Elaina Conrad Mount Pleasant High School Mount Pleasant, IA Yemen, Factor 14

Yemen: Effect of Child Marriages on Poverty and Food Insecurity

"How did she dare to complain about me?" one Yemeni man demanded, illustrating how rare it is to hear a woman protest after his eight-year-old wife filed for divorce (Assyrian International News Agency). These girls, generally between thirteen and seventeen years old, are denied the rights to education, work and expression, and they are expected to submit to their husband's will under threat of mutilation or death (Gorney). This lopsided arrangement of power does not just affect the girls involved but also endangers children, hurts families and prohibits the development of Yemen as a country by cutting off a vital resource to any developing nation: their women. Under a government that allows child marriages, women are chattel to be traded from one family to another as a means of resolving a feud or settling a debt (Gorney). From the marriage night on, they are expected to behave exactly like an obedient, whipped dog. They are unable to continue their education or, in an overwhelming majority of cases, work outside the home. Even the twenty-five percent of women who do manage to undertake a career are limited mostly to low-paying or unpaid jobs; 92.7% of working women work in an unpaid job like agriculture. Most women spend their days tending their family and their family's farm; they have no access to healthcare. employment or rights. Among urban women, the situation is similar; women's unemployment is approximately 39%, compared to the 16% among men (Al-Omari). Women also live under the constant fear of shaming their family and thereby earning such punishments as stoning, shunning or mutilation; honor killings are upheld not only by Sharia law, but also by civil law (Amnesty International). Because of this fear and the stress of dowries, women frequently resort to suicide through fire, and if they don't kill themselves, they run the risk of being attacked with acid by their in-laws or other family members (Cohen). The Millennium Development Goals – targets set by the United Nations to be achieved by 2015 - most closely linked to child marriage are number two and three - achieving universal primary education and promoting gender equality, respectively. Universal education is limited in Yemen largely because girls are removed from school as early as the third grade and prohibited from returning to school under dire threats. Gender equality is nonexistent due to the expectations of being fertile mothers and obedient wives and the abuse given if the expectations are not met. These problems are exacerbated by the young age of the girls who are married (Gorney). Women are capable of incredible things, and Yemen needs to utilize their ability and drive in order to improve itself in the next few years. With an enforced legal marriage age, scholarships for women and programs for the empowerment and education of women, Yemeni girls stand a chance to live a better life and help their nation grow.

In general, Yemeni households are composed of a large, extended family living in a single house or a compound in which the eldest male member is in charge of all important decisions regarding the family and its individual members. Men are allowed to have up to four wives at a time, but it is most common for them to only take one. Women are secondary members and mainly in charge of raising the children and producing sons; while they may hold a job outside the home, their social status is still governed by the number of male heirs they deliver. Most women, well over two-thirds of the female population, are illiterate and haven't even completed primary education while a vast majority of the male populace is

literate and has completed some form of education. Health care is sparse and even the few hospitals are plagued by disease and germs, and almost none meet Western regulations on procedures or cleanliness. Common foods include unleavened bread, chicken, mutton or goat, and a variety of vegetables; one of the favorite dishes is saltah, a stew made of lamb or chicken and flavored by fenugreek and other spices. Given Yemen's inconsistent rainfall, limited fertile ground and variety of climates, farming is extremely difficult. Less than three percent of the country is suitable for farming, and most of this land is found on the western slopes of the massif where extremely fertile farmland can be found. Another third of the country provides decent pasture land for livestock to graze, and most Yemeni farmers raise regional breeds of cattle, sheep or goats, and chickens. The most profitable crops grown are coffee and qat, a mild stimulant that has grown increasingly popular in Yemeni culture. Though there are varying methods of farming, almost all farmers use some sort of rotational practice in which some fields are allowed to lie fallow for a time while others are used for grazing and crops; this allows time for used fields to be revitalized without being overused. The sizes of farms vary largely between the regions but are relatively small: a twelve acre farm is considered large and in the mountain regions, it is far more common to find one or two acre farms (Encyclopedia Britannica Inc.).

