

## Fayha School of Agriculture

### Introduction

Fayha school seeks to create a setting that sets a healthy and nurturing environment for children so they may feel more eager and ready to learn and “celebrate creativity and interaction rather than examination-oriented objectives.” – The Green School. Located within the city of Basra, Iraq, Fayha school will set in a town called At Tannumah, a vast land that once was blanketed with millions of palm trees producing date fruits. The purpose of Fayha’s education is to revive the vibrancy and beauty of what Basra, Iraq used to be like with millions of healthy palm trees that used to rest across the vast land.

What are some of the solutions for Iraq to grow towards a positive direction? Agriculture, science, engineering and arts. Applying earth architecture, Fayha will respectively be inspired by the local history and structures that exist to represent the regions culture. The school environment will have a colorful exterior and interior that will contrast with the location, creating a friendlier atmosphere aiming to spark diverse experience, with semi open spaces that promote social relationships to encourage more interaction and discussions amongst the students. “Give a man a fish, and you’ll feed him for a day. Teach a man to fish, and you’ve fed him for a lifetime.” – Lao Tzu. This saying is more prevalent in countries like in the Middle East where regions suffer due to political issues. Education is key to ensuring the growth of people’s lives and their dwellings. Fayha school aims to shelter daydreamers, embracing the minds of those that want to be a part of Iraq’s growth to a better tomorrow.

Firstly, Fayha school is a representation of the culture of Basra. Coming from parents both born in Basra, it is befitting that the ideas and representation in this school is influenced by my culture as well as other factors. Initially, the idea for the school came from my love and interest in my culture as well as integrating ideas caused by problems currently affecting Iraq. By teaching how to tackle these issues, the students of the schools can learn to combat the issues that they are unjustly dealing with. The three main issues that directly impacted Basra, and Iraq in general are the draining of the Marshes, a historical landmark, the bombings of the date palm tree industry and last but not least, the corruption of Iraq's government system. Three issues that are all connected to Saddam Hussein one way or another. In my household, I was made aware from a young age who Saddam Hussein was and what negative influences he brought prior to his death and after. What lead one man to cause a whole country that thrived for centuries to suddenly fall? It is a big question, nonetheless this capstone project is less about him, and more about the school. I will get into the general information of what he has done to have a clear understanding why I wanted to design a school.

Diving into the first issue, draining of the Marshes, who did it effect, what happened, and why did Saddam Hussein attack the Marshes? Once known as Iraq's Garden of Eden, characterized by elaborate floating houses made from reeds that are harvested from open waters for thousands of years, the Ma'dan people, also known as 'Arabs of the marsh' have been living this way for thousands of years. From the 70s and the next decades to come, the history and culture were almost completely gone because of one defiant dictator, Saddam Hussein. Iraq had begun facing an immense amount of injustices, and the floating reed homes had become a

place of refuge for those that have been persecuted by the government of Hussein. In the past, the place was also a refuge for the escaped slaves and serfs.

In the year of 1991 uprising, Saddam Hussein began the process of draining the wetlands in South Iraq as a punishment to the marsh Arabs for allegedly giving refuge to those that Hussein viewed as terrorist for being against his methods of running a country and its mistreatment of people. The Ma'dan people's food source and ways of living depended on the water. They built homes over the water and fished for food, and it is how they developed an income. But this wasn't the end of it, their homes were burned down and what was once a wetland became a desert, with what little water remained was poisoned. The river was cut off so the water would not flow to the Marshes. Many of the residents began to abandon their traditional lifestyle that lived on for over five thousand years, only to be destroyed by one dictator. It was recorded that half a million people were living in the Marshes, and after the draining, it was recorded that around sixteen hundred remained while the rest dispersed around Iraq and Iran. Now, the Ma'dan people have been working hard to restore the land and continue to keep the ancient traditions alive. Things began to improve around 2006 when the rivers began to flow back as the rivers were reopened back to them with the fall of Saddam Hussein. Some Ma'dan people went back home. Today, the Ma'dan people make income off of tourists that visit to experience the life of the Ma'dan people and fish they sell after fishing in the rivers. Tourists are welcome, they will provide you food and shelter they have built from reeds. In Arabic it is called Mudhif, which are guest houses.

