should be a smaller number of individuals in coniferous communities than in deciduous communities. Other factors that could play a role include moisture, pH, and ground cover. To test this hypothesis, a field study in Alamance County, North Carolina was conducted during the month of April and May 2011.

METHODS

This study was conducted at three different sites in Alamance County, North Carolina. The first site is a section of the Elon University Forest. This is 56 acres of deciduous hardwood forests with interspersed coniferous stands of Virginia Pine, *Pinus virginiana*, and Eastern Redcedar, *Juniperus virginiana*. The second site, Shallowford Natural Area, is 224 acres that borders the Haw River, and it is a part of the Alamance County Parks system. The last site is a separate section of the Elon Forest, located to the south of the other site. The three locations in question for this study—Elon, Shallowford, and Elon South—are relatively similar in composition. All are at the young forest stage of succession since within the past century, all were used for agricultural land. Similarly, all parcels of land also have been developed for electric or transportation infrastructure.

The North Carolina Vegetative Survey (NCVS) protocol was used to survey each site for the presence of species. Since the focus of this study was for the presence of *L. japonica*, a 5x1 array of 10x10 meter plots was measured and marked (Peet et al., 1998). This modulated survey method was chosen in order to follow a standardized methodology, which then minimized sample bias for vegetation presence. For the Elon South site, an array of 3x1 was conducted. Other aspects of the NCVS protocol documented were cover values for each plant species. The 0 to 10 scale explained in Peet et al. was implemented. Characteristics of the plots described followed the United States Geological Survey

National Vegetation Classification Standard (USGS-NVCS). Plots were described with their physiognomic class and physiognomic subclass (USGS, 1994).

Due to the limited availability of pine-dominated woodland at each site, the pine woodlands were selected by size so that an array could be contained within the specific type of woodland. For the deciduous arrays, they were selected randomly. One array was studied for each forest type at each site. This led to a total sample size of 26 plots (n=13 for each forest type). To compare the number of individual *L. japonica*

plants in sample, a student's two independent sample t-test was conducted. A similar t-test was done to compare the average value assigned for cover in each plot. The null hypotheses were that there should be no genuine difference in the population mean number of *L. japonica* individuals in the deciduous woodlands compared to the coniferous woodlands. There should also be no difference in the population mean cover score. The alternate hypotheses predict that coniferous woodlands would have greater honeysuckle abundance than deciduous and that there will be a difference in cover between the two different habitat types.

TABLE 1
Classifications, abundance of *L. japonica*, and average cover for all study plots. "Mixed Ev-Dec" symbolizes "Mixed Evergreen-Deciduous"

Site	Physiognomic Class	Phys. Subclass	Plot Number	Number of <i>L.japonica</i>	Average Cover
Elon	Woodland	Deciduous	1	18	3.5
Elon	Woodland	Deciduous	2	27	3.3
Elon	Woodland	Deciduous	3	19	4.25
Elon	Woodland	Deciduous	4	26	5
Elon	Woodland	Deciduous	5	29	4.6
Elon	Woodland	Mixed Ev-Dec	1	11	5.2
Elon	Woodland	Mixed Ev-Dec	2	2	4.16667
Elon	Woodland	Mixed Ev-Dec	3	8	7.75
Elon	Woodland	Mixed Ev-Dec	4	11	3.75
Elon	Woodland	Mixed Ev-Dec	5	27	3.2
Shallowford	Woodland	Deciduous	1	22	5.8
Shallowford	Woodland	Deciduous	2	11	4.2
Shallowford	Woodland	Deciduous	3	11	4
Shallowford	Woodland	Deciduous	4	7	5
Shallowford	Woodland	Deciduous	5	10	4
Shallowford	Woodland	Mixed Ev-Dec	1	5	5.375
Shallowford	Woodland	Mixed Ev-Dec	2	5	5.714
Shallowford	Woodland	Mixed Ev-Dec	3	4	6.3333
Shallowford	Woodland	Mixed Ev-Dec	4	4	3.875
Shallowford	Woodland	Mixed Ev-Dec	5	4	5
Elon South	Woodland	Deciduous	1	41	7
Elon South	Woodland	Deciduous	2	45	6.5
Elon South	Woodland	Deciduous	3	37	5.75
Elon South	Woodland	Mixed Ev-Dec	1	5	4.5
Elon South	Woodland	Mixed Ev-Dec	2	6	4.57
Elon South	Woodland	Mixed Ev-Dec	3	12	5

RESULTS

Within the 26 plots samples, *Lonicera japonica* was present throughout. However, the number found in each plot varied depending on habitat type. Using the classification terms of the USGS-NVCS, the sample mean number of *L. japonica* found in the mixed evergreen-deciduous plots was 8 individuals with a standard deviation of 6.52 individuals. The sample mean of the deciduous plots was 23.31 individuals with a standard deviation of 12.31 individuals. The sample mean cover for mixed evergreen-deciduous plots was 4.96 and 4.84 for deciduous plots.