Water scarcity is a serious problem in Yemen and one that is only going to worsen as global climate change affects our world. Because of this, many farmers will undoubtedly find their current lifestyles impossible and move towards cities to find jobs in industries there. This urbanization is likely to cause a break in long-held traditions and could very well help women's rights as rural families are introduced to more modern lifestyles and more opportunities (Kulkarni). However, this shift could also cause such problems as increased prostitution and child labor; already desperate Yemeni girls sell their bodies to support their families, and child labor laws may as well not exist (Encyclopedia Britannica Inc.). Whatever happens, the Yemeni people are going to need determination and willing workers to help brighten its future.

Due to the lack of arable land and any consistent water source, Yemen has extremely low chances of being self-sufficient in regards to agriculture, and it will most likely continue to be at least partially dependent on imported food. In the workforce, problems are also quite prevalent; following Yemen's disapproval of a Saudi Arabian agreement with the United States, over a million workers were expelled from Saudi Arabia and sent back to Yemen. Unemployment frequently exceeds 30%. The gross national income (GNI) for 2011 was only 1,764 USD, which means most families can't afford better education or food – they're barely surviving (The World Bank Group). Furthermore, the government's attempts to implement a legal marriage age of seventeen are invariably met by religious leaders decrying the bill as "anti-Islamic," despite the lack of any support for child marriage to be found in the Koran (Gorney). Nearby neighbors Turkey and Saudi Arabia are two of the most predominantly Muslim countries in the world, and neither allows child marriage despite being proudly Islamic and, in Saudi Arabia, following Sharia law assiduously (Hardy).

Some barriers include the Islamic majority's conviction that adherence to Islamic law requires the subjugation of women. Despite religious leaders' claims, the practice of child marriage is not supported by Islamic teachings and has a much stronger cultural root than religious. According to the Sahih al-

Bukhari, the "most trusted Sunni collection" of accounts of Muhammad's, the prophet consummated his marriage to his wife Aisha when she was but nine. This story is one of the strongest supports in the argument for child marriage, as "it is blasphemous to suggest Muhammad's moral example could be improved upon" (Saudi Cleric clarifies Sharia law regarding child brides -- Go Ahead). That said, the idea strongly defies the core of the Islamic faith, including the preaching of kindness and gentleness amongst family members. According to the Quran, one of the five universal rights is the ability to maintain your dignity and not be defamed or discredited in public, and this teaching goes directly against the threats and stigma attached to independent women (The Teachings of Islam). While it is foolhardy and disrespectful to declare that a people's way of looking at their religion is wrong, a more discrete approach of educating Islamic Yemenis and showing that there is more than one way to interpret the Quran is a crucial step towards healing the wounds caused by gender discrimination. This especially is something to be taken up on the local level as neighbors and friends discussing religion is far more digestible than the government attempted to rewrite centuries of belief. Another huge barrier is the financial boon families accept when marrying off their young daughters. Most of Yemen resides deep in poverty, and the bride-price they receive when their daughters become wives is akin to a raft for a drowning man. They need the money, and without another form of income, they will continue to rely on child marriages to keep their family afloat. This is where government- and foreign-funded projects such as desalination plants and green cities are especially useful, as they supply both short- and long-term career opportunities that supply far more money to families involved than a bride-price does. Men play a crucial role in any women's rights movement but especially so in such a patriarchal society as Yemen's. Since virtually all leadership roles in the government and society are occupied by middle-aged men, getting these men to help support women's rights in Yemen would not only encourage men to help their wives and daughters, but also give women a stronger foundation for their fight. After all, when women are considered nothing more than property, their pleas are far too easily ignored; involving men gives credibility and strength to their argument that demands the country listen.