Iraq had many names throughout the country, such as Baghdad, the city of peace, Basra, Venice of the East, Garden of Eden etc. But one nickname that was described by people who'd

travel to foot and saw Iraq from a far called it, The Land of Blackness. This was because Iraq once was densely populated by Date palm trees throughout the country, and the denseness of the palm trees gave a black appearance from a distance. During the 50s' and 60s', Iraq was the worlds number one date producer, producing about 1 million done of dates annually and more than any other country in the world, Iraq exported 32 million date palms. But by 2003, around 200 ton of date palms were being produced. Basra was hit the worst, producing only around a quarter of what it used to make. "It's not just an economic issue of getting a bigger slice of a date export market that nets big producers like Iran and Pakistan millions of dollars a year. Being renowned for dates is also a point of pride. Like all Muslims, Iraqis honor the date palm as a blessed plant."(11)

Saddam Hussein along with the authoritarian regimes didn't trust the date palm trees because they would provide hiding and covering for people to talk and plot against him and the government. Post-Gulf war Iraq, Saddam ordered to have the palm trees be chopped down, bombed and the lack of pesticides threaten to decimate the date trees, destroying them by the thousands soon to end up destroyed by the millions. "Iraq's chronic problems over the decades – lacking of water, electricity, fuel, and storage – have forced many farmers to abandon cultivation and find another jobs like in the army or police." (11) After Saddam Hussein was no longer present, Iraq seeks to start with planting 70,000 date palms along Baghdad, Karbala and Najaf to revive the production and they plan on planting more over time.

The current situation of Iraq is caused by government corrupting in lack of providing help to the Iraqi citizens after the downfall of Saddam Hussein. When he was taken down, politicians took over, thus worsening Iraqs conditions. More people began to lose their jobs, Iraq, especially

in Basra, are facing lack of fresh water which is causing many to get sick. In current times, the citizens of Iraq are protesting against the lack of support the government is offering. Electricity is another big issue they are facing. It isn't that they don't have the resources. Iraq has a bountiful amount of money that isn't being used for the people to provide them with better electricity that doesn't cut off every few hours, they won't help provide clean fresh waters, and worse of all, instead of relying on companies that produce wonderful products that are just as good, if not better than outside essential needs, they instead buy it from outside of Iraq. Now, citizens of Iraq have begun to support each other and began to spread a message to only buy products made in Iraq and to not buy anything made outside of Iraq.

In addition to the political influences that created problems for Iraq's education system, educating the youth of Iraq is a major priority. The old Iraq used to be known for the knowledge and universities it has kept, unfortunately due to tragedy after tragedy, the state of Iraq has plummeted. The standard of education in Iraq has fallen which will only lead to further plummeting of the state of Iraq and the Iraqis. What was Iraq's education like and how is it now? "Iraqis Education is strictly controlled by the national Iraqi government, through the Iraqi Ministry of Education."(1) One thing that certainly makes Iraq's education great is that the public state education is provided free for everyone from Primary School to Doctoral degrees. Private institutes exist although the expense of these schools is unappealing to most Iraqi citizens. What they prefer is the right in deciding which study and career path they would like. Throughout the Middle East, Iraq's education is known to be of high caliber, teaching both in Arabic and English with advanced knowledge in subjects such as chemistry, math, biology and more. The education cycle in Iraq is 12 years, 6 years for primary, 3 years of intermediate school, and three years of

secondary education that is divided in two-part general studies such as scientific and literally and secondary vocational industrial, agricultural or commercial. One must be able to pass the national exam to move up from primary school to intermediate and so on. (1)

With current issues that exist in Iraq, primary education has been suffering due to economic conditions. This puts parents in a position not to send their children to school or children choosing to drop out of school at an early age. This continues to spiral down from lack of communication between teachers and parents, teachers being underpaid and a shortage of textbooks and teachings aids. The lack of jobs is one of the major issues in Iraq that puts parents in a position to drop their children out of school in order to work and provide for the family. (1) The lack of qualified teachers, poor conditions of school and teaching materials, also became a big factor as to why kids are failing at high rates.

