INFOGRAPHIC 1 - PROJECT SYRIA

Casus

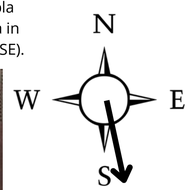
In this project, the assignment was to build a school and mosque in Syria. The location is in the north of Syria near the Turkish border. The school should be for students from 6 to 14 years. There is also a mosque at the school that can be used by both students and people living in the area. Many children cannot go to school in Syria and it is therefore our job to design the best possible school, so that children can go back to school. The aim is to develop as sustainably as possible. The mosque can be a meeting place with others from the different villages around. It can give commitment.

Location

Al-Salameh is a town in Syria, located in the north of the country, near the Turkish border. It is situated in the Aleppo province and is part of the Azaz district. The town has a strategic location, making it an important hub for trade and traffic between Syria and Turkey. Al-Salameh has a rural character and is surrounded by agricultural lands. The recent history of the town has been influenced by the conflict in Syria, with control over the town changing hands several times between different fighting parties.

Direction mekka

In Al-Salameh, Syria, the Qibla direction towards the Kaaba in Mecca is south-southeast (SSE).

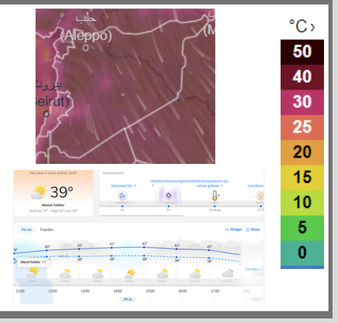


Material

In Syria, various construction materials can be found:

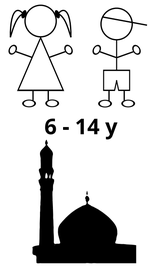
Climate

Azaz, Syria has a hot, dry subtropical climate. June 14, 2024, air quality index was 55. Schools benefit from natural ventilation, thick walls, tree planting, and sun covers.



target audience

Our school targets children aged 6 to 14. The mosque is open to the entire community. Due to war and earthquakes, Syrian children need safety, cultural integration, and psychological support.



Logistic

Syria's conflicts, economic crises, and natural disasters complicate logistics due to destroyed infrastructure and limited access. Local partners are essential for their community ties. International sanctions increase costs, so we focus on local and Turkish suppliers. some companies we found:

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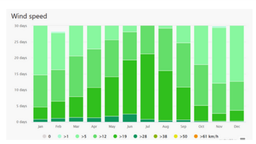
Wind analyse

Wind mainly comes from the west and west-southwest. We place olive trees along the west facade because of their local availability and ability to reduce wind pollution.



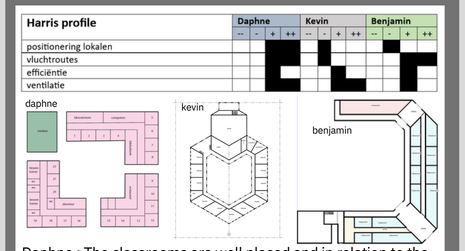
Architecture

In Syrian architecture, there is a lot of play with light, shadow and volumes. Private spaces open onto a courtyard. A limited amount of sunlight enters a courtyard, so that there is good ventilation in the summers. The current architecture is largely inspired by the earlier architectural styles. During the reconstruction after the civil war, they merged the traditional and modern architectural styles, in order to preserve the cultural identity.

Conclusion

Based on the gathered information, our building design for a school and mosque in Azaz, Syria, will prioritize natural ventilation, thick walls, tree planting, and sun covers to address the hot, dry subtropical climate. Given the high sun exposure on the southern exterior, especially in summer, we will incorporate shading elements. The mosque will serve as a community hub, promoting cultural integration and psychological support, especially needed after the war and earthquakes. We will use local and Turkish materials due to logistical challenges and international sanctions. Olive trees will be planted along the west facade to reduce wind pollution. The design will reflect Islamic traditions and accommodate the Qibla direction.

