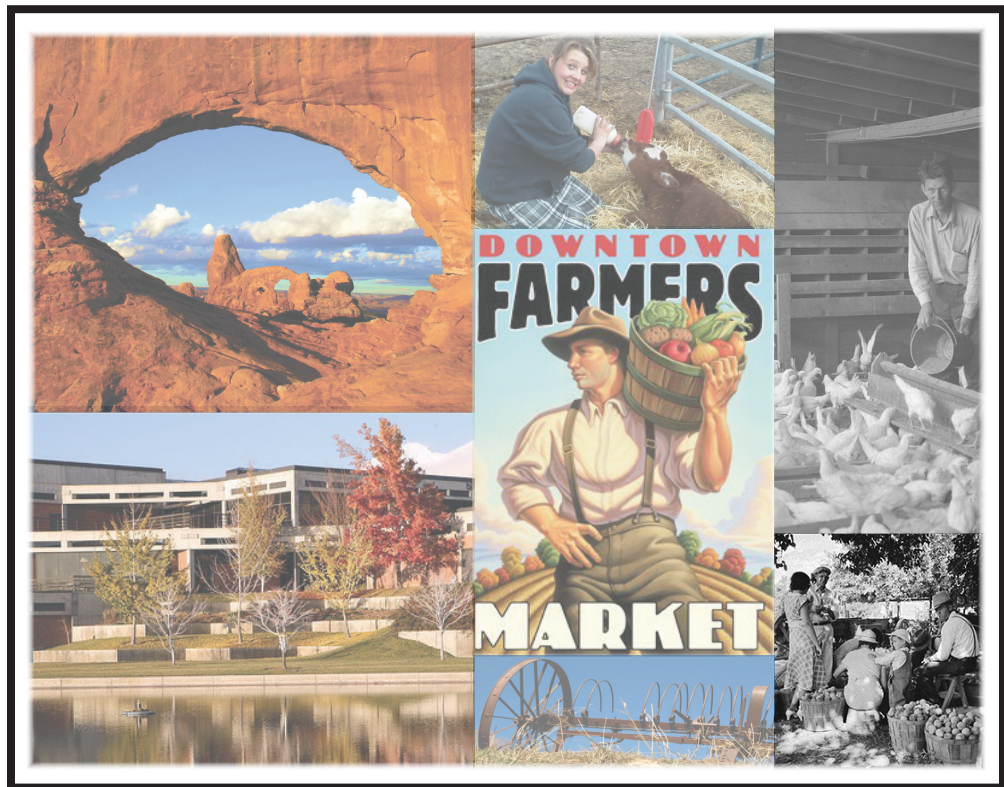


YOUTH AND THE MOUNTAINS

Student Essays on Sustainable Mountain Development



**Volume II
2014**

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YOUTH AND THE MOUNTAINS

Student Articles on Sustainable Mountain Development

The following articles contained in this volume cover a variety of themes that focus on raising awareness of the importance of sustainable mountain development in the state of Utah and beyond its borders. Topics cover women's issues in relationship to Utah's political climate, the importance of family farming for mountain communities; the impact of climate change on different mountain regions; and the environmental effects it has in North America as well as in South American regions. *Youth and the Mountains*, Volume II is composed of the research articles of students at Utah Valley University (UVU) and the winners of the Utah High School Essay Contest that was a contribution to the commemoration of the 2014 United Nations declaration of "International Year of Family Farming." Our current publication continues UVU's established tradition of engaged learning through complementing numerous practical actions and initiatives of the Utah International Mountain Forum, a coalition of its student clubs in the promotion of sustainable mountain development under the leadership of the Mountain Partnership that strengthens student's research skills and potential.



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INTRODUCTION

During 2014, the students and faculty at Utah Valley University (UVU) have gone to great lengths to maintain their high level of commitment to the study and promotion of sustainable mountain development. A coalition of student clubs at UVU, Utah International Mountain Forum (UIMF) has also continued its leadership role in working with the Mountain Partnership under the Food and Agriculture Organization of the United Nations (UN), a coordinator of sustainable mountain development activities on a global level. The articles contained in this volume represent but a small part of the efforts that have been expended toward advancing mountain development as a unique field of study.

Utah Valley University traditionally focuses on its mission of being a teaching institution based on a community engaged learning model promoted by Carnegie Endowment. To continue these efforts and engage our students in developing research and leadership skills, we have involved them in the United Nations initiatives to advocate sustainable development among mountain communities both in the Rocky Mountain region and globally. We think that through publishing our second volume of the journal that focuses on mountain issues will certainly help to pursue our goal of engaged learning.

Throughout this year, students and faculty at UVU were able to contribute to the discussions taking place at the UN. Conversations focused on new Sustainable Development Goals (SDG) that will replace Millennium Development Goals in the fall of 2015, as the UN benchmarks its evaluation of human progress around the world. We also had an UVU delegation that contributed to the UN's session on the Open Working Group (OWG) on SDGs as well as other sessions. The UVU delegation expressed their concerns about the importance of mountain indicators that should be included among SDGs. Therefore, it is important that we include the statement made by Jesler Molina, President of the UIMF, during the 2013 OWG conference as the leading piece in this volume.

During the year, UIMF had opportunities to host various mountain-focused events, which include the International

Mountain Day (IMD) celebration of the United Nations on December 11, 2014. This was the 5th annual celebration of IMD at UVU. This celebration has been a great venue to raise awareness among students, faculty and the local community about the importance of sustainable development for mountain communities. Each year, more and more people join the celebration at UVU and remember the mountain cause. Utah Valley University's International Mountain Day 2014 was highlighted by contributions from a number of prominent institutions and members of the Mountain Partnership, including the Mountain Institute, Gruppman International Music Institute, City of Orem, as well as the famous mountain climber, Conrad Anker.

Preparations are underway by the UIMF for hosting the Fourth International Women of the Mountains Conference that will be held October 7-9, 2015, in Orem Utah. For the first time, students will take full responsibility to host the conference and faculty will help them through advising. The organizing committee of the conference has been created and it mainly consists of UVU students. At the same time, we welcome any participation or contributions from students attending other schools in the Rocky Mountains region. We have heard from several student organizations from Brigham Young University in Provo, Utah and Carroll College in Montana that have expressed an interest in being part of the organizing committee. We have included papers on gender issues and leadership among women in particular in this current edition as a way to initiate the upcoming conference.

Sustainable mountain development initiatives at UVU have gone beyond the traditional gender focused activities, and have begun to focus on different aspects and challenges, for example, the mountains ecosystems. In this volume special attention is paid to the climate change challenges resulting in ecological concerns in the mountains and water management in particular.

As we continue to expand our international focus, this volume features our first contribution written in Spanish. This contribution deals with climate change in the Andes Mountains. Additional contributions include the struggles in El Salvador's with mountain development and global mountain concerns. Other articles focus on the impact of

climate change in the mountain communities of the Andes and Peru.

In efforts to promote and educate about issues on sustainable mountain development, members of the UIMF worked with local high schools to educate students. We, at Utah Valley University, are proud to continue the tradition of encouraging high school students to write articles on different aspects of the United Nations agenda. The United Nation declared 2014 as the "Year of Family Farming." To that end, the high school essay contest focused on family farming in mountain areas and articles of the winners will be featured in this volume. Passing the torch to the next generation of scholars and academics to continue the furtherance of mountain studies is crucial to the preservation of sustainable mountain development as a field of study and the work done by these young students is remarkable.

In our effort to expand the global cognizance in regards to mountain issues, we encourage students and scholars to submit papers related to sustainable mountain development and mountain issues for consideration in future volumes. Any comments and suggestions are greatly appreciated. Without further comment, the editorial board is pleased to present you with *Youth and the Mountains*, Volume II.

David R. Connelly, Editor-in-Chief

A handwritten signature in blue ink, appearing to read "David R. Connelly". The signature is stylized and cursive.

Section I:

United Nations Post-2015 Agenda



Statement at the United Nations Open Working Group on Sustainable Development Indicators

December 11, 2013
United Nations, New York

By Jesler Molina

Jesler Molina is a senior at Utah Valley University and is from Caracas, Venezuela. He currently serves as the President of the Utah International Mountain Forum (UIMF), the President of the Model UN Club, and the President of the International Student Council, where he promotes sustainable mountain development, political and student engagement and involvement. Jesler has contributed to the advocacy of the Sustainable Mountain Development agenda of the United Nations by coordinating Utah High School Essay Contests on different topics of the United Nations during 2012-2014, contributing research on the Mexican Sierra Madre ranges for the 2012 Report on Sustainable Mountain Development in North America for the United Nations Conference on Sustainable Development (RIO+20), and participating in the first gathering to establish a North American regional hub for the Mountain Partnership under F.A.O.-U.N. in Aspen Colorado in 2012. Jesler has also made a statement at the United Nations Open Working Group on Sustainable Development Goals in December 2013. He will graduate spring 2015 with a bachelor's of arts degree in Political Science with a dual concentration in International Relations and American Government, and with minors in Spanish and Peace and Justice Studies.

Mr. Chairman, The Utah International Mountain Forum has worked since its creation in 2011, with Landlocked Developing Countries (LLDC). Based on our experience as an organization located in a LLDC state, we understand the challenges that LLDCs face. The lack of access to maritime ports represents a huge disadvantage for the economy of many countries, as we have seen in Central Asia, which is one of the main focuses of our work. Mr. Chairman, the lack of access to the sea denies countries the opportunity of interacting with international markets, making them dependent on bilateral trade with neighboring countries; this makes the LLDCs' economies dependent on each other, thus creating a dangerous situation if one of the economies collapses. Mr. Chairman, in the case of Central Asia and other parts of the world, this type of isolation hurts the coun

tries to a point when LLDC countries face levels of poverty and economic underdevelopment similar to Less Developed Countries (LDC); let me add that some LLDCs are also LDCs. In this regard, we would also like to raise our concern about guidelines used by the United Nations and the international community related to LDCs. UIMF has had certain experiences during interactions with LDCs, graduate LDCs, and countries that are not LDCs but share a common indicator: when their economies are not developed enough to be considered developing, which we call middle countries. However, as we mentioned already, those middle countries still face challenges, which, if are not taken into account, will push them in conditions similar to the countries considered LDCs.

As a result, Mr. Chairman, the UIMF, considers that it is necessary to revise the LDC standards or to develop a Middle Income Developing Countries (MIDCP) plan so they are not left to survive on their own. We have to understand that most of them are on their way to establishing themselves as solid middle-income countries, but that they still face major threats like environmental disasters, or massive viral diseases like HIV -- in the case of Africa -- that could interrupt or diminish their development process. In our opinion, these threats have created a situation where LDCs are not willing to move on or to improve their economic performance in order to maintain the privileges that they have been given.

Mr. Chairman, we would like to make the following recommendations for the working group:

1- To call for intergovernmental collaboration in order to facilitate LLDCs access to the sea and water channels through the development of a comprehensive taxation program for LLDC products, allowing them to have access to the international markets, helping them to improve their economy.

2- Review the LDC standards and provide a middle ground for graduate LDC and not graduate LDCs with fragile economies.

Thank you.

Section II:

Women and Heritage of the Mountains



Paving the Forbidden Path: Politically Courageous Women in Utah's History

By: Lisa Shepherd

After twenty-three years of "real life" experience in state and local politics, political activist/consultant and mother of six, Shepherd began paving her path to law school by returning to Utah Valley University to obtain a bachelor's degree in Political Science (emphasis Public Law). Shepherd, a 1992 AAS graduate of the Woodbury School of Business, has goals upon graduation to serve the community by defending and teaching civil rights, as well as to return to Utah Valley University as a Political Science instructor.

Utah is unique, sometimes referred as a Zion, a place of refuge in a turbulent world, crowned with a peculiar global presence unlike any other state.¹ A synopsis of Utah would be incomplete without the acknowledgment of the dominant Mormon religion that is a worldwide entity, and its historic civic influence, and the recurrent debate of the role of the woman.²

In the years leading up to women's suffrage, men were the nation's sole political decision makers. In the East, male religious leaders argued that women were, "too 'pure' for politics; women would just vote however their husbands or their religious leaders told them to; women were too impulsive, too sympathetic, too delicate to bear the stress; and so on."³

In Utah, women were excluded from direct political influence when Mormon leaders who governed both the Church and the territory established a theocracy "by simply elaborating their ecclesiastical machinery into a political government."⁴ This action, endorsed by the adherents of the Mormon Church, cemented Utah's political authority solely to men, which contradicted the American ideal of democracy. In 1849, the State of Deseret and its constitution proposed by Mormon leaders, and was adopted out of the 655 votes cast by the all-white-male

¹Bushman, Richard Lyman, *Mormonism: A Very Short Introduction*, New York: Oxford University Press, 2008, 54.

²"Missionary Program," Mormon Newsroom, <http://www.mormonnewsroom.org/topic/missionary-program>.

³Nelson, Geoffrey S., "Martha Hughes Cannon," <http://geoffsn.blogspot.com/2012/06/martha-hughes-cannon.html>.

⁴MacKay, Kathryn L., "Women in Politics; Power in the Public Sphere," *Women in Utah History; Paradigm or Paradox?* Edited by Patricia Lyn Scott and Linda Thatcher, Logan: Utah State University Press, 2005, 364.

electorate.⁵ Consistent with Utah's peculiarity and aimed to establish a political kingdom of God, the Mormon's Council of Fifty effectively replaced the partisan party process to secure and endorse all candidate nominations.⁶ Pre-filled ballots were then forwarded to the electorate for their sustaining *consideration*.⁷ All the candidates won their election, but only one was elected without unanimity.⁸

The all-male political dominance compelled assertive women to engage in the battle of equality to forge the forbidden path of women's political influence in Utah, including suffrage and the opportunity to run for elective office.

The political will and power of non-conformist women was underestimated. Politically courageous women achieved historical notoriety as the initial female legislators in the Utah Legislature. Women such as, Dr. Martha Hughes Cannon, the first female State Senator in the United States (1896). Utah's first female House Representatives, Eurithe K. LaBarthe, and Sarah Elizabeth Nelson Anderson (1896), and Utah's first United States Congresswoman Reva Beck Bosone (1948). However, none of these women mentioned increased nor fundamentally changed the role and power of the women of Utah as much as the rarely mentioned political activist, Sarah Anne Sutton Cooke. Her social influence and tenacious lobbying within both the Mormon and non-Mormon communities ultimately helped to eradicate the political obstacles facing Utah's statehood, women's suffrage, and women's direct political influence.

Sarah, was born August 15, 1808, and orphaned at a young age in Leeds, Yorkshire, England. The precocious child attended a boarding school where she excelled in academics and music. Sarah married William Cooke on her eighteenth birthday in Leeds.⁹ Twelve years later in 1838, the Cookes immigrated to the United States. During their eight years in New York, Sarah bore four children and taught music to make ends meet. The Cookes, who

⁵MacKay..

⁶Hansen, Klaus J., *Quest for Empire: The Political Kingdom of God and the Council of Fifty in Mormon History*, Lincoln: University of Nebraska, 1968.

⁷*Teachings of Presidents of the Church*, Salt Lake City: Church of Jesus Christ of Latter-day Saints, 1998, 218.

⁸Jack, Ralph, *Territorial Politics: 1847–1876*, Salt Lake City: University of Utah, 1970, 69.

⁹Scott, Patricia Lyn, "Sarah Ann Satton Cooke; The Respected Mrs. Cooke," *Worth Their Salt Too*, Edited by Collen Whitley, Logan: Utah University Press, 2000, 3.

were ardent abolitionists, then resided in North Carolina for the next ten years until they found the antagonism too *uncomfortable* and moved to Iowa.¹⁰

In hopes of finding California gold, the Cooke family in 1852, left their Iowa home and headed west. After a grueling winter trek, William safely left the family in Salt Lake City to await spring as he continued onto California with plans to have the family join him after he settled.¹¹

Shortly after William left, Sarah joined the Mormon Church and earned the admiration of the Mormon community as she taught music to Brigham Young's children and regularly performed in Brigham Young's theatre.

After William Cooke's eventual return, he became a Salt Lake City jailer and tragically was the first Utah officer killed in action.¹² As a gesture of gratitude, Brigham Young gifted officer Cooke's widow and family a home. He refused any offer of payment. Years later, after Sarah made improvements to the home and land, Young attempted to reclaim and sell the property. A lawsuit ensued and was decided seven years later by the Utah Supreme Court in favor of Sarah.¹³ Further delays by the state's attorneys caused the *Salt Lake Tribune* to declare, "no fact is better known that here in Utah, Brigham Young is above the law."¹⁴

Disgruntled with the questionably unbecoming behavior of Brigham Young and the practice of polygamy, Sarah resigned her membership and disavowed the authenticity of the Mormon Church.¹⁵ These experiences encouraged the respected Mrs. Cooke, a Republican abolitionist to seek the once forbidden path toward gender equality.¹⁶ Sarah, also referred as *the Eve* of Utah politics, was a formidable leading opponent of *the Twin Relics of Barbarism*, which was the argument of how polygamy degraded women just as slavery degraded humanity.¹⁷ Ironically, her

¹⁰ Scott.

¹¹ Scott, 4.

¹² "Officer William Cooke," Utah Law Enforcement Memorial, <http://www.utahsfallen.org/archives/506>.

¹³ Scott, 16-18.

¹⁴ Scott, 18.

¹⁵ Scott, 25.

¹⁶ Whitney, 1.

¹⁷ Lieber, Constance and John Sillito, ed., *Letters From Exile: The Correspondence of Martha Hughes Cannon and Angus M. Cannon 1886-1888*, Salt Lake City: Signature Books in association with Smith Research Associates, 1989, xii.

first personal effort was to help Ann Eliza Young safely flee Utah to escape her powerful polygamous husband, Brigham Young.¹⁸ Sarah was a compassionate woman who continued to hear first-hand unsettling reports from distressed polygamist wives.

Sarah, the matriarch of the Anti-Polygamy movement, was elected as the president of the Anti-Polygamy Society.¹⁹ She effectively lobbied the US Congress advocating society's stated purpose, "not to wage war against any party, sect or person, but...to fight to the death that system which so enslaves and degrades our sex, and which robs them of so much happiness."²⁰

In 1881, Sarah became the vice-president of the National Women's Suffrage Association for Utah.²¹ She argued that "the privilege of the ballot be denied to any woman or man who lives in, or advocates the practice of polygamy, but did not want to deprive polygamous women of the privilege unless the same be done with her husband."²² Congress responded with sweeping legislation against polygamy.

The political power and unshrinking actions of one woman ultimately led to the demise of the Mormons legal practice of polygamy through the Edmund-Tucker Act, and Article III of the Utah Constitution. It states, "Perfect toleration of religious sentiment is guaranteed. No inhabitant of this State shall ever be molested in person or property on account of his or her mode of religious worship; but polygamous or plural marriages are forever prohibited."²³ Sarah's continual social and political contributions fundamentally changed the Mormon Church through the political and ecclesiastical abolishment of polygamy; hence, transforming the role of *the woman* in Utah thereafter.

Other female political activists engaged in Utah politics by attaining elected office, assisting partisan parties and/or candidates, and lobbying legislative bodies on political issues. However, there was no issue that compared to the crown of women's

¹⁸Scott, 20.

¹⁹Scott, 25.

²⁰Scott, 24.

²¹Scott, 23.

²²Scott, 25.

²³“The Edmunds Law,” United States Statutes at Large, 22, no 30 (1882), http://www.constitution.org/uslaw/sal/022_statutes_at_large.pdf.

“The Edmunds-Tucker Law,” United States Statutes at Large, 24, no 635 (1887), http://www.constitution.org/uslaw/sal/024_statutes_at_large.pdf.

“Utah Code/ Constitution,” Utah Legislature, http://le.utah.gov/code/CONST/html/00I03_000100.htm.

political activism. This period was an extraordinary era of the woman suffrage campaign in Utah. Utah's history also reveals that despite suffrage success, the forged path was still rocky.

Beehive History writes:

Once it became clear to Utah's political parties that despite the suffragists' successes prejudices against women had not evaporated, Utah's male politicians became increasingly disinterested in supporting women as candidates or tapping their skills for party leadership roles. Although they were enfranchised, Utah's women, no less than the men, were not ready to vote as a body for women. As Utah entered mainstream American politics its men grew less and less willing to veer from national political norms.²⁴

When writing of State Senator Martha "Mattie" Hughes Cannon, the first woman elected to this position in the US, a physician, and avid suffragist a Chicago newspaper reporter declared this non-conformist female political activist as, "the brightest exponent of the women's cause in the United States."²⁵ Prior to her political achievements, Mattie became a schoolteacher at the age of fourteen and then a typesetter, which enabled her awareness of women's issues at the national and international levels. Mattie obtained four educational degrees before her twenty-sixth birthday that included a bachelor's degree of Chemistry, a doctorate of Medicine, a bachelor's degree of Pharmacology, and a bachelor's degree of Oratory.²⁶ After obtaining her education, Dr. Mattie Hughes returned to Utah where she became the second physician to practice at the Hospital of Deseret. The hospital director, Angus Cannon was a polygamist, a member of the Council of Fifty, and a Salt Lake City, stake president.²⁷

In 1884, two years after the federal government outlawed polygamy, twenty-seven year old Mattie became the fourth polygamist wife of fifty year old Angus Cannon. During this time,

²⁴Ibid.

²⁵"Utah History to Go: People: Martha Hughes Cannon," <http://historytogo.utah.gov/people/marthahughescannon.html>.

"Martha Hughes Cannon: An Example of a New Womanhood in Utah," EDU Libs., http://edulibs.org/get_paper.php?id=20100836.

²⁶Grana, Mari. *Pioneer, Polygamist, Politician: The Life of Dr. Martha Hughes Cannon*, Morris Book Publishing, 2009, 24-25.

²⁷An ecclesiastical leadership position in the Church of Jesus Christ of Latter-day Saints that is based upon a geographic boundary.

Angus was *Suspect Number 1* on the federal agents' Most Wanted List for unlawful cohabitation and bigamy. His polygamist marriages to that date produced seventeen children and four stepchildren.²⁸ In 1885, Mattie hid underground to conceal her marriage, pregnancy, and later her September newborn.²⁹ In November, Angus was the appellant in the case of *Cannon v. United States* where he appealed his conviction of co-habitation before the US Supreme Court.³⁰ The Supreme Court upheld the lower court's decision. In 1886, Mattie and her young daughter fled the country to avoid the US Marshals inquiries.³¹ February 1888, while in exile Mattie defended the polygamist lifestyle when she wrote:

[I have] a thorough knowledge from God, that the principle for which we are battling and striving to maintain in purity upon the earth is ordained by Him, and that we are chosen instruments in His hands to engage in so great a calling. Still, she acknowledged:

“Even with this assurance grounded in one's heart, we do not escape trial and temptations, grievances at times in our nature.”³²

However, when she returned to Utah in June of 1888, she found that Angus had entered into two additional polygamist marriages, which greatly dismayed Mattie both emotionally and financially.³³ However, she continued pressing for women's suffrage and desired to legislatively affect public health policy.

In the historic political victories of 1896, not only did Utah gain its statehood, Mattie, a Mormon Democrat, was elected for one of the five at-large state senate seats out of a field of ten candidates (five Republican, five Democrat).³⁴ Interestingly, Mattie only spent thirty-five dollars in her bid, yet received 3,000 more votes than her Republican husband, which caused a short

²⁸Nelson.

²⁹Lieber, xiii.

³⁰*Cannon v. United States*, 116 U.S. 55: Supreme Court of the United States, (1885), <http://supreme.justia.com/cases/federal/us/116/55/case.html>.

³¹Ibid.

³²Embry, Jessie L., Lois Kelly, “Polygamous and Monogamous Mormon Women,” *Women in Utah History; Paradigm or Paradox?* Edited by Patricia Lyn Scott and Linda Thatcher, Logan: Utah State University Press, 2005, 17.

³³Utah History to Go: Martha Cannon.

³⁴MacKay, Kathryn L., “Women in Politics,” *Women in Utah History; Paradigm or Paradox?* Edited by Patricia Lyn Scott and Linda Thatcher, Logan: Utah State University Press, 2005, 377.

rift in their marriage.³⁵ An unidentified reporter wrote in the September 28, 1968, *Deseret News*, “Although (Angus Cannon) met the situation with outward humor, he did not find it easy to accept his wife’s effrontery.”³⁶ Within her first month in the legislature, Senator Cannon proposed public health legislation introducing the following three bills, “an Act Providing for Compulsory Education of Deaf, Dumb, and Blind Children; an Act to Protect the Health of Women and Girl Employees; and, undoubtedly the most important to her, an Act Creating a State Board of Health and Defining Its Duties.”³⁷

Senator Cannon served two successful terms in the Utah Senate. Due to her unlawful marriage and upcoming birth of a child in 1899, Mattie decided not to further pursue local or national political office. After Angus died, Mattie and her children moved to California where she continued to affect medical advancements until she died at the age of seventy-five.³⁸

Sarah Cooke and Mattie Cannon held different perspectives regarding political ideology, polygamy, and the Mormon Church. Sarah was a precocious non-conformist who set the stage for other female political activists, argued oppression of the polygamist woman, and disavowed the Mormon faith. Yet, she remained beloved in the Mormon community.

Mattie was a non-conformist towards the federal government as a polygamist dissembler as well as being a well-educated physician. She broke societal expectations of the role of the woman. Evidenced by the confidence of the electorate, Mattie was a respected community leader. One could presume her personal conflict between her civic oath as a state senator to “support, obey and defend the Constitution of the United States and the Constitution of this State” and her plight to simultaneously conceal from federal agents unlawful marriages and pregnancies, including her own.³⁹

Both non-conformist women through their intertwined efforts for women’s suffrage blazed a wider path for other women to obtain political power in Utah, such as the women who were first elected to notable partisan offices. The first female repre

³⁵Haddock, Mark, “Utah Woman Blazed Trail in State Politics,” December 14, 2009, <http://www.deseretnews.com/article/705351447/Utah-woman-blazed-trail-in-state-politics.html?pg=all>.

³⁶Haddock.

³⁷Nelson.

³⁸Nelson.

³⁹Utah Constitution Article IV Section 10.

sentatives to the Utah House were elected in 1896. They include, Eurithe K. LaBarthe of Salt Lake City, and Sarah Elizabeth Nelson Anderson of Ogden.⁴⁰ Both women were non-Mormon Democrats that served only one term and were nominated within the legislature to the US Senate, thus being the first Utah women considered for federal office.