The dominant canopy trees in the mixed evergreen-deciduous woodlands were *P. virginiana*, and the mid-canopy were dominated mostly by Sweetgum (*Liquidambar styraciflua*), Mockernut Hickory (*Carya*

tomentosa), and a variety of other hardwood species. The dominant canopy trees in the deciduous woodlands were American Beech (*Fagus grandifolia*), Mockernut Hickory, and Tulip-Poplar (*Liriodendron tulipifera*).

The p-value for the abundance hypothesis test is 0.0003, meaning that there is strong evidence that the population mean number of *L. japonica* individuals is higher in deciduous woodlands than in mixed evergreen-deciduous woodlands. Therefore, we reject our null hypothesis since the p-value is below the alpha-level of 0.05. For the cover hypothesis test, the p-value was 0.3996, signifying that there is no evidence that there is more cover in the mixed evergreen-deciduous woodland versus the deciduous woodland.

TABLE 2

Two-sample t-tests for *L. japonica* abundance (left) and cover values (right)

<i>L. japonica</i>	Deciduous	Mixed	Cover Values	Deciduous	Mixed
Mean	23.3076923	8	Mean	4.8384615	4.95646
Variance	151.564103	42.5	Variance	1.3013141	1.43362
Observations	13	13	Observations	13	13
Pooled Variance	97.0320513		Pooled Variance	1.3674666	
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	24		df	24	
tStat	3.96194823		tStat	-0.25726	
P(T<=t) one-tail	0.00029003		P(T<=t) one-tail	0.3995856	
tCritical one-tail	1.71088207		tCritical one-tail	1.7108821	
P(T<=t) two-tail	0.00058006		P(T<=t) two-tail	0.7991711	
tCritical two-tail	2.06389855		tCritical two-tail	2.0638985	

