

Caleb Williams
Gwynn Park High School
Brandywine, MD

Iraq, Factor 14: Conflict Resolution

Iraq has a long history filled with major armed conflicts. Within the past 29 years, Iraq has been involved in the Persian Gulf War (1990-1991), the Second Persian Gulf War (2003-2011), and the Iraq Civil War (2006-Present). These battles have heavily impacted Iraqi citizens' ability to grow their own crops leading to greater dependency on foreign aid organizations, such as the World Food Programme (Dhehibi, Frija, Bonaiuti & Biradar, 2018) for food assistance. The WFP found there are short-term and long-term consequences associated with armed activities and conflicts that impact the food and nutrition security of Iraq. In the short-term, crop cycles are interrupted and shortages of irrigation water are seen. In the long-term, a decrease in food availability and a reduction in income-generating occupations are emerging challenges (Dhehibi, Frija, Bonaiuti & Biradar, 2018).

Iraq has the fifth largest petroleum reserves in the world, which makes oil its most valuable mineral. It is also the largest portion of Iraq's Gross Domestic Product (GDP) and 95% of Iraq's foreign exchange earnings (Economy, n.d.). Transnational pipelines are heavily depended upon to export the oil due to Iraq's short coastline. In the past, these pipelines have been damaged or shut down due to Iraq's conflicts with Iran. More recently, after the start of the Second Persian Gulf War, terrorist groups have sabotaged pipelines in attempts to gain control of the Iraqi government. There are other untapped natural resources, such as rock sulfur reserves, which are among the largest in the world, phosphates, salt, steel, stone and gypsum which can become more profitable resources if efforts are made for their production in fertilizer and construction materials (Iraq Other minerals and energy, n.d.).

Geographically, Iraq is split into four regions: the Tigris-Euphrates alluvial plains in central and southeastern Iraq; Al-Jazeera, an upland region in the north between the Tigris and Euphrates rivers; deserts in the west and south, covering about two-fifths of the country; and highlands in the north and northeast (Geography, n.d.). Its area of 437,072 square kilometers is slightly larger than the state of California. Close to one-eighth of Iraq's total area is arable, and another one-tenth is permanent pasture. In the north and northeast regions, a large portion of the arable land is dominated by rain-fed irrigation. This makes the land sufficient to cultivate winter crops, mostly wheat and barley. The valleys of the Tigris and Euphrates rivers contain the remaining arable land which requires year-round irrigation (Iraq Agriculture, forestry, and fishing, n.d.).

Though it has decreased, there are still many problems. As the country recovers, their food supply is in shambles. According to the UN,

The combination of climate change, population growth, and limited environmental awareness effectively limits water resource management in Iraq. In addition, the destruction of vital infrastructure, as a consequence of conflict, and a lack of capital investments have resulted in the deprivation of many Iraqis from access to potable water and basic sanitation facilities (Water in Iraq factsheet, n.d.).

A lot of factors affect recovery efforts, but violence is the main factor in this region. Agriculture According to Britannica, the chief crops are barley, wheat, rice, vegetables, corn (maize), millet, sugarcane, sugar beets, oil seeds, fruit, fodder, tobacco, and cotton. Yields vary considerably from year to year, especially in the area of rain-fed cultivation. Date production—Iraq was once the world's largest date producer—was seriously damaged during the Iran-Iraq War and approached prewar levels only in the early 21st century (Iraq Agriculture, forestry, and fishing, n.d.).

For many years, Iraq has used terrorism to intimidate its enemies or to serve as a safe haven for terrorist groups. According to Byman (2003), Baghdad, Iraq's capital city, protected members of the May 15 Organization, a Palestinian group known for bombing airplanes. Byman notes Iraq helped form the Abu Nidal Organization (ANO), using it to assassinate Syrian and Palestinian opponents. In addition, Byman states Iraq helped the anti-Iran group, *Mujahedin-e Khalq* (MEK) and the anti-Turkey Kurdish Workers Party (PKK) by providing a base of operation for their guerrilla wars and planned terrorist attacks in order to apply pressure on their neighbors to the north and east.