I spoke to an Iraqi English teacher currently living Ammara, right above Basra, who goes by Zainab to get her insight in Iraq's current state of school education. I had asked her what is the current state of schools now in 2020. Have Iraqi students been dropping out of school by choice and by parents throughout the last few decades? And how does she feel about all of this. And I also asked for her school experience, how long it took for her to get her current job and is she content? This conversation took place over a phone call for convenience sake as messaging was not working in our favor due to lack of understanding each other. Zainab had said that students were dropping out of school as parents needed their kids help to support the family when times were tough. Eventually the kids would come back to school to complete their educations years later. Nevertheless, the education of Iraq was worsening, students were going to school and coming back home with being taught less compared to 5 years prior. They were

learning half as much due to the lack of the teacher's efforts, sometimes the students were being misinformed unintentionally by the teachers.

Zainab has younger brothers that attend primary and secondary school. She would help them with homework and listen to what they have learned at school, finding that they were not being taught the same as she used to be taught when she was their age. Zainab went to university to study English and soon would spend the next four years seeking a job as an English teacher, finding that it was difficult during a time the country was and still is struggling to provide jobs for the citizens on Iraq. But in 2020, the government had contacted her for an opportunity to work as an English teacher in her town, Ammara. Her sister as well is waiting for an opportunity and has been waiting for 5 years. Teachers are underpaid, and the government acts as though they do not have the funds to pay working citizens, but Iraq's know that isn't the case. Iraqi politicians are greedy and so they take the money for themselves by the end of the day. Because the government lacks to provide school funding, schools throughout Iraq are unable to afford textbooks and improve schools' conditions. Zainab feels heartbroken by all that has happened, but she hopes she can at least be a teacher that reflects teachers of the past.

What will the school of Fayha provide that will make it different from the rest of the schools in Iraq? My purpose in designing a school is finding solutions for a school that will allow kids to engage more, learn more and leave with knowledge that will indefinitely benefit them in the long run. Furthermore, Fayha school seeks to tackle the lingering effects of the issues that the tyrant Saddam had left on Iraq. The rise of children dropping out of school will only become another negative impact to Iraq's future that could potentially bring more harm than good.

Fayha is a school that is meant to provide a different form of education using different methods potentially new to Iraq.

Since Fayha is a school of agriculture, kids will be learning how to grow fruits and vegetables. But its main focus in agriculture is learning about the date palm trees, the history behind it, the benefits and how the impact of it can affect Iraq both in a negative and positive aspect. Because so much of the trees have been destroyed, Fayha school seeks to teach the new generations of date palm trees and to help grow more of it throughout Iraq. If the government won't help the citizens, then the citizens should learn to obtain skills that will benefit them in the long run, skills that the government could never take away. The kids will also learn how to cook with the food they grow using traditional cooking methods that take place outdoors, which is still popular throughout Iraq.

The site plan for the school is to have a library, teachers' offices, nurse office, bathrooms and more on one side of the canal, with two pedestrian bridges to cross over to where the classrooms are along with the agriculture. 14 classrooms will be organized and yet spread out the site on the other side of the canal with 2 bathrooms, 2 locker rooms, four cooking spaces organized around the classrooms. About 8 to 11 students will be in each classroom so that the teacher can interact and engage with the students more, while getting to know them. Age group considered for the school is primary to secondary so that all ages can learn from one another. And taking into consideration the different education level for students who dropped out, different age groups would likely be mixed rather than focusing on a certain age group per classroom. Secondary level students will be separated by gender in respect of the culture



already separating the genders in schools. This school isn't meant to be completely traditional; it is meant to be different in respect of the current Iraqi school system.

