1986 TECHNICAL REVIEW SUMMARY

An-Najah National University
Nablus, West Bank, Jordan

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An annex building in the old city campus of the An-Najah University, in a developing residential district of the city of Nablus. The design concept uses elements borrowed from the traditional architectural vocabulary and gives particular priority to the use of outdoor space.

Date of completion : September 1982

I. OBJECTIVES

The main objectives of the project were:

To provide more space for educational activities of the University;

To provide suitable spaces for social activities;

To realise a new aesthetic/cultural message within the local context which refers to traditional elements.

II. DESCRIPTION OF SITE

A. Topography of site and climatic conditions

About 80 km from Jerusalem and in the occupied territory of Samaria region of the West Bank, Nablus lies on a narrow valley surrounded by rocky hills. The old city is developing towards the eastern and western parts of the valley.

The present building site of 30 dunums (30.000 m^2) is located in the western area, on the slopes exposing North.

Nablus has a hot and arid climate; there is some rains in winter. The main wind blows from North and brings showers.

B. Historical background

Nablus is one of the most important historic towns of Palestine. The historic importance of the city relates especially to its architecture. Most of the residential neighbourhoods, as well as the monuments of the downtown area, date from the Ottoman period; significant economic and urban development also took place in the 19th and early 20th centuries.

An-Najah was originally founded in 1918 as high school. In 1965, it was transformed into a Teacher Training Institute; and in 1977, it became a University and joined the Union of Arab Universities. Today, An-Najah National University is the largest independent Palestinian University operating in the West Bank. Student enrolment has quintupled in the past 8 years and reached 3.500 in 1986. The number of academic and administrative staff is about 400.

Due to the present political circumstances, the Israeli occupation authorities do not allow development at the new campus which is located at the western outskirts of the town. Thus, the University premises have developed on the existing, narrow plot in highly overcrowding conditions.

Presently, An-Najah University consists of five faculties: of Arts, Education, Economics and Business Administration, Engineering, and Sciences.

C. Local architectural character, including prevalent forms and materials

As indicated above, the historic and cultural significance of the traditional architecture of Nablus is important. Like many historic towns in the region, the spatial pattern consists of a network of introverted houses, of courtyards, narrow streets and covered passages, that adapt perfectly to the climate. The traditional building material is limestone, and the prevailing forms are pointed and low arches, and double windows, often with some symetrical arrangements of superposed elements.

In the areas nearby the Campus site, a new, "urbane" architecture of reinforced concrete structures with larger window openings and some exterior cladding developed in mid-fifties. This mediocre style of hybrid forms is partly reflected,albeit in a more rationalist version, in the architecture of the main building of the University, which was built in 1963.

D. Access

The campus site is surrounded by streets, the most important being Omar Ibn-Al Khattab street, which links the campus to the town as well as to the newly developing western neighbourhoods where the new campus area is also located; the main access is from this same street.

The University buildings are visible from the street, from the opposite slopes in the North, and also from some higher points of the southern hills.

III. DESIGN AND CONSTRUCTION

A. Architect's brief; functional requirements

A very rough functional programme consisting only of numbers of required classrooms and office spaces was outlined by the University when the design team (Community Development Group) was assigned. In return, major constraints resulted from the scarcity of time and a need for flexibility and adaptability of space. Thus, the architects had to define a functional programme as well as a development scheme for the existing campus which included the Administration Building, the Social Activities Center, the Library, the Engineering School and, finally, the very Liberal Arts Building.

B. Evolution of design concepts

1. Response to physical constraints:

The narrowness of site was a principal physical constraint, one

which influenced the entire scheme. On the other hand, the main and lateral accesses and the existing sports and green areas which existed were to be maintained, and these constituted another limiting aspect of the site.

Climatic conditions required protected, semi-open spaces, ventilation and shade.

No severe regulations, such as building height or plot ratios, were imposed; however, a more serious need was defined by rather "political" conditions. For the university authorities, as well as for the designers, it was imperative to provide optically, protected open spaces for the campus. This was to be realized within the existing site and topographical conditions in order to protect the social life of the university from oppressive, external control.

2. Response to user requirements; spatial organization:

According to the functional programme which was defined at the beginning of the design work, the basic requirements were:

To provide maximum teaching space and only very limited space for administrative use;

To provide flexibility for the use of spaces;

To provide spaces for public gathering: artistic activities, meetings, rallies, and free debates as well as recreation;

To provide connections between existing and new buildings, between open and covered spaces.