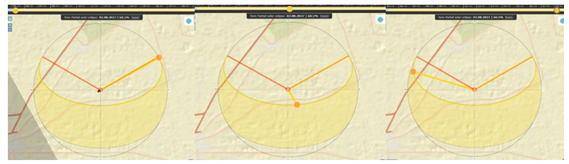
Harris profile

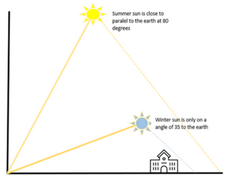


Daphne : The classrooms are well placed and in relation to the sun. All classrooms must be located on the southeast. In every single building you can exit from two sides, so there is always a way to escape. In general, the building is very efficiently laid out and each room can ventilate well.
Kevin : The classrooms are not all facing southeast.
Furthermore, the escape routes are not correct, because if there is a fire at the stairs you have nowhere else to get out. The building is efficiently laid out, but in some places difficult to divide due to the sloping walls. Again, the ventilation is good.
Benjamin : The classrooms on the inside of the building are not in a good position in relation to the sun. Furthermore, there are plenty of escape routes. The classrooms are not all efficiently laid out. The ventilation has to pass through many walls through the corridor that runs between the classrooms.
In the end, we chose Daphne's design.

Sun path

When we look at the sun charts we see that the city of Azaz is located in North Syrie. When we look at suncharts from the region we can see that the sun comes up in East and goes down in the West meaning out South exterior from our school has the most sun hours on a day.

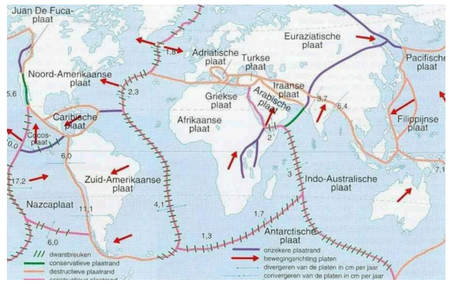




In the summer the sun ray span further because the horizontal layout nearly covering the whole of our work site. In the winter the sun is at a angle of 35 meaning our composition site is only being covered particualy. So we need to create shade by using our building or using natural elements to create cover.

Earthquake

Northern Syria, at the junction of the Turkish, Arabian, and Iranian plates, is prone to earthquakes. On February 6, 2023, a collision of these plates caused a 7-7.9 magnitude earthquake with an epicenter in Kahramanmaraş, Turkey, 17.9 km deep.



PVE

Mosque 350 - 400 m2:

- Toilets
- Minbar
- Mihrab
- Pulpit
- Ablution room outside
- Shoe closet
- Separate prayer room for women

School:

- 22 Classrooms
- Laboratory 35 m2
- Toilets for students
- Toilets for teachers
- Library 35 m2
- Director's room
- teacher's room
- men's teachers room
- Women's teachers room
- Canteen

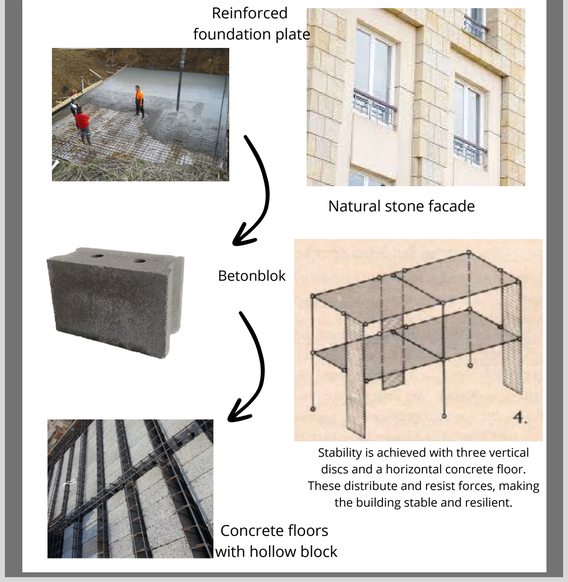
Culture

Islam is central to Syrian culture. About 87% are Muslim, mostly Sunni. Arabic is the official language. Islamic traditions, holidays, and values influence daily life, family, and social behavior. Mosques are key social and religious centers.