After the last United States forces were withdrawn from Iraq in December 2011, the terror group, the Islamic State of Iraq and Syria (ISIS) began to control portions of northern Iraq because the Iraqi government and military could not maintain power without the United States' support (Brown, 2018). In June 2014, ISIS took over control of Mosul, a major city in northern Iraq. They grew to control 3 northern provinces out of 19 in Iraq. These 3 provinces produced close to one-third of Iraq's grain (Bradley, 2015). ISIS restricted the flow of water through a dam near Ramadi, the capital of Anbar province, on the Euphrates River. Also, they opened a dam near the city of Fallujah in Anbar to flood the surrounding desert in an effort to halt the advance of Iraqi security forces. With all this violence going on, it is very dangerous for farmers to go outside and tend their crops. Plus the land will take physical damage from mortars and bombs. So the survival of crops isn't very good. According to Bradley (2015), all Iraqi wheat farmers sell their crops to the government at subsidized prices, which are about double the international market rate. More than a month after the harvest season ended, farmers had not been paid for their crops due the government financing the war effort.

In October 2016, Iraqi military forces with support from the United States and its allies, began the battle to retake Mosul from ISIS. By July 2017, Mosul was retaken with an estimate of 9,000 - 11,000 civilians killed (George, 2017). The recent political unrest and violence in Iraq has created a massive population of war refugees, as well as directly impacted the ability to grow crops. More than 700,000 people are living in refugee camps, and as of 2017, more than 800,000 Iraqis still require a food assistance program to survive (Stoltzfus, 2017). From Al-Shami, Davis, Donato, Rossi & Ferris (2019), the ISIS occupation created close to 6 million internally displaced persons.

The other problems that Iraq's agriculture has are water usage, salinity and overgrazing. While the Tigris and Euphrates rivers flow through Iraq, the hydroelectric dams and irrigation systems in Turkey, Iran, and Syria have reduced the water flow (Kami, 2011). An example of its effects is seen in Basra, located in southern Iraq, bordering Kuwait to the south and Iran to the east. This province of 4 million residence suffers from the absence of safe tap water. The Shatt al-Arab, a river flowing from where the Tigris and Euphrates meet, is the primary source of surface water for the region. A combination of a decrease in the

Shatt al-Arab's flow, causing a spike in the water's salinity, and unchecked pollution, has forced Basra's residents to purchase water for drinking and cooking, threatened farmers' livelihoods, and has led to multiple public health crises (Wille, 2019). According to Wille, local authorities, individuals and businesses have been dumping significantly more industrial, agricultural and human waste into the rivers than allowed by government policies. This issue has led to protests after thousands of people were hospitalized due to stomach ailments and skin rashes blamed on the water quality (Abdul-Hassan, 2019).

The majority of Iraq's irrigated agriculture is on the Mesopotamian plain, the area spread out in central and southern Iraq, in the area adjacent to and between the Tigris and Euphrates rivers. This area is a very flat alluvial plain that is poorly drained and contains a lot of salt in the soil and groundwater (Christen & Saliem, 2012). Christen & Saliem state, saline soils and saline irrigation water reduce the ability of plants to take up water leading to reduced plant growth and crop yields. Over time soil salinization may increase to the point where more salt tolerant plants have to be grown or the land will fall out of irrigated production. This affects crop yields and crop choices and ultimately some farmers may only be able to use land for production of salt-tolerant plants. All of these will have an impact on food security and farmer livelihoods.

Overgrazing allows farmers to produce more livestock to meet the high demands of urban populations. However, overgrazing without improving the quality of pastures has led to nutrient-deprived soils, drastically affecting sustainable agriculture in Iraq and advancing soil erosion (Stoltzfus, 2017). The increase in livestock cannot be managed with the range of resources they have. If it doesn't change soon, it would be harder to raise the livestock.