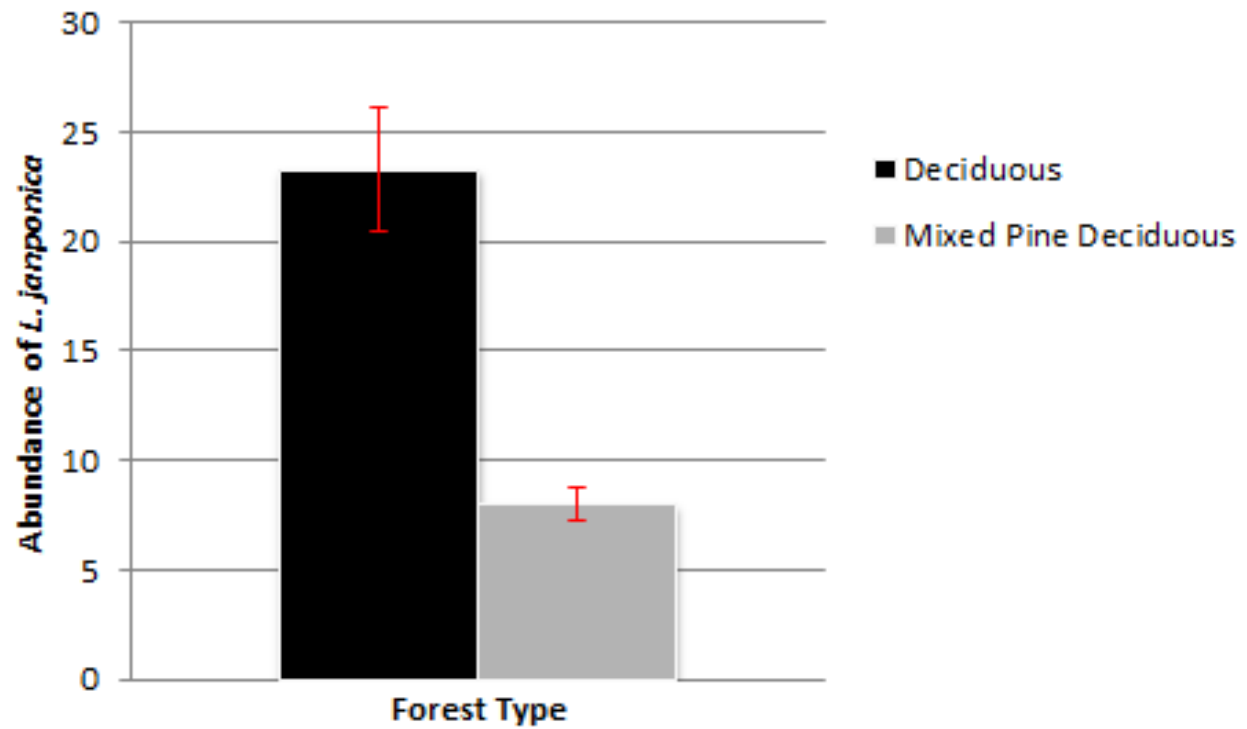


Figure 1. Mean number of *L. japonica* individuals found in each woodland plot

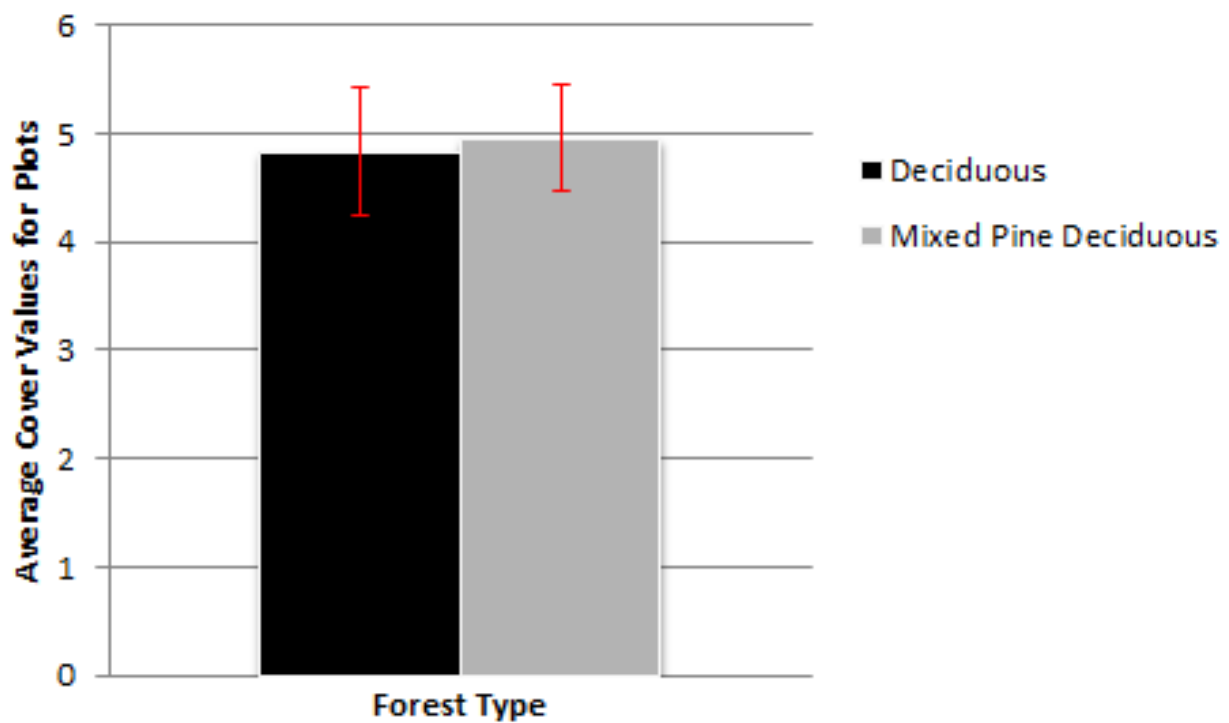


Figure 2. Mean NCVS cover value for each

DISCUSSION

Given the extensive range of *Lonicera japonica*, it is important to know where it is specifically located. Many conservation projects lack proper funding to fully reach established objectives in their most ideal form. The prioritization of and appropriate allocation of resources is necessary for efficient conservation practices. By knowing where *L. japonica* is more likely to be found, more resources can be focused on areas where the plant is more prevalent. With a basic assumption that more individuals have a larger negative effect on a habitat, plant removal projects should focus on deciduous woodland areas. Pre-existing studies also suggest edge habitats along infrastructure edges (Merriam, 2003).