Thermal insulation and warmth

Thermoblocks are used for the walls. These consist of a layer of concrete cells, a layer of EPS insulation and a layer of concrete cells. This is for thermal insulation, so that it stays warm in winter. To heat the building, wooden stoves are placed in the building.

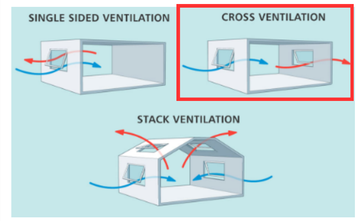
Construction method



Ventialtion

Natural ventilation: there are no installations, and ventilation can only occur through openings. This is the best option for Syria.
There are three diffrent natrual ventilations:

- single sided ventilation
- cross ventilation, this is what method we are using
- stack ventilation



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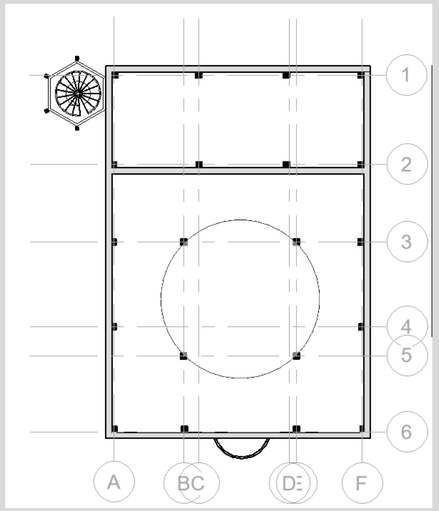
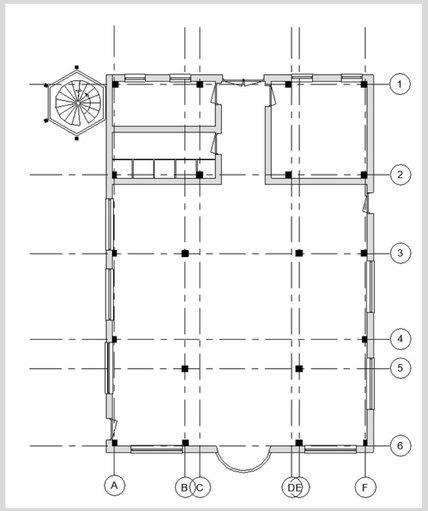
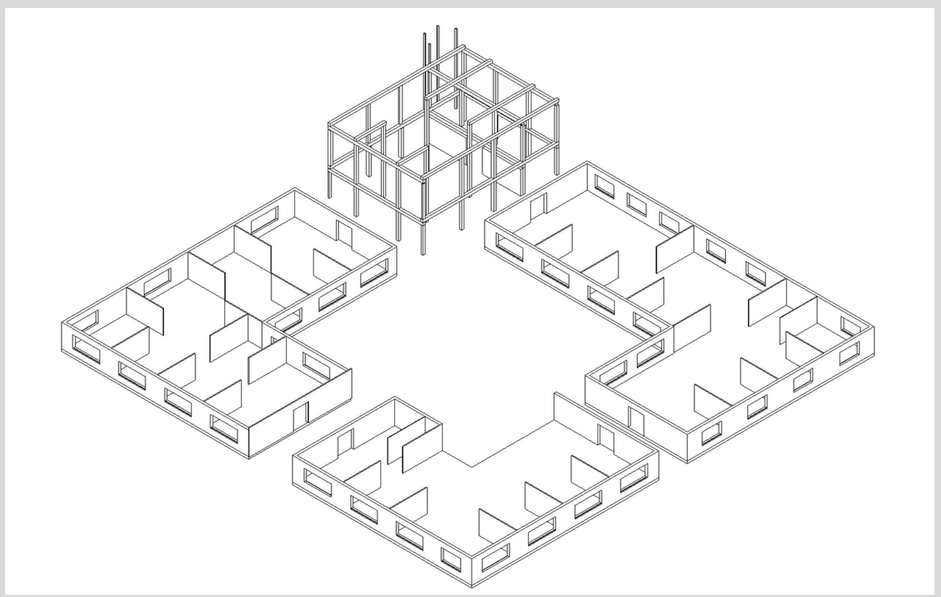
INFOGRAPHIC 2 - PROJECT SYRIA