Salt Lake City's prominent president of the Ladies Literary Club and educator, Eurithe K. LaBarthe served as chairman of the House Education Committee. She was one of three house members appointed to the legislature and served until 1935.⁴¹ Bosone's key legislation established the Women's Division within the State Industrial Commission and the laws regarding minimum wages and the hours women and children could work.⁴²

In 1936, Reva Beck Bosone became the first woman in Utah to be elected as a judge and served until 1948. As a judge, she supported efforts to establish adult alcoholism and rehabilitation programs.⁴³ In 1939, despite her previous divorce and in true female non-conformist fashion, Reva divorced her second husband, her previous law partner and father of her young daughter.⁴⁴ She continued to have the electorate's confidence both before and after her failed marriages.

In the United States Congress the outspoken and energetic Bosone was the first woman to serve on the Interior Committee and involved in two major issues. The reclamation projects and the American Indian policy.

Reva lost her 1952 reelection amid a Republican resurgence and a negative campaign by her current and 1948 Republican opponent, William Dawson. Nevertheless, in 1960 breaking more ground, she was appointed as the judicial officer, which is the highest-ranking woman of the United States Post Office. In 1965, she was on a list of possible nominations to the US Supreme Court.⁴⁵ Reva retired in 1968, and continued to deliver speeches at political and community events where she encour

⁴⁰MacKay.

⁴¹Embry, 381.

"Historical Listing of State Legislators," <http://le.utah.gov/asp/roster/compllist.asp?letter=B>.

⁴²"Historical Listing of State Legislators."

⁴³"Historical Listing of State Legislators."

"Historical Listing of State Legislators."

⁴⁵"Bosone, Reva Beck," West's Encyclopedia of American Law, <http://legal-dictionary.thefreedictionary.com/Bosone,+Reva+Beck>.

aged women to “raise more hell.”⁴⁶

Throughout each of their lives these non-conformist women exemplified political bravery as they took tenacious steps. Some steps were careful, some happenstance. Nevertheless, they paved the previously forbidden path for the woman in Utah, to directly participate in politics through their involvement in the suffrage movement, as well as showing other women how to campaign and win a political office.

⁴⁶“Utah History to Go: People: Reva Beck Bosone,” <http://historytogo.utah.gov/people/marthahughescannon.html>.

History of Women in the Rocky Mountains

By: Nanette Serrano

Nanette Serrano graduated from Utah Valley University Spring of 2014 with a bachelor of science in Political Science and a minor in International Relations. Following her graduation from Utah Valley University, Nanette is studying for her entrance exam to go to Law school where she plans to graduate with her law degree and a master's degree in Public Administration. Once Nanette becomes a certified lawyer she plans to open her own law practice as a Criminal Defense lawyer.

The Rocky Mountain region starts in British Columbia and Alberta, Canada and heads south through Idaho, Montana, Wyoming, Utah, Colorado and New Mexico in the United States of America. This region has a vast and colorful history for women which would be difficult to completely cover in this article. Therefore, the focus will be primarily on the history of the Rocky Mountain women in the United States. There are many different aspects to talk about in the wild west frontier of the Rocky Mountains so this article will detail women's migration to this area, the history of women suffrage, and the many different social activities the women participated in.

Women came from all over the world to the wild west frontier of the United States. They traveled in hopes of staying connected to their husbands while they searched for gold, which is a positive look into the West but not every person that came West had a positive experience. Some women were bought to the West from foreign countries and then sold into sex slavery to work in brothels. Nevertheless, women came to the West and what is of importance is what women did with their time while being in this remote part of the country. These women had few ties to the Eastern United States other than the slow postal mail service but have shaped parts of our country in many ways.

Women Living in and Migrating to the Rocky Mountains

There are forty-four different Indian tribes living in the Rocky Mountains. This made interaction between Euro-Americans sometimes difficult, yet each party needed the interaction to take place in order to live together in the American West. Euro-American men were traveling west in hopes of mining for gold, getting land, or just for a new adventure in their lives. The

Native American tribes found that they could trade their women's sexuality for goods from the white men. Native women who brought in more material goods were considered to be more prestigious among their tribe and would inherently make their family more respected.¹ However, being with a Native woman was not socially acceptable, therefore, men usually did not talk about it with other men even though most of them knew who would frequent the tribes in search of female companionship. This early interaction with the natives is what caused the early spread of syphilis.²

Euro-American women traveled to the west for the same reason as the Euro-American men. The difference however, comes with the trend of women during this time and their geographic location. A woman moving to Utah was most likely to be a part of the Mormon pioneer, but a woman traveling to New Mexico or Colorado was usually looking for gold or a new adventure. Before white women traveled west the white men lived in rough conditions that consisted of living arrangements that were "crude shelters, tents, and occasional cave."³ The men frequently suffered from being overworked, in danger from the rough mountain conditions, fatigue, and the lack of female companionship.

During the decade of the 1860s in the Rocky Mountains the ratio of men to women was astounding. In Colorado the ratio was sixteen men to every one woman.⁴ Wyoming had a ratio of six to one. Idaho and Montana were estimated to have eight to one. Only Utah and New Mexico seemed to have a sexually balanced population because of the high Mormon and Hispanic populations.⁵ Due to the ruggedness of the West's conditions the women who migrated there were typically women that were loose in nature and became prostitutes in the region. Nonetheless, men treated these women with the utmost respect, which

¹MacKell, Jan, *Red Light Women of the Rocky Mountains*. Albuquerque: University of New Mexico Press, 2009, 1.

²MacKell, 2.

Please note there is no scientific evidence to prove that Native Americans caused syphilis among Euro-Americans, if anything there is more evidence proving that Columbus' expedition is what introduced the Native Americans to the disease.

³Seagraves, Anne, *Soiled Doves: Prostitution in the Early West*, Hayden: Wesanne Publications, 1994, x.

⁴MacKell, 4.

⁵Irwin, Mary Ann, *Women and Gender in the American West*, Albuquerque: University of New Mexico Press, 2004.

created a more welcoming environment for the women to endure. Men and women became more than just sexual partners. They became friends and companions. "Many women were kind-hearted and a miner would be found sitting in the cabin of a painted lady while she mended his socks and sewed buttons on his shirt. When the men became ill or were injured, these ladies would nurse them back to health."⁶ Women were becoming a major integral part of the Rocky Mountains.

Overtime the population started to grow and the Rocky Mountains became a more inviting environment for migrating white and black families and the Mormon pioneers. The Native Americans and Native Hispanics were learning to coexist with this rapid change. However, because of the rapidly changing environment the women played a major role in developing the relationship between the Natives and the whites. Men were increasingly impatient and unaccepting of the cultural differences between the different races, which would cause social problems between the groups. Thus, racially different women would jump to the rescue of each other to prevent and ease any contentious issues that would arise. The women eventually started to trade with each other especially in Utah with the Mormons and the Native Americans.

Farming was the key aspect to trade because the Natives knew how to properly use the land to grow the necessary food whereas the Mormons were still learning. This required a reasonable working relationship between the two groups. Their relationship grew so much that Mormon women would become midwives for Native women and Native women would teach Mormon women how to use the land's natural remedies to treat illness.⁷

Rocky Mountain Women Suffrage

The battle for women's suffrage in the United States was a problem all over the union but it was not as complicated in the West as it was in the East. Women in the East were fighting for their right to vote and they were being ignored a majority of the time. However, in the West many women were already given the privilege of voting even if it was not a legitimate legal right. The states in the Rocky Mountain region were interesting at this time, because a few of them were not considered to be a part

⁶Seagraves, x.

⁷Irwin.

of the United States, such as, Wyoming and Utah. An amendment was passed in 1920, which became the 19th Amendment to the US Constitution and allowed full voting rights for American women. When the law passed, New Mexico was the only state in the Rocky Mountain region that had not already passed their own women's suffrage. New Mexico was also one of the last states in the United States to pass the women's suffrage law. Most Rocky Mountain states adopted women's suffrage before the amendment was ratified and made a part of the constitution.

Wyoming was the first state in the United States to grant women's suffrage in 1890. This had more to do with politics than it did to the actual concept of women's suffrage. Due to Wyoming having a small population density and the politicians trying to find ways to increase their population so they would be admitted into the Union. Therefore, they concluded if they enfranchised women they would increase their population. In an article titled, "Women's Suffrage in Wyoming in 1869: The Uproar Against Female Jurors," written by Jocelyn Mitchell, she found, "the general response nationwide greatly criticized Wyoming's hasty recognition of women's rights."⁸ This was an interesting concept but that was the trend during this time period. Women were not given equal rights when the constitution was signed and ratified so the mere fact that it took over a hundred years for women to be given equal political rights is quite astounding.

Utah granted women's suffrage in 1896, and at the same time they were admitted into the Union. However, before Utah was admitted into the Union they had already given women the right to vote in 1870. Because plural marriage was allowed in Utah during this time, women were almost required to be independent. The men were not around enough, and the women had to take care of themselves and their families. Women in the East were not able to participate in various activities because their husbands would come home every night. Claudia Bushman explained it as, "one of the neatest ironic contradictions of the period, the enslaved harems of Utah produced some of America's most efficient early feminists," and the Mormon Church encouraged women's participation.⁹

From the beginning Mormon women voted to sustain

⁸Mitchell, Jocelyn. "Women's Suffrage in Wyoming in 1869: The Uproar Against Female Jurors." *Atlanta Review of Journalism History*, 2010: 15-30.

⁹Bushman, Claudia L., *Mormon Sister's*, Cambridge: Emmeline Press Limited, 1976, xix.

church officials, they participated in holy ordinances, and they pronounced blessings to heal the sick.¹⁰ Nevertheless, there were many politicians in the East that did not approve of Utah's enfranchisement or their practicing polygamy. Therefore, House Representative Shelby M. Cullom, introduced an anti-polygamy bill that would also ban the franchise. Congress passed the "Edmunds Act in 1882, which prosecuted polygamists and withdrew most of their civil rights, including the franchise."¹¹ Utah worked hard to get women's suffrage back in 1896, when it joined the Union. Even though the state went through many hardships regarding women's suffrage it was viewed as one of the first states to allow women the right to vote, which in this time period was a great feat in itself.

Colorado adopted women's suffrage in 1893. However, it was difficult getting to this point for Colorado suffragists. Women starting organizing their efforts in 1876, and began lobbying for their right to vote. But the momentum didn't pick up until the 1890s. Nevertheless, it took a lot of work to build up to the moment when enfranchisement was granted. In 1877, Colorado women were granted the right to vote in school elections and to sit on the board but this was not enough to grant them suffrage.¹² They reached out to different resources by creating funds for lobbying groups and submitting columns to the local newspapers. Even though they were receiving quite a bit of attention, they didn't have the support from other local women. They were divided amongst themselves, which is why it took almost two decades before suffrage was finally granted. Due to their lack of commitment in the earlier stages of suffrage, they ultimately decided to not repeat those same actions. Thus, they created a social reform movement that utilized individual women and women's organizations to gain the political power needed in order to put women's suffrage on the ballot.¹³ This maneuver is what granted enfranchisement to women in Colorado.

Idaho adopted women's suffrage in 1896, and was the fourth state in the Union to do so. Nevertheless, Idaho women suffered ridicule and public dissension as much as any of

¹⁰Bushman.

¹¹Madsen, Carol Cornwall, *Battle for the Ballot: Essays on Woman Suffrage in Utah 1870-1896*, Logan, Utah State University Press, 1997, 7.

¹²Armitage, Susan H., *The Women's West*, London: University of Oklahoma Press, 1987, 267.

¹³ Madsen, 273.

the other states in the Rocky Mountain West. One male Idaho editor took a jab at women, right in the heat of debates about women's suffrage believing that they could not even take care of their families or their houses why should they be able to vote and be apart of politics. He claims, "Ye pining, lolling, screwed-up, wasp-waisted, putty-faced, consumption-mortgaged and novel-devouring daughters of fashion and idleness, you are no more fit for matrimony than a pullet is to look after a family of fifteen chickens."¹⁴ Men of Idaho were not very fond of the new feminist movements and mocked women whenever possible. For women to be enfranchised in this rugged state it took strong-minded and powerful women such as, May Arkwright Hutton. She became the foremost leader for woman suffrage. May was an orphan and had a rough upbringing but found a way to survive through having a strong personality and brutish behavior. Through her persistence, May was able to strike it rich in the mines and donated money to suffrage organizations. Once Idaho women became enfranchised, she became the first woman in history to be a delegate of the Democratic National Convention.¹⁵ This phenomenon created interesting stories for the history of Idaho's suffrage movement.

Just as in other states such as, Idaho and Colorado, the Women's Christian Temperance Union (WTCU) helped organize the early suffrage movements in Montana in 1883. However, Montana was no exception to the struggle of suffrage. Many women from other states that were dedicated to the cause came to push this agenda. Since Montana men and women were not ready for this social change it was a battle for them, as they had to find new avenues to renew the interests of all the women who dedicated their time to the suffrage movement. Harriet Sanders, who was the President of the Montana Woman Suffrage Association, complained about the "indifference and thoughtlessness of some of our own sex."¹⁶ The suffrage bill was put on the agenda five separate times before it was finally approved. The lack of commitment to the bill could be due to the fact that Montana's population was spread out over a large amount of land. Therefore, making it difficult to organize efforts and com

¹⁴Brown, Dee, *The Gentle Tamers*, Lincoln: University of Nebraska Press, 1958, 294.

¹⁵O'Connor, Sandra Day, Idaho Human Rights Education Center, <http://idaho-humanrights.org/education/history-of-human-rights-in-idaho/women/>.

¹⁶Mead, Rebecca, *How the Vote was Won: Woman Suffrage in the Western United States, 1868-1914*, New York: New York University Press, 2004, 154.

municate the progress of the suffrage movement. Nevertheless, Montana officially enfranchised women in 1914.

New Mexico was one of the last of the Western state's to ratify the 19th Amendment allowing women's suffrage. Some of the issues that contributed to the time delay, was their lack of knowledge about the movement. They were slow to organize groups and the people that made up the groups were primarily Protestant Anglo-Americans, which completely left out women with Indian and Mexican-American heritage.¹⁷ When these women finally became organized they were met with political and secular dissent. The Catholic Church openly criticized their behaviors. Their political barrier came in 1910, which was the most difficult to overcome. New Mexico granted Hispanic men full voting rights but required any future suffrage movement to have a three-fourths majority votes in every county.¹⁸ This caused a major legal barrier, and it was not overcome until they were granted suffrage. The 19th Amendment was added to the constitution on August 18, 1920.

The states within the Western United States were extremely successful in granting enfranchisement to the women, but even more successful was the majority of the states included in the Rocky Mountains. Wyoming was the first to allow suffrage, followed by Utah. The legalities required for these women to vote were a nuisance for the men. Women were independent and critical thinkers and they were already voting. Nevertheless, women's suffrage movement prevailed in the West and struggled in the East. The contribution can be given to the women and their fierce independence in the West to be able to endure the harshness of the desert while maintaining their sanity. They even prevented their male counterparts from facing fierce bouts of loneliness and depression.¹⁹ Women of the mountainous West were strong, sophisticated activists who knew what they needed to survive in the wild West.

The Social Life of Rocky Mountain Women

Many words can describe the women of the Rocky Mountain region such as, loving wives, eligible daughters, hopeful old maids, camp followers, adventuresses, missionaries, suffragists,

¹⁷Women of the West Museum, http://theautry.org/explore/exhibits/suffrage/suffrage_nm.html.

¹⁸Mead.

¹⁹Seagraves.

authoresses, actresses, reformers, homesteaders, and even prostitutes.²⁰ These words only give a slight inclination of the social life these women had. How did they dress? How did they act and socialize? How did they support themselves and their basic needs of their families? How did they interact with the rugged men of the West? Each of these questions can amount to the strength and perseverance of strong-willed women who were willing to take on the struggles that the Rocky Mountains had to offer.

One man defined these women as:

The woman whose...story of danger and hardships amid the Rocky Mountains was of a slight, frail figure. She had evidently been once possessed of more than ordinary attracts; but the cares of maternity and the toils of frontier life had bowed her delicate frame and engraved premature wrinkles upon her face: she was old before her time, but her spirit was as dauntless and her will to do and dare for her loved ones was as firm as that of any of the heroines whom history has made so famous.²¹

Women were the essence of the West. The time spent in harsh living condition was triumphed by their spirit to succeed and make something out of almost nothing.

Anglo-American women were migrating to the West from the East. They moved because most of them needed a second chance in life, they were widows or their husbands had abandoned them. They sought out opportunities that would let them financially support themselves and their families. When moving to the West many of them ended up in brothel houses because it was the only way to earn a “decent living for a woman.”²²

Nevertheless, there were still enough women who did not want to be prostitutes, so they would become laundresses and sew undergarments for the local military camps.²³ Women were the staples that kept the society together while it was fringing at the seams.

Black women also migrated west for the same reasons that

²⁰Brown, 14.

²¹Fowler, William W., *Frontier Women: an Authentic History of the Heroism, Adventures, Privations, Captivities, Trials, and Noble Lives and Deaths of the Pioneer Mothers of our American Frontier*, Hartford: Londmeadow Press, 1995, 31.

²²MacKell, 6.

²³Butler, Anne M., *Uncommon Common Women: Ordinary Lives of the West*, Logan: Utah State University Press, 1996, 12.

Anglo-American women did. They viewed the West as a hope for equality but it did not surface as quickly, or as fairly as they had hoped. However, they chose to migrate because it was better than staying in the South.²⁴ One woman, named Aunt Clara Brown, capitalized on the gold rush in Colorado and became a note worthy entrepreneur. This ultimately helped her finance the migration of twelve family members to the West.²⁵ Black women were extremely welcoming in the Rocky Mountain West, they were often seen extending hands of friendship and lending their labor to their neighbors in hopes of a more equal future.

European immigrant women, such as the Irish, German, Russian, Swedish, Norwegian, Danish, and Scandinavian had to endure more than Anglo-American women because they migrated overseas and then continued the trek west. Many Scandinavian families came to Utah and the women soon relied on the Mormon Church groups for support because of the strong sense of family and community ties.²⁶ Nevertheless, the cultural differences among immigrant women and the women that were already in the West made it difficult for them to transition to the rough desert life. They set up farms but it was common for these women to feel like they were in isolation. However, they soon learned how to cope with this lifestyle and persevered through the hardships.

Chinese immigration was plagued with trials from the start. There was anti-Chinese legislation and a lack of sensitivity towards their culture. The Chinese women had many strong economic capabilities. When they moved into the Rocky Mountain region the overseers and business owners extended the work region for the Chinese.²⁷ Nevertheless, Chinese women struggled with immigration because many of them were bought and sold into prostitution. This caused for many of them forced immigration. The Chinese women worked in brothels and were seen as unwanted desirables, which caused the brothels they worked in to go “underground.”²⁸ White American men and women did not want Chinese women being prostitutes so anti-Chinese immigration laws were passed, but they did not work. People would find a way to bring Chinese women into the country undocumented, which would make it difficult for them

²⁴Butler, 26.

²⁵Butler, 28.

²⁶Butler, 37.

²⁷Butler, 46.

²⁸MacKell, 10.

to secure a job anywhere other than as a prostitute.

Native American women had to deal with the complete opposite of what the Anglo-American dealt with. They had to watch their land be invaded and taken from them.²⁹ These women had a strong character. While their lifestyles were rapidly changing through the onset of battle wounds and unheard of diseases. They were able to keep their families together and learn about the White's behavior so they could deal with them better in the future. They learned to trade, socialize, and sometimes embrace the path of white people. The Native women did whatever was necessary to survive the trouble that pressed in around them.

The migration of Mexican women to the Rocky Mountains caused many problems for the local populations. The majority of the Mexican families that migrated were Spanish-speaking and had a completely different culture. One major misunderstanding from the Anglo-Americans was how much each member in a Mexican family was relied upon back home for economic support. Each person, even the women would work so that they could be financially stable. They had a system of "solid kinship" that involved all family members in the support and care of the family.³⁰ Their inability to "Americanize" themselves was attributed to their innate sense of responsibility to their immediate family values.

Each of these different ethnic women of the Rocky Mountain region has many stories to share. They met the wilderness with fierce mightiness that should not be reckoned with. They struggled at times, and their characters were tried to the limits, but it would seem they knew there was more to the crazy life of the West than most people cared to admit. If it were not for their adventurous lifestyles, our society would not be the way it is today. The women of the West built strong communities that have endured the test of time. They fought hard to make social and political changes that should never be forgotten.

²⁹Butler, 53.

³⁰Butler, 62.

The Dark October Days of a Battle and a Massacre: Missouri, 1838

By: Maika Buchmiller

Maika Buchmiller will graduate from Utah Valley University with a bachelor's of arts in History. She has always had a passion for history since she was a little girl and had plans to teach high school. It was not until she was introduced to the field of researching and working on documentaries that she found an even greater passion for history and decided to switch from a bachelor's of science to a bachelor's of arts in order to focus on the research aspect. After graduating from UVU Buchmiller plans to attend graduate school to complete her schooling with a doctorate in History and pursue re-searching for documentaries.

“Rather than surrender their arms and themselves to the mob,” twenty-one men left Far West shortly after the Battle of Crooked River.¹ In 1838 Latter-day Saints, also known as Mormons, were persecuted while living in the state of Missouri; they felt they were led by there by God. Many had moved to Caldwell, Jackson, and Clay Counties as well as surrounding areas hoping for a place to express their faith and live harmoniously. By October tension and verbal threats escalated into violence and a new threat that would become a reality and a stain in history.

The Mormon hatred by the state of Missouri was widely known and Governor Lilburn W. Boggs wished to be rid of the inconvenient Mormon influence. He drafted the infamous Mormon Extermination Order that led to the expulsion of Latter-day Saints from the state. The events proceeding the Extermination Order, are known as the Battle of Crooked River, and the attack at Haun's Mill. The Battle of Crooked River was executed by a vengeful mob and provided the nail in the coffin that the governor of Missouri needed to send out the order. With tensions rising and hostility existing between the Mormons and non-Mormons, the Battle of Crooked River along with the Extermination Order provided the political cover for the attack at Haun's Mill. The Saints carried scars from these events that took place during those dark October days in 1838, and were forced to carry the bitter emotional damage and leave *their* Mis

¹Young, Lorenzo D., Lorenzo D. Young Statement, Church History Archives MS 4324/f0001.

souri in search of a new *Zion*.

In the state of Missouri, people had welcomed the migrating Mormons. Peace was maintained between the two groups for about three years. As the Mormon population increased the original settlers of Missouri, started to change their attitude. They were not about to become the minority.² Tensions were rising and the latter half of 1838 proved to be bloody and bitter.

A faction of Mormons claimed they were a chosen people. Talk was that they were there in Missouri to possess the land. Joseph Smith, who was the leader of the Mormons, reported a revelation stating that this land was where the Mormon Zion was to be established. This revelation can be found in the Doctrine and Covenants, which Mormons consider to be scriptures. In Doctrine and Covenants, Section 57: 1&2 it reads, "in this land, which is the land of Missouri, which is the land which I have appointed and consecrated for the gathering of the saints. Wherefore, this is the land of promise, and the place for the city of Zion."³ Missouri became a blessed land to the Mormons. However, landowners, who were not of the faith felt threatened by the Saints' blessed land attitude.

The leaders of the Mormon Church had counseled their members to be discreet in living their religion. However, rumors still spread increasing with every story. This stance was taken due to previous attacks aimed toward the Mormon leaders in the previous states they had lived. Mobs attacked members homes that would be burned, livestock damaged, and caused bodily harm through tar and feathering individuals. These actions resulted in the Mormons relocating to the state of Missouri from New York and Ohio.

During this time, members that had renounced the Church were known as *apostates*. The most well known apostates were Oliver Cowdery, W.W. Phelps, David Whitmer, John Whitmer and Lyman E. Johnson. Each had expressed concerns for the separation of church and state. This group was known as the *dissenters*. In a letter signed by eighty-three Mormons known as the Danite Manifesto, the dissenters were instructed to leave the predominant Mormon settlement area.⁴ These and other apostates

²Moore, Beth Shumway, *Bones in the Well: The Haun's Mill Massacre, 1838 A Documentary History*, Norman: The Arthur H. Clark Company, 2006, 22.

³The Doctrine and Covenants Section 57:1-2, Salt Lake City: The Church of Jesus Christ of Latter-day Saints, 1981.

⁴"General Assembly, Document Containing the Correspondence, Orders, &

attacked the leaders of the Church through rumors and innuendos. The feelings of anger arose to a point where some would actively look for trouble with the Mormons.

Once Joseph Smith with other church leaders arrived in early 1838, relations became more distant between the two groups. Livingston County, which was located northeast of Caldwell, had raised a militia. Two companies of militia consisting of local residents patrolled Livingston County and the borders of Caldwell County, turning back Mormons en route from Ohio.⁵ On October 4th, Thomas B. Marsh and Orson Hyde, who were each previous apostles of the Church of Jesus Christ of Latter-day Saints, left the Church and spread inciting rumors.⁶ They gave an affidavit in Richmond that “the Mormons were planning to burn Richmond, Buncombe and Liberty if the local population committed and deprivations against the Mormons in Caldwell.”⁷ This caused the citizens of Ray County to be unsettled and feel the need to take serious action. Soon war hysteria was felt all around.

On October 23rd, Captain Samuel Bogart wrote a letter to Major General David R. Atchison the supreme commander of the militia. Bogart stated that he wanted to prevent any outrage in Ray County. Atchison replied with the following:

Sir: - Your communication by express has been received. You are hereby ordered to range the line between Caldwell and Ray counties with your company of volunteers, and prevent, if possible, any invasion of Ray County by persons in arms whatever. You will also take care to inquire into the state of things in Daviess County and make report thereof from time to time.⁸

C in relationship with the Mormons; and the Evidence,” <http://archive.org/stream/documentcontaini00miss>.

⁵Moore, 22.

⁶Baugh, Alexander L., *A Call to Arms: The 1838 Mormon Defense of Northern Missouri*, Provo, Utah: Joseph Fielding Smith Institute for Latter-day Saint History and BYU Studies, 2000, 99.

⁷Baugh.

⁸Baugh.