Japanese honeysuckle can have many effects on an ecosystem. One adverse condition is that the exotic species can change natural decomposition rates and nutrient cycling. Specifically, sites invaded with plant species like *L. japonica* increase the rate of decomposition and increase the rate in which nitrogen is cycled (Ashton et al, 2005). This could lead to conditions that favor rapid-growing invasive species over slow-growing native species—possibly altering natural succession patterns. Another adverse effect is that between the root competition and shoot competition, *L. japonica* greatly reduces the growth rate and health of *L. styraciflua* compared to natural vine species (Dillenberg et al., 1993). It is possible that the honeysuckle has similar effects on other plant species as well. In a study conducted on *Pinus taeda* and *Pinus echinata*, it was found that *L. japonica* contained five recognized compounds that are allelopathic, suggesting that potentially significant effects could be wrought onto natural plant species (Skulman et al., 2004).

The presence of *L. japonica* cannot be considered entirely harmful however. One study has shown that the presence of *L. japonica* is not indicative of decreases in habitat biodiversity (Sherry & Stephen, 2008). Similarly, other studies suggest that there are other factors that are resulting in the change of woodland compositions throughout the Piedmont region of North Carolina. Other reasons include the decrease of small-intensity wildfires or the drastic explosion of white-tailed deer (*Odocoileus virginianus*) populations. The same study found a decrease in the prevalence of *L. japonica* over the course of a 23-year period (Taverna et al., 2005). It has even been suggested that *L. japonica* is a beneficial plant species to native habitats, for it is a highly nutritious food source for grazing animals, and



Japanese honeysuckle by SkyFiery from wordpress.com

it often is an alternate food source for popular game species during periods of food scarcity (Handley, 1945).

While certain facets of *L. japonica* are contentious, this study helps guide the scope of knowledge to better predicting its occurrence. While this study gives decisive results, an increase in sample size could improve the power of the hypotheses testing. Other sources of error could be the choosing of NCVS array sample locations. Specifically, mixed-evergreen deciduous woodlands were not entirely randomly selected, allowing a possibility of sampling bias. Other confounding factors of this study could be seasonal variation. Since this study was done at the beginning of spring, cover estimates are not accurate since cover is determined by new growth in the deciduous plants. Also, cover differs in the winter and spring between the two woodland types. Given the seasonal time period of the study, *L. japonica* might not have had enough time to sprout and spread. Lastly, researcher identification of plants could be a potential source of error despite the use of field guides. 🦋

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University Students Address Accra's Social and Environmental Challenges

By Brittany Moore

Every night, over 30,000 children and young mothers in Accra, Ghana sleep on the street, due to violence in the home, sexual abuse, poverty, or the death of one or more other their parents (Orme and Seipel, 2007). This statistic includes around 6,000 babies and 7,000 mothers under the age of 20 (streetchildren.org). Ghana's capital of Accra also has considerable problems with solid waste disposal. Every day nearly 60 tons of plastic waste ends up on Accra's street, far more than waste recycling-based organizations like [omprakash](http://omprakash.org) and Trashy Bags in Ghana can effectively address (Teye, 2012). In 2008, three University of Ghana students came up with an innovative, if partial, solution to both of these challenges facing Accra by creating a non-governmental organization called A Ban Against Neglect (ABAN) that provides overnight shelter for 20 young women and their babies while training the women to make handicrafts from cleaned plastic waste.

Two of the student founders of ABAN had volunteered with Catholic Action for Street Children and Street Girls Aid (casghana.com), but learned that this relief organization and others like it, such as Street Girls Aid in Ghana (said-ghana.com), only offered assistance via academic instruction and apprenticeship in cooking and sewing during the daytime, but no overnight support or means to address the uncertainty and anxiety produced by life on the streets. The third student was taking a course on non-governmental organization

management in which he learned that local means of selling water in plastic sachels not only littered the streets, but also choked livestock that consumed them, clogged drainage pipes, increased the incidence of stagnant water pools in which malaria-carrying mosquitoes bred and contributed to dangerous flash floods.

Although the Government of Ghana's collection of waste grew from 51% in 1998 to 91% in 2000, there was a need for the public and private sectors to cooperate to effectively address Accra's stifling amount of trash (Fobil et al., 2008).

As a direct result of their classes and volunteer experiences, the three students joined forces to create ABAN, an organization through which young women, many of them mothers, identified as having a strong desire to make positive changes in their



A Young Mother ABAN Works to Earn Income for Her Infant



Plastic Litter Creates Multiple Urban Hazards

lives, are invited to apprentice for two years, learning to create handicrafts, including totes, wallets, and handbags, out of sanitized plastic litter from Accra's streets. Each day, the women spend four hours creating new products sewing together plastic and printed cotton fabric.