Methods I have taken into consideration when designing consist of giving the kids opportunities to roam freely around campus with classrooms that gives an option for semi open spaces when teachers allow for it without restricting them to a confine area. One side of a classroom wall consists of 6 doors that open up towards the outdoors, allowing for more sunlight, indoor outdoor experience and more interactions with other classes. Fruit trees are planted throughout the campus for opportunities to learn to take care of them and draw out fruits from the trees to eat. This will also provide natural vibrancy to the site. Being surrounded by nature has shown to be beneficial in concentration and memory as well as reduce psychological and physiological stress, improving mental health while providing soothing effects which also lift the students into feeling more alive and active. The trees will provide shading for classrooms as well as outdoor so the heat drops as Basra is known to have high temperatures, purifying air and remove toxins from the atmosphere to improve air quality, help reduce airborne dust levels and increase air humidity.

When I thought about designing the school, I didn't want the school to be one single building. I wanted an opportunity for every classroom to feel more immersed and surrounded by nature instead of more walls. I thought about the marsh houses, how they are built individually above waters, placed on mini islands they build. I wanted to ensure that I am reflecting the culture and history as this was important to myself but I was also considering what will give off familiar vibes throughout the school but turning it into a contemporary look of today. I decided that every classroom will be its own individual space the same way that Marsh houses are. They

are three feet high off the ground due to being close to the canal and ensuring the classrooms will not flood since from time to time, some places in Iraq tend to flood. Basra is surrounded by thousands of canals. I wanted the classrooms to be simple so that it's easy and quick to construct. But I didn't want it to be plain, I wanted every classroom to have its own unique feature. As I was designing the school, the roofs were originally flat and I was very displeased with it throughout the process. I was wondering what I could do to make it more interesting. I thought patterns could work, or colorful glass shining into the classroom from the sunlight. But neither was working in my favor. Then I decided to do the opposite of a flat roof and that was to give unique forms to it. Two types of triangles and a half circle molded, 3 dimensional roofs that repeated across the roof. I was then satisfied.

Every classroom will have a colorful interior and exterior that sets different moods and energies. While thinking about colors and what moods they could have effect on the kids, I was also thinking carefully about what colors represent Iraq. Yellow evokes sunshine and warmth. Blue gives off a refreshing and therapeutic space, and this will also represent the rivers. Green and mint similarly to blue gives freshness, representing nature, evoking positive energies that plants provide. Green also represents Iraq and the vast palm trees it is known for. White gives off purity, peacefulness and cleanliness. Red is a strong and powerful color, but depending on a type of shade, I decided I would go with a slightly softer and more muted red, slightly pinkish so it doesn't overwhelm the kids. Red represents warmth, energy and excitement. Next is pink, but not any shade of pink, a light gentle pink that doesn't overwhelm overtime is calming, kind and nurturing. Roofs are bolder in shade, and to reduce the overwhelming feeling that could potentially develop overtime in the pink classrooms, I decided to go with a light pink that is

closer to white than red to reduce the color. The colors will be derived from nature so that it doesn't effect the environment.