In order to achieve this, the architect proposed a series of covered blocks and courtyards joined by semi covered spaces: arcades and passages. They also incorporated multi-purpose, flexible spaces for varying potential use: iwans, covered arcades, visually connected galleries and small courtyards.

These spaces were simply but intensely articulated. The relation of light and shadow played an important role in the articulation of the simple geometrical blocks and courtyards. On the other hand, they tried to realize a series of well-scaled, open spaces by creating links to the existing building and breaking its monotonous mass. This spatial morphology of articulated open spaces and connected volumes also aimed at contributing to the protect and privat character of the university social life, both in behavioural and "political" terms.

3. Formal aspects

The articulation of volumes and courtyards is, according to the architects, an allusion to the spatial pattern of the Old Nablus. It also has some connotations of the urban character of the dense campus setting. Another meaning which emanates from the formal configuration is the contrast between this integrated structure and the piecemeal urban fabric of the new developing neighbourhood, which it reacts against.

The facades are very simply arranged and constitute a clear rhythm of series of openings: windows and arches. These forms, and their combination, are borrowed from traditional vocabulary: pointed and low arches, double rectangular windows, flat roofs, vertical order, treatment of corners etc. Forms are very simple and no attempts at decoration were made, except for some particular artefacts, such as a small fountain, etc.

4. Landscaping

No significant effort was made to landscape. Some existing trees were kept, and they still provide shade in the courtyards. The plantings on the southern slopes surrounding the sport courts were also kept. A comprehensive landscaping programme can only be realised when the complete development scheme is accomplished.

C. Structure, Materials, Technology

1. Structural system

The structural system is a reinforced concrete skleton with ribbed slabs and lightweight concrete block infill. The system is simple and the bearings are modest.

2. Material

Apart from the weight loading reinforced concrete structural elements and infill blocks, the main partitions are also made of light concrete blocks. Some newly added partitions are wooden framed plywood.

The exterior and courtyard walls are clad chiselled limestone. The courtyards are also paved in stone. Except for the simple, yet successful, aluminium window frames, the interior finishings such as tile coverings, door frames, plaster work, metallic grids for ground floor windows and wooden banisters, prove unsatisfactory.

3. Construction technology

Except for the stone cladding, there was no need for special technology or for a highly specialized labour force. The structural system, as well as other building systems, are conventional and constructed on site. Window lintels are precast elements manually lifted into place.

The constraint to continue all academic and social activities during the construction process was an important aspect which has influenced the project implementation. The time allowed for construction was also very limited.

4. Infrastructure

The neighbourhood is serviced with electricity, water, and sewage infrastructure. Central heating was provided in design and the

basic installation of the pipes was made. However, the system has not yet been completed due to budgetary and some technical reasons (continuation of building works for other blocks and the construction of an underground parking area).

D. Origin of technology, materials, labour force and professionals

All are local. Materials are either local (stone, infill, etc.) or national (cement, metallic frames, installations and devices, etc.). At the beginning of the design phase, there was a Jordanian consortium of 5 architects to judge and provide criticism of the design schemes proposed by the young team. Finally, all proposals were approved and the project was fully developed by the local team of designers.

IV. CONSTRUCTION SCHEDULE AND COSTS

A. History of project

Commissioned for the project in July 1979, the team began to develop it and by early November of the same year, the project dossier was ready. It included the general layout for future development as well as detailed architectural and structural projects for the Liberal Arts Building.

Immediately therafter, September 1st 1980, work began, and the first phase of construction was finished in ten months. This first phase included 16 classrooms and the cafeteria at the ground floor. The the building skeleton and exterior claddings were finished one year later, in September 1981, so that the interior spaces could be used during subsequent stages of construction. By the third year, all finishes, tilings and installations, as well as a some landscaping, were completed. The date of completion was September 1982. Two major and opposing factors influenced the construction: the requirement to use the building during construction on one hand, and interruptions created by the frequent closing of the University on the other.

The construction remained limited to the Liberal Arts Annex only, and the remaining part of the development scheme was abandoned due to difficulties encountered to obtain final building permits from the Israeli authorities. Presently, the underground parking lot is under construction, and the University is preparing to begin construction of the