The rest of the day is spent learning English, math, and business education, as well as life-skills, empowerment, personal finance, and child healthcare via workshops. In short, the three founders provided a structure to address a major concern of the young women they had taken in, namely how to support themselves via handicraft sales and invest in their future and the lives of their babies (Aban.org).

Creating an effective non-governmental organization is not easy. Initially ABAN was located in Accra, but the founders learned that the negative influences from the streets, including boyfriends who encouraged the young women to leave the organization, were causing some women to face daily challenges beyond the social stigma of being a single mother. The founders moved ABAN to Aburi, in rural eastern Ghana, near the country's peaceful and scenic national botanical gardens, where Elon students have visited the organization and met the apprentices and their babies for the past two winter terms via the winter term West African History and Culture study abroad course.

Although the founders believe that their organization is now a true reflection of the ABAN logo, which includes a fence representing a protected home, they know that a successful non-governmental organization always seeks to improve and they administer surveys every six months to make sure that they are on track, in providing emotional, financial, and physical support for the apprentices (Aban.org).



Elon's Ghana Abroad Program, January 2010

Brittany Moore is a senior International Studies major and a Periclean Scholar.

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Book Review

By Anne Melyn Cassebaum

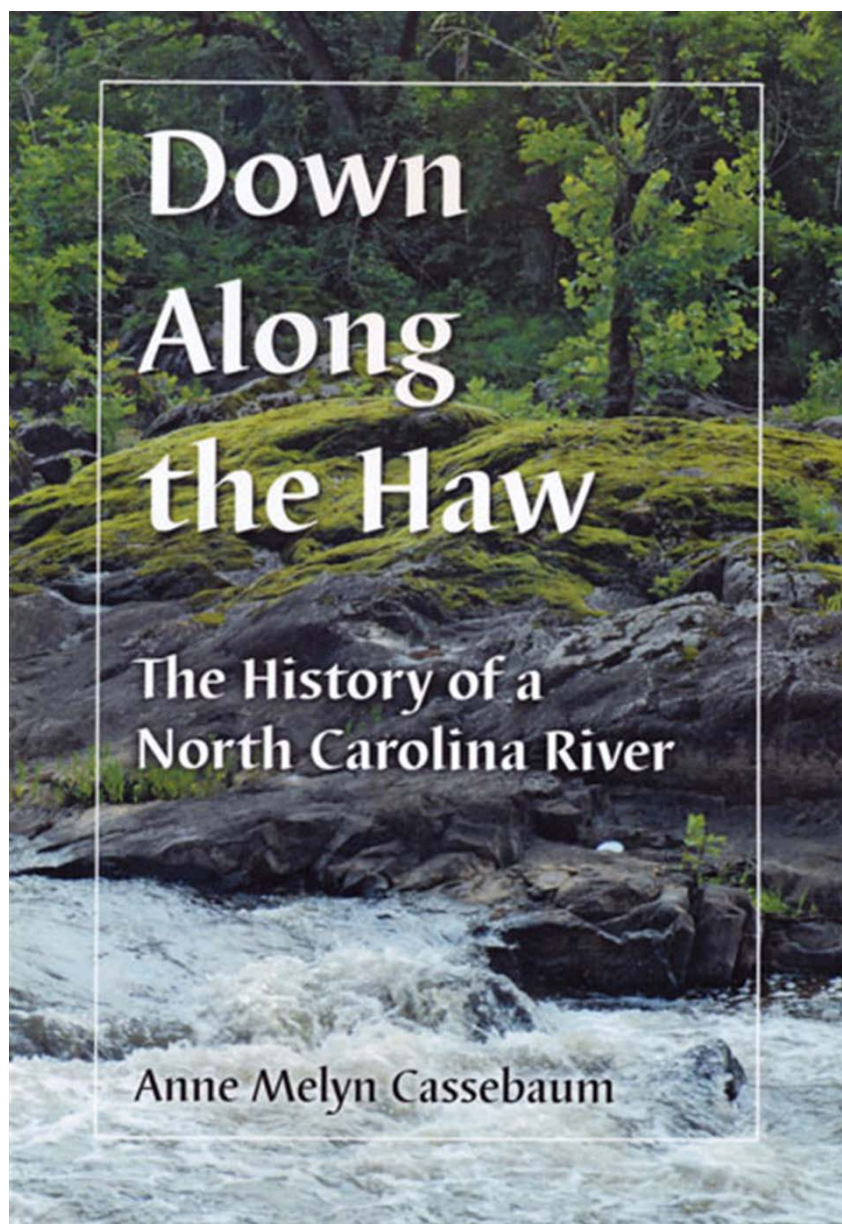
Writers are often charged to speak for those who cannot. For Anne Cassebaum, who taught English at Elon for over two decades and retired in 2011, that means giving the Haw River a voice that can be heard beyond its banks.