This map shows counties location where the mobs came from as opposed to where the Mormons had settled. Gentry, Leland H., and Todd M. Compton, *Fire and Sword: A History of the Latter-day Saints in Northern Missouri, 1836-39*, Salt Lake City: Greg Kofford Books, 2011, 221.



The area in which the militia decided to take patrol included a portion of Ray County, which had been disputed as it was originally meant to be part of Caldwell County that included a number of Mormon families.⁹ Around this time terrible threats against the Mormons were coming from their neighbors and others who did not believe in their faith. As a practice of their faith Mormons did not believe in slavery. Most of the members of the Church also came from the northern states where they did not vote for or believe in slaves, which was a problem for the Missouri natives due to the fact Missouri was a slave state. With tensions rising on the blessed land issue now violence over slavery began with mobs coming into Mormon settlements and setting fires.¹⁰

A witness to these accounts was Mary Elizabeth Rollins Lightner. According to her account, mobs would stone houses, break doors, and windows. Mary recalled it to be a terrifying experience. In her diary she wrote about working for the man who would later sign the order to exterminate the Mormons. She writes:

Just before these troubles I went to work for Peter Whitmer who was a tailor by trade. He was crowded with work and Lilburn W. Boggs, who had just been

⁹Baugh.

¹⁰Lightner, Mary Elizabeth Rollins, "Diary of Mary Elizabeth Rollins Lightner," University of Utah J. Willard Marriott Library Special Collections, MS 3589, 7-8.

elected Lieutenant Governor, offered him a room in his house as he wanted Peter to make him a suit for his inauguration ceremonies. Peter made the suit and stitched the collars and faced the coat.¹¹

Mary's employment with Peter Whitmer came through Lilburn Boggs who vouched that Mary was a good seamstress. Whitmer hired her to make shirts and assist his wife in sewing. Mary writes in her diary about the mob tearing down the printing office in Independence, Missouri, and throwing the printing press, type and printed pages of the Book of Commandments into the street. She recalled watching them bring out piles of paper shouting, "Here are the damned Mormon Commandments."¹²

Shortly after, on August 6th there was an incident during an election in Gallatin, Missouri. The locals there objected to the Mormons voting. A brawl broke out resulting in several injuries.¹³ In the south part of Caldwell County, Bogart's militia appeared and threatened the Saints who lived near Log and Long Creeks. Throughout the day they had searched the territory browbeating the Saints and wrecking their property. While patrolling, two Mormons by the names of Joseph Holbrook and David Juda heard that the militia stopped by the home of Nathan Pinkham Sr. in which the browbeating was significantly worse. It was reported that "several men in the company physically threatened Pinkham, took his weapons, shot one of his cows, and told him and his family to move to Far West before the next morning or they would be killed."¹⁴

Three men were taken prisoner, Nathan Pinkham, Jr., William Seely and, Addison Green. It was reported that spies had patrolled the region near Crooked River a week before the battle and had taken rest at the Pinkham residence.¹⁵ Once the prisoners were taken, Bogart's militia camped in the narrow banks of Crooked River. He had perceived an attack and therefore had meticulously picked a spot where no one could be seen approaching until they arrived within a short distance.¹⁶ It is unclear as to why Bogart wanted such a secluded spot that would

¹¹Lightner, 9.

¹²Lightner.

¹³Moore, 22.

¹⁴Baugh, 100.

¹⁵Baugh.

¹⁶Baugh.

not be seen unless one was in a short distance.

Meanwhile, on the evening of October 24th, numerous messages had been sent to Far West detailing the browbeating of Bogart and his men. Church leaders had become concerned. Once Joseph Holbrook and David Juda had arrived, the information previously given to Church leaders was confirmed and it was decided that immediate action should take place. The biggest concern was the three prisoners.

The Mormons were conditionally persecuted but nothing to this extent. Two things seemed to be indicated to the Mormons, “(1) the group was a mob rather than a legal civil or military body; and (2) Pinkham, Seely, and Green might very well be executed.”¹⁷ It was later reported from the account of Lorenzo D. Young that “the brethren [who] had been taken prisoners by the mob on Crooked River...[were to be] tried by a court martial that day, and condemned to be shot the coming morning at eight o’clock.”¹⁸ By midnight, Church leaders had decided to free the prisoners and disperse of the mob or so as they believed them to be. High alert was sent out throughout the county. The men were to respond within a moment’s notice.¹⁹ The operation to free these men called for the cavalry. Captain David W. Patten was in charge of the mission.

In Far West, approximately forty men were enlisted, Charles C. Rich had felt this was a small number and went out to rise up more men. There was one non-Mormon in the company, Patrick O’Banion who was eighteen years of age.²⁰ O’Banion knew where the militia were hiding and showed Captain Patten the location. Incidentally, O’Banion was the first to be wounded and later died from his injuries. Charles Rich was able to gather more men giving the company an estimated sixty men. They divided into companies of ten and marched down the main road. Around three o’clock in the early morning hours they arrived at a non-members home, Randolph McDonald.²¹ His property was directly on the line bordering Ray and Caldwell County. The men tied up their horses and continued on foot.²² The men believed Bogart’s men would be stationed on the property owned

¹⁷Baugh.

¹⁸Baugh, 101.

¹⁹Baugh.

²⁰Baugh 102.

²¹LeSueur, Stephen C., *The 1838 Mormon War in Missouri*, Columbia: University of Missouri Press, 1990, 139.

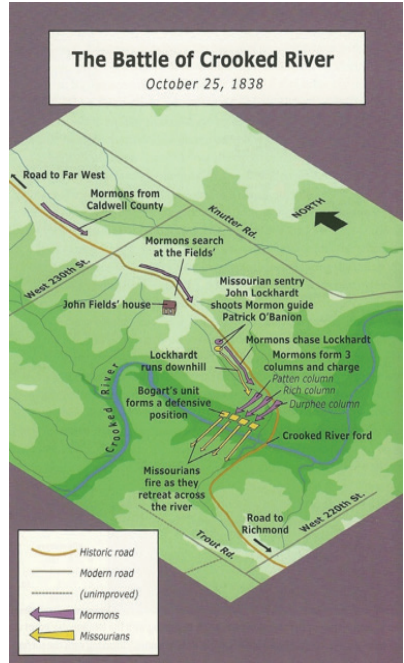
²²Baugh, 102.

by John Field, which was a short distance from the McDonald's place. However, to their surprise Bogart's men were not stationed there.

Crooked River winds through parts of Clinton, Caldwell, and Ray counties.²³ During this time there was a main road from Far West into Ray County that runs north and south and intersects with the river. The militia was placed adjacent to that road on the east side of river.²⁴

Fig. 2 The placement of the Mormons as opposed to the Missourians during "The Battle of Crooked River". Fig. 2 The placement of the Mormons as opposed to the Missourians during "The Battle of Crooked River."

Leland H. Gentry, and Todd M. Compton, *Fire and Sword: A History of the Latter-day Saints in Northern Missouri, 1836-39*, Salt Lake City: Greg Kofford Books, 2011, 220.



A picket guard was placed by the order of Captain Bogart 100 yards north of the camp. John Lockhart who was one of the picket guards reported:

Myself and the other guards were stranding at the same tree, near the road, about a quarter of a mile from the camp; and about day-break we discovered men approaching us in the road. When the front of them got within about 15 or 20 steps of us, the other guard raised his gun. I told him not to shoot, but to hail them. He hailed them, and asked, "Who comes there?" They replied, "a friend;" but still moved on. I hailed the second time, and bade them to stand. I asked who was

²³Baugh.

²⁴Baugh.

there; they answered, a friend. I asked them if they had any arms, and go off, and leave them; they told me to come and had get them. I again told them to lay down...I could see clear enough to perceive that they had not laid down their guns,...but had them on their shoulders... I discovered one the men strike the ground with his sword, and immediately I heard a percussion cap burst without the gun's firing...they had bursted a cap at us; and immediately I raised my gun and fired...the Mormons arrived, and the action commenced.²⁵

On October 25, 1838 the Mormon Militia and Ray Militia (from Ray County) engaged in a battle on the Crooked River south of Far West. The Mormon accounts are not as clear cut as Lockhart's, though they do indicate that they were "hailed with the words "who comes there[?]"... and at the same instant the report of a gun."²⁶ It was Lockhart's shot that had wounded Patrick O'Banion, who was the guide in finding the militia for the Mormon troops.

Immediately after the shooting, the guards withdrew back to the camp to alert the others they would most likely be attacked.

²⁷ Bogart placed the prisoner William Seely in front of the line so he would be between the two armies directly in the line of fire.²⁸

Captain Pratt wrote, "The fire [soon] became general on both sides, and the whole wilderness seemed one continued echo of the report of the deadly rifle."²⁹ The Ray Militia used the bank of the river as a shield, which made it difficult to be seen. This was an advantage over the Mormons. Patten then decided in hopes to force the militia to change positions, to charge. The Mormons charged with their swords and whereas Bogart's men had no swords and fled.³⁰ Shots were fired and Patten was hit, because he was an easy target as he was dressed with a white blanket coat. Since Patten had been wounded, Charles C. Rich took over the command for the Mormons.

The Mormons charged on both sides forcing the Ray Militia

²⁵Baugh, 103.

²⁶Baugh.

²⁷Baugh.

²⁸Baugh.

²⁹Baugh, 104.

³⁰Baugh.

to retreat “through the stream of the opposite side of Crooked River.”³¹ Firing continued with the retreat and Moses Rawland, who was a member of the Ray Militia, was hit in the back. He was killed instantly. Because the entire mission of the Mormon troops was to retrieve the prisoners, they did not engage with the army any further.³² Once the fire stopped, the three prisoners had made their way toward the Mormon troops. However, William Seely was shot from both sides. He was shot in the left shoulder and had some “internal injuries because blood was running out of his mouth when he was found.”³³ The end result left twelve injured and three dead from the scrimmage and an additional death later from wounds received in the battle. Three of the dead were from the Mormon Militia and one was from the Ray Militia. This battle became known as the Battle of Crooked River.

Mary who was a member of the Mormon Church and her husband Adam Lightner, who was not a member, heard about the battle. It was reported that David W. Patten, Patrick O’Banion, and Gideon Carter were the three members of the Mormon Militia that were killed.³⁴ Upon the death of David W. Patten, Joseph Smith spoke the following words for the fallen apostle. “There lies a man that has done just as he said he would—he has laid down his life for his friends.”³⁵ Gideon Carter was discovered missing once the men returned to Caldwell. A small group returned to the battle site, located the body, and dug a grave. John P. Greene accounts, “the Ray Militia indeed returned, found Carter’s grave, dug up the body, “and literally hacked [it] to pieces with a sword. [Later] the remains were collected and buried, after they had gone, by his friends.”³⁶ As far as the Ray Militia was concerned, Moses Rowland was their only fatality with six others wounded. Samuel Tarwater was one of the injured from the Ray Militia. The author Alexander Baugh, writes of what happened to Samuel Tarwater:

Two Mormons attacked Tarwater with corn knives and nearly cut him to pieces. He received a terrible gash in the skull, through which his brain was plainly visible, one terrible blow across the face severed the

³¹Baugh, 104.

³²Baugh, 105.

³³Baugh, 106.

³⁴Lightner, 13.

³⁵LeSueur, 142.

³⁶Baugh, 105.

jaw bone and destroyed all the upper teeth, and there was an ugly gash made in his neck. He kept his bed six months and his wounds considerably affected his speech and memory.” Because of his injuries Tarwarter drew a pension from Missouri until his death in 1899 and claimed the distinction as being the only man ever granted an annual annuity for his service in the state militia.³⁷

The Mormons had taken one prisoner, Wyatt Craven. Once it was decided he would be released, Craven recalls he was taken to a field and was ordered he take the path his companion had indicated. He tried to think his best way to successfully escape as he thought he was going to be killed. He ran into a guard and saw that he was pointing his gun in a “shooting position” and as he took off running was shot in the thigh by him.³⁸ Cravens and others believed he was setup and “deliberately shot by the Mormons.”³⁹

After the Battle of Crooked River, exaggerated reports spread quickly. “Bogart and all his company, amounting to between fifty and sixty men, were massacred by the Mormons, except three, whereas only one of his men was killed.”⁴⁰ With such reports it appeared the “Mormons had come out in open rebellion against the state of Missouri by deliberately attacking authorized militia.”⁴¹ This gave the added fuel needed for the Governor of Missouri to deal with the Mormon problem. Governor Lilburn Boggs ordered that the Mormons be expelled from the state.⁴² The Missouri Executive Order 44, also called the Extermination Order was issued on October 27, 1838. In this order, Governor Boggs stated, “The Mormons must be treated as enemies and must be exterminated or driven from the state if necessary...If you can increase your force you are authorized to do so to any extent you may consider necessary.”⁴³

³⁷Baugh, 106.

³⁸Baugh, 107.

³⁹LeSueur, 141.

⁴⁰Baugh, 108.

⁴¹Baugh, 109.

⁴²Kander, Jason, “Missouri Mormon War,” <http://www.sos.mo.gov/archives/resources/mormon.asp>.

⁴³Boggs, Lilburn W., “Extermination Order,” http://www.sos.mo.gov/archives/resources/findingaids/miscMormRecs/eo/18381027_ExtermOrder.pdf.

That same day Governor Boggs wrote to the headquarters of the Missouri state militia. The letter stated there was cause to order hundreds of men be raised within the division this was received by Amos Reed and Wiley C. William (aides of Governor Boggs). The information brought to Governor Boggs described the actions of the Mormons as “appalling character which changes entirely the face of things and places the Mormons in the attitude of an open and ___ defiance of laws.”⁴⁴ The letter continued with instruction to hasten the militia operations and march to Richmond in Roy County with much speed. The Mormons “must be treated as enemies and be exterminated.”⁴⁵ Armies of 500 men were to gather at the front of Daviess County and marched to ensure the Mormons were proceeding north.⁴⁶

Jacob Haun was the founder of Haun’s Mill and had converted to Mormonism. He built the first mill in the Shoal Creek area, which in the summer of 1835 had become known as Caldwell County. The property was located in the northwest quarter of section seventeen of Fairview, which was located on the north side of Shoal Creek; approximately sixteen miles east of what later became Far West.⁴⁷

The summer of 1838, other Mormons had moved into the Shoal Creek area and Haun’s Mill had become a little town. Days before the massacre the town’s population was well over a hundred with the arrival of some immigrants from the east. Many of these arrivals were living in wagons and tents while waiting to build houses.⁴⁸

Just before the Battle of Crooked River, Jacob Haun had gone to Far West to speak with Joseph Smith. He was concerned with having the Mormons move to larger cities. Joseph Smith had warned the Mormons to move down to Far West for their own safety. Meanwhile, Jacob Haun refused to leave his land. He claimed they would be able to defend the mill if anything were to happen. This conversation continued with both parties holding their individual views. This resulted in no compromise between the two and Joseph Smith declared Jacob Haun must make his

⁴⁴Richards, Levi, “Levi Richards Memoranda Book,” Church History Library Special Collections, MS 3132, 3.

⁴⁵Richards.

⁴⁶Richards.

⁴⁷Gentry, Leland H., and Todd M. Compton, *Fire and Sword: A History of the Latter-day Saints in Northern Missouri, 1836-39*, Salt Lake City: Greg Kofford Books, 2011, 319-320.

⁴⁸Gentry, 320.

own decisions. Upon Jacob Haun's arrival home, he claimed it was divine counsel to stay and defend the mill. There were some who did not believe it was divine counsel rather they stayed as to not be thought of as cowards. Men took turns standing guard through the night for several days before the attack.⁴⁹

On October 28th, Colonel Thomas Jennings of the state militia sent a negotiator to Caldwell County to discuss a treaty of peace between the Mormons and other local non-Mormon militias. The truce pledged neither side would molest the other. It also promised that both local militias would disband and stop further hostilities. However, for reasons unknown the non-Mormons failed to disband as promised. On Monday, October 29th, word came to the Mormons that William Mann of Livingston County, who had been harassing incoming Mormons was planning an operation against them.⁵⁰

Three days after the Order of Extermination, on Monday, October 30, 1838, seventeen Latter-day Saints died in the most tragic event of the Mormon War. This tragedy is known as the Haun's Mill Massacre. Approximately 200 to 250 armed men attacked unarmed men in front of women and children. "Suddenly without any warning whatsoever, sixty or seventy men with blackened faces came riding their horses in full speed."⁵¹ The attack was launched without warning after Colonel Jennings' treaty was agreed upon. There were no deaths amongst the Missourians, just the Mormons. Afterward, a strong opinion among the non-Mormons was, "The Mormons had it coming."⁵²

The non-Mormon militia met at Woolsey's, which was located northeast of Breckenridge in Livingston County and decided to attack without delay. There were five companies that totaled approximately 205 men. Commanding the companies were, Nehemiah Cornstock, Thomas R. Bryan, William Mann, William Jennings, and William Gee. The Supreme Command was in the hand of Colonel Thomas Jennings. Reasons for the attack on Haun's Mill are inexplicable as the Mormons at Haun's Mill had no involvement with the Mormon War up to that point. It is speculated that just being Mormon was enough justification for the attack. A Missouri House of Representatives member, Daniel Ashby, was the only participant in battle with the non-Mormons

⁴⁹Gentry, 321-322.

⁵⁰Gentry.

⁵¹Foutz, Margaret Mann, "Haun's Mill Massacre," [N.D.] Church History Archives MS 5427, 1.

⁵²Gentry, 322.

to leave an account. Daniel wrote some dissenting Mormons had come to Livingston with reports the Mormons planned to attack citizens there. "We thought it best to attack them first... and we did attack them. We attacked them in the day. The history of the battle shows a great superiority in our favor in the results. What we did was in our own defense. And as we had a right to do."⁵³

When the mob was ready for their attack, Captain William Jennings' Company was positioned in the center, Captain Cornstock had the left, and Captain Gee's the right. Word was passed along to shoot everything wearing breeches and shoot to kill. There were claims that their orders had specified to not fire at the women and children. The attack came in the late afternoon. Captain David Evans had sent out scouts to reconnoiter when the non-Mormons rode up north and west of the mill. Sensing danger, Evans ran into the clearing and started swinging his hat while shouting "peace, peace."⁵⁴ His cries were answered with gunfire. It is said a white flag was immediately hoisted, but the mob rode rapidly on paying no attention to it. Joseph Young claims Nehemiah Cornstock fired the first shot. Daniel Ashby claims the Mormons had fired the first shot.

Once the firing stopped the Mormons who were not involved in the battle attempted to flee from the shooting zone. Most of them were those who were in tents and wagons that were stationed behind the blacksmith shop. Others had fled to the woods in all different directions.

Individual accounts from survivors reported many were wounded as they tried to escape while others were able to get to the safety of the nearby woods. A man named William Yokum was shot in between the nose and the eye, with the bullet moving through his head and emerging on the other side. He was also wounded in the leg. Once the mob had departed, he was taken to Jacob Haun's home where he laid unattended until morning. Miraculously he survived but his leg had to be amputated. Joseph Young stated that when he first heard the shots and saw some of his men fall, he was stunned. He was in his cabin with his wife and baby and they left the house on its opposite side, ran up the hill where they hid with others until about eight o'clock in the evening.⁵⁵

⁵³Gentry, 323.

⁵⁴Gentry, 324.

⁵⁵Gentry, 327.

Amanda Barnes, wife of Warren Smith, related her account of traveling from Ohio to Missouri during the period of harassments. They were stopped by an armed mob in Caldwell County and detained for three days before arriving at Haun's Mill within hours of the attack. Amanda wrote before sunset on October 30th, "[a mob of]three hundred armed men came upon us. The men hollowed (sic) for the women and children to run for the woods."⁵⁶ The men had run into the blacksmith shop. The mob started firing before anyone had time to do anything. Shots went everywhere. Before the mob left, they took wagons, horses, and belongings from the Mormon homes. The mob ran off "howling like demons... Oh Oh horrible what a site. My husband and one son ten years old lay lifeless up the ground and one son, six years old wounded very bad."⁵⁷ Lucy Walker who was twelve years of age at the time of the attack, recalled:

In the shop lay the lifeless body of the son of Warren Smith with his brain beaten with the breech of a gun, and another of the same family with his though torn entirely away, and apparently mortally wounded. A little further on an aged man, father McBride, lay weltering in his gore. It was not enough to shoot him down, but the murdered had found an old scythe with which they had mangled that venerable head in a most horrible and sickening manner.⁵⁸

Jennings ensured all the Mormons were either dead or far from the mill site. They also looted the houses and rifled the persons of many Saints. There were accounts given that while lying on the ground wounded and about to die. Amanda's husband, Warren Smith was violently stripped of his boots, hat, and coat by Captain William Mann. "Mann later showed up in Far West and said, pointing to his boots he was wearing, here is a pair of boots that I pulled off before that damned Mormon was done kickin."⁵⁹

Regarding the aftermath of the massacre, Margaret Foutz reported, "In the first house I came to, there were three dead. One was Brother McBride. He was a horrible site to see having been

⁵⁶Smith, Amanda Barnes, "Massacre at Haun's Mill Oct. 30th, 1838: Amanda Smith's Statement April 18, 1839," Church History Library Special Collections, MS 5367, 1.

⁵⁷Smith, Amanda, 2.

⁵⁸Walker, Rodney W., *Ancestry and Descendants of John Walker 1794-1869*, Kaysville: The Inland Printing Co., 1953, 27.

⁵⁹Gentry, 329.

cut and chopped terribly and mangled with a corn cutter.”⁶⁰

The night of October 30th & 31st, the women spent their time dressing the wounds and caring for the dying as best they could. The men were either dead, wounded, or still in hiding. As the women did these things, they sang a mournful Latter-day Saint Hymn:

While I am left to weep below;
 My heart is pained, my friends are gone,
 And I'm here. I'm left on earth to mourn.
 I see my people lying round,
 All lifeless here upon the ground
 Young men and maidens in their gore
 Which does increase my sorrow more.⁶¹

The morning after there was a problem of what to do with the dead. Fear struck throughout the Mormon communities that their assailants might return. Northwest of the mill was an unused well, approximately twelve feet deep. The survivors had discussed for some time of what to do and finally agreed to put the dead bodies into the well. The women did much of the work. Mary Foutz recalls not being able to give her husband aid till evening and stated, “I saw thirteen more dead bodies at the shop, and witnessed the beginning of the burial which consisted in throwing the bodies into an old dry well.”⁶² The exact location of the well is no longer known, but is believed to be currently somewhere in the middle of a cornfield.⁶³ Lucy Walker recalled in her writings that as she and her family were hiding in the woods, the morning after the attack, and saw:

a fine young officer rode into camp, and said he had come as a friend to save us from the fate of those at the mill. Referred to the dreadful scene with words of sympathy and regrets. Said he was forced to join the military to save his own life, but had done and would do all in his power to save the oppressed. If we would follow him he would lead us to a place of safety, to a friendly neighborhood.⁶⁴

Those who died at Haun's Mill were, Hiram Abbott, Elias Benner, John Byers, Alexander Campbell, Simon Cox, Josiah Fuller, Austin Hammer, John Lee, Benjamin Lewis, Thomas Mc

⁶⁰Foutz, 1-a.

⁶¹Gentry, 330.

⁶²Foutz, 2-a.

⁶³Gentry, 331.

⁶⁴Walker, 28.

Bride, Charles Merrick, Levi N. Merrick, William Napler, George S. Richards, Sardius Smith, Warren Smith, and John York. Those who were wounded, Jacob Foutz, Jacob Haun, Charles Jimison, Nathan Knight, Isaac Leaney, Tarleton Lewis, George Myers, Jacob Myers, Jacob Potts, Alma Smith, Mary Stedwell, John Walker, and William Yokum.⁶⁵

When news broke that Haun's Mill had been attacked, Mary Lightner described a mob that had come to destroy Far West. The mob placed a cannon piece in the road and sent a flag of truce "demanding an interview with John Clemensen and wife, and Adam Lightner and wife. We went out to meet them."⁶⁶ Mary continues explaining, "As we approached, General Clark shook hands with the two men as they were acquaintances and said Governor Boggs had given him orders for our safe removal before they destroyed the place."⁶⁷ The Governor had ordered everyone but the two families were to die. Mary, being a Mormon refused to go. She said she would die for her religion. At that moment Heber C. Kimball, who had been kneeling by a fence and praying stood up and stepped between the general and Mary. Telling her, "I thank my God that for a soul that is ready to die for her religion. Not a hair of your head will be harmed for I will wade to my knees in blood in your behalf."⁶⁸ That day no harm came to anyone.

For reasons unknown the mob soon started looking for Mary's brother, Henry Rollins. Mary's diary made no mention as to why he was wanted by the mob. Perhaps Henry Rollins was believed by the mob to have a particular stature in the community. Henry was discovered at a nearby stream and was taken to Richmond Jail along with Joseph Smith, Hyrum Smith and a few others. Mary related some of the experiences her husband wrote her, while in jail, "a meal was brought to them. Joseph the prophet put a piece to his mouth and quickly laid it down saying, "Don't eat a bit of it. It is not fit to eat."⁶⁹ The men who served the meal, while laughing said, "We feed the Mormon's on their own beef" meaning human flesh."⁷⁰

On November 6, 1838, General Clark made a speech to the Mormons at Far West regarding a treaty that was to be made.

⁶⁵Gentry, 331-332.

⁶⁶Lightner, 14.

⁶⁷Lightner, 14-15.

⁶⁸Lightner, 15.

⁶⁹Lightner, 16.

⁷⁰Lightner.

The treaty contained a list of names that were wanted. He stated that those who were not on the list were allowed to go provide corn and wood for their families to prepare for the travel. Whereas those who were on the list would be taken to prison and would be tried for their crimes. The treaty stated their leading men must be given up and tried. Second, they must give up their arms and the third stipulation, was to sign over their properties and leave the state of Missouri.⁷¹ He went on to say due to this treaty, if he is called back out for any reason of noncompliance, “do not think that I shall act any more as I have done. You need not expect any mercy but extermination for I am determined the Governors orders shall be executed.”⁷²

The Mormons did leave Missouri. Some went to Kentucky, others went to Illinois prior to the long trek to Utah. Mary Lightner and her family did not join the Mormons in Utah for many years after it was settled. Haun’s Mill was a bitter cup the Mormons took with them throughout the rest of their journey West escaping the inevitable repercussions of the Battle of Crooked River and Extermination Order by Governor Boggs. This will forever be embedded in the history of the Church of Jesus Christ of Latter-day Saints and has left the Saints with emotional scars for generations to come.