It is apparent that in the realm of sustainability, that the movement to live lightly on the Earth is very important to living a sustainable lifestyle. There is a beautiful connection to be made with this sustainability movement and Earth architecture found in older Iraqi culture. For millennia, Iraq had been using earth materials to construct buildings. Such materials are mud, adobe bricks, rammed earth, tar, lime, sand, reeds, palm tree leaves, palm tree trunks and more. These materials are abundant in Iraq, and not only that but it is also affordable and great for the environment and it can be found throughout Iraq. Two of the most materials used in Iraq are sun dried mud bricks and reeds. Not only are the materials everywhere and are affordable, the Iraqi people are very familiar with these materials and they can easily construct the school as they have the skills for it. Iraq's architecture consists of a lot of bricks and reeds with common flat roofed dwellings and other means of buildings. I have taken the style of Iraq into account when designing the school. Fayha school will be constructed using rammed earth methods as rammed earth includes strength and durability, low maintenance, fire proofing, load bearing, pest deterrence, superior thermal mass, temperature and noise control. Considering the lack of effort governments have in providing better maintenance for schools, rammed earth is a great option to work with constructed into a rectangular cube that will reflect Iraq's common building forms.

I had taken some influences from the marsh houses, reeds the main material used to construct the Marsh houses. They grow as fast as bamboo and they are also affordable. I wanted this to reflect off onto the school. Every classroom will have one wall made up of reeds as well as the doors that create an in and outdoor experience. Some of the material is applied onto the

roofing so the air inside can circulate in and out, while cooling the classroom down as winds pass through. Because I am focused on earth architecture, lighting needs to be provided for every classroom without the use of electricity. A whole is made onto the roof covered with glass to let in sunlight. This would work well in Iraq because of the year-round sunlight they get, and school would be held during morning and afternoon.

In conclusion, the Fayha school is an institution that connects culture, innovative learning techniques, and sustainable architecture design to deliver the right of education to the Iraqi people. It is important to teach the new generation in what ways they could help their country without relying on the governments lack of help. Replanting the date palms could continue to help regrow Basra's economy, create cleaner air and water quality. Fayha school will become a place of joy and interactions for the students where they will gain valuable experience and create beautiful connections.

## Works cited:

1. "Home." *Iraqi Research Foundation for Analysis and Development*, [www.irfad.org/iraq-education/?fbclid=IwAR1xAj2OaHXLyo-T1Y49slg\\_pWxl6f5IbO35rD\\_3n4VFORA36jJwXZW589E](http://www.irfad.org/iraq-education/?fbclid=IwAR1xAj2OaHXLyo-T1Y49slg_pWxl6f5IbO35rD_3n4VFORA36jJwXZW589E).
2. Wilson-Rich, Noah. "Every City Needs Healthy Honey Bees" TED: Ideas Worth Spreading, July 2012
3. GREEN SCHOOL OF BALI
4. DELLA FLORA, OLYMPIA. "Creative Ways to get Kids to Thrive in School" TED: Ideas Worth Spreading, March 2019
5. Elizabeth, Lynne, and Cassandra Adams. *Alternative Construction: Contemporary Natural Building Methods*. John Wiley, 2005.
6. Richards, James M., et al. *Hassan Fathy*. Concept Media U.a., 1985.
7. Botton, Alain De. *The Architecture of Happiness*. Penguin Books, 2014.
8. King, Bruce. *New Carbon Architecture: Building to Cool the Climate*. New Society Publishers, 2018.
9. Pawlyn, Michael. *Biomimicry in Architecture*. RIBA Publishing, 2016.
10. Atwood, Rebecca, and Sharon Radisch. *Living with Color: Inspiration and How-Tos to Brighten up Your Home*. Clarkson Potter/Publishers, 2019.
11. Associated Press. "Iraq Struggles to Revive Ailing Date Palm Sector." *Deseret News*, Deseret News, 25 Sept. 2011, [www.deseret.com/2011/9/25/20218447/iraq-struggles-to-revive-ailing-date-palm-sector](http://www.deseret.com/2011/9/25/20218447/iraq-struggles-to-revive-ailing-date-palm-sector).

12. Bright, Martin. "After the Bombs, a Dream of Palm Trees for Baghdad." *The Guardian*, Guardian News and Media, 30 Mar. 2003, [www.theguardian.com/world/2003/mar/30/iraq6](http://www.theguardian.com/world/2003/mar/30/iraq6).