Child brides, meaning girls married under the age of eighteen, have limited access to school. Therefore, even if they're allowed to work, they are restricted to low-paying jobs that require less schooling than the higher-salaried careers open to those who have more education. It also means that they have less information and awareness about nutrition and health in general, which causes them and their children to be more susceptible to diseases and malnutrition. This ignorance is also present in reproductive areas; it is commonplace for a midwife or nurse to have to explain reproduction while a young girl is in labor, and few have the knowledge or ability to care for themselves after giving birth (Gorney). It is unsurprising, then, that such young, naïve mothers would be unable to adequately nourish their children; in 2003, 43.1% of Yemeni children under the age of five were malnourished (The World Bank Group). Because the girls are married off at such a young age, the power in their relationship is held entirely by their much older husband. After being asked how informed girls are before their wedding, one mother explained, "The girls do not know. The men know and they force." They are required to obey his every desire and face such drastic repercussions as mutilation and death if they disobey, and this is seen as appropriate; a man who stabbed his fifteen-year-old wife repeatedly received no punishment because of men's position "as kings" (Gorney).

One way of measuring the number of child brides is through adolescent fertility rate, which describes the number of live births per 1000 girls ages fifteen to nineteen. Between 2003 and 2011, this rate has dropped from 98.4 to 78.8 (The World Bank Group). According to this measure, it would seem that there are fewer child brides, but approximately forty-eight percent of Yemeni girls are still married before their eighteenth birthday (Jumpstart Productions). By setting a legal age for marriage, Yemen would be able to count on higher school attendance from girls, increasing the chances of secondary education and thus the likelihood that these young women would then go on to higher paid, more advanced careers.

Currently, a woman's worth is measured by the number of sons she has borne, which is why marrying young is so important; it increases the age of child-bearing years by up to a decade (Encyclopedia Britannica Inc.). Furthermore, a single woman who is no longer a virgin is considered a disgrace and a shame to her family – even if she was raped and had no say in the act. These women are often killed by relatives in acts called honor killings, which are considered just and fair acts under the government and Sharia law. Since women face such extreme penalties for living unmarried, they are often pressured into marrying young despite their own dreams and wishes; it is hard to fathom attending college when the threat of being murdered is much more immediate.

It is imperative that a legal marriage age be set at eighteen for both girls and boys. This allows time for children to mature and become better educated as well as aware of the myriad possibilities open to them through education and work. A UN and World Bank-backed program in Yemen called the Conditional Cash Transfer policy pays Yemeni parents 8,000 YR (35 USD) a year for sending their daughters to school. Currently, this is only in two governorates, Lahj and Hodeida, but it should be increased to include the entire country as, already, this program has caused a nine percent increase in school attendance in the two governorates, and if used nationwide, this could rapidly decrease the number of child marriages by hitting two key causes: lack of income and lack of education (IRIN).

Another proposed project is CARE's Women's Empowerment through Stage Animated Awareness and Lobbying (WESAL), which will work with the Yemen Women's Union to promote information about and prevention of violence towards women (CARE). Education is a key component in reducing violence and early marriages, as it shows the risks of traditions such as dowries, bride-prices and early marriage to people who may otherwise be ignorant of the full extent of the risks. It also can give women a place to turn to, as many families and even other women can see domestic abuse as appropriate in certain situations, which leaves the abused with no support (Cohen). Furthermore, laws need to be implemented to protect women from the violence and discrimination frequently received; dowry-related and honor killings must be judged as murder. Currently, Yemen uses a fine as punishment for murder, but makes the murderers of women pay only half the amount of murderers of men (Amnesty International).