On June 25, 1976, Governor Christopher S. Bond of Missouri rescinded Governor Boggs’s “Extermination Order.” With the Bicentennial upon him, Governor Bond specifically notated the unconstitutional nature of the executive order issued by Governor Boggs. The rescission states the following:

WHEREAS, Governor Boggs’ order clearly contravened the rights to life, liberty, property and religious freedom as guaranteed by the Constitution of the United States, as well as the Constitution of the State of Missouri; and

WHEREAS, in this bicentennial year as we reflect on our nation's heritage, the exercise of religious freedom is without question one of the basic tenets of our free democratic republic;

Now, THEREFORE, I, CHRISTOPHER S. BOND, Governor of the State of Missouri, by virtue of the authority vested in me by the Constitution and the laws of

⁷¹Richards, 5-6.

⁷²Richards, 7.

the State of Missouri, do hereby order as follows:
Expressing on behalf of all Missourians our deep regret for the injustice and undue suffering which was caused by the 1838 order, I hereby rescind Executive Order Number 44, dated October 27, 1838, issued by Governor W. Boggs.

In witness I have hereunto set my hand and caused to be affixed the great seal State of Missouri, in the city of Jefferson, on this 25 day of June, 1976.

(Signed) Christopher S. Bond, Governor.⁷³

Those who were either afraid or had fallen away continued to persecute the Mormons. Their strength and determination to set up a Zion camp would soon bring them to a desert place known as Utah. There they would be free from the likings of the Extermination Order and heal from events such as Haun's Mill and other attacks. An attempt for peace was in sight as Brigham Young led the Mormons to the new Zion allowing the healing to begin in Utah.

⁷³Bond, Christopher S. Bond, "Executive Order," <http://www.sos.mo.gov/archives/resources/mormon.asp>.

Human Trafficking: The Slave Trade that Never Ended

By Tyler Brklacich

Tyler Brklacich will graduate from Utah Valley University in spring 2015 with a bachelor of arts in Political Science with an emphasis in International Relations. Tyler is currently the Student Body President and loved representing the student body for the 2014-2015 year. Following graduation, Tyler will travel to China for a Mandarin Chinese language study abroad for seven weeks. Tyler plans to apply for the Peace Corps and depart in January of 2016. Upon his return, he will pursue a JD/MBA, in the East.

The complexity of the world seems to be becoming more abstract, less black and white with few simple solutions. We live in a time where we have been desensitized to the outside world, not realizing the epidemics of death, starvation, and poverty that sweeping across our world. There is a plague that has spread to every single corner and crevice of mankind. No matter how much light shines, the depth of this darkness has penetrated through. More and more of every country, state and community are being unscathed by this. The plague of human trafficking is one of the fastest growing and most profitable industries that the world has seen to date. Even though education and awareness of this modern day slavery can create movement, a greater action is required among all of society. In order to combat human trafficking one must first understand its true essence and then learn ways to dissolve its roots, which are prostitution and pornography.

Most global problems, there is not a single resolution. The thoughts put forth by professors, psychologists, and activists explore multifaceted ideas that all have a similar statement to end human trafficking. However, few call for the change of societal perceptions, laws, behaviors, and morality. This essay will define and unfold the complexity of human trafficking in order to understand and grasp the reality of all that it entails. With the knowledge of human trafficking, this paper will divulge two complicated characteristics coming to light that few recognize as an influence— pornography and prostitution. Acknowledging this information will allow one to enter into the difficult task of freeing and rehabilitating those who have been trafficked. It is the author's hope that by deterring and eliminating the accep

tance of pornography, perceptions of women, and prostitution readers will be encouraged to act.

Understanding the Elements

To understand how to prevent and help those who have been trafficked, one must fully understand what human trafficking is. It is a smart, well thought out business plan that impedes on the rights of others creating a thirty-two billion dollar enterprise with twenty-seven million enslaved and an estimated four million people trafficked annually globally.¹ This is equal to 1/3 of Utah's population enslaved per year, or nearly the entire population of Rhode Island confined for sexual or labor purposes.

Increasing greatly in the past forty years, human trafficking is nothing new to the global community nor are attempts to abolish the trafficking of humans. In the 19th century a movement was prevalent from women such as Josephine Butler who spent her life striving for the rights of women and children that were subjected to prostitution and trafficking. Butler understood the true immorality and disrespect of humankind by stating, "Terrible and heart-breaking as it would be, I had rather however, have a daughter sacrificed thus, than a son, so lost, so brutalized, as to be capable of feeding his lusts upon a struggling, or slaughtered innocent."² With no absolute definition of human trafficking in the 19th century, it was unclear politically and legally on how to fight human trafficking. Only ten years ago did the global community realize, by the work of Non-Government Organizations (NGOs) and the media that the atrocities occurring on such a substantial level throughout the world. Finally, in hopes of fully defining what human trafficking truly is and encompassing uniting the global community.

It was no simple task defining and agreeing on what human trafficking is, however, "conceptualizing a crime, a human rights abuse, is the first and most important task if legal responses are going to be effective," states Heredia, a political scientist specializing in International Relations and Human Rights.³ In 2000, the

¹Fredrickson, Kristine, and Amanda Solomon, "A Historical Context for the Trafficking of Women and Young Girls for Prostitution in Modern Europe: 1950-2006," *Women of the Mountain*, July 2, 2007, [http://www.womenofthemountains.org/files/Microsoft Word - 07-02-28-From-Fredrickson-FINAL-PAPER-TraffickingModEuroASingle.pdf](http://www.womenofthemountains.org/files/Microsoft%20Word%20-%2007-02-28-From-Fredrickson-FINAL-PAPER-TraffickingModEuroASingle.pdf).

²Fredrickson.

³Iniñiguez de Heredia, Marta, "People Trafficking: Conceptual issues with the United Nations Trafficking Protocol 2000," *Human Rights Review* 9, no.

United Nations (UN) hoped to create the beginning of the end of human trafficking, and fully defined what human trafficking is:

The recruitment, transportation, transfer, harboring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced [labor] or services, slavery or practices similar to slavery, servitude or the removal of organs.⁴

Understanding and acknowledging the existence of human trafficking may be the easiest aspect of this process; yet, knowing why this atrocity occurs is possibly most important. There are several aspects that lead individuals into paths of being trafficked. “Now that the hard work has been done within the international community to create the common conceptual foundations of a trafficking definition, research can begin to build a solid layer of empirical evidence and understanding to the real nature of the problem” that includes prostitution, poverty, the skewed perception of women, and inequality of law.⁵

Nowhere Is Safe: Human Trafficking in Utah

The most intricate question to be answered is how one is trafficked to the point of having no rights whatsoever. One may think that if they were taken, they would simply run away or find a way to contact the local police department. However, this is one of the most underestimated crime rings in the world, being “the second largest illegal industry globally, behind the drug trade.”⁶ Showing the extent of “passport confiscation, nonpayment or limited payment of wages, restriction of movement, isolation from the community, and physical and sexual abuse as a means of keeping victims in compelled service,” Utah’s very own case of human trafficking displays the intense, well-devised

3(2008): 299-316. Academic Search Premier.

⁴Íñiguez de Heredia.

⁵Íñiguez de Heredia.

⁶Yea, Sallie, “Human Trafficking - A Geographical Perspective.” *Geodate* 23, no. 3(2010): 2-6. Academic Search Premier.

plan on how to fully capture not just one human, but well over a thousand individuals over a course of several years.⁷

It all began when Thai natives, Tin, Rong and Chan were coerced into human trafficking when recruiters from Global Horizon visited their village. With harsh conditions in Thailand such as poverty, illiteracy, and shortage of food, Global Horizon promised these villagers more wealth and food in “the land of opportunity” than they could have ever imagined. Global Horizon promised 1,935 dollars a month, more than they make in a year, or 69,660 dollars over a three-year commitment if they were to come work in the United States. Tin thought his dreams for his children’s education were now possible. All he wanted to do was make a better life for his family.⁸

The job, however, came with a catch, which was an expensive one. There was a recruitment fee of 450,000 baht, or 14,516 US dollars. Tin figured in the 69,660 dollars he was promised to make and decided that even with the recruitment fee, there would be a 55,000 dollar profit over the next three years. He decided to sign up but had to do the following:

To pay the recruitment fee, he borrowed all that a bank would lend at reasonable interest rates. But that was not enough, so he had to borrow most of the total from a “private lender,” who charged a hefty 80 percent annual interest rate for the loan. Bon paid a higher recruitment fee of \$17,700, and also paid 80 percent interest on much of it. Chan and Rong paid fees of about \$24,000 each. Chan had loans with up to 152 percent annual interest, and Rong had loans of up to an astronomical 792 percent annual interest.⁹

Quickly ensnaring these individuals in great amounts of debt was only the first of Global Horizon’s plans. Placing loans in their name, Tin, Rong and Chan also placed loans on their extended families’ properties. This created massive amounts of debt that could only be paid off with the job that was promised to them by Global Horizon. As they arrived in the United States, they were picked up by Global Horizon security guards and asked for their passports. This being a common occurrence, traffickers will collect any type of ID that will prevent the individual to

⁷Davidson, Lee, “A Story of Modern Slavery in Utah,” *Deseret News*, August 15, 2010, <http://www.deseretnews.com/article/700057024/A-story-of-modern-slavery-in-Utah.html?pg=all>.

⁸Yea.

⁹Yea.

move around freely, or to return home.

The first few months of working in America for Global Horizon went well. They had plenty of work to do and they were paid on time. Yet, their problems did begin with their pay coming in late and loan sharks in Thailand started harassing family members. With pay coming whenever Global Horizon deemed appropriate, Tin, Rong and Chan sent literally all the money they had back to Thailand, leaving them with no money to buy food for weeks at a time.

They became more desperate. A man that had previously worked in Florida who knew of a legal service for the poor contacted them. Referencing the Thai workers to a Utah based legal aid service. This was the beginning of the end coming closer. Global Horizon had a federal lawsuit filed against them, which ended up showing the reality of how deep they were involved in trafficking. A total of one thousand Thais were brought to the US in 2004 and 2005 by Global Horizon. This became the largest human trafficking case in the United States to date.¹⁰

In February of 2008, a settlement was reached between the Thais and Global Horizon. The courts sealed the case; however, it is known that the Thais did not lose their farms. One must rejoice in an ending like this because for so many it ends with their death. Nevertheless, it is important to remember that these people were victorious in the fight against human trafficking and slavery in the state of Utah.

Prostitution: An Illusion to the Eye

Prostitution is closely related to human trafficking, and has been recognized worldwide as a connected problem. One must understand that there are those who willingly pursue prostitution as a career or lifestyle. But for this purpose, the author asks you to remove your preconceived thoughts on prostitutes and to focus on those that are lured, stripped of all self-worth, and held captive by a pimp.

In the European Union (EU), there has been a drastic increase of non-EU national prostitutes. With little dispute, the biggest factor in the increase would be that of open borders. Much like the United States, the EU acts as one body. The states in the US act similar to countries within the EU, where individuals are free to travel among the different countries without any monitoring—creating a feeding frenzy to those who traffic

¹⁰Yea.

humans. One must remember that the EU's core objective is to "maintain and develop the Union as an area of freedom, security and justice...with appropriate measures with respect to external border controls asylum, immigration and the prevention and combating of crime."¹¹ But the EU is inadvertently falling short of their promise to the people.

There is an "emerging unanimity that sexual exploitation can be effectively tackled by criminalizing participants in the sex industry's most visible forms."¹² Society, law officials, and legislatures must understand the reality and hierarchy of prostitution to better draw a conclusion of the "working girl/guy" on 21st and State. Prostitutes are not the criminals, but rather the victims, as they are controlled by pimps or an overseer who watches their every move.

While all nation states carry a common mechanism to combat crime, there are few laws that protect the rights of those that are trafficked. The EU's system protects the nation-state's borders rather than the victims.

The EU's general approach to combating transnational organized crime, and, in the same breath, sex trafficking...focuses on the criminality of illegal immigration, and related aspects of prostitution, rather than the humanitarian aspect of these 'crimes'. With this skewed focus on the criminality of illegal migration, the 'victimhood' of those most directly effected by illegal immigration, namely women trafficked for the sex industry, can be buried under effort to 'fight' organized crime.¹³

Nation-states must move from a defense of their borders to a defense of their people. Developing a design to counteract the trafficking of humans across the globe to maintain the most important basic rights that are violated as in "physical dignity, personal freedom and security, and the principle of non-discrimination" will inevitably create a safer nation-state.¹⁴

Pornography: Not A Victimless Crime

¹¹Hubbard, Phil, Roger Matthews, and Jane Scouler, "Regulating sex work in the EU: Prostitute Women and the New Spaces of Exclusion," *Gender, Place & Culture: A Journal Of Feminist Geography* 15, no. 2(2008): 137-152, Academic Search Premier.

¹²Hubbard, 138.

¹³Hubbard.

¹⁴Rijken, C. (2009). "A Human Rights based Approach to Trafficking in Human Beings," *Security & Human Rights* 20: 212-222, 215.

Rarely would someone confess to trafficking humans, nor think they contribute to the perversion of the selling and trading of humans throughout the world. Nevertheless, the grasping tentacles of this sin have seized the minds of millions through the use of pornography via pictures, books, movies, and the Internet. Although pornography is becoming more and more socially accepted, there is no question that it is not a victimless crime. Pornography degrades and exploits men, women, and children in the most ugly and corrupt fashion as well as promotes and fuels human trafficking.

The more people view porn, either recreationally or as an addiction, their views of men, women, and children become desensitized. And, the “more likely they are to describe women in sexualized terms and categorize women in traditional gender roles.”¹⁵ As their recreational use progresses, so does the lewdness of the pornography viewed. This inevitably promotes the viewer to need more than porn to satisfy their sexual desires and result in sexual deviance. “Pornography creates a demand for prostitution and also, trafficking, through its consumption. Assuming pornography is fundamentally an experience of bought sex, it stimulates a demand for buying women and children in the flesh.”¹⁶ Pornography desensitization of the mind transforms viewing humans as “commodities to be bought and sold.”¹⁷

Utah is not untouched by this. According to the Benjamin Edelman’s article in the *Journal of Economic Perspectives*, found that the “most-subscribing state is Utah.”¹⁸ With a large population of youth as well as a higher average income, both caused an increase to pornography use and causing Utah to become a breeding ground for Internet porn. Surprisingly, with Utah’s large married population and high religious attendance, which are all factors that decrease the average use of pornography. However, this doesn’t weigh enough against the large population of those whom view pornography; thus ultimately challenging the perception that *it does not happen here*.

The reality is that pornography can lead to drastic whoredoms that most cannot even imagine. Prostitution within human

¹⁵Paul, Pamela. “Behavior: The Porn Factor.” *Time*, January 19, 2004.

¹⁶MacKinnon, Catharine, and Esohe Aghatise, “CAPTIVE DAUGHTERS,” *Off Our Backs* 35, no. 7/8(2005): 17-37. Academic Search Premier.

¹⁷Fredrickson.

¹⁸Edelman, Benjamin, “Red Light States: Who Buys Online Adult Entertainment?” *Journal of Economic Perspectives* 23, no. 1 (2005): 209-20. American Economic Association.

trafficking includes horrific accounts of women sold into performing sexual acts when ill, menstruating or even pregnant with up to twenty clients a night. There are also those prostitutes that are paid more money if they have unprotected sex, which highly increases their chances of getting a sexually transmitted disease (STD). Abortions are also forced among many women with no anesthetic.¹⁹ However, the most heart wrenching of all accounts are those of the children. "One universal feature of prostitution is that it is a trade in which success is determined by youth above man other factors....An old prostitute is a redundant prostitute."²⁰ Hubbard warns:

Gender equality will remain unattainable so long as men buy, sell and exploit women and children by prostituting them...Prostituted persons are the weaker party, exploited by both the procurers and the buyers...prostitution [is] a serious form of oppression of women and children and that efforts must be made to combat it.²¹

There needs to be a call to action of regaining the morals of human kind. No matter what race, gender, sexuality, or religious affiliation, we need to understand the vast depths of this hell on earth and how it is affecting millions. If you yourself are using pornography, I ask you to stop for the sake of those lost in the numbers.

Hope: For Those That Are Freed and Yet To Be

As great and intimidating as this perversion is, there isn't an able body that cannot help in combating human trafficking. The biggest problem placed before those trafficked are the predicaments of nowhere to go once freed. An example is found from a Burmese female survivor who "did not want to go back home because her parents did not know that she had been working as a sex worker. Clearly if they found this out, she would be disowned and banned from the house and community. There was no place for her to go, so she returned to the brothel."²² There are programs, institutions, and organizations that aim to help those that have been trafficked. Though very minimal exist, their

¹⁹MacKinnon.

²⁰Montgomery, Heather, "Buying Innocence: child-sex tourists in Thailand," *Third World Quarterly* 29, no. 5(2008): 903-917, Academic Search Premier.

²¹Hubbard.

²²Chung, Rita Chi-Ying, "Cultural perspectives on child trafficking, human rights & social justice: A model for psychologists," *Counseling Psychology Quarterly* 22, no. 1(2009): 85-96, Academic Search Premier.

efforts are priceless seeking to provide a haven for those with nowhere to go.

Working with individuals, families, and communities to acknowledge, recognize and understand not only the epidemic at hand. But recognizing our own ignorance as well is an important step. We must walk outside of our comfort zone and enter into a realm where we stand up for the rights of victims by calling for the dissolution of pornography, inequality of law, and the mistreatment and misrepresentation of prostitutes. In the article “A Historical Content for the Trafficking of Women and Young Girls for Prostitution in Modern Europe” the authors suggest:

Physically, emotionally, and mentally victims of human trafficking are fragile. Rather than being doubly victimized or treated as social pariahs, society must begin to view these women as victims, to extend them love, care and resources to facilitate their reentry into society.²³

We are a generation born into riches yet in a time that the world has the most problems encompassing men, women, and children, which affects them repeatedly day and night. We are not a people given much to help ourselves, but rather a people with an obligation to prevent our kin from suffering more pain and sorrow than one can possibly imagine.

²³Fredrickson.

Section III:

Mountains and the Environment



The Law of the River: Compromises, Compacts, and Regulations on the Colorado River

By: Andrew Allen

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With water related conflicts and issues on the rise, the experience of the United States of America and Mexico, in regards to the Colorado River usage should be used as a template worldwide. The US and Mexico both have vested interests in as well as claims for using the Colorado River and through cooperation and compromise have been able to successfully meet their goals to take advantage of this beautiful shared natural resource. This paper endeavors to illustrate the difficulties currently faced along the Colorado River and along rivers throughout the world and how those issues are being resolved.

Heraclitus, an ancient Greek philosopher, in one of his poems said, "You cannot step twice in the same river."¹ In this simple phrase the true nature of rivers is understood. They are constantly changing through their in stream flow, water composition, temperature, and salinity. Like the water itself, compacts and agreements between the various actors involved in the Colorado River Basin are constantly changing and adapting since the Colorado River's future is uncertain. In 2014, American Rivers, a non-profit organization that deals with river issues, declared that the Colorado River is the second most endangered river in the United States.² The Colorado River is important to the economies of seven states through which it passes as it journeys through Mexico and drains into the sea. Protecting the river while harnessing its life sustaining qualities is crucial to the future of the Western United States and Northwestern Mexico.

¹Harris, William. "The Complete Fragments: Translation and Commentary and The Greek Text," Middlebury College, <http://community.middlebury.edu/~harris/Philosophy/heraclitus.pdf>. 21.

²Neubecker, Ken, et al. "America's Most Endangered Rivers for 2014: The Upper Colorado River," American Rivers, April 9, 2014, <http://www.americanrivers.org/newsroom/press-releases/upper-colorado-river-among-americas-most-endangered-rivers-of-2014/>.

Practices now implemented in the United States, and to a lesser extent in Mexico regarding the water management of the Colorado River Basin are the results of years of research and compromise. As water related conflicts continue to grow worldwide, the cooperative efforts between the US and Mexican governments should be used as a model for future negotiations between competing nations dependent on sharing a river.

International Water Issues

River Basins throughout the world are rife with the potential for disputes and conflicts. The March 2012 report from the office of the US Director of National Intelligence said that the risk of a water-related conflict would continue to increase as the demand for water in the world increases. At present rates, the water demand is expected to go 40 percent beyond sustainable levels by the year 2030. The Secretary of State, Hillary Clinton, said after this report was released that water issues pose real threats and “raise serious national security concerns.”³ Studies conducted by the Organization for Economic Co-operation and Development (OECD) suggest that by the year 2030, 47 percent of the global population will live in an area of high water stress.⁴

Despite the fact that there has never been a war based on water issues in the past several years a few nations have been on the brink. In 1989, former Egyptian president Hosni Mubarak threatened to send demolition troops into Ethiopia to destroy a dam under construction on the Nile River. Building dams along the Nile would decrease the amount of water lost by evaporation and could be highly beneficial to both Egypt and Ethiopia, but mistrust among the two nations prevents dam construction from taking place.⁵

The Middle East has been a hotbed of water conflict for thousands of years, especially during the last few decades. Some experts believe that the first and possibly only “water war” in world history was fought between the city-states of Lagash and Umma about 4,500 years ago in the Tigris-Euphrates Basin.⁶ The

³Arsenault, Chris, “Risk of Water Wars Rises With Scarcity,” Al Jazeera, last modified August 26, 2012, <http://www.aljazeera.com/indepth/features/2011/06/2011622193147231653>.

⁴“OECD Environmental Outlook to 2030,” OECD, last modified 2008, <http://www.oecd.org/environment/indicators-modelling-outlooks/40200582.pdf>.

⁵Arsenault.

⁶Arsenault.

Tigris and Euphrates Rivers begin their journey in the highlands of Turkey. The Euphrates River passes through Syria before entering Iraq. Each river flows into Iraq with both rivers eventually joining and draining into the Persian Gulf. Throughout both rivers' journeys they are depleted of their water flow for agricultural, municipal, and industrial uses. Since the mid-1960s the three countries along the Euphrates River have been debating how much, when, and whom may use its water flow. The issue has been hotly debated and military violence has been avoided to the present.⁷

Central Asia has been embroiled in water related issues for the past several years.⁸ The President of Uzbekistan, Islam Karimov, threatened violence against Kyrgyzstan and Tajikistan if they went forward with hydroelectric dam construction on the Vakhsh River. The Vakhsh River originates in Tajikistan and the Naryn River originates in Kyrgyzstan.⁹ The issue is so contentious that Foreign Policy listed Central Asia as an area that would be very likely to have a war in the coming years and cited water issues as one of the primary causes.¹⁰

Between 1/3 and 1/2 of all rivers in the world originate in mountainous areas and the rivers of Central Asia certainly fall in this category.¹¹ The headwaters of major rivers in the area are largely found in the highlands of Kyrgyzstan and Tajikistan and flow down to the lowlands of Kazakhstan and Uzbekistan. Kazakhstan and Uzbekistan have legitimate concerns about the water reaching their land. In Uzbekistan 28 percent of the workforce is involved in agriculture and Kazakhstan is one of the

⁷Wolf, Aaron T., and Joshua T. Newton, "Case Study of Transboundary Dispute Resolution: the Tigris-Euphrates Basin," Oregon State University, http://www.transboundarywaters.orst.edu/research/case_studies/Tigris-Euphrates_New.htm.

⁸Makuch, Ben, "Is Central Asia on the Brink of a Water War?" Vice Media, last modified September 26, 2012, <http://www.vice.com/read/is-central-asia-on-the-verge-of-a-water-war->.

⁹Lillis, Joanna, "Uzbekistan Leader Warns of Water Wars in Central Asia," Eurasianet, last modified September 7, 2012, <http://www.eurasianet.org/node/65877>.

¹⁰Arbour, Louise, "Next Year's Wars," Foreign Policy, last modified December 27, 2011, http://www.foreignpolicy.com/articles/2011/12/27/next_years_wars.

¹¹Iyngararasan, Mylvakanam, et al, "The Challenges of Mountain Environments: Water, Natural Resources, Hazards, Desertification, and the Implications of Climate Change," *Key Issues for Mountain Areas*, The United Nations University Press, 2003.

leading producers of grain in the world.¹² Because Kyrgyzstan and Tajikistan control the sources of many important rivers in the region they have been able to use this as leverage against their much stronger neighbors. In 2010, Kyrgyzstan rerouted water from the Talas River to prevent it from reaching the agricultural fields of Kazakhstan in response to the Kazakh government closing their border with Kyrgyzstan. Just a few hours after the water was rerouted Kazakhstan reopened the border to the Kyrgyz people.¹³

These situations will only be exacerbated as the demand on water increases in the coming years. Interactions between governments based on distrust inevitably leads to conflict. Taking the United States' experience with the Colorado River and applying the principles and lessons learned during almost a hundred years of compromise and legislation to different parts of the world will lead to greater cooperation and subdue the rising tensions caused by water stress.

The Colorado River Basin Overview

The Colorado River Basin encompasses seven states and two countries. It is approximately the same size as France and accounts for roughly 15 percent of the total territory of the United States.¹⁴ The Colorado River's journey begins high in the mountains of Colorado in Rocky Mountain National Park and ends either in the Sea of Cortez or somewhere in the Sonoran Desert, depending on the water flow for that year. During its journey from Colorado to Mexico it drops 14,000 feet in elevation and passes 1,450 miles through some of the most stunning mountain and desert landscapes in the world.¹⁵

Roughly 30 million people make their homes in the Colorado River Basin and most are able to do so because of the water that the river provides. Phoenix, Las Vegas, San Diego, and Los

¹²Republic of Uzbekistan: Poverty Strategy Reduction Paper." IMF Country Report, January 2008.

"Agriculture," Embassy of Kazakhstan to the USA and Canada, <http://prosites-kazakhembus.homestead.com/index.html>.

¹³Pederson, Ingrid, "Central Asia Could go to War Over Water," Business Insider. last modified September 15, 2012, <http://www.businessinsider.com/central-asia-really-could-go-to-war-over-lack-of-water-2012-9>.