Groep-1

Construction



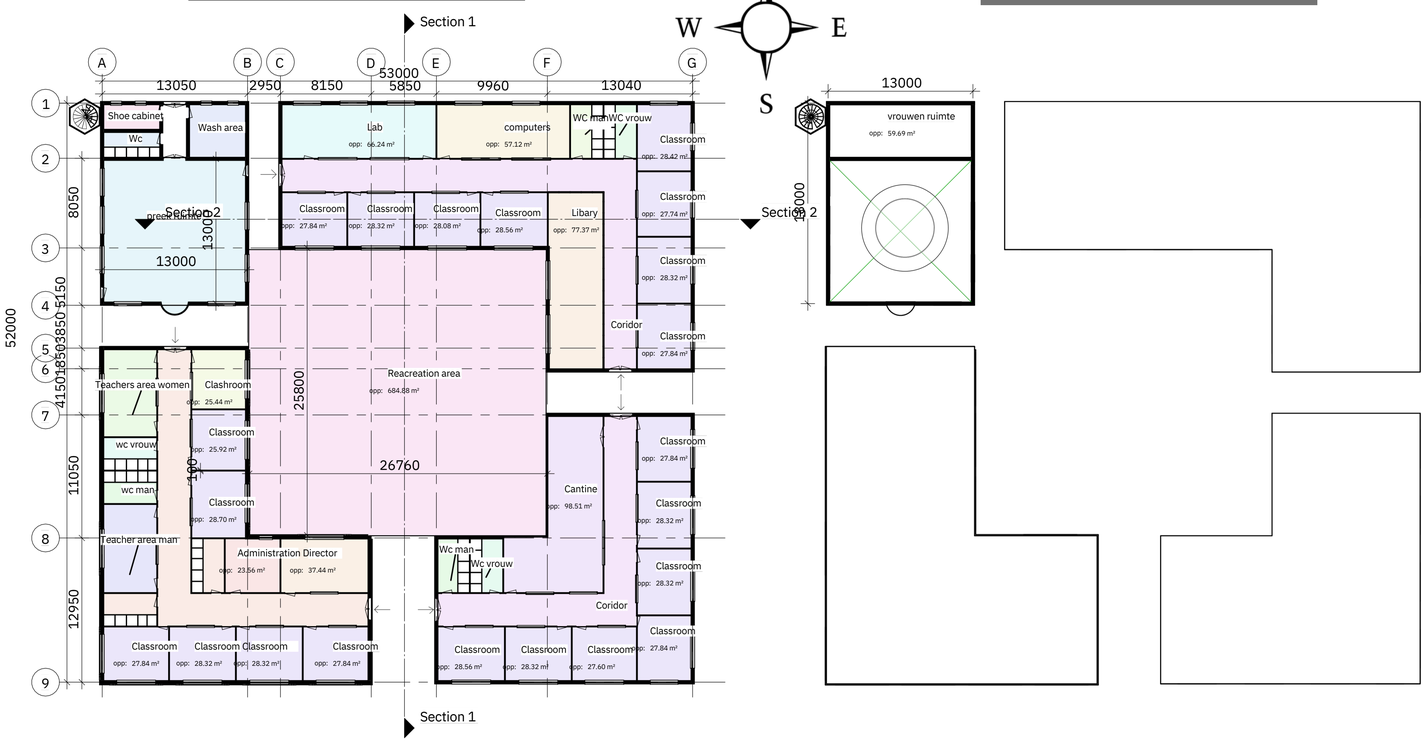




Renders

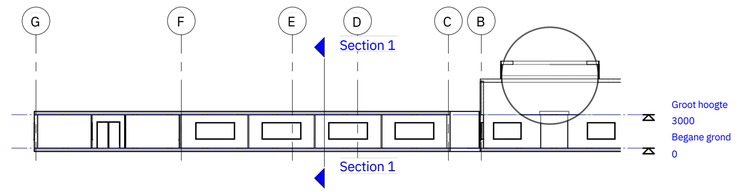
INFOGRAPHIC 3 - PROJECT SYRIA

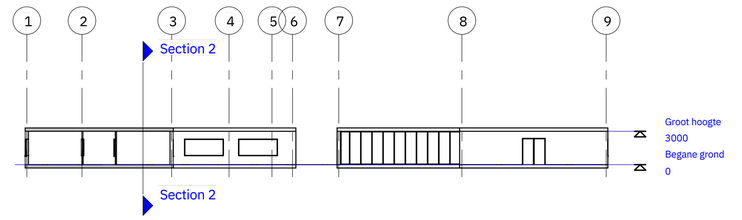
Ground floor 1:250



Second floor 1:250

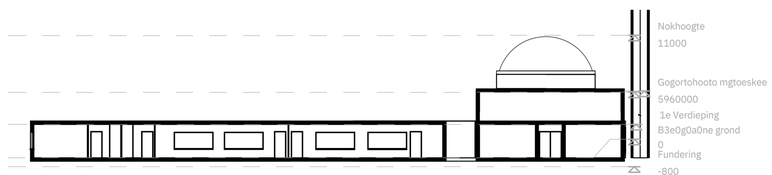
