

oasis

agricultural desert laboratory



**comprehensive design test / 28th March 2017. – (24:00) 02th April 2017.
presentation 3rd April 2017, from 09.00 AM at room K.397**

**Location of the site: Egypt/Lake Nasser//Wadi Sebua
22°48'09.3"N 32°32'24.9"E
Googlemaps coordinates-22.802572, 32.540245**

Plot area: irrelevant
Built in ratio: irrelevant
Building type: free standing
Building height: design question

Based on the program below, an agricultural research base should be designed in the Egyptian Western Desert. Through on-site projects, our Department has been studying the architecture of the Nile valley and the characteristics of its cultural landscape for years now. Apart from the historical and contemporary architecture, the natural conditions which define the character of the Nile Valley for over five thousand years and the possibilities of land use are also prominent. The extreme climate forced inhabitants to a few kilometres wide zone along the river up until recently. They lived

and cultivated that area, but the 20th century brought dramatic changes. With the two Aswan dams built, the river's regulation and the country's electricity needs were solved. However, the flooding fertile silt no longer helped agriculture. The population which has been only a few million since antiquity started to increase rapidly in the second half of the last century, and today it has almost reached a hundred million. All these people live and produce in an area roughly the size of Transdanubia (a region of Hungary, covers about 40% of the country), although Egypt is ten times bigger than Hungary. To increase the limited number of natural oases, artificial oases have been the subject of experiments from around the 60's. Most of these have drilled wells or water arriving from the Nasser Lake swollen by the Aswan dams. It is a heroic fight for arable land, and though success is uncertain, the need for victory is not. Irrigation systems draw characteristic shapes on satellite pictures, the covered areas form 100-1000m diameter crop circles. In the frame of the test, the task is the design of an artificial oasis, which is a research laboratory for viable means of agricultural techniques and technology. The task requires some research, which will also be taken into account at the evaluation. By that we mean the study of architectural possibilities in the extreme climate. We obviously expect a contemporary approach, however, successful architecture in the desert is hardly imaginable without the knowledge of traditional building techniques. We expect a study on traditional and contemporary examples, their analysis, and a design reflecting the conclusions drawn.

Additional materials on artificial oases and desert irrigation:

<http://factsanddetails.com/world/cat52/sub331/item1184.html>

https://www.youtube.com/watch?v=ls_7bm1Ypb4

<http://news.nationalgeographic.com/news/2012/12/121217-pictures-greening-desert-irrigation-water-grabs/>

https://en.wikipedia.org/wiki/New_Valley_Project

<http://www.fao.org/ag/agp/agpc/doc/counprof/egypt/egypt.html>

<http://www.takepart.com/feature/2016/01/08/desert-farming-egypt>

http://digitalassets.lib.berkeley.edu/etd/ucb/text/Haug_berkeley_0028E_12388.pdf

Further examples:

<http://inhabitat.com/?s=desert>

design program

Car parking	place for 30 cars, preferably covered
Bus stop	4 buses
Trackway	Heavy trucks must be able to reach the centre
Foyer and exhibition space	200 m ² with a sanitary block for 50 people +1 handicapped
Offices and labs	1 manager's office 1 administration office 3x two-people offices 3x 50m ² laboratories 1x 16-people conference room 1x IT room including 20 workstations
Storage	1000 m ² with an interior height of 10m
Workshops	400 m ² , should connect to the storages, detailed design is not required

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