¹⁴"About the Colorado River Basin," ColoradoRiverBasin.org, <http://www.coloradoriverbasin.org/about-the-colorado-river-basin/>.

¹⁵"About the Colorado River Basin."

Angeles all receive a large portion of their water supply from the Colorado River and its tributaries. These cities are among the largest in the United States and are some of the fastest growing, which causes an ever-increasing demand on the river.¹⁶

The Colorado River Basin and the river itself present an interesting study of difficult situations being managed by thousands of actors in mostly successful ways. From the upper-echelons of the federal government to the modest farmers in rural Utah, California, or Arizona, an interconnected web takes shape. Despite the pressures presented by climate change, booming populations, and international and interstate contracts, the various actors are able to benefit from and protect the Colorado River. This is due in large part to almost a hundred years of compromise between several states and Mexico.

Law of the River

The Colorado River and its tributaries are very highly regulated. A quote often attributed to Mark Twain says, “Whiskey is for Drinking. Water is for fighting.”¹⁷ The Colorado River illustrates that point very well. ‘Fights’ between the various states, countries, counties, cities, and individual farmers has been commonplace since settlers first moved into the Colorado River Basin. In 1934, Arizona sent the state national guard to the California border to protest the building of Parker Dam, which would divert some of the flow of the River into California. California did some fighting of their own in a legal battle lasting eleven years from 1952 to 1963 that ultimately finished in the Supreme Court of the United States. In order to quell some of the arguments, the United States and Mexican governments undertook regulations that try to fairly distribute water rights among the various actors.¹⁸

The International Boundary and Water Commission (IBWC) traces its founding to the Treaty of Guadalupe, Hidalgo that was signed at the end of the Mexican-American War. The treaty established the modern boundaries between the United States and Mexico. Originally the IBWC was just a series of temporary commissions with narrowly defined authority and design. In

¹⁶“About the Colorado River Basin.”

¹⁷“Whiskey is for Drinking, Water is for Fighting,” United States Bureau of Reclamation, http://www.usbr.gov/lc/phoenix/AZ100/1950/whiskey_drinking_water_fighting.html.

¹⁸“Whiskey is for Drinking, Water is for Fighting.”

1900, it was commissioned indefinitely and in 1904 they permanently established the border between Mexico and the United States. In 1944, the IBWC took water as an integral part of its formal duties and passed important legislation regarding the amount of water flow from the Colorado River that must reach Mexico every year. Also part of the 1944 Treaty was the official recognition of the IBWC as an international governmental body.¹⁹ Further agreements and amendments have been passed regularly since this time. Modern agreements require the United States to monitor the salinity amount and time period water is released into Mexico.²⁰

There are dozens of major acts of legislation, compacts, federal laws, court decisions, contracts, and regulatory guidelines governing the Colorado River that pertain to the United States, the individual states, and Mexico. The cornerstone of these acts is the Colorado River Compact of 1922. Signed in the palace of the governor of Santa Fe, New Mexico, the act outlines the relationship between the Upper Basin states that include Utah, Colorado, Wyoming, and New Mexico. This is where most of the water supply originates and the Lower Basin states, which are Arizona, Nevada, and California. The Lower Basin states are where most of the demand comes from. Herbert Hoover, in his role as secretary of commerce, negotiated the agreement that would entitle both basins to use 7.5 million acre-feet (MAF) per year, in effect dividing the water rights directly in half.²¹

The Colorado River Compact of 1922, was passed to allay the fears of the six other states in the Colorado River Basin had due to California's population boom. They feared California would get more than their fair share of the water rights. These fears were mixed with a sense of injustice because California is the state in the basin that adds the least amount of runoff to the river. Delph Carpenter, a Colorado attorney, suggested that the states themselves create a compact to avoid outside influence coming from the federal government. Originally the plan

¹⁹“History of the International Boundary and Water Commission,” IBWC, http://www.ibwc.state.gov/About_Us/history.html.

²⁰Umoff, Allie Alexis, “An Analysis of the 1944 U.S.-Mexico Water Treaty: Its Past, Present, And Future,” *Environs: Environmental Law and Policy Journal*, 32, no 1 (2008), 71-97.

²¹Gelt, Joe, “Sharing Colorado River Water: History, Public Policy, and the Colorado River Compact,” University of Arizona. last modified August 1, 1997, <https://wrrc.arizona.edu/publications/arroyo-newsletter/sharing-colorado-river-water-history-public-policy-and-colorado-river>.

was to apportion water based on the amount of acreage that was to be irrigated in each state, but determining the amounts became highly contentious and a compromise was reached. That compromise is what we now know as the Colorado River Compact.²²

In 1928, the Boulder Canyon Project Act, passed by the United States Congress, amended the Colorado River Compact of 1922. This act was passed in order to authorize the construction of the Hoover Dam, which created Lake Mead on the Arizona-Nevada border. It also apportioned the allotted 7.5 MAF between the states of the lower basin. Arizona was given 2.8 MAF. California was given 4.4 MAF and Nevada was given 0.3 MAF. This act also gave the secretary of the interior the authority over water use in the lower Colorado River Basin.²³

Within the states themselves disputes arose as to how water would be apportioned. The California Seven Party Agreement of 1931, was an agreement between seven agricultural and municipal interests in California as to how the 4.4 MAF allocated to California would be divided among them. The decision outlined yearly allotments of water that would be given by the state to the various districts with an interest. It did not resolve every detail but served as a solid basis from which to build.²⁴

In 1948, the Upper Colorado River Basin Compact was passed. It created the Upper Colorado River Commission and apportioned the Upper Basin's portion of the Colorado River's flow among the Upper Basin states. This agreement was reached very amicably, unlike the compacts reached in the Lower Basin. Colorado was given 51.5 percent of total water flow. New Mexico was given 11.25 percent. Utah was given 23 percent. Wyoming was given 14 percent and the small portion of Arizona that is in the Upper Colorado Basin was apportioned 50,000 acre-feet annually. The Upper Basin chose to use percentages because at the time the 1948 Colorado River Basin Compact passed the states of that region were unsure how much water would still be available for them to use after sending the allotted 7.5 MAF to the states in the Lower Basin.²⁵

²²Gelt.

²³US House, 70th Congress [H.R. 5773] The Boulder Canyon Project Act, Washington: Government Printing Office, 1928.

²⁴"Boulder Canyon Project Agreement," United States Bureau of Reclamation, <http://www.usbr.gov/lc/region/g1000/pdffiles/ca7pty.pdf>.

²⁵"Upper Colorado River Basin Compact, 1948," United States Bureau of Reclamation, <http://www.usbr.gov/lc/region/g1000/pdffiles/ucbsnact.pdf>.

Despite the fact that the states are allotted a certain amount of water, many do not take the full amount of flow that they are entitled to. Utah, New Mexico, Colorado, Wyoming, and Arizona rarely take the full allotment of water and some have never taken the maximum amount allowed. California has taken advantage of this excess flow and regularly takes more than their apportioned 4.4 MAF. In 1997 alone, California took over 5.2 MAF. The 0.3 MAF originally apportioned to Nevada was at a time when the state had a population of 90,000 residents, most of whom did not live in the Colorado River Basin. With Nevada's increasing population the river will not meet current demands and renegotiation may be necessary.²⁶

The issue of highly populated lowland areas taking the vast majority of water of a river is not unique to the Colorado River. Early in the development of the compromises of the Colorado River, California's lust for water proved a bane to the other seven states in the basin. California contributes very little in the way of flow to the river but takes far more than any other state. The states that actually contribute to the river are forced to let the precious moisture pass untapped through their borders so that California can have the vast amount necessary to keep its southern deserts irrigated. At present, the Colorado River Basin states seem content with the status quo but as demands on the river increases upstream the Compact of 1922 may have to be renegotiated.²⁷

Perhaps the most important of the agreements made in regards to the Colorado River is the Mexican Water Treaty of 1944. The populations of both Mexico and the United States were booming in the Colorado River and Rio Grande River basin areas in the late 19th and early 20th centuries.²⁸ There had been disputes before about the diversion of water into one country or the other but no formalized agreements had been made. In 1944, both countries were eager to create a formal treaty governing the usage of the Colorado and Rio Grande Rivers. Under Article 10 of the Mexican Water Treaty of 1944, the United States promised to send 1.5 MAF of the Colorado River's annual flow to Mexico. Within the treaty there is an exception granted to the United States based on the condition that they are experiencing a time of severe drought. However, if

²⁶ "Upper Colorado River Basin Compact, 1948."

²⁷ Gelt.

²⁸ "History of the International Boundary and Water Commission."

the United States is unable to meet their full quota in a year of 'exceptional drought' they must meet that shortfall by allotting extra water to Mexico within the five following years.²⁹

The Colorado River Storage Project of 1956 affected the Upper Basin and provided them with a comprehensive plan for water resource development. It authorized the construction of Glen Canyon Dam that created Lake Powell, Flaming Gorge Dam, Navajo Dam, and Curecanti Dam. In addition to authorizing these dams, the Storage Project of 1956 also regulated various uses and irrigation projects of the dams.³⁰

Several cases involving the Colorado River have been heard by the US Supreme Court. *Arizona v. California* (1964) was brought before the Supreme Court to settle the dispute regarding Arizona's desire to build the Central Arizona Project. The Central Arizona Project is a series of canals, tunnels, and waterways designed to bring 1.5 MAF of Colorado River flows to central Arizona. It stretches 336 miles and is the "largest single resource of renewable water supplies in the state."³¹ California argued that before this project was built, Arizona already took their allotment of water flow from the Gila River, a major tributary. The Supreme Court rejected this argument and said that the states of the lower basin have a right to use tributary flows before the tributary meets the Colorado River. This rankled California as they have very few Colorado River tributaries to speak of. This ruling was crucial in the development of the Central Arizona Project.³²

California did win a conciliatory victory in the Colorado River Basin Project Act of 1968. While this act authorized the construction of the waterways that would become the Central Arizona Project it also made Central Arizona Project water supply subordinate to California's apportionment in years of drought and times of shortage. In addition the Colorado River Basin Project Act directed the secretary to prepare long-range

²⁹Gelt.

"Utilization of the Colorado and Tijuana Rivers and of the Rio Grande. Treaty Between the United States of America and Mexico," United States Government.

³⁰"Colorado River Storage Project: Authority to Construct, Operate and Maintain," United States Bureau of Reclamation, <http://www.usbr.gov/lc/region/g1000/pdfiles/crspuc.pdf>.

³¹"Colorado River Storage Project: Authority to Construct, Operate and Maintain."

³²Gelt.

operating criteria for the Colorado River reservoir system. This direction to the secretary led to the Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs of 1970, which set the conditions for water releases from Lake Powell and Lake Mead.³³

The 1973 Endangered Species Act was passed to address issues of human impact on the viability of the Colorado River to sustain indigenous plant and animal life in and along the river. Damming has created difficult circumstances for fish by increasing the temperature of the water, not allowing for passage, and trapping silt. A large portion of the onus to protect the species of the Colorado River falls unfairly on the Upper Basin states that benefit less from damming than do the Lower Basin states.³⁴

Native American water rights were mentioned in the Colorado River Compact of 1922, but almost in passing with very little being said in the way of tangible laws. However, the Supreme Court's decision in *Arizona v. California*, specifically granted water rights to five Native American Indian reservations located on the Colorado River Basin, which are the Chemehuevi, Cocopah, Colorado River, Fort Mohave, and Quechan. The Court granted the reservations enough water to irrigate almost all of the irrigated acreage. Nine hundred thousand Acre Feet of water apportioned to the Lower Basin were allotted to Native American Indian Reservations. The total population of the reservations is around 10,000 people. Through federal regulation Native American tribes in the Upper Basin receive roughly 1 MAF per year.³⁵

The Navajo Indian Reservation is over 25,000 square miles and located entirely within the Colorado River Basin. The San Juan and Little Colorado Rivers both flow through the reservation. The Navajo Tribe has yet to claim their apportionment of water but it has potential to be huge. Legal counsel for the Tribe, Sydney Pollack, has stated that the potential water right for the tribe could be as high as 5 MAF and has potential to completely undo the Colorado River Compact of 1922 and the subsequent compacts predicated on it.³⁶

Salinity Issues on the Colorado River

³³US House. 90th Congress [S. 1004] Colorado River Basin Project Act. Washington: Government Printing Office. September 30, 1968.

³⁴Gelt.

³⁵Gelt.

³⁶Gelt.

An amendment to the Mexico Water Treaty of 1944 was passed in 1973 and put into US law and is known as the Colorado River Basin Salinity Control Act.³⁷ The Colorado River naturally is quite saline. However, human activities in the basin have exacerbated the situation. A United States Geological Survey found that 47 percent of the salt in the Colorado River is caused by natural factors. A further 37 percent is caused by irrigation, reservoir evaporation accounts for 11 percent, and municipal and industrial actions cause 4 percent. In the 1960s, after the creation of Glen Canyon Dam, the water reaching Mexico was highly saline and was virtually worthless for agricultural purposes. The Colorado Salinity Control Act placed measures regarding the level of salinity of the Colorado River as it entered Mexico.³⁸

Economic factors have largely driven concern with salinity in the Colorado River. Economic losses begin to take hold when the salinity reaches a level of 500 milligrams per liter (mg/L). Using the 2008 average annual salinity level at Imperial Dam located on the California-Arizona border near Yuma. Its present annual economic losses are estimated at about 350 million dollars. The monetary losses come primarily through agriculture losses, pipeline and water fixture damages in housing and industry, and corrosion. In agriculture alone the economic damage of salinity in the Colorado River is equal to almost 175 million dollars per year.³⁹

Irrigation increases the salt concentration of the Colorado River through consuming water from the river and then dissolving salts found in the underlying soil, which is usually saline, and the salts found on the surface. About 1.57 million acres in the Upper Colorado River Basin and 1.4 million acres in the Lower Colorado River Basin are irrigated every year. The majority of the irrigation projects that deplete water and increase salt loading to the river were in place before 1965. Irrigation practices have changed a great deal in modern times. Implementing closed canals, sprinkling systems, gated pipe, trickle systems, and tile drains have all resulted in reduced return flows of highly saline water and have reduced overall salt concentration in the river.⁴⁰

Depending on the stream flow the salinity level of the

³⁷“Colorado River Basin Salinity Control Act.”

³⁸“Quality of Water Colorado River Basin Progress Report No. 23.”

³⁹“Quality of Water Colorado River Basin Progress Report No. 23.”

⁴⁰“Quality of Water Colorado River Basin Progress Report No. 23.”

Colorado River can be drastically different. When there is more water flow moving in the river the salt becomes diluted and the salinity level drops. When there is very little stream flow the salt has less water to combine with and it remains highly saline. During the spring and early summer months the stream flow is fairly high making maintaining a low salinity level in accordance with the 1974 Salinity Act regulations a problem. During the late summer and into the fall when the stream flow is very low the salinity level can be quite high and thus in violation of the 1974 Salinity Act.

Within the United States, as a part of the Clean Water Act states have to meet certain criteria in order to come into compliance with the salinity standards. From state to state and at various points along the river the salinity needs to be at or below federal standards. At Hoover Dam it must be 723 mg/L or below, at Parker Dam it must be 747 mg/L or below, and at Imperial Dam it must be 879 mg/L or below.⁴¹

In order to better control the water flow, dams have been created along the Colorado River and its tributaries. Three main dams store the majority of the watershed for the Colorado Basin. They are the Flaming Gorge on the Utah-Wyoming border, Lake Powell on the Utah-Arizona border, and Lake Mead on the Nevada-Arizona border. As the Colorado River reaches these dams, the water from the high stream flow months and the low stream flow months is mixed maintaining a fairly consistent level of salinity throughout the year. Before Glen Canyon Dam and Hoover Dam were built salinity levels would vary drastically throughout the year. At Glen Canyon Dam in the 1960s the salinity level from month to month could be as high as 1400 mg/L and as low as 200 mg/L. Since the early seventies with the completion of the dam and the filling of Lake Powell the salinity level at Glen Canyon has consistently been between 400 and 600 mg/L.⁴²

The Bureau of Land Management and more specifically the Bureau of Reclamation, the agency tasked with the desalination of the Colorado River, have undertaken dozens of projects to help comply with federal and international standards of salin

⁴¹“Quality of Water Colorado River Basin Progress Report No. 23.”
“Federal Water Pollution Control Act,” United States Senate, last modified 2002, <http://www.epw.senate.gov/water.pdf>.

⁴²“Quality of Water Colorado River Basin Progress Report No. 23.”

ity in the Colorado River. A major undertaking to meet federal regulation has been changing farm delivery systems for irrigation water. Piping and lining canals, laterals, and ditches have improved the water loss and the amount of salt runoff that has entered the river.⁴³ The Upper and Lower Colorado Basin areas were given 250 million dollars to spend in salinity reduction projects over the last few years and have been using that money to find new and innovative ways of lowering the salt concentration in the river as well as conducting extensive research in that area.⁴⁴

⁴³“Colorado River Basin Salinity Control Program,” United States Bureau of Reclamation, <http://www.usbr.gov/uc/progact/salinity/>.

⁴⁴Quality of Water Colorado River Basin Progress Report No. 23.”

The Mountains of El Salvador More than a Biotic Resource One Historical Legacy

(Las montañas de El Salvador más que un recurso biótico, un legado histórico)

By Jessica M. Rodríguez

El Salvador is a country with augmented culture, folklore, symbolism and beautiful mountain ranges. The history in El Salvador lays the ground-work for the current economy and the failed mountain development sector that habitually lifted the agricultural process in the past years. The minimum amount of mountain ranges, forest regions, or/and individual valleys conveys a great source of energy to any country, unfortunately mountains and the farming sector that benefits from mountain regions are a part of the population with extreme poverty levels in El Salvador. They are also very neglected by government authorities.

The emphasis that ecofriendly entities make on the preservation of natural resources is because the damage is unrepairable “Mountains are a key source of energy, including biomass fuels, such as wood, and other forms of renewable energy.”¹ Over the past two decades El Salvador has experienced a major decline in the production of its number one exporting product: coffee. The sustainable mountain development of the tropical region has remained unkempt and deplorable. “The fragility of mountain ecosystems makes the impacts of unsustainable development more severe and more difficult to correct than in other areas of the world.”² An appropriate mountain development is obtained when the population and the government work in a cohesive manner to assure that the lifetime of the ecological entity and mountain ranges will endure for hundreds of years. The path to a new and modernized world is led by globalization; therefore any decision has to be a collective one.

In order, “to achieve sustainable mountain development, it is essential that all concerned stakeholders are involved and that awareness is raised about mountain ecosystems, their fragility and prevalent problems, and about ways of addressing them.”³

¹ “Why Invest in Mountain Sustainable Development?” Food and Agriculture Organization of the United Nations, <http://www.fao.org/docrep/015/i2370e/i2370e.pdf>.

² “Why Invest in Mountain Sustainable Development?”

³ “Why Invest in Mountain Sustainable Development?”

The fact of the matter is that if globalization is not oriented in the path of sustainable mountain development many rentier states that derive all of their product from outsiders, will fail miserably when globalization switches into eco-friendly gears. "Mountains' decisive role in the global water cycle means that the management of water resources requires special attention" and every nation must remain economically stable within their means.⁴ This fact does not imply that all countries will refrain from foreign investment and trade. The issue with the mountain development in El Salvador is the constant lack of authority to protect those mountainous ranges and the mistreatment of farming techniques in forest areas. This has led to an enormous loss of exporting products and a failed economy.

El Salvador has a vast quantity of mountains. The most important ones are those with the highest altitudes, which are Santa Ana Volcano, Volcano de San Vicente, Volcano de San Miguel, Volcano de Izalco, Volcano de San Salvador, Volcano Chingo, Usulután Volcano, Volcano Guazapa, Montaña El Tigre (Mountain Tiger) Santa Ana and Cerro Peña Pinta Ahuachapán (Hill Peña Pinta). These mountains and volcanoes are indeed the ones with further vegetative areas with the majority of the volcanoes maintaining very high volcanic activity.⁵ For example, the Santa Ana Volcano demonstrated volcanic activity as recently as October 1, 2005. This volcano is located 40km west of the capital, San Salvador. At the end of the volcano there is a lake called Coatepeque. This lake is a great tool for scientists to measure the severe changes in temperature due to the movement of lava in the volcano. The lake also contributed to a prompt evacuation of the population living nearby.⁶

Tectonic activity in these volcanoes has caused the evacuation of thousands of families. The problem is not the evacuation of families, the issue is that these families are contaminating the green zones because they are setting their homes in the mountains. The households are in deplorable conditions, living in extreme poverty with wages of less than one dollar per day. El Salvador has a population of around seven million people. It is the smallest, most populated country of Latin America being only 21,000 km² and having twenty-three volcanoes in this

⁴ "Why Invest in Mountain Sustainable Development?"

⁵ "El Salvador Highest Mountains," Geonames, January 1, 2011, <http://www.geonames.org/SV/highest-mountains-in-el-salvador.html>.

⁶ Hernandez.

small area. El Salvador is also recognized among the ten poorest countries in Latin America.⁷ The already mentioned over-population and the unsustainable development of mountains brings the question, is there clean water for everyone in El Salvador? The answer is no.

The picture shows the major cities in El Salvador that are surrounded by mountains or a volcano.

“Shrubs on warm ground- Chaparrastique or Volc jn de San Miguel in El Salvador,” Vocano Cafe, July 2, 2014, <http://volcanocafe.wordpress.com/2014/07/02/shrubs-on-warm-ground-chaparrastique-or-volcan-de-san-miguel-in-el-salvador/>.



The current situation of El Salvador describes a developing country with 11.9 percent of the people with access to drinking water, compared to a 23.9 percent in 1991, and basic sanitation had a rate of 11 percent compared to 21.9 percent in 1991. “In 2005, only a third of the rural households were connected to a private water pipe, and still a fifth of the rural population had to carry their water from water holes and rivers.”⁸ In 2007, the National Administration for aqueducts and sewer served only 4 percent of the rural population. The growing population is struggling to meet basic needs and the government officials are not preserving the water that comes from the mountains. Waste and garbage is thrown into the rivers and lakes plus the majority of women wash their clothes in rivers leaving deposits of bleach and detergents in with the fresh clean water.

As the most volcanic area in the region of Central America, El Salvador is recognized for having many earthquakes. At the beginning of its conquest, in pre-Columbian time, El Salvador was called Cuzcatl n and the Pipiles dwelled in this territory. The Pipiles are offspring of the Aztecs. When Don Pedro de Alvarado and his troops conquered the Cuzcatl n they knew little about the mountains and volcanoes and much less in regards to frequent seismic activity. The Indians called the valley of Cuzcatl n, El Valle de las Hamacas (Hammock Valley), because of the

⁷Hieber, Maeggi, “Between a growing economy and an alarming water situation,” International Ecological Engineering Society, April 9, 2009, http://www.iees.ch/cms/index.php?option=com_content&task=view&id=96&Itemid=1.

⁸Hieber.

swinging of their hammocks during tremors. For the indigenous people the valley was sacred and the mountains were worshiped as gods. For the Pipiles the mountain represented majesty, beauty, and prosperity. The mountains provided the daily food and water needs of their tribes. The Pipiles benefited from their stellar techniques of farming, but these were lost after the conquest. They produced cotton textiles, cocoa, and coffee beans. In addition to their skills in building cities they were known for their farming and agricultural abilities.⁹

After the Pipiles, the Spaniards and Mestizos ruled Cuzcatlán. In 1821, they got their independence and named the territory El Salvador. The conquest brought advanced technology. From the time El Salvador obtained its independence, the country struggled to balance power, military coups, and many civil wars. Moreover a stable democratic government system has only been available for the past forty years.

During the late 90s and mid 2000s, El Salvador has been motivated to join international organizations, trade organizations and such. Currently, El Salvador does not belong to the Mountain Partnership Organization. This organization partners with fifty-three governments NGO's and IGO's to assure the protection and correct utilization of the resources from the mountains in El Salvador.¹⁰ One of the reasons why the Mountain Partnership would be an excellent ally for the mountainous regions in El Salvador is because of the decay of its number one exporting product, coffee. Despite the vast territory to grow coffee in El Salvador, production has been reduced over the last decades. The reasons why have been many. Such as, the inept farming techniques, the drastic changes in climate due to contamination and global warming, the lack of fresh clean water, droughts, farmers leaving their lands because of low resources to plant more coffee, foreign exports that widen the gap between local business and international mass production companies.

There are innumerable factors demonstrating that these mountain ranges in El Salvador will not only boost the economy but will double or triple the amount of GDP. The mountains in El Salvador have the highest altitude in the region. Only above

⁹“Quiénes eran los Pipiles? - El Salvador,” El Salvador. El Salvador Mi Pais, June 1, 2014, <http://www.elsalvadormipais.com/quienes-eran-los-pipiles>.

¹⁰“Terms and Conditions,” Mountain Partnership, January 1, 2014, <http://www.mountainpartnership.org/terms-and-conditions/en/>.

2000 feet can trees such as the balsamic tree grow.¹¹ The region has the capacity to produce its own natural irrigation system if the appropriate ecological methods would be implemented. Minnie Lemaire writes about El Salvador in 1946, and comments:

El Salvador, in spite of its rough to rolling landscape, but aided greatly by its extremely fertile volcanic soils, has placed at least 80 per cent of its area in crop production. The thirst and need for every possible inch.¹²

The mountain regions not only possess great soil for the scattering of other seeds. In addition, they possess large quantities of minerals that can be extracted such as, gold, silver, lead and mercury. Coffee has played a major role in the agricultural sector from the early 1800s. Coffee was introduced to the area by a Brazilian teacher and became a very mighty crop to grow in 1930s. "There were 140 million trees growing on 202,000 acres divided among 11,545 coffee fincas and 10,921 proprietors."¹³ El Salvador reached one of its biggest goals in 1941, when it exported 600,000 bags that were 132 pounds each, and households consumption of coffee was 130,000 bags per year.¹⁴ Coffee growing was an art that contributed to the country's participation in events for prestigious coffee nominations. For example, having the best tasting coffee in the world. There is a long process to go through before a coffee bean can be nominated for such an award. Some requirements include: 90 percent of the coffee bean must be grown in natural botanic areas, it must be harvested at its best, which means only when the color of the coffee bean turns a dark red wine color, the fermentation of coffee must be natural in regular climate conditions, the coffee must be 100 percent sun dried, cleaned by hand, and must be packaged in agave fiber sacs that are certified by the Coffee Salvadorian Council.¹⁵ Only the coffee that grows near the volcanic areas is 100 percent natural and enriched with flavor.