Additionally, a project like parts of Jordan Karubian's Tropical Andes Conservation Foundation can easily be adapted to fit Yemen and help provide more jobs for women young and old. As part of his conservation efforts, Karubian encourages locals to build various supplies out of recycled materials; these products vary from hats to lampshades and can be easily created with a slight amount of guidance by anyone. While these can often be sold as interesting knick knacks, they also can provide useful tools to be used in everyday life: a cradle made from a recycled tire is far cheaper and more durable than a hundred and fifty dollar one bought from a furniture store (Kraul). Since the material cost is so much lower, it both saves families money and provides a workplace for women with less education. Co-ops can be formed

which create a far larger amount of products than an individual person can so that products can be sold outside of the country in sales such as Mennonite Relief Sales that take place throughout the US and Canada to raise money to help impoverished people worldwide (Mennonite Central Committee). Not only will this help individual people, but international trade could help stimulate the economy – even in such small doses as this. Furthermore, the plan is simply enough to be implemented in the near future while other ideas for assistance and improvement will take a considerably longer time to set up and functionalize.

A longer-term project is the construction of desalination plants. While Yemen's lack of fresh water is unlikely to change any time soon, they do have a huge reservoir of water at their fingertips: the Arabian Sea. Desalination is the process of removing salt from ocean water in order to obtain drinkable fresh water, and while it is fairly inefficient on its own, building a desalination plant and power plant next to each other increases the productivity to nearly seventy-five percent as well as increasing the power plant's productivity (Massachusetts Institute of Technology). By creating these coupled plants, Yemen could address both the lack of energy and water in rural areas. Common forms of desalination plants use evaporation or distillation. In evaporation-style plants, water is heated in a boiling chamber and the steam created is collected as condensation on the condensing dome. From here, the water pours into a basin to be collected and used. Distillation plants require expensive membranes that must be changed semiregularly, but they also create the purest water. Advances in membrane technology are also lowering the cost of distillation plants; a recent study by MIT shows promising results in using graphene to decrease the power requirement and increase the efficiency of desalination. While it's still being tested, the oneatom thick substance has the benefits of being both extremely strong and extremely thin (MIT). It is especially feasible given the lower salinity or "saltiness" of Yemen's Al Qamar Gulf, which means it will be easier and cheaper to run through desalination plants (OOSKAnews).

To build these plants, Yemen would need a huge increase in engineers and scientists to build and run the plants as well as oversee construction of reservoirs and pipes so water could be stored and delivered throughout the country. One estimate claims the production of desalination plants could provide up to four million job opportunities (OOSKAnews) These areas are ideal for young women because the higher salaries offered provide increased encouragement for families to keep their girls in school so that, later, they can support the family more than a bride price. Also, because engineers and scientists are needed in all twenty first century nations, the jobs are unlikely to die out and should continue to offer careers to future generations. By encouraging women to pursue careers in STEM (Science, Technology, Engineering and Mathematics) fields, Yemen would be able to cut down on child marriages because families would gain money through their daughters' work instead of through a wedding, and they'd increase the number of women who attended secondary education drastically, especially if they began to offer scholarships for women interested in such areas. By getting these women to trade bridal gowns for graduation robes, Yemen would lower the adolescent fertility rate and decrease the frequency of both childhood and pregnancy-related deaths. For girls uninterested in STEM fields, any organization whether nonprofit or for-profit - needs management, and learning how to handle administrative duties and social issues could be integral for girls interested in more executive careers.

Coupled with desalination, green cities could provide a more urban solution to the food shortage. In an increasing trend worldwide, city dwellers plant gardens on their roofs, balconies or even walls to supplement their groceries. Depending on the type of garden, these are easily managed due to their small