Section 1:250



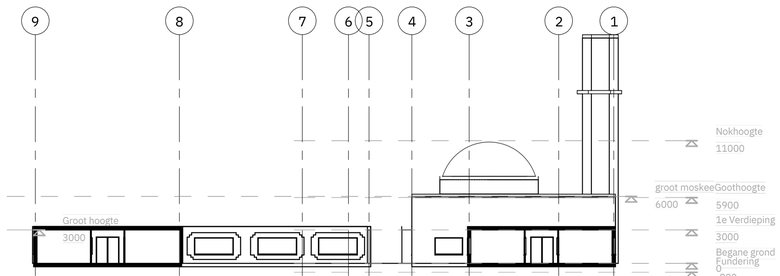


Situatie tekening

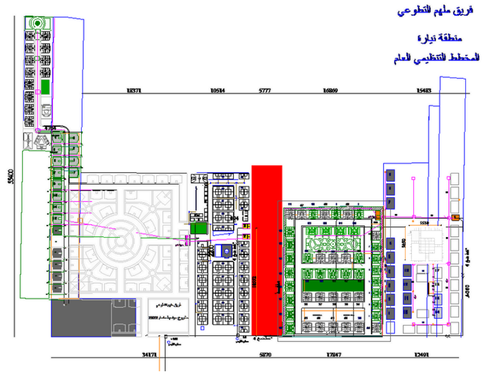
Views1:250



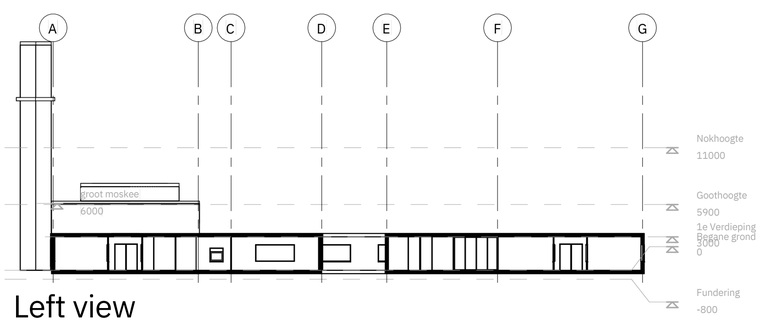
Back view



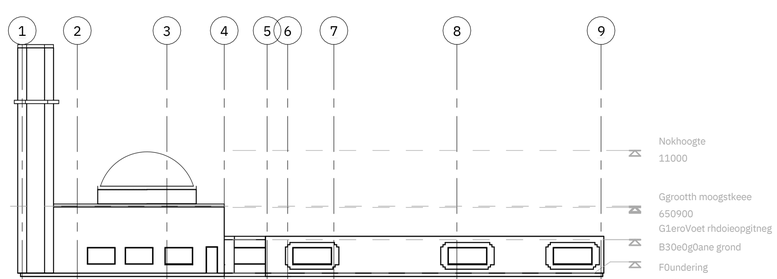
Front view



Sunpath



Left view



Right view