Through the years, El Salvador crops suffered different problems. Around 116 families lost their land due to the rust fungus

¹¹Lemaire, Minnie E., "El Salvador," *Economic Geography*, 22, no. 3(July 1946): 193-202, 196.

¹²Lemaire.

¹³Lemaire, 197.

¹⁴Lemaire, 197.

¹⁵Cabrera, Omar, "Ubican regiones según calidad Aquí se producen los mejores cafés," El Salvador, <http://www.elsalvador.com/noticias/2002/7/4/negocios/negoc11.html>.

(hongo de la roya) that killed thousands of acres of coffee.¹⁶ Countries like Mexico and others in Central America suffered the pandemic of the rust fungus that destroyed many other crops. Coffee exports during 2013-2014 reached the amount of 455,191 sacs, and had a price fall of 50.5 percent in comparison with the numbers from the 2012-2013 cycles.¹⁷ The decay in coffee production is very frightening for farmers, which affects hundreds of families across the nation.

The mountains bring the real taste to El Salvador's coffee. Its authentic flavor is recognized worldwide. In June 2014, El Salvador was awarded second place in the "world's brewers cup." The winner was coffee that was sent from Santa Ana's Volcano. The owner of the finca that brews the winning coffee is Doña Juana and she was awarded a diploma for all her hard work in putting El Salvador in a very prestigious place in the world.¹⁸ El Salvador has shown concern for its people and the land but it needs to recognize the hard work of the local owner if they want to survive the United States a nation that continuously pushes aside the production of the local farmers. This senerio happened with their cotton crop not being successful this year because outsiders kept exporting cotton into Salvadorian factories at cheaper prices and putting local companies out of business.

The tedious situation between these huge companies and the local ones is that there is not a legal procedure that protects the rights of the local business and farmers. The reality for El Salvador and its mountains has formed discontentment in the heart of the Salvadorians that want to not only use their resources but also to end the extreme levels of poverty in the agricultural sector. It is the job of the government officials, IGO's and NGO's to protect the lives of the people and also the lives of the mountains. By not being part of the Mountain Partnership this makes it difficult for everyone.

For any crop to be substantial and high quality there are various conditions that must be met. In El Salvador the coffee bean is called Bourbon, which has the qualities of being a good size and a good bean. It is planted in the shade, which benefits the environment but also makes the coffee bean produce a hon

¹⁶Molina, Karen, "PMA exorta a diversificar la agricultura," El Salvador, July 18, 2014, http://www.elsalvador.com/mwedh/nota/nota_completa.asp?id-Cat=47861&idArt=8949640.

¹⁷CSC.

¹⁸Quiénes eran los Pipiles? - El Salvador."

ey like substance different than those cultivated under the sun.¹⁹ Many believe it is the industry and the coffee bean process that makes ground coffee the best. However, Procafé thinks its the quality of the land where its beans are grown that makes for good coffee.

There are very few countries lucky enough to have the mountains as a natural resource. One place devoid of such a resource is Dubai, in the United Arab Emirates. One of the sources of economic solvency for Dubai is the aviation sector. If the aviation sector was to declare bankruptcy tomorrow Dubai's economy would be almost devastated. Countries like El Salvador rely on Mother Nature and have been awarded graciously by Her with mountain and volcano ranges that keep the agriculture and the economy steady. One can only imagine how much the economy would grow if this sector was guarded by officials and the people within the country.

El Salvador's unstable government is one of the main reasons why the mountains and volcanic areas are not being protected. San Lorenzo, Santa Ana is a city where the majority of its population relies on harvesting grains. Over the past ten years, San Lorenzo River has been drying up and families from the region have been losing their land and farm animals due to a huge drought that killed all their crops. San Lorenzo is located south of the main city of Santa Ana, and it's also located along the range of the volcano Izalco and Santa Ana. The families of that area have many children who work in the fields with their parents. People along the range of Izalco work hard from sunrise to sundown and their children work the same amount of hours.

The Salinas family has one house made out of mud, bamboo and bricks along the south side of San Lorenzo. Jaime and Rosa have eight children from age two to fifteen. The male children go and work in the land while the girls stay at home and take care of those not old enough to do any chores. Jaime has always known the work of agriculture and fishing. Their economic situation has always been very extreme. The children do not go to school and they can only eat what they grow along with the animals that they have domesticated. Their diet consists of beans, rice, corn, cow's milk and chicken. Even though the family's diet sounds well balanced, with huge droughts every year it's hard for the father to keep up with the demands of his family of ten. Jaime had dreams of selling most of his grains to the central

¹⁹Cabrera.

market but he is always forced to underbid his work in order to beat the competitors. The massive companies that count on mass production can sell the product for so much less, which gives Jaime no room for profit and in many cases, losses.

The droughts are an increasing issue. For example, when there is no rain for more than fifteen days the drought is considered to be severe and the whole nation becomes under alert. In the west side of El Salvador the temperatures are hot and the east side can be deadly dangerous for the crops, population and the environment. The current irrigation system for major crops in the country is under alert. The Department of Natural Resources announced that the following trimester will bring plenty of heat but not much rain. The authorities mentioned that El Niño might be affecting the climate changes. El Niño is a phenomenon that brings hot currents of warm ocean water temperatures. The chances of the farmers being successful this year are very slim and the crops are likely going to suffer because of the climate. Farmers and their families are going to suffer greatly because of this.

There is not a government program for farmers, and obtaining farmer's insurance is not an option for an extreme poverty-level business. In El Salvador there is a need for agencies to protect the rights of these farmers that make a humble living of agriculture. Moreover these farmers are always using regular home techniques that do not harm the land and the mountain environment. When the ecosystems in the mountains are showered with pesticides and other chemicals to kill weeds and fungus the soil becomes contaminated and also loses its organic essence.²⁰

In El Salvador, mountain development and protection of the people that farm and live in the mountain ranges have been adversely affected by an unorganized government that does not administer the resources for the collective good of its citizens. In the past two decades many institutions have formed partnerships of the agriculture realm but those have failed because of the constant corruption. One such example is the Instituto Regulador de Abastecimientos (IRA). This institute was in charge of regulating supplies and provisions of grains, fruits, and vegetables. However, its administration fell when the director and the board

²⁰Ramirez, Marielos, "Este mes seguirá con más sequía," El Salvador, July 22, 2014, http://www.elsalvador.com/mwedh/nota/nota_completa.asp?id-Cat=47673&idArt=8958925.

of trustees scammed the farmers and local businesses. The organization would use the money for personal luxuries and then borrow excessive amounts of money from the Federal Reserve Bank. The corruption left farmers without jobs and money as well as the crops that grow on the mountains were lost.²¹ That is the cry for help that the agriculture sector is begging for. The mountain regions that the Aztec and Pipiles left were sacred for them until they meant some kind of fortune. El Salvador has a beautiful gold mine that is worth more than money can buy. The mountains serve as the feeding tool for thousands of children and families. They have been neglected and so are the people from the mountains. It is necessary that action be taken before it is too late. The government administration must be oriented to work for the rights of the people in the mountains but there is also a need for the protection of these ecological marvels.

²¹Mancia, Pedro Carlos, "Repetir experiencia del fracasado IRA afectaría más la producción granos," El Salvador, July 22, 2014, http://www.elsalvador.com/mwedh/nota/nota_completa.asp?idCat=47861&idArt=8959128.

Peru's Climate Changes

By: Darren Fafai

Darren Fafai holds an associate's degree in Integrated Studies, and will be graduating from Utah Valley University in the spring of 2015, with a bachelor's degree in Political Science. Currently, he is waiting for the results of the Law School Admissions Test he took December 2014. Upon graduation he's planning on attending law school fall of 2015, hoping to specialize in Immigration and International Law. Mr. Fafai has gained experience working with a criminal defense and immigration lawyer, volunteering for a court advocate program for juvenile delinquents, working in group homes, and currently working with the Provo Juvenile Court.

The main goal of a country is to develop its economy. This political ideology tends to collide with other countries within the international community. It is very important for each state to import, export, interact and build good relationships with other countries. The argument at hand suggests that we may have good relationships with other countries, but they are still being affected negatively due to countries building their own economies internationally. Greenhouse gas emissions are over the top with no limitations being set, which is destroying other countries ecosystems. Climate change is a big contributor to global warming, and many countries that do not have the necessary resources or funds to accommodate such a disaster, suffer tremendously. The argument that will be discussed, introduces and analyzes different articles of academics, climate change analysts, news websites, and letters regarding the issue of what countries are doing to negatively affect the international community.

Peru and their mountain communities located within the Andes Mountains is a good example of how smaller countries are being affected by other countries gas emissions. According to economic analysts, it was estimated that Peru would become a first world country by 2027. Currently, Peru is considered to be one of the top five producing countries in the world. Russia just finalized a contract with Peru to import fresh fruits and vegetables into their country.¹ Did you know that Peru is one of

¹“Russia and Peru Heads of State Increase Relations,” *Peru This Week*, <http://www.peruthisweek.com/news-russia-and-peru-heads-of-state-increase-relations-104427>.

the top ten coffee producing countries in the world, and is the second largest asparagus producer after China, as well as being the world's second largest copper producer.² They are also the fifth largest gold mining country in the world.

As a top producer, Peru is contributing to the international community in helping other countries develop their economies. The Peruvian resources and commodities are essential and crucial for other countries to export from Peru because of the benefit. According to sources global development and poverty on the international scale will be tremendously off balanced if the global community continues to not care about the external negative effects that are produced by their internal activity. All the rich resources Peru as well as other producing countries have to offer will be affected by global warming and the negative nature it creates.

December 1, 2014, representatives from more than 195 nations met in Peru, to devise a new climate agreement. Ari Phillips writes about how the agreement will take place and what must be done. Representatives at the conference discussed ways to control emissions of greenhouse gases that are negatively affecting mountainous countries like Peru. Director of the International Program at the Natural Resources Defense Council (NRDC), Jake Schmidt is quoted in Phillips' article. Schmidt suggests that the new agreement will center "on several key issues new emissions reduction targets; investments to support developing countries in their efforts to address climate change, and tools to ensure that countries meet their commitments."³

Each country will have to put forth what their contribution will be by March 2015, to formalize the Intended Nationally Determined Contributions (INDCs).⁴ Each of the INDCs will be used to draft the Paris Treaty, the contribution will state how they will make adjustments and changes to comply with the gas emission limit. Phillips comments that the "worlds biggest emitters-- the US, China and the European Union" are moving

²Schipani, Andres, "Peru to Become World's Second-largest Copper Producer," *Financial Times*, updated August 25, 2014, <http://www.ft.com/cms/s/0/ec3be566-2b84-11e4-b052-00144feabdc0.html#axzz3PU3k2Onh>.

³Phillips, Ari, "Why The Peru Climate Summit Matters," *Climate Progress*, December 2, 2014, <http://thinkprogress.org/climate/2014/12/02/3597855/why-peru-climate-talks-matter/>.

⁴Upton, John, "Climate Accord Struck In Lima; Key Decisions Postponed," *Climate Central*, December 14, 2014, <http://www.climatecentral.org/news/climate-accord-struck-in-lima-18443>.

towards reducing their emissions.⁵ It is not required for all countries to meet the same gas emission limits, but all must participate in the peace agreement. December 2015, representatives from different countries will meet in Paris to have the document formally signed and have each country officially start to abide by the INDC plan. Phillips mentions that negotiations in Peru will lead to commitments to reduce greenhouse gases, which is the first time that each country will commit to a domestic plan in reducing gas emission limits.⁶

However, there is a flaw as to what the motivation might be to have countries participate in such a plan that can greatly affect the growth of their economy. Gwynne Taraska, from the Center for American Progress addresses the issue stating, “In order to encourage participation, the agreement will be country-driven in the sense that Parties will determine their own targets.”⁷ She continues “In order to encourage ambition, other countries and civil society will be given the time and information necessary to examine the targets. This is thought to pressure Parties to submit their best efforts.”⁸ Executive Secretary of the UN Framework Convention on Climate Change, Christiana Figueres says, “We need global commitments, but we need local commitments as well.”⁹

The countries that emit gases into the air, which affect climate change, have no real threat to their ecosystem. However, if these gases were to affect their resources they would have the funds to be able to manage and restore their ecosystem. Does this seem fair to countries that contribute less to climate change, but are more affected by it? Aren't the repercussions for these smaller countries more drastic? How can the United Nations correct such a problem? Even if a solution is presented, how long will it take to implement it? Will it be too late? It's time to make a plan and act now. Peru as a country is wounded from climate changes but the mountain communities in Peru face extinction if something isn't done to correct their ecosystem.

NOAA climate scientist Deke Arndt noted that 2014, will be the warmest year on record, due to an increase of greenhouse

⁵Phillips.

⁶“Climate Change,” The White House, <http://www.whitehouse.gov/energy/climate-change>.

⁷Taraska, Gwynne, “Climate Change: How To Make Sense of the Lima Talks,” *Newsweek*, December 5, 2014, <http://www.newsweek.com/user/16482>.

⁸Phillips.

⁹Phillips.

gases being emitted into the air.¹⁰ The Environmental Protection Agency (EPA) announced as greenhouse gas emissions from human activities increase, they build up in the atmosphere and warm the climate, leading to many other changes around the world. Over the recent years, the greenhouse gases being emitted into the atmosphere on the global level have increased tremendously, thus hurting Peru.

Many families in Peru's mountain regions are being affected by global warming and suffering tremendously. Annie Kelly, a writer for the *Guardian*, writes about global development issues, and analyzes a specific region in the Peruvian Andes.¹¹ She explains the struggles of Ignacio Beneto Huamani and his family as they try to farm in these mountains. Huamani's village Pichccahuasi is located in the Huancavelica region in Peru that consists of a few hundred people. They are affected by poverty and sub-zero temperatures during the long winters. Kelly describes what is happening to families in Pichccahuasi:

For the fourth year running, the cold came early. First their animals and now their children are dying and in such escalating numbers that many fear that life in the village may be rapidly approaching an end. In a world growing ever hotter, Huancavelica is an anomaly. These communities, living at the edge of what is possible, face extinction because of increasingly cold conditions in their own microclimate, which may have been altered by the rapid melting of the glaciers.¹²

Meteorologists have already predicted that the Huancavelica region will be hit by devastating weather conditions, plunging temperatures, floods and high winds.

The weather conditions have already claimed many lives. Huamani's house no longer withstands the cold since half his roof collapsed causing the family to sleep on wet floors. Huamani's four children still have not recovered from last winter's sicknesses and he doesn't believe his children will see next year. Huamani says, "All the children here are sick, they all have breathing problems. The problem is there is too much cold, too much rain. We have had no time to recover from last winter before it has

¹⁰ Arndt, Deke, "September is Fourth Month this Year to Set Record for Warmth," Climate, <https://www.climate.gov/author/deke-arndt>.

¹¹ Kelly, Annie, "Peru's Mountain People Face Fight for Survival in a Bitter Winter," *The Guardian*, <http://www.theguardian.com/world/2010/jan/03/peru-mountain-farmers-winter-cold>.

¹² Kelly.

begun again. There is nothing I can do.”¹³ In 2010, the climate change campaigners and NGOs say “that the failure of Copenhagen has signed the death warrant for hundreds of thousands of the world’s poorest and that a quarter of a million children will die before world leaders meet again to try to thrash out another deal at the United Nations next climate change conference in Mexico in December.”¹⁴ Among those who have ultimately perished due to these conditions they will be joined by others.

Peru doesn’t have the necessary resources and developmental programs to reach these households in the mountains. Many people who live in the mountains look to farmland as a source of food and income. However, a 1 percent increase in temperature causes a 10 percent decrease in farming.¹⁵ Imagine how exasperating this is on local farmers who dedicate their whole lives growing and providing food only to see it destroyed due to rising temperatures. The increased temperatures have affected farmlands and livestock owned by these humble people living in the mountains. With the dire situation in Pichccahuasi the focus has shifted from keeping their families alive to keeping their animals alive.

Peruvian mountain life is sustainable and maintainable through the wool and meat of the alpacas. The extreme weather conditions are affecting not only the children but the alpacas as well. The lack of water and shelter is causing herds to dwindle. Depressingly, farmers have had to leave children behind to save their livestock, which provides them food and money. How unfortunate is this? Do these types of situations need to occur, before the international community will intervene? How many children must suffer and die to consider a reformation in the mountains? Will a peace treaty be sufficient to controlling climate change across the board, or will it do anything at all? Why would it be important to address this issue, and is it worth helping countries like Peru?

The international community needs to focus a lot on Peru, because this country produces more than 90 percent of important food commodities that could aid in feeding billions of people across the globe. Quinoa is a grain grown in South America. It is an excellent balance of protein, carbohydrates, lipids, vitamins,

¹³Kelly.

¹⁴Kelly.

¹⁵Parmesan, Camille and Gary Yohe, “A Globally Coherent Fingerprint of Climate Change Impacts across Natural Systems,” *Nature*, January 2, 2002, <http://www.nature.com/nature/journal/v421/n6918/full/nature01286.html>.

and minerals, and there is no known food that a human can solely survive on except quinoa.¹⁶ This grain has been the principle food of ancient Andean civilizations along with the current rural people living in the Andean region. Quinoa could be the solution to the global food problem, by providing all the nutrients required for proper nutrition. A person can solely eat quinoa and be well nourished and healthy. However, quinoa doesn't adapt well to certain temperatures and high elevation. Due to climate change making temperatures rise, soon this important, healthy, life saving food commodity will vanish thus erasing a solution to an international problem.

It is projected that global hunger is going to increase from 1.5 billion to 7 billion. Many countries produce more than enough food and at times a lot of food is thrown away. Why are we throwing good, unexpired food away, when there are billions of people around the world who die because of hunger? A lot of these people develop medical conditions, to which these countries don't have medical aid to be able to sustain life. In Africa, genocide is occurring due to the lack of clean water and proper nutrition. The problem isn't lack of food, but rather it is not having access to the food. Isn't this problem easy to correct? Why can't the international community make food accessible on the global spectrum? Fortunately, quinoa could solve the issue of people dying from starvation. It can come in massive amounts and in small packaging. Again, one can survive just by eating quinoa there whole life. They will be well nourished due to the many nutrients quinoa has. This is very important to not only save this plant, but also for the people who grow it. Efforts are being made to determine how to increase the productivity of quinoa, but that seems almost impossible due to the increasing climate change. If the world continues to emit the same levels of greenhouse gases into the atmosphere, they could destroy a very important food commodity.

Peru is a developing country in South America. It is divided into three different regions, the jungle, mountains, and the coast. Machu Picchu is one of the wonders of the world located in Cusco, Peru. The people of Peru have inherited a culture and artistic lifestyle. Machu Picchu is a magnificent place and has a remarkable story to tell about the Spaniards when they arrived

¹⁶Van Vark, Casper, "Will Quinoa Weather the Storm?" The Guardian, February 21, 2014, <http://www.theguardian.com/global-development-professionals-network/2014/feb/21/quinoa-future-food-security>.

in South America looking for gold. They searched everywhere killing everyone in their path and ultimately, the Aztec empire fell into the selfish hands of Spanish soldiers.¹⁷

The Inca tribe was next on the Spaniards list. The Inca tribe retreated into the mountains to hide from the murderous, gold-hungry Spanish soldiers. For years the Incas lived off plant life, and became gatherers. They walked miles and miles along one of the seven secret trails that lead down to lower elevation to fetch food. Unfortunately, the Spaniards found one of these secret trails and followed it to Machu Picchu where the Incas lived and ended their existence. This is Peru's beautiful history of the mountains keeping the Incas alive and safe from harm for many years. Now the mountains no longer protect the people they are killing them due to other countries poisoning the ecosystem with toxic gas emissions. Machu Picchu is a beautiful place and hopefully it doesn't vanish into just a memory. Apart from being a tourist attraction to the world, imagine losing this beautiful wonder because of climate change. The history of Peru would be erased due to a factor they can't control. This attraction is not only a place where tourist visit but it is also a place that many people live and call home.

A team of geologist traveled to Peru to explore the mountain regions and meet with the communities there.¹⁸ It is mentioned that historically, Peru has been affected in the last fifty years or more due to climate change. This has impacted Peru's environmental stability. One of the problems at hand is glacier melting. In the 1940s, the city of Huarez experienced a natural disaster, which took the lives of 6,000 innocent men, women, and children.

Huarez is located in the Andes Mountains in Peru. In 1940, the glaciers began to melt, this posed no threat to the people due to their lack of knowledge on the subject. The glaciers made Lake Palcacocha that was formed right above the city of Huarez. The lake continued to grow due to the rapid melting of glaciers and in 1941, it triggered an outburst. Little did the people know that Lake Palcacocha would drown them in a watery grave to which they didn't deserve. Due to this tragic event, the people of Huarez were forced to learn about adapting to a

¹⁷Yupangui, Titu Cusi, "History of How the Spaniards Arrived in Peru," Edited & Translate Catherine Julien, Hackett Publishing Company: 2006, <http://www.hackettpublishing.com/history-of-how-the-spaniards-arrived-in-peru>.

¹⁸"Peru: Glacier Monitoring," Campbell Scientific, <https://www.campbellsci.com/peru-glacier>.

natural disaster, which they couldn't control.¹⁹

Cesar Portocarerro, a civil engineer glaciologist and specialist in risk management in Peru, was assigned to be the head engineer of constructing a dam to confine Lake Palcacocha and prevent future flooding. The dam took more than thirty years to build and was finished in 1974. At that time, the people of Huarez felt the problem was solved. Today, Lake Palcacocha is thirty-four times its size since the flood of 1941. The dam is deemed inadequate to hold the lake due to the rapid rate in which the glacier is melting. Another outburst is destined to happen, if nothing is done. This time around Lake Palcacocha is projected to kill 30,000 people. There have been team efforts from all over the world that have inspected and measured the size of Peru's glacier to determine the rate at which it is melting and project the possible disasters it will create in the future.

Peru, Pakistan, and Nepal are experiencing problems with their glaciers melting at a fast rate.²⁰ The problems these countries face, will be a disaster if solutions are not provided and implemented now. These countries can't control the problem on their own, but globally these issues can be resolved. Interestingly enough these countries have hardly contributed to climate change.

Many countries, such as India and China are not looking to abide by the limits on greenhouse gas. There is an exception to which a country can be excluded to harsh limits, and that is if you are a developing country. China and India, unfortunately for Peru are developing states. They along with the US and European Union generate a big percentage of greenhouse gas emissions per year. By setting limits on these greenhouse gas emissions, China feels it will affect its business growth. A lot of the greenhouse gases are what drives businesses, and limiting this could start an economic downfall. Many capitalists believe this idea of putting limits on a country's gas emissions will be detrimental to the country's economy. Cars for example, need to emit gas into the atmosphere. Imagine billions of cars emitting huge amounts of gas in the atmosphere, thus contributing to climate change.

This melts and decreases the size of glaciers, which first kills

¹⁹Hagan, Nicole, "In the Shadow of Melting Glaciers: Climate Change and Andean Society," Oxford Journals 17, no. 2, <http://envhis.oxfordjournals.org/content/17/2/417>.

²⁰Figueres, Christiana, "Voices From Lima To Paris," UNFCCC, December 5, 2015, <http://newsroom.unfccc.int/lima/voices-from-lima-to-paris-christiana-figueres/>.

human life in the mountains, and then those in the cities, thus generating an economic and environmental downfall and disaster for countries that are greatly affected by climate change. It comes down to which is more important, a country's increasing economic size and development, or contributing to a global cause by respecting greenhouse gas emission limits and preserve innocent lives?

There are a lot of reasons why this issue needs to be addressed and how important it is to act on this climate change situation. Obviously it is known there are many factors affecting climate change. One of the biggest contributors to climate change is the level of emissions of greenhouse gases that each state emits. It is very burdensome on many countries trying to develop their economy, but they are restricted due to climate change. Each nation has internal factors to which they can accommodate, but what about factors that affect them externally? Such as the glaciers in Peru that are melting at an extremely fast rate. This is going to be damaging for the people in Peru, especially for those in the mountains.²¹

First, there needs to be an investment in mountain life development. Thanks to Utah's pioneers who invested their time and money into creating a life in the mountains. Utah has become a profitable state, and was found in *Forbes* magazine as one of the states least affected by the unstable nation's economy.²² Second, by investing in sustaining life in the mountains it must be protected and preserved by putting limits on all countries.²³ They must abide by the limits given to them. But if a country doesn't want to participate in this plan, then a fine must be imposed. Every year these fines could be deposited into an international climate change prevention fund that will go directly to countries that are being affected by this problem. This fund will pay for prevention reformation systems, team efforts conducting workshops educating people of this problem, setting up emer

²¹"Peru's Glaciers Melting Dangerously Fast as a Result of Global Warming," Euro News, August 12, 2014, <http://www.euronews.com/2014/12/08/peru-s-glaciers-melting-dangerously-fast-as-a-result-of-global-warming/>.

²²O'Donoghue, Amy Joi, "Study: Federal Lands Transfer for Utah Could Be Profitable," Deseret News, December 1, 2014, <http://www.deseretnews.com/article/865616735/Study-Federal-lands-transfer-for-Utah-could-be-profitable.html?pg=all>.

²³"International Mountain Day: 11 December 2014 Mountain Farming," International Mountain Day, <http://www.fao.org/forestry/internationalmountainday/en/>.

gency evacuations, building pipes or dams to prevent a glacier lake from destroying communities or more importantly killing human life, and more. Fines must be based on a percentage of GDP from the previous year of that country. This will do one of two things. Either force countries to abide by the set limits, or pay a fee to an international fund. Hopefully this will influence countries to contribute to their neighboring countries that are affected by climate change. If a country doesn't do one of these two things proposed economic sanctions should be enforced. This can be a solution to this problem, but again easier said than done to have a country participate.

In conclusion, life in the mountains is life. Human beings must do everything in their power to preserve human life. In the United States, many look to their children and visualize their future in their minds. Johnny is going to be an awesome doctor some day. Hannah is going to be a great lawyer. Imagine what the people are thinking that live in the mountains. What are they saying to their kids? It's a completely different type of thinking than parents living in a first world country. It must be strongly stated that countries who are contributing heavily to gas emissions resulting in climate change, need to have limits set, regardless of the fact that they're a developing country. They must abide by these limits and there needs to be repercussions, if a country decides not to follow these limits. Each and every country must be held accountable for their actions. Together states must stand as one, and individually states must stand together for a good cause.