Down Along the Haw isn't simply a history of the river, but a history of the people who live nearby and benefit from its path, even if they are unaware of its impact. Cassebaum understands this and, in just over 200 pages, neatly details the river's social and environmental history since the 1700s.

With a careful reflectiveness often seen in meditation, Cassebaum writes with an ease and humorous self-awareness when acknowledging her own shortcomings as an explorer. She writes that she's "no one's ideal paddling companion," a description reminiscent of a less saucy, more sensitive, Mark Twain—another great river lover. The prose almost reads as a collection of long letters Cassebaum wrote to dear friend who was unfamiliar with the Haw and its history.

One of the great triumphs of this book is that it avoids being pigeonholed as a historical text and often reads like a lyric anthropological study. There is a lushness, a reverence, to the description and movement of the river that moves beyond history and earth science: "The sun slides low through young pines, successors to timber and cotton. On the thinning fieldstones, words for young

women, simple and faint, evoke our longing to live." Because this lyricism could potentially make reading difficult, Cassebaum breaks the book up into several sections, such as "From Seep to Swamp," "Streaming, Swamping Haw," "Cotton Mill River," "Water Power and Whitewater," "Jordan Lake," and "Coastal Rivers to the Sea," allowing for easier reading and contemplation on specific people and aspects of the river. In the



“As a culture, we believe in ‘away’: we will wash it away, throw it away, flush it away, move it away.”

chapter “Cotton Mill River,” she introduces us to former mills and the Haw River Assembly, and includes interviews with experts and champions of the river, such as writer, Gail Knaff, artist and carpenter, Lynn Cowan, and local guide, Roger Gant.

Of course, it’s not only good news for the river. For decades, the Haw River has suffered a history of abuse and neglect. However despite pollution and erosion, there are good people, such as Omega Wilson, the president of the West End Revitalization Association, who are working to make the river cleaner and address the health risks that come with largely unmonitored pesticide use.

In one section of the book, Cassebaum recounts the “septic racism” that crept along African American communities near the Haw until proactive citizens tested water samples and found traces of human waste 300 times higher than the EPA allows under the Clean Water Act. Here, Cassebaum tells readers that it is incredibly easy to take clean water for granted. And we do, every day. It’s easy to name faraway places that don’t have safe water to drink and bathe in, but Cassebaum reminds readers that here in America—and even in Elon, North Carolina—we are just as dependent on drinkable water for survival. We are just as vulnerable.

Cassebaum treats the Haw like it should be treated: as a significant river. It’s too easy for Elon students and even residents to claim there is nothing to do near Elon, that they need to drive a few hours away to commune with nature through a hike, but we have a river right here. And, unlike nearby manmade bodies of waters, such as Lake Mary Nell, what we have on our hands is a force of beauty and entertainment that bows too frequently

to the immediate needs and desires of people. Down Along the Haw, an impressive labor of love ten years in the making, doesn’t preach about being eco-friendly or suggest readers change their ways to go greener (although there is certainly an undertone of disappointment with the wastefulness of our current consumer culture), but it does inspire, or at least increase awareness that the Haw isn’t a simple stream. The Haw may not be the Nile, but it’s certainly majestic in its own way.

Alexa Johnson is a senior English and Communications double major. She has served as managing editor of *Colonnades Art and Literary Journal*, as well as Co-Chair of the Liberal Arts Forum and General Manager of WSOE 89.3 FM. She hopes to revamp sex education while promoting the importance of service work.

We Will Do This Slowly

By Natalie Lampert

Doc is taking me around his farm on a baby tractor. It's Braeburn Farm, but it's easy to miss because the sign at the turn-off has been replaced with one for Mike's Bluegrass Music. No one I've asked seems to know who Mike is or what his music sounds like, but the folks around here don't seem all that concerned. I look at my cows as my employees, Doc shouts as we blaze through the buttercups, his beagle running alongside the whirring metal. Ultimately, they will provide me a product. In the meantime, they'll provide me with a service – tending to my land. As far as I can tell, the cows are doing a fine job, their black-and-white heads bowing down to chomp the green and yellow grass. Orchard grass is their favorite – why do we never think of animals as having favorites? In the chicken coop, at Doc's behest, I take an egg out from underneath a mother hen. It's light-blue and speckled and she pecks at me when I pluck it. I think of the blemish-free eggs I grab from my refrigerator most mornings; I've never thought to ask why we refrigerate eggs. Doc stops the tractor at one of smaller gardens so I can pick some bok choy. My feet sink into the copper-colored earth as I lift up the root of the biggest head in the row, pocketknife ready. What opens slowly grows most; I am ready to participate in a fundamental aspect of my existence. Today, I am focused on this basic responsibility and doing it right. Today, I know where dinner is coming from.