size (raised gardens are frequently small so that the gardener can reach the middle from either side without much effort) or self-sufficiency (wall gardens use PVC piping as irrigation and reuse water), but they can produce a fairly large variety of food that helps cut down on a family's cost of buying groceries. Wall gardens require climbing plants due to their vertical nature, and vegetables like tomatoes, cucumbers and most beans can be grown on these. Raised beds can sustain almost any plant life, and even in places like Las Vegas, which has similarly arid and infertile conditions, everything from grapes to garlic can be raised fairly easily (O'Callaghan). These gardens would be able to be grown without much concern to the different seasons, and there would be little need to consider the arability of the nearby land because the garden would be grown in planters where the fertile soil is more concentrated than the natural ground. Furthermore, vertical gardens cut down on city pollution and cools homes without the cost of air conditioning. These gardens are found in cities from London to Singapore and have been shown to improve mood and productivity as well as their financial and environmental benefits (National Geographic Society). While there aren't many jobs that can be had through gardening, city-wide projects like vertical gardens do require engineers and botanists to plan the gardens and decide what crops can be grown. Plus, personal gardens are more likely to have surplus than community gardens due to the smaller demand, and women or men would be able to sell any extra crops at local farmers' markets and supplement their family's income. Extra money like this could provide enough for savings accounts that eventually could accumulate enough for college funds so that parents didn't suffer such a drastic economic burden due to college tuition.

Desalination plants and vertical gardens are influential projects that are both sustainable and incredibly helpful in harsh climes such as Yemen's. Furthermore, both pay off their production cost within a matter of years, which is important given the fragility of Yemen's economy, and they provide jobs that encourage Yemenis to further invest in education so they may earn a greater salary in jobs that are otherwise rare in Yemen, such as botanists, engineers and scientists. Like most developing countries, Yemen lacks a solid economy to support expensive projects that will not nullify their costs within a short time frame, and needs greater career opportunities both for the educated and uneducated populace. Both desalination plants and green cities fill this criteria far better than, say, the building of universities. Though education is undeniably an integral part of development, it would only hinder the country by adding the cost of importing foreign professors and building new complexes.

Once these programs have been implemented and expanded upon, Yemen will be able to stand more steadily on its own, and foreign aid, including that of the UN, will need to stop in order to preserve the integrity of the domestic economy. While Yemen enjoys fairly good relations with most its neighboring countries – save for a few exceptions such as Iran and Saudi Arabia – most of them are in a similar position regarding economy and are thus unable to contribute much to help Yemen considering their own desperation. That said, both India and Oman, with whom Yemen is generally genial, have experienced rapid economic growth in the past decades and could probably help somewhat with the cost of constructing desalinations plants and green cities. Unfortunately, Yemen's tense relations with wealthier nations such as Israel and Saudi Arabia make assistance from neighboring countries more limited and difficult given that most of the Middle East suffers from economic and military problems similar to Yemen's. However, a sudden absence of aid will most likely render these efforts obsolete, and officials will have to plan a multi-year method of gradually decreasing aid. Doing so will ensure that Yemeni businesses and farmers are self-sufficient before the government entirely relinquishes aid. An independent

Yemen will be better able to make reforms and changes without the dissent generally garnered when outside forces cause change, and thus improved women's rights will be more likely to become reality.

With appropriate attention paid to women's rights and prospective programs for their empowerment and independence, Yemen has a strong chance of breathing life into its economy and becoming independent of most other foreign aids. It is doubtful that they will be fully free of the need for aid from the UN and outside nations any time soon, but the use and improvement of programs mentioned previously can steadily help set Yemen on its feet and towards greater self-sufficiency. Desalination and green cities make agriculture much easier and more manageable for farmers who'd otherwise have a hard time eking out a meager living, and recycled products can not only cut down on a family's expenses but also add to their income through international relief sales. Furthermore, all of these programs provide opportunities for young women to become involved and attend college without having to worry that they won't be providing for their families by not marrying. Worldwide, the average engineering salary is just over fifty thousand US dollars, which far exceeds the current Yemeni family income of under two thousand US dollars and more than makes up for any money lost through remaining unmarried (TRC Worldwide Engineering). While these will help promote independence and stability in Yemen, the country still needs support from external sources such as CARE and the UN to help establish concrete programs and institutions; dependency on foreign food needs to be cut back, but it currently cannot be dissolved without leaving the Yemen people crippled and hungry. Therefore, a gradual decrease of foreign aid as well as increased efforts in women's rights and legislation is necessary to provide Yemen with a foundation for self-sufficiency and advancement in the next decade.

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