La lucha de los Andes: Desafíos de los andinos para evadir la pobreza

By Fritz Culp

Fritz Culp will finish a bachelor's of arts in Spanish, while working at the same time as an intern in Los Angeles for the Consulate General of Spain. After graduation from Utah Valley University in April of 2015, Fritz will spend the summer in San Diego working to prepare financially for graduate school in the fall. Currently Fritz is applying to several programs to continue his education with a master's in Spanish while specializing in Spanish Pedagogy.

Encontramos en la geografía del Perú una enorme variedad de climas muy distintos, mayormente estos diferentes climas caen bajo el territorio de una de estas tres regiones: selva, sierra y costa. Viendo que cada región tiene ventajas y desventajas, los peruanos continuamente han intentado tomar ventaja de cada sector. A pesar de sus esfuerzos a través de los siglos han perdido beneficios una y otra vez gracias a los desafíos que cada área les brinda. El desafío más grande que el Perú, como país entero enfrenta, es la cordillera de los Andes en la región de la sierra. Las montañas han sido como una puerta hermética que siempre les ha impedido el desarrollo del país. Sin querer, las montañas han sido como una pared gigante que divide el país en dos, no solamente en términos geográficos, pero en otras maneras más graves por medio del racismo, analfabetismo y centralización del poder político. En las montañas de los Andes, hay una riqueza de materias primas, pero también se encuentra la extrema pobreza en las mismas zonas. A pesar del gran crecimiento de la minería en los últimos años, ha subido el nivel de pobreza en algunos sectores por falta de un plan y ayuda del gobierno.

Históricamente y en la actualidad, las áreas de la costa han progresado mucho más en comparación con las otras regiones (ver gráficos).¹ Gracias a los recursos del gobierno y su ubicación geográfica, la costa ha podido salir adelante, mientras que la sierra y la selva se han quedado atrás. La pared de los Andes deja que el gobierno otorgue la espalda a la gente andina y cuando les conviene, ayude a las zonas de la sierra y selva.

¹Espino, C. G., *Perú: Perfil de la Pobreza por departamentos, 2001-2010*, Lima: Dirección Técnica de Demografía e Indicadores Sociales del Instituto Nacional de Estadística e Informática (INEI), 2011, 41.

(Puntos porcentuales)

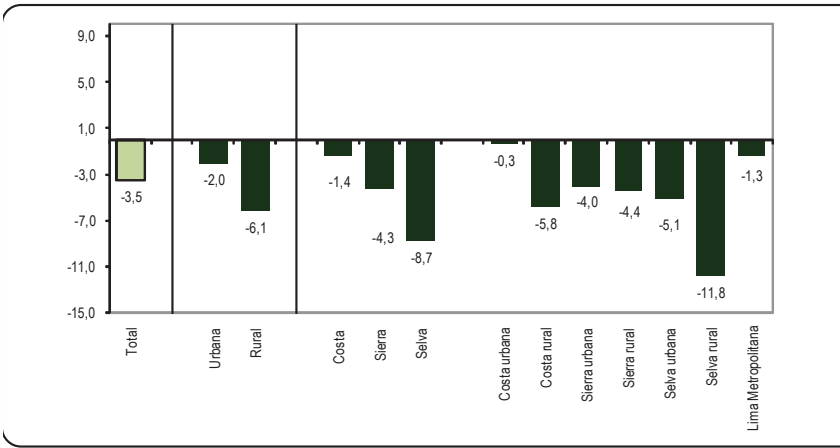
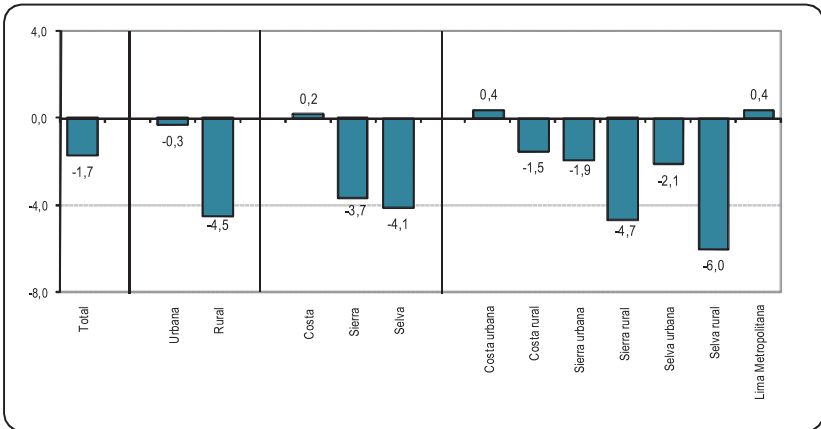


GRÁFICO N° III.4

PERÚ: VARIACIÓN DE LA POBREZA EXTREMA, SEGÚN ÁMBITOS GEOGRÁFICOS, 2009/2010
(Puntos porcentuales)



Motivo por el cual, existió el terrorismo en el Perú en los años noventa, comenzó en las áreas más alejadas de la costa donde existían menos oportunidades de progreso, donde se sentían más los efectos de la corrupción del gobierno y la pobreza. Ahora, años después del terrorismo, la condición de estos pueblos sigue siendo casi igual, sin tener muchos cambios. La pobreza es muy común en el Perú, no solamente se encuentra en los pueblos pequeños, pero también en departamentos enteros como Áncash, el cual sufre de la

pobreza y de falta de oportunidades, estos distritos han estado particularmente retrasados en su desarrollo. Se dedican sobre todo a la agricultura de subsistencia y, en menor medida, a la producción artesanal y al comercio. A pesar de la enorme cantidad de recursos naturales y culturales de la región, estas comunidades están poco desarrolladas, carecen de servicios básicos y de vías de acceso a los pueblos aledaños, presentan una tasa de analfabetismo mayor de 20%.²

Ahora que entendemos la gran diferencia que hay entre el desarrollo de la capital y de las provincias en las montañas y la selva, también hay que entender que existe una diferencia enorme en el potencial geográfico que hay entre estas tres regiones peruanas. La costa peruana es limitada por ser un desierto muy seco, es difícil sembrar cosechas y habitar algunas partes de la tierra. Si no fuera por la pesca y el petróleo, no habría trabajo para la mayoría de la población costeña. Teniendo en cuenta esa desventaja, el gobierno buscó maneras de ayudar a que su economía siguiera creciendo y encontró esta mejoría en la sierra.

Junto con inversionistas extranjeros, el gobierno va entendiendo lo que el explorador Antonio Raimondi dijo en el siglo 19. Después de viajar por todo el país por más de 18 años, él dijo que “el Perú es un mendigo sentado en un banco de oro.”³ El italiano podía ver que realmente existía mucho potencial en los Andes y que los recursos naturales serían de mucho interés para todos. No solamente están involucrados los inversionistas como antes, pero los andinos y los que ya viven en estos sectores, ellos son los que tienen el rol más importante ahora. Estos andinos locales ven la minería como una manera de salir de su extrema pobreza, pero a la vez sienten mucha incertidumbre de lo que pueda pasar con las empresas grandes y un gobierno que ha sido inconsistente en el pasado. Antes de llegar la empresa Newmont Mining Corp. al departamento de Cajamarca, el presidente actual Ollanta Humala prometió que el agua limpia era más importante que el oro y que iba a protegerla de la contaminación. Poco tiempo después en 2012, Newmont

²Morán, M., “Oro de los Andes,” (Spanish) *Cuadernos De Difusión*, 10, (2005):195-203, 196.

³Urquiza, L., “Situación de la Salud en el Perú,” Lecture conducted from El Cultural, Trujillo, May 14, 2014.

Mining Corp. tuvo que suspender su proyecto de 4.8 billones de dólares, debido a las protestas de los locales que reclamaban que la mina había agotado el agua de la región.⁴ Además, para frenar el proyecto y empeorar la situación de esta empresa exterior con las cajamarquinas surgieron protestas donde se registraron muertos y heridos en Cajamarca, cuando salió la policía nacional a poner fin a estos eventos.

Igualmente los inversionistas lo ven como negocio, una manera de aumentar su ganancia porque actualmente Perú ya está exportando muchísimo a todo el mundo gracias a la minería. El Banco Central de Reserva de Perú nos informa que un 56.3 por ciento del total de las exportaciones peruanas provienen de los sectores de minería por ser una creciente industria. La minería del Perú ha creado empleo directo a más de 70.000 personas, e indirectamente a más de 350.000 personas, sobre todo en las áreas rurales más pobres del Perú donde más se necesita. La minería se efectúa en la región de la sierra del país donde hay abundantes fuentes de recursos naturales, también en la región de la sierra donde existen niveles más altos de extrema pobreza y hay más de 70.000 trabajos que han sido creados gracias a la minería. Algo muy importante que se debe ver es que más de la mitad de las exportaciones peruanas vienen de los hidrocarburos y minas, pero la mayoría de los peruanos se dedican a la agricultura. Ahora surgen preguntas claves y esenciales.

Si hay tantas exportaciones y dinero en la minas, ¿Por qué siguen trabajando los peruanos en el campo? Si hay tantos recursos naturales y trabajos que vienen de ello, ¿Por qué todavía existe la extrema pobreza en estos sectores?

Al indagar algunas de las verdaderas raíces del problema, concluimos en la verdadera situación de las minas. Encontramos muchos trabajadores, sin embargo, no hay suficientes peruanos encargados en estas zonas mineras y casi no hay andinos del área empleados. Estas minas están llenas de extranjeros y peruanos que han sido capacitados en empresas o graduados de la universidad de otras partes del país. En algunos casos, en las capitales de los departamentos y ciudades por la costa, la minería ha ayudado mucho en la lucha contra la pobreza, así vemos que las “regiones productoras muestra que existe un cambio positivo en el incremento de canon y reducción de pobreza (por ejemplo en los departamentos de Cajamarca, Arequipa, Mo

⁴ Torres, A., La violencia, “Conga y la Policía Nacional,” 12, <http://www.ipsos-apoyo.com.pe/>.

quegua y Tacna).”⁵ Han tenido éxito debido al financiamiento del gobierno y una mejor calidad de educación que existe en las escuelas de las zonas costeñas. Cuando llegan compañías mineras, pueden buscar y dar empleo a los peruanos en estos sectores porque ya están capacitados y pueden contribuir a la obra inmediatamente. En cambio, en la sierra donde se encuentran casi todos los recursos naturales y minas, no hay un sistema fuerte para la educación. En la cultura andina, muchos de los niños pobres dejan de asistir a la escuela para ayudar a sus padres en el campo porque la familia carece de recursos. Alrededor de un cuarto de los niños entre 6 y 14 años trabajan.⁶ Desafortunadamente, una y otra vez se ha creado un círculo vicioso y

no sucede lo propio en las regiones de Puno, Cerro de Pasco y las provincias altas de Cusco donde, a pesar de un incremento de recursos financieros de la minería, la incidencia de pobreza se habría incrementado... parte del problema estaría en la forma cómo los recursos regionales son distribuidos hacia las municipalidades y la poca relación que existe entre lo que se recibe y se requiere para tener un impacto sobre la reducción de pobreza.⁷

Así, las minas llegan a ser sanguijuelas para los andinos, quitando lo que tenían y dejándoles con aún menos recursos. Esas empresas grandes llegan a sus tierras para explotar todos los recursos naturales, no pueden dar trabajos a los locales por no estar capacitados, motivo por el cual, las empresas pasan muchos años allí sin mejorar la economía local. Los andinos de la zona se quedan sin oportunidades de empleo y sin la tierra que tenían antes para sus cosechas; mientras los poderosos empresarios llegan a enriquecerse más y más en tierras ajenas.

No solamente el gobierno ha dejado que el dinero se vaya de las manos de los campesinos, pero ha dejado que el dinero vaya directamente a las manos de los extranjeros en lugar de quedarse en el propio país. Con las ganancias de la minería y otras fuentes de recursos, el gobierno ha invertido el dinero que se ha quedado en el desarrollo de la costa y su propia capital, Lima. Por no enfocarse en todo el país, hay una gran desigual

⁵Morán, 498.

⁶”The World Fact Book,” Central Intelligence Agency, <https://www.cia.gov/library/publications/the-world-factbook/geos/pe.html>.

⁷Morán, 498.

dad entre la gente, hay una significativa ganancia, pero sólo para pocos, mientras que los efectos adversos socio ambientales y políticos han impactado a muchos. Para tener un efecto sobre la pobreza, es necesario que la política social se enfoque en la población indigente y ataque las raíces que causan la pobreza. Sin embargo, en general, el régimen peruano no está focalizado en la población humilde. Esa inequidad comienza con la cabeza peruana porque existe una inequidad en la repartición de los beneficios, no existe un plan del desarrollo y el impacto sobre la sostenibilidad de los medios de vida de las poblaciones afectadas.⁸ En un caso así, será imposible mejorar esta situación si no hay cambios en el propio gobierno. Ambos, el gobierno y las compañías mineras, se aprovechan de la ignorancia y la tierra de la gente andina. El negocio y trabajo que viene de las minas es de beneficio para todos si de la misma hay ganancia para todos. Hay muchos peruanos en estos días que apoyan el caso de la gente de la sierra para que puedan reducir la pobreza y salir adelante. No podrán tener éxito hasta que haya “intervenciones a nivel de política económica para garantizar crecimiento y empleo y aquellas que más bien postulan la necesidad de políticas y programas sociales como paso fundamental para reducir la vulnerabilidad de los más pobres y atacar la pobreza en todos sus niveles.”⁹ Recién cuando la política toma importancia y comienza a formar un plan junto con las autoridades locales de estas comunidades, habrá grandes cambios no solamente en los pueblos pequeños pero en todo el país del Perú. Uno de los promotores es un limeño, el doctor Alejandro Camino, en el 2003 fue elegido para dirigir la Asociación Ancash debido a su experiencia trabajando fuera del país como consultor en el tema de desarrollo rural.

Los estudios de Morán han encontrado que:

El doctor Camino era consciente de que la mina podía ayudar a cambiar el futuro de la comunidad, siempre y cuando lograra involucrar seriamente a las comunidades. Por décadas muchos proyectos de desarrollo se habían ejecutado sin dejar otros resultados que alivios temporales y escepticismo en la población. Esas iniciati

⁸Hinojosa, L., “Riqueza Mineral Y Pobreza En Los Andes,” *European Journal Of Development Research*, 23, no. 3(2011):488-504, 489.

⁹Hinojosa, 489.

Banco, Mundial, *Republic of Peru Wealth and Sustainability: The Environmental and Social Dimensions of the Mining Sector in Peru*, Washington, DC: The World Bank.

vas habían fracasado porque las supuestas soluciones o planes de desarrollo habían sido diseñados e impuestos por entidades o personas ajenas a la región, sin consultar a las autoridades locales ni a las comunidades.¹⁰



Al trabajar conjuntos, el gobierno y la gente andina, pueden formar programas de educación, maneras de ser capacitados y darles la oportunidad para ser parte del progreso que está teniendo lugar en el Perú. Esos programas son necesarios porque hoy en día casi no hay oportunidades de empleo (ver gráfico), con la mitad del país sin trabajo o en un estado de subempleo, todos seguirán en la pobreza. Vemos que el peruano de la clase media sobrevive diariamente con 10 soles o 3.57 dólares y el peruano pobre sobrevive con 2.5 soles o .89 dólares.¹¹ Estos datos enseñan que los que trabajan no tienen una vida mucho más alta de los que no trabajan y que los trabajos que actualmente existen no son productivos. Los números cambiarán cuando implementen programas para el desarrollo de los pueblos y así los 70.000 puestos puedan ser ocupados por los andinos, lo cual ayudaría a eliminar la pobreza.¹²

Como hemos visto antes, los Andes han sido una puerta totalmente hermética, una puerta que no les permitía salir de la pobreza y progresar. Ahora, el doctor Camino y otros peruanos saben que los Andes son la clave a su éxito. Si se proyecta correctamente, la minería será sólo el comienzo de muchos cambios. “Con este objetivo, la Asociación Áncash y el doctor Camino

¹⁰Morán.

¹¹Urquiza.

¹²Banco.

diseñaron una serie de programas y proyectos orientados a la actividad turística, como una fuente sostenible generadora de ingresos y empleos para la comunidad. Entre estos proyectos ocupa un lugar destacado el centro turístico Tambo Konchukos.”¹³ No se sabe cuánto tiempo durarán los recursos naturales en las provincias, pero la asociación sí puede aprovechar de las minas y el dinero que traen para que puedan fortalecer la economía local y dar luz a cambios. Trabajando con las empresas mineras, están construyendo carreteras donde antes no había, así la provincia será más accesible para los locales, los trabajadores de las minas y más que todo, los turistas que vendrán a ver los paisajes y ruinas de los incas. Van poco a poco preparándose para un

incremento gradual de visitantes, el plan de desarrollo turístico... señala la urgencia de que en la zona se promocióne y amplíe la capacidad de hospedaje con infraestructura de mayor calidad y otros servicios relacionados. Asimismo, el plan precisa la importancia de capacitar a los jóvenes de las comunidades campesinas y a los empresarios de la zona en los diversos servicios convencionales que requerirá el turismo (hospedaje, alimentación), pero especialmente en los servicios vinculados a los tipos de turismo de mayor potencial en la zona: ecoturismo, turismo de aventura, turismo de naturaleza, agroturismo, turismo vivencial, turismo cultural y arqueológico, entre otros.¹⁴

El inicio de nuevos negocios basados en el turismo en esta región va a ayudar inmediatamente la economía local, porque por lo menos ofrecerá a más de 400 jóvenes de la zona oportunidades de empleo. Los jóvenes de esta región estarán encargados del turismo y ellos mismos se beneficiarán de los nuevos negocios creados. No solamente será una oportunidad de empleo, pero también una oportunidad de ser capacitados y llegar a ser profesionales por las empresas como Sodexho. La meta final del plan es poner el Callejón de Conchucos y otros sitios turísticos, en el mapa mundial del turismo y convertirlos en destinos reconocidos en todo el mundo.¹⁵ Con nuevas carreteras y las nuevas finanzas que vendrán de la minería y gobierno, pueden llevar a cabo el plan de la Asociación Ancash. Crearán nuevos trabajos que seguirán dando trabajo a los peruanos aun cuando

¹³Morán, 199.

¹⁴Morán, 200.

¹⁵Morán, 200.

los recursos naturales se agoten. Será mucho más que cualquier empleo para los ancashinos, será un motivo para que ellos y su posteridad estudien y lleguen a ser profesionales en la vida.

Conclusión

A fin de cuentas, el Perú no puede echar la culpa a nadie si no progresa; anteriormente cuando no tenía ni la tecnología ni las herramientas, era comprensible. La cantidad de minerales que están exportando ha crecido mucho en los últimos años, dando luz a nuevas oportunidades que los propios peruanos no están recibiendo. Los inversionistas conjuntos con el gobierno, les están quitando el banco de oro en el cual yacen los andinos. Un plan de desarrollo puede romper el ciclo dañino en el que se encuentra actualmente. Para que todos progresen ahora y también en el futuro, el gobierno necesita cambiar la manera en que se distribuye el dinero a los departamentos para que haya un nivel más alto de educación y empleo en todo el país. Por medio de los empleos que surgen de la minería, los peruanos pueden comenzar a salir de la extrema pobreza y con los ingresos, el gobierno puede construir carreteras, universidades para que haya profesionales e incrementa el turismo en estas regiones. Este tipo de progreso permitirá que los andinos desarrollen positivamente otros aspectos de sus vidas, para que pueda comenzar a existir una vida merecedora de sus propios esfuerzos laborales.

Soils and Climate Change in the Mountain Region of the United States

By Jeiser Molina

Jeiser Molina is from Caracas, Venezuela, and is currently studying at Utah Valley University to obtain a bachelor's degree in Business Management with a concentration in International Business and a minor in Marketing and Economic Politics. He is a member of the Utah International Mountain Forum and a member of the International Student Council at the University. Jeiser is a founding member of a Latino Leadership Business Council for the Woodbury School of Business. He has participated in Model United Nations Conferences for years and is currently a member of the Model UN club. His goals are to graduate and work in the international field with a company that focuses directly on Latin American areas.

Humans and almost all living specimens rely on soil and its resources for survival. Even though it is a simple concept, people tend to not think about the fact that without soil, civilization would not exist. Today, climate change is the biggest crisis the world is facing and soil is the most affected aspect of this issue and can be a contributor to this phenomenon. The Intergovernmental Panel on Climate Change (IPCC) presented a report to the United Nations on May 29, 2014, stating that the effects of climate change are occurring in every continent on the planet.¹ In the report's thirty chapters it explains the effects that climate change has on our natural resources and our health, and it's happening in urban and rural areas in each region of the world. In North America, the report emphasizes that the increased temperatures caused by Global Warming, will provoke more heat events, increased precipitation in most northern areas, early snow runoff, and extreme heat.² This article will address how climate change affects soil and how soil contributes to climate change and the affects for future generations in mountainous regions of the United States.

The mountainous regions of the United States are located in the northwestern to southwestern region of the country. The

¹“IPCC Report: ‘severe and pervasive’ impacts of climate change will be felt everywhere,” United Nations, March 31, 2014, <http://www.un.org/climatechange/blog/2014/03/ipcc-report-severe-and-pervasive-impacts-of-climate-change-will-be-felt-everywhere/>.

² Romero-Lankao, Patricia, Joel B. Smith and et al, “IPCC WGII AR5 Chapter 26,” Intergovernmental Panel on Climate Change, http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap26_FGDall.pdf.

region mainly consist of the Rocky Mountains, which has a variety of ecosystems. Within this region soil is the natural medium for the growth of land plants. Soil has a thickness that is determined by the rooting depth of plants.³ Soil is important because it filters water and recycles waste as well as supports plants that supply food fibers, drugs, and other humans wants and needs. The earth's surface is covered with soil as a continuum, except on bare rock in areas of perpetual frost, deep water, or on the bare ice of glaciers. The most abundant types of soil in the mountain regions are aridisols, andisols, entisols, and mollisols.⁴

Aridisols, are the most extensive of the group in the Rocky Mountain region. These are dry soils that form under desert conditions.⁵ This soil extends throughout the states of Nevada, Arizona, New Mexico, west and southwestern Utah, and southwestern Colorado and Idaho.⁶ The next largest soil in this region is mollisols, which are soft soils with very thick 'A' horizons. They are typical in the temperate grasslands that occur before an agricultural exploitation.⁷ These soils are found mainly in Colorado and Idaho, as well as parts of central Utah, western Montana, eastern Oregon, southeastern and some coastal parts of Washington, and small parts of western and southeastern Wyoming.⁸

Entisols are recently formed soils that lack well-developed horizons, and are commonly found on unconsolidated sediments like sand. Entisols are found mainly in Wyoming and in some areas of northern Colorado, the eastern area of Utah, central to eastern Montana, and some central parts of Idaho and Washing

³"Soil Taxonomy; A Basic System of Soil Classification for Making and Interpreting Soil Surveys," United States Department of Agriculture, Second Edition, 1999, http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051232.pdf.

⁴*Encyclopedia Britannica*, Online, "US Soil Taxonomy: soil regions of the United States," <http://www.britannica.com/EBchecked/media/19522/Soil-regions-of-the-United-States-showing-areas-covered-by>.

⁵Hannaway, David B., and Henry A., Fribourg, "Country Pasture/Forage Resource Profile for the United States of America," Food and Agriculture Organization of the United Nations, <http://www.fao.org/ag/AGP/AGPC/doc/Counprof/usa/usa.html> <http://www.fao.org/ag/AGP/AGPC/doc/Counprof/usa/usa.html#soils>.

⁶*Encyclopedia Britannica*, Online, "US Soil Taxonomy: soil regions of the United States."

⁷Hannaway.

⁸*Encyclopedia Britannica*, Online, "US Soil Taxonomy: soil regions of the United States."

ton.⁹ The least amount of soil found in this region are andisols, which are volcanic soils. They are found mainly in northwestern Washington, the central areas of Oregon, and in northern Idaho.¹⁰

Each soil can suffer different effects from global warming and can contribute differently to it. A really interesting article from Hans-Peter Blume, explains how the climate change can affect the soils in general especially regarding CO₂ concentrations. He expounds that:

With the increasing temperatures, CO₂ concentrations near the soil surface and precipitation rates will lead to higher formation of biomass. More crop residues and higher temperatures stimulate the activity of soil organisms. Higher soil temperatures also stimulate chemical weathering. On the other side higher rainfall can wash out more solved nutrients. But the expected climate changes and their effects on soils can vary to a large extent.¹¹

Among studies that project yield declines there are two factors that stand out, they are the existence of temperature thresholds and water availability. Yields that are of importance to North American agriculture sectors include grain, forage, livestock, and dairy. These yields significantly decline in above temperature thresholds.¹²

Aridisols are dry soils that are low in concentrations of organic matter and are found mostly in the southwestern region of the country. The concept of aridisols is based on limited soil moisture available for the growth of most plants as water is not available for long periods.¹³ Calcification is an important process in these soils as it often develops CaCO₃ (caliche) layers at varying depths below the surface. These subsoil horizons may become cemented and can form layers that restrict root growth and water infiltration.

Currently, temperatures have increased about 1.5°F and

⁹*Encyclopedia Britannica*, Online, "US Soil Taxonomy: soil regions of the United States."

¹⁰Hannaway.

¹¹Blume, Hans-Peter, "Global Climate Change Effects on Soils," *Soil Sciences* (2011), <http://www.science.org.ge/moambe/5-2/106-112%20Blume.pdf>.

¹²Romero-Lankao.