When I asked Doc why he moved to North Carolina from Montana, he told me it was either move and take over the family farm or go to medical school. Turns

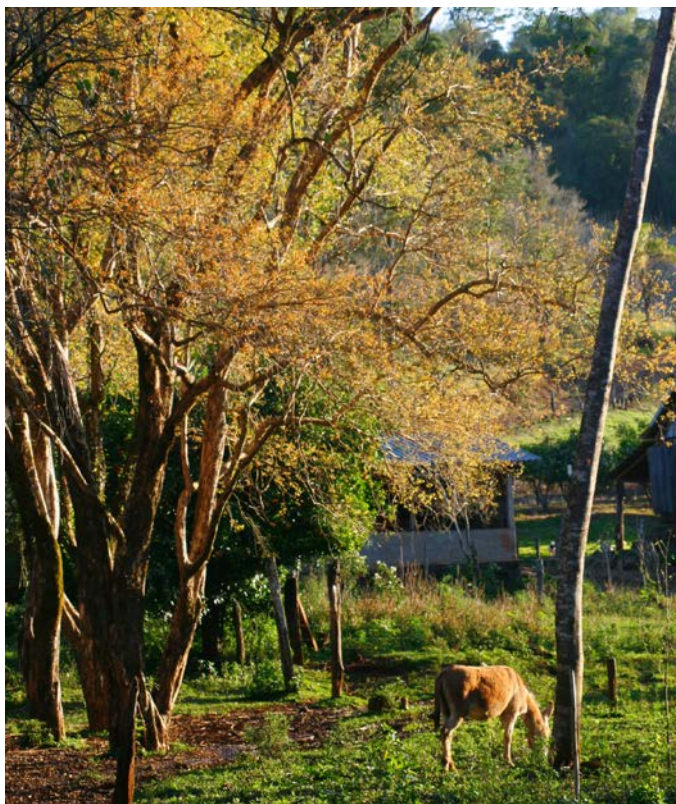
out he was able to do both over the years. He's an optometrist now in Mebane, but I get the feeling he's a doctor so that he can be a farmer and afford to keep up this land. It's strange how much money matters out in all this orchard grass. There are more than circles of lives out here, and around these animals, when Doc talks about interdependent systems and symbiotic relationships, I feel comfortably small and insignificant. After picking more vegetables and checking on the fields, I help Doc with his most recent picnic table. He makes them on a regular basis, telling me he likes the process of shaping wood into something enjoyable, something that provides. I met Doc through a mutual older friend, and I've visited Braeburn a few times over the past couple months. When I told him I was looking for work on an organic farm someplace far away from the East Coast, Doc said he could teach me a thing or two on his farm before I set off. I usually call two farms a night, my pitch ready. I used to just email – I wrote a really nice farm email template that included words like “passionate” and “fruitful” – but I found a couple of farms whose websites said the farm owners only check email once a month. It's nice to know that's still possible these days, and that's what I'm looking for—learning how to go about small things in different ways.

Last night, I slept in a small cabin behind the farmhouse. It used to be on the other side of the property, but Doc moved it log by log to where it stands now. It's not used much, but Doc and his son built it by hand, and he's told me it's all mine whenever I want to stay. I spent an hour exploring, sitting in the dusty rocking chair, running my



Country Fence by Mihai Tamasila from sxc.hu

fingers along the shiny oak kitchen table. I found a spider as big as my hand in the loft upstairs, clinging to the faded wood wall like it had been there for years. There's a hammock in the back and a swing out front and a part of me wants these things to be everything I ever need. Before bed, I ran my hand along the bookshelf in the bedroom, taking in all the titles. I pulled out a hardcover about the Blue Ridge Mountains, remembering an afternoon years ago sitting on a very high boulder somewhere in western North Carolina. The skin of the rock had looked like serrated pages of a closed book and it was covered in hardened green moss with small ants crawling everywhere. I slowly sliced and ate a tomato, tasting the sun on its skin. Pools of water filled the boulder's small crevices and I lay on my stomach, my arm hanging above thousands of feet of simple green, simply everything. The rocks, I had realized, had been there for thousands of years. Humans cannot speed up their changes and there is something so elegant and obvious in how they will only move by shifting over time.