The families in Iraq are big, a household average would be six or more members. This is a large group of people to regularly feed. Their diet consists of kebabs, quema, and stew. Most of the ingredients for the food are grown on farms or gathered from markets. With the violence and other conflicts happening, families are not able to get food or grow crops. In addition, men cannot earn a living to support their family due to the armed fighting. Therefore, there continues to be challenges with respect to food security and nutrition. The number of undernourished people increased from 6.5 million in 2002 to 10.1 million in 2016. There was a high child wasting rate, with poor nutrition status among children aged 3–6 months and among women, particularly those of reproductive age (Stephen & Hart, 2016). Nutrition-related illnesses were also high, particularly among women and children. In 2012, the prevalence of anemia, iron deficiency and iron-deficiency anemia in children aged 3–12 months was 21.6 percent, 14.4 percent, and 6.8 percent, respectively. Younger children were more likely to be anemic, have iron deficiency, and iron deficiency anemia than older children. Obesity prevalence, an emerging issue affecting mainly adult groups in Iraq, poses major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases, and cancer. In 2008, the obesity prevalence in Iraq reached an alarming 22 percent for men and 36 percent for women (Dhehibi, Frija, Bonaiuti & Biradar, 2018).

Iraq needs to stop the fighting and come together to create solutions for their future. To do this, there needs to be a cease-fire, a demilitarized zone, a peace treaty, or an armistice. Any of these options will require the intervention of foreign supporters. Iraq has shown an inability to do what is best for its citizens without foreign intervention. The Food and Agriculture Organization of the United Nations needs to continue to provide leadership on the food distribution program. They have the material and planning

ability to get food to those in need. Funds for building new infrastructure need to be made available to build up the lacking rural and urban communities. These funds cannot be given directly to the Iraqi government because there are too many past allegations of corruption by government officials. Iraqi citizens need to see positive results in order to reduce their willingness to battle with violence. The violence can be stopped by enforcing the agreement. Also to educate about these new rules. Teach them why these rules were set and why should they follow them. Also, bring awareness to their children about who not to hang out with. Along with the danger they might get mixed up with. In addition, help the community be more knowledgeable and safer.

To solve the water irrigation issue, there needs better maintenance and technology provided to the Mesopotamian Plain. The Ministry of Water Resources (MoWR) is struggling to balance the competing needs of water for irrigation, drinking, industry, and hydropower production, while meeting environmental requirements, including the restoration of the Marshlands. Programmes to improve water resources include the maintenance and optimization of water facilities and pumping stations, effective water management, and comprehensive research projects that consider the environmental impacts and the needs of the population (Water in Iraq factsheet, n.d.).

Iraq needs a better irrigation system to help control the amount of water that is used. Additionally, according to Food and Agriculture Organization of the United Nations (FAO), the European Union donated more than €80 million in agricultural advancement. USAID has invested about \$6.6 billion toward improving a wide variety of issues in Iraq, some of which include the improvement of marshlands by reflooding original marshlands, the financing of small, local farms and the improvement of irrigation techniques. The World Bank has also provided more than \$990 million since 2003 in grants and soft, low-interest loans for farmers to improve their water supply, irrigation and drainage resolutions (Water in Iraq factsheet, n.d.). They also need to use the technology to check on the equipment, to see what needs to be repaired. This would help with the management of the growth of the crop. Also, to fix the overgrazing issue, policy needs to be created and enforced to have farmers grave their cattle in different zones and in smaller numbers. That way, the soil won't be torn up and has time to recover.

Agriculture in Iraq is in need of a lot of help. Programs like the Iraq Seed Project need to be explored to expand the ability of citizens to have farms and create an income for families. The Iraq Seed Project is an educational media project created to raise awareness and international support for Iraq's farmers and agricultural land during this critical transition point. Once completed, the project will have three main components: a documentary film that ties Iraq's rich agricultural history to present conditions; a multimedia website that contains an interactive garden of native Iraqi plants, with relevant articles, videos, photographs, and essays; and a series of real-life exchanges between Iraqi farmers and their Western counterparts (Piper-Burket, 2011). The story of Iraqi farming needs to be retold to make a brighter future for its community.

Iraq has the natural resources to improve its status in the world. It will take the will of the Iraqi government and the international community to make strides in the agricultural area. The Iraqi people need to see the progress in order to reduce their level of violence and the government needs to be shown how to lead in a fair way, so all of its citizens have the opportunity to prosper.

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