¹³Soil Taxonomy; A Basic System of Soil Classification for Making and Interpreting Soil Surveys."

they're projected to rise to 2.5-8°F by the end of the century.¹⁴ Because of an extreme imbalance between evapotranspiration and precipitation many aridisols contain high levels of salts. Together with irrigation and a mechanism used for the evacuation of the soluble precipitates must be provided or there is a rapid buildup of salinity. Irrigation and drainage systems must be well maintained to keep the soils from reverting to their original state. Even so, water in these areas is a fundamental problem.¹⁵

The Colorado River supplies water for the states of Utah, Arizona, Colorado, and New Mexico, which all have regions with large quantities of aridisols. As temperatures increase and the snowpack decreases this directly affects the flow of the river.¹⁶ Taylor Hawes, director of the Nature Conservancy's Colorado River Program, specified that there is not enough water to meet local needs and sustain the river's ecological health.¹⁷ The absence of water can lead to increasing global warming effects. Such as, droughts, insect outbreaks, and augmented wildfires that affect populations, ecosystems, and soils.¹⁸

These factors are of drastic importance because increasing temperatures along with water demand can cause water shortages, which will negatively affect agriculture and energy sources, resulting in the fauna and flora to change. Warming beyond modest increases will likely harm the region's agriculture.¹⁹ If that happens it will lead to soil erosion due to the absence of plants, which affects the habitability of every living species in the area. There would be even worse circumstances if water were present, since there would be greater competition among states and cities to populate the area causing even more contamination to the soil. This is starting to happen in urban locations of Albuquerque, Phoenix, Las Vegas, Salt Lake City, and others.²⁰

¹⁴“Climate Impacts on the Southwest,” Environmental Protection Agency, <http://www.epa.gov/climatechange/impacts-adaptation/southwest.html#impactsecosystems>.

¹⁵“Soil Taxonomy; A Basic System of Soil Classification for Making and Interpreting Soil Surveys.”

¹⁶“Climate Impacts on the Southwest.”

¹⁷Hawes, Taylor, “Colorado River: Hope for the Hopeless,” The Nature Conservancy, March 27, 2014, <http://blog.nature.org/conservancy/2014/03/27/colorado-river-hope-for-the-hopeless/>.

¹⁸“Key Messages About the Southwest from the National Climate Assessment,” US Global Change Research Project, <http://www.globalchange.gov/explore/southwest>.

¹⁹“Climate Impacts on the Southwest.”

²⁰“Climate Impacts on the Southwest.”

In regions where aridisols are abundant, which is mainly in the Southwest, finding water sources is crucial. More than half of the nation's high-valued special crops are produced in the southwestern United States. Alterations of the soil in this area by global warming and climate change will affect productivity and ultimately hurt the economy.²¹

The effects of climate change on mollisols soils are very detrimental as well especially economically. These soils are mainly located northwest of the Rocky Mountains and are used as croplands. Generally, grains and sorghum are grown in the drier regions and maize and soybeans in the warmer, humid regions. Over the last century, the average annual temperature rose by 1.5°F, with increases in some areas up to 4°F. The results of this are already changing the snow pack, stream flows, and forest coverage. Average annual temperature in the region is projected to increase by 3-10°F by the end of the century. The winter precipitation is projected to increase and summer precipitation is projected to decrease. However, precipitation projections are not as clear as the projections for temperature.

Future climate change impacts could be compounded by pressures related to the region's rapidly growing population.²² Mollisols are most extensive at mid latitudes, but they also occur in high latitudes and high altitudes.²³ In the case of mountainous regions, these soils are vital for agriculture and food sources due to the difficulty of getting enough resources. Decreases in snow packs are already influencing seasonal stream flow. The 21st century is projected to witness decreases in water quality and increases in urban drainage flooding throughout most of North America under climate change as well as a decrease in stream uses such as hydropower in some regions. Additionally there will be decreases in water supplies for urban areas and for irrigation.²⁴ Water will always be a key interest relating to effects of global warming. This is cause for concern since mollisols' regions possess higher vegetation and forests, and are more susceptible to wild fires.

Due to rising temperatures in these areas, projected climate change threatens the forests with higher risks for fire, decreas

²¹“Key Messages About the Southwest from the National Climate Assessment.”

²²“Climate Impacts of the Northwest,” Environmental Protection Agency, <http://www.epa.gov/climatechange/impacts-adaptation/northwest.html>.

²³“Soil Taxonomy...”

²⁴Romero-Lankao.

ing tree growth, and increasing insect attacks. Higher summer temperatures, earlier spring snow melt, and potential reductions in summer soil moisture could contribute to wildfire risk. Forest's experiencing drought stress and higher temperatures would likely impede tree growth even though high-elevation forests may experience increased growth in the short term. Drought index projections and climate change regional models show increases in wildfire risk during the summer and fall along the Southern Pacific Coast, Northern Plains, and the Rocky Mountains.²⁵ These climate impacts would also contribute to the frequency and intensity of attacks from mountain insects. Projected climate changes will likely cause shifts in the composition, range, and even existence of the tree species in the Northwest. Decreasing water supplies for irrigation, increasing incidence of pests and disease attacks, along with growing competition from weeds, threaten agriculture in the northwest, particularly the production of fruit such as, apples that is Washington State's top commodity.²⁶

Global Warming will affect mollisols located in coastal areas through sea levels increasing and erosion. Some climate models project that changing wind patterns combined with rising sea levels could accelerate coastal erosion in this region.²⁷ The changing streamflows strain water management and worsen the existing competition for water. Competing demands for water in the Northwest include hydropower, agriculture irrigation, municipal and industrial uses, protecting ecosystems, and threatened or endangered species. With increasing temperatures and populations this could increase the demand and further stress urban water supplies. About 70 percent of electricity in the Northwest is supplied by hydroelectricity. Decreasing summer streamflows would reduce the hydroelectric supply and stress electricity supplies. At the same time, rising temperatures would increase electricity demand for air conditioning and refrigeration.²⁸

The main reason for focusing on mollisols and aridisol soils is because they are abundant in the mountainous regions of the United States. When affected by global warming, these two types of soils tend to create the worst consequences to the

²⁵ Romero-Lankao.

²⁶“Climate Impacts of the Northwest.”

²⁷“Climate Impacts of the Northwest.”

²⁸“Climate Impacts of the Northwest.”

communities and the economy due to their composition and location in Rocky Mountains.

Endisols soils present a distinctive characteristic among the other soils. They don't possess any type of horizon, which means a distinctive layer that occurs in a soil. Each soil type has at least one, usually three or four different horizons and these are described by soil scientists when seeking to classify soils.²⁹ Entisols are soils formed on relatively young land surfaces or areas that have been recently disturbed. They are formed on surface features of recent geologic origin, on underlying material that is highly resistant to weathering, or under conditions of extreme wetness or dryness, and where soil formation is inhibited.³⁰ In addition, harsh environments or inherent infertility may limit plant growth and the accumulation of organic matter. These soils often are subject to mass movement, which may inhibit further development. A typical place endisols are present are in urban areas.

Andisols soils possess the least amount of territory in the mountain regions. They are defined by the single property of having volcanic-ash parent material. They differ from the other soils in that they typically are dominated with glass and short-range-order colloidal weathering products. As a result, andisols have unique chemical and physical properties that include high water and phosphorus holding capacity. These soils are very fertile when not highly weathered. However, volcanic soils form strong mineral complexes of phosphorus. Additionally, the amorphous minerals that dominate volcanic soil can generate an anion exchange capacity when under acidic conditions and depleted in organic matter.³¹ Globally, andisols are the least extensive soil order and only account for 1 percent of the ice-free land area. They occupy 1.7 percent of the US land area, including some very productive forests in the Pacific Northwest region.³²

Climate change on the soils mentioned throughout this paper will relate mainly to water, increasing temperature, and

²⁹“Secondary Soil Horizons,” Soil-net, http://www.soil-net.com/dev/page.cfm?pageid=secondary_intro_recognition_b&menuplaceholder=secondary_intro_recognition&loginas=anon_secondary.

³⁰*Encyclopedia Britannica*, Online, “Andisols,” <http://www.britannica.com/EBchecked/topic/418612/North-America/41447/Alfisols#41454>.

³¹ “Volcanic Ash Soils (Andisol),” University of Hawaii at Manoa, http://www.ctahr.hawaii.edu/mauisoil/b_andisol.aspx.

³²“The Twelve Soil Orders,” University of Idaho, <http://www.cals.uidaho.edu/soilorders/andisols.htm>.

lack of fertility. In the mountain regions water and soil fertility will always represent the main source of income and energy. The worst consequence that climate change can bring on soils is economic chaos. The location of most cities in the mountain regions forces them to compete with each other for income sources, which can be difficult as they can be very limited. New Mexico, Utah, Arizona and Colorado are examples of this due to water sources being so scarce. The most common source of income, and by far the strongest is agriculture due to the need of food for the growing population in the area and nationwide. As mentioned earlier, most of the high value crops are produced in the Southwest, which is an area where arid soils are abundant. Soil erosion is the most predominant consequence of climate change in soils and is very likely to occur in arid areas due to the absence of water, important components of the soils, and the high concentration carbon. However, it is also very likely to occur in areas where forests are present due to the rising temperature. The effects due to climate change on soil in mountain regions will directly affect the economy and population as well as the very fragile environment.

There are multiple things that can be done in order to help halt these effects. The most prioritizing actions are recycling, preservation of limited water resources, the forests and fauna, and maintaining efforts to find alternative energies. In producing crops there needs to be further reduction of chemicals. The use of more organic procedures as well as constant studies of the soils in areas known to be not as fertile or where infertility is a concern that should be explored. In the case of the states where arid soils are more abundant the situation becomes harder. Due to the fact that air quality can be very bad and this is mainly due to the lack of fresh air. Dust in the valleys where cities are located creates an accumulation of different components in the air. Utah and Utah Valley are examples of this. This falls in the energy sector, where nuclear energy has been used as a huge alternative source, however, it can lead to worse contamination in the future. Further studies must be done regarding how to deal with the energy issue in mountain regions. Finally, coming back again to the soil issue, the best thing to do is preservation through maintaining soils, cleanly and carefully observing, and making sure to reduce CO₂ emissions in the atmosphere in order to keep rising temperatures under control.

Section IV:

High School Essays



Urban Agriculture

By Brayten Torsak

Brayten Torsak is a Sophomore in the honors program at Provo High School. He is an Eagle Scout. Brayten is involved in both marksmanship and drill in the Air Force ROTC program at Provo High. He will start concurrent enrollment at Utah Valley University in the fall of 2015 with the goal to have his associate's degree when he graduates from high school. He hopes to pursue further education in the aviation field.

How many times have you heard an individual say that it is cheaper to purchase pre-packaged food than it is to purchase fresh produce? As a youth, I am very sad to say that I have heard quite a few people make that exact comment. So I thought to myself, how can that be remedied? I believe Urban Agriculture is the answer. Planting a garden isn't easy work; I know because my family plants a large garden each year, but the rewards of fresh vegetables and fruits are worth the effort.

As cities around the world continue to swell, many people from rural areas are moving in. This mass exodus is causing problems as the number of poor in the urban centers becomes larger. Poverty is a real problem in all areas of the world. Urban agriculture can help to combat poverty, as in the case of Sierra Leone. When people started to grow food in urban areas, jobs were created where there were once no jobs available to those in need.¹ According to a study done by the University of Minnesota, the urban centers of the world are expected to double in population by the year 2050.² Another study shows that in many areas of the world, the poor urban populations are growing with alarming rapidity.³ This rapid growth in these

¹Kanu, Saida, Pamela Konneh, Paul Tengbe, and Thomas R.A. Winnebah, "Promoting Urban Agriculture in Post-Conflict Greater Freetown Area," *Sierra Leone Urban Agriculture Magazine* no. 21, (January 2009):19-21, <http://www.ruaf.org/sites/default/files/UAM21%20p.19-21.pdf>.

²Liggett, Brit, "Food Demands to Double by 2050, Urban Agriculture to become Increasingly Important," Green Biz Forum, November 11, 2011, <http://inhabitat.com/food-demand-to-double-by-2050-urban-agriculture-to-become-increasingly-important/>.

³"The Locus of Poverty is Shifting to Cities," Asia Pacific Ministerial Conference on Housing and Human Settlements, UN Habitat, December 2006, http://www.unhabitat.org/documents/media_centre/APMC/THE%20BAD%20NEWS.pdf.

large urban areas of the world can be less of a problem if urban agriculture is applied in the lives of more people.

Between the years 2007-2008 there were food related riots in over sixty countries throughout the world.⁴ While many were in African nations, the more mountainous areas of Latin America also had great concern of food securities during this same time period.⁵ Many of these riots can be partially attributed to the soaring prices of fresh produce. The answer to solving such problems lies within the use of urban agriculture. As more people are utilizing space within urban areas and planting, this helps to alleviate food insecurities and rising prices.

In study after study, experts agree that urban agriculture looks promising to help produce a stable food supply in many places and to help those who are impoverished with better nutrition. A great example of this is a study done by the United Nations (UN) titled, "High Level Task Force on the Global Food Crisis..."⁶ This study discusses the importance of the issues of food stability and not only does the study prove that it is not just a global problem, but it also shows the importance of addressing problems at a local level and how urban agriculture can help to ease food insecurities around the world.

In Salt Lake County, Utah, there has been a large movement towards urban agriculture to address these issues and to help the community as a whole to become more in touch with their food and each other. This grass roots movement continues to gain speed in many communities throughout the county.⁷ Vacant lots that are slated for possible future use are being used for planting crops to help supply their community's needs. In areas with less space, such as apartment complexes, people can garden in window boxes or other small containers. In an apartment complex, one of our neighbors used a piece of rain gutter to plant peas. They used string in a window for the plants to climb

⁴Donald, Betsy, Meric Gertler, Mia Gray and Linda Lobao, "Re-regionalizing the food system?" *Cambridge Journal of Regions, Economy and Society*, 3 no. 2(2010):171-175, <http://cjres.oxfordjournals.org/content/3/2/171.full.pdf+html>.

⁵Marc, Lacey, "Across the Globe, Hunger brings Rising Anger," *The New York Times*, February 18, 2008.

⁶"High Level Task Force on Global Food Security Food And Nutrition Security:Comprehensive Framework For Action..." UN Food Security, http://un-foodsecurity.org/sites/default/files/OUTLINE_Summary%20UCFA_EN.pdf.

⁷"Urban Farming," Salt Lake County, <http://www.slco.org/urbanfarming/>.

once they began to grow, thus allowing their family to have fresh peas. These are simple solutions for living in a cramped space and fully utilizing land within the city.

Urban agriculture has many great health benefits for the population within urban centers as well. When people have access to fresh fruits and vegetables their nutrition is better because they eat more from these food groups thus helping to hinder malnutrition.⁸ When food is produced, processed and packaged, it takes time –time in which vegetables can spoil or even become contaminated by bacteria. Not only this, but the faster vegetables go from garden to plate, the fewer nutrients are lost from them. Health benefits also include working the land which provides great source of exercise.

Can you imagine the impact community gardens could have if utilized throughout urban centers all over the world? Not only would more people have access to fresh produce, they would also have a place for social opportunity where they could work together to tend their community garden. Not only would the green space improve the appearance, but would add better air quality in the urban environment that is polluted by car fumes and many other things.⁹

In conclusion, one of the best ways to combat urban poverty, undernourishment and food insecurity in mountainous regions as well as urban centers is to grow your own produce locally to supply food for yourself, your family and your community. Urban agriculture is also producing jobs and income to those who need it around the world. Taking advantage of urban agriculture allows one to spend less money on produce, is a great way to get healthier and to have more social opportunities with those who are in your community. Urban agriculture provides green space where green space is otherwise lacking. It is also beneficial to the environment in which we are all part of. Urban agriculture can remedy many problems in local communities and throughout the world.

⁸Bellows, Anne C., Katherine Brown and Jac Smit, “Health Benefits of Urban Agriculture,” [http://www.co.fresno.ca.us/uploadedFiles/Departments/Behavioral_Health/MHSA/Health%20Benefits%20of%20Urban%20Agriculture%20\(1-8\).pdf](http://www.co.fresno.ca.us/uploadedFiles/Departments/Behavioral_Health/MHSA/Health%20Benefits%20of%20Urban%20Agriculture%20(1-8).pdf).

⁹Shah Md. Atiqul Haq, “Urban Green Space and an Integrative Approach to Sustainable Environment,” *Journal of Environmental Protection*, 2(2011):601-608, <http://www.scirp.org/journal/PaperDownload.aspx?paperID=5881>.

No Food

By Maranda Fisher

Maranda Fisher is currently a sophomore at Utah Valley University. Upon her graduation from Copper Hills High School in June 2014, she became a licensed pharmacy technician. Maranda has resided in Utah her entire life and enjoys the seasons and outdoor adventures that Utah has to offer. Throughout high school Maranda challenged herself to complete and score highly on AP and concurrent enrollment classes. These goals have largely carried into college as she received scholarships and awards for her achievements. Maranda is studying speech communication at UVU.

The World Health Organization (WHO) estimates that one-third of the world is well-fed, one-third is under-fed, and one-third is starving. How can we determine who is well-fed and who is not? This is accomplished by evaluating food security. “Food security is characterized as a situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meet their dietary needs and food preferences for an active and healthy life.”¹ Indeed, food plays an essential role in the everyday activities of human life. In order to prevent a “hungry society,” one lacking food and proper adequate nutrition, we must care for our food resources and the farmers who produce it, in an effort to further food security.

Access to food is a basic human right. The right to food stems from Article 25 of the Universal Declaration of Human Rights, which lays out the right to a minimum standard of living.² Each and every country is obligated to respect their people’s right to access food, protect their people from infringement of these rights, and help their people access food if ever and whenever they are unable to afford it or access it on their own.³ Almost every single country, except Australia and the US agreed to this pact. They promised to provide these services to the people of their countries as well as to cut hunger in half by 2015.⁴

¹Chilton, Mariana Rose, “A rights-based approach to food insecurity in the US” American Journal of Public Health 99.7 (2009): 1203. Master FILE Premier.

²Chilton.

³Gordillo De Anda, Gustavo. “Food security and family farming.” N.p.,n.d.

⁴Gordillo.
Chilton.

How is it then that 25,000 people including 10,000 children die each day due to hunger?⁵

How bad is food insecurity in our world today? In 2011, 14.9 percent of American households, more than 50.1 million people were food insecure according to a study done by USDA.⁶ Think of the people in your neighborhood or even your friends. Are they in this number? Are they getting enough to eat?

Where does our food come from? “A significant part of the pleasure of eating is one’s accurate consciousness of the lives and world from which food comes.”⁷ In the beginning of this nation, our food was grown by the smallholder family farmer. During the Industrial Age much of the family farming industry switched over to factory farming and became more about making food faster, easier, and better for everyone. But was it?

Family farming can create a wonderful environment. The work of a family farmer is not just to farm and to make a living. It embodies a whole lifestyle and culture, which can knit the hearts of people together and make the world a society of friends. Farming has both positive and negative effects on our society. On the positive end, farming uses less of the world’s energy compared to manufacturing. The consumption of energy farming uses is at 3 percent while manufacturing is nearly 5 percent.⁸ Manufacturing uses an extreme amount of the world’s energy. In the case of family farming and raising up cattle the amount of energy used to manufacture a 4-ounce hamburger is equal to leaving your bathroom faucet on for twenty-four hours a day for a week.⁹ If manufacturing uses 2 percent more of the world’s energy, how much would it take to manufacture a frozen burrito?

On the negative end, farming is becoming less and less sustainable. Seventy- percent of the world’s water use is devoted to irrigation.¹⁰ Farming can be a risky venture. A farmer never knows what kind of crop year he will have. Just a 1-degree rise

⁵Holmes, John, “Losing 25,000 to hunger every day,” *UN Chronicle*, 45 no. 2/3 (2009): 14-20. SIRS Issues Researcher.

⁶Cortez, Marjorie, “1 in 7 Utah Households struggle to afford food, USDA Reports,” *Deseret News*, September 10, 2012.

⁷Wendell, Berry, *Bringing it to the table: on farming and food*, Berkeley: Counterpoint, 2009.

⁸Wendell.

⁹Lunau.

¹⁰Brown, Lester R., “How to feed 8 billion people,” *Futurist*, Jan/Feb 2010: 28 SIRS Issues Researcher.

in temperature above normal during the growing season could cause farmers to expect a 10 percent decline in wheat, rice, and corn.¹¹ Consequently, manufacturing companies were created and became a prominent part of American food. In an attempt to stop hunger, our world moved to cheaper, less natural types of food to feed everyone.

What did this do to the farmers? Rapid urbanization has led to the conversion of farmland to non-agricultural uses, and low food prices have encouraged farmers to shift to alternative food and non-food crops.¹² When the almost complete switch was made over to manufacturing, farmers were left in the dust. Smallholder farmers and their families represent one third of the global population. In the US, the majority of people were farmers after the American Revolution. Today, there are more people in prison than are farmers.¹³ This is due to the fact that the present agricultural economy, as designed by the agribusiness corporations, use farmers as expendable “resources” in the process of production, the same way they use the topsoil, groundwater, and the ecological integrity of farm landscapes.¹⁴ These agribusiness corporations are pushing farmers out. And, there aren’t very many governmental benefits going towards the smallholder family farmers.

Government subsidies are given to the large landholder farmer and not to the family farmers. The money that goes to these large landholder farmers is only provided during the “good” growing years, making it really difficult when crops are not as plentiful.¹⁵ The government is making it very difficult for the smallholder family farm to succeed.

We need to take a stand against the government. We need to get our farmers back! Why is farming such a big deal to the consumer? There are a lot of reasons, but the plainest is that conservationists eat, “to be interested in food but not in food production is absurd. Urban conservationists may feel entitled to be unconcerned about food production because they are not farmers, but they can’t be let off that easy, they are farming by proxy.”¹⁶

¹¹Brown.

¹²Holms.

¹³Halweil, Brian, “Where have all the farmers gone?” WorldWatch, Sept/Oct 2000: 12-28 SIRS Issues Researcher.

¹⁴Wendell.

¹⁵“What Are U.S. Farm Subsidies?” About.com US Liberal Politics.

¹⁶Wendell.

The question is how do we do it? “Food is a powerful metaphor for a great many of the values to which people feel globalization poses a threat, including the distinctiveness of local cultures and identities, the survival of local landscapes, and biodiversity.”¹⁷ It starts with us. The most powerful protests against globalization have revolved around food. Jose Bove, a French Roquefort farmer and anti-globalization activist used a tractor to smash not a bank, but a McDonald’s.¹⁸ More protests have been against food than anything else.

We don’t have to beat them; I’m not sure we should even try. We don’t need a law against McDonalds or a law against slaughter abuse. All we need to do is empower individuals with the right philosophy and the right information to opt out en masse... We can still decide, every day, what we’re going to put into our bodies, what sort of food chain we want to participate in. We can, in other words, reject the industrial omelet offer and decide to eat another.¹⁹

Already the desire on the part of consumers to put something different in their bodies has created a fourteen billion dollar market in organic foods in the US.²⁰

According to the USDA, more than forty-six million, or one in seven Americans are on food stamps, formally known as Supplemental Nutrition Assistance Program (SNAP).²¹ Food stamps are a program to insure food security and avoid hunger. A family with zero dollars family income receives 900 dollars a month in food stamps. Buying fresh food and meats is what SNAP should be used for but in many cases it is not. Food stamps can be used to buy anything from gum to potato chips, candy, and cola.²² These families and societies that are food insecure are using the governmental money given to them to buy junk food items that will not create a food secure world. Without any restrictions

¹⁷Pollan, Michael, “No Bar Code,” *Mother Jones*, 31, No.3 May/June 2006: 36. SIRS Issues Researcher.

¹⁸Pollan.

¹⁹Pollan.

²⁰Pollan.

²¹Seaman, Andrew M., “Food Stamps May Not Improve Food Security, Diet Quality,” *Reuters*. Thomson Reuters, 25 Nov. 2013.

Borkowski, Liz, “Despite Poverty’s persistence, Food stamp Benefits Drop,” *The Pump Handle*, Science Blogs, 8 Nov. 2013.

²²Schulzke, Eric. “Obese, Hungry, and undernourished: The new face of food security.” *Deseret News* 28 Apr 2012: A.1. SIRS Issues Researcher.

our nation is not going to combat hunger but instead it will raise a generation of unhealthy Americans much like we already have today.

A strong statistical link between food stamps and obesity among women was discovered in a 2010 study by Jay Zaogorsky at Ohio State University.²³ It has been shown that people receiving SNAP increased their consumption of refined grains such as breads, pasta, and rice by about one serving a day.²⁴ There are too many people out there who are taking advantage of food stamps. People are finding it easier to stay home and not work because the government will pay for their food, housing, utilities, etc. Currently, the US spends more than fifty billion dollars on nutritional assistance programs. Is this nutritional assistance system helping? The rates of food insecurity have not changed in the last twenty years.²⁵

To combat this, the White House has passed a bill that will cut SNAP by thirty-nine billion dollars and are hoping to require drug tests for applicants.²⁶ This will occur by making 3.8 million current SNAP recipients ineligible for benefits. If the government can give those individuals who are taking advantage of the system a wake up call and create programs that will not give families a free pass to buy whatever foods they like but instead help them get back on their feet both financially as well as help them to be a healthier more well rounded individual. These programs could include more restrictions on foods or a way to earn the money to pay for food. If we as a society can educate those that are food insecure and help them learn to grow some of their own food by creating neighborhood and community gardens. They would not only learn the value of hard work but would help their neighborhood become a more sustainable region and self-reliant universe. The more self-reliant the world can become the better off it will be in eliminating many of the problems we have surrounding food insecurity.

²³Schulzke.

²⁴Seaman, Andrew M. "Food Stamps May Not Improve Food Security, Diet Quality." Reuters. Thomson Reuters, 25 Nov. 2013.

²⁵Chilton.

²⁶Borkowski, Liz. "Despite Poverty's persistence, Food stamp Benefits Drop." The Pump Handle, Science Blogs, 8 Nov. 2013. Web. 03 Dec 2013

Pugh, Tony. "Food insecurity strikes million US households." McClatchy Washington DC News Bureaus. 04 Sept 2013: n.p. Sirs Issues Researcher. Web 20 Nov. 2013.

Hunger is something we can turn around. In a ConAgra Food campaign, vocalist Jewel shared her story; growing up she never knew where her next meal was coming from. However today, she is now working to help combat hunger. Each and every one of us can make a difference. There are plenty of wonderful programs out there designed to help those that are truly in need. As we become a self-reliant world and work to find solutions to our current problems, we will become a food secure world. As we work to get the smallholder family farms more prominent in America, we will not only be able to dispense food throughout the country, but we will also create a healthier and happier world.