Folks Land by Odan Jaeger from sxc.hu

We eat dinner at the picnic table in front of the cabin. It's the first one Doc ever made, and there are more knots than he would like. The table's covered with simple dishes: steamed kale and bok choy, a colorful salad, beans and tempeh. I make a tempeh sloppy joe with all the fixings, spilling some when I bump elbows with Doc's wife. It sits unnoticed in one of the table's knots until the end of the night, when we can't see the wheat in the fields anymore and two of our friends are already asleep in the hammock. Walking to the edge of the field with a lukewarm beer, I think about the crimson of autumn before the leaves fall and how transitions are sometimes more beautiful than what comes before and after. The wind tonight is

strong, tornado-strong, and it hurts my eyelids. The air is ripe with honeysuckle. Six months from now, when a semi-drunk friend in a crowded bar in Washington D.C. asks me what has happened to all the fresh air in the District, I'll think back to these traces of honey. Taking in the staleness of the bar, I will immediately feel the need to come back here, for the air, for all of it. I know not to use the word "farm" when I'm calling

out west, because everything west of the Mississippi is called a ranch – Doc keeps correcting me. I know that the best way to wash bunches of arugula is in a washing machine, barefoot, and not too carefully. Literature on biodynamic farms and permaculture is strewn across the back seat of my car. A farmer in Nebraska I called the other night, Bob, told me that I could come work with his vegetables but he wasn't going to teach me anything. You should know I quit smoking pot last month, he said. I told him thank you for telling me and that I was looking to be taught some things. Betsy in Utah let the phone ring thirteen times before picking up. I was out back with the chickens, she said with a

kind of slow drawl I had never heard before, and I try never to rush away from them. I smiled so widely at that patience, at her drawl and her chickens. Thirteen rings.

Later, alone in the cabin and getting ready for bed, I wonder about who else has stayed here, how many of the books on the shelves have been read cover to cover, how long the light coming through the windows tomorrow morning will linger. I am realizing that there are so many mechanical processes, and there is always doing things faster. But out here on the farm, there are excruciatingly slow meals with a beagle named Finnigan at your side. There are verdant fields and rows of plants wiggling

“Humans cannot speed up their changes and there is something so elegant and obvious in how they will only move by shifting over time.”



Stables Sunrise by Gareth du Plessis from sxc.hu

their way to life, and there are conversations enjoyed over drinks with shots of apple and twists of honey. And the last act of the day may very well be undressing, like I'm doing now, the undressing of the day or the day undressing me. I let down my hair, unclasp my necklace. Thumb and forefinger remove one earring, then the

other, head tilted to offer the studs, a fluid motion. Shoes, shoes, bend down, help the heel slip off. Two arms cross to lift the shirt, my rib cage wiggling slightly to ease the coming off. I am not sure what is helping what, but it is one thing at a time; it is a too-rare ritual that is the simple opposite of doing everything at once.

Natalie Lampert graduated in spring 2011 with a B.A. in International Studies and English/Creative Writing. She was a Periclean Scholar and an Elon College Fellow, and studied abroad in Ghana and Sri Lanka. This essay was inspired by the farms near Elon that she spent time on during the spring of her senior year. Natalie was recently awarded a Fulbright grant and will be moving to Sri Lanka in October 2012 to teach for a year. She can't wait for Sri Lanka, but is already missing the pulse of life in North Carolina's farm country.

Landmarks

By Lauren Greaves

The Moorish tribesmen wept at the sight
of a tree in Senegal. They flew from
the Saharan plains, leaving Allah's
sand behind, ripples of fair dust
snaking across the land, parting
the view into gold and blue at its horizon.
Enduring and certain, a cloak
their Maker thrust upon the continent,
and from its desert folds, stoic unshakable men,
warriors in an unconquerable place.

They wept at bark and petals,
an Eden thirty feet tall,
growing and breathing and flexing
its limbs as any man does with
a sure, rhythmic might,
kept alive on water and light.
Like them it showed its age
in scars and marks, like them it lived
insistently upright, proudly testing
the boundaries of its space with papery leaves
and leathery skin. Like them, coarse and wild,
a life full of survival with little adornment.

When the tribesmen stood at the base
of the Eiffel Tower in Paris they saw
indifference in its bawdy iron bones.
They saw nothing of art or progress,
no triumph of man in the labyrinth
of dark metal that twisted towards the sky.
They traveled to Paris to see its colors
and marvels, to visit a world defined
not by what already exists but what
we can make of it. The men left France
and returned home to the wonder
of their world, the quiet miracle
they'd left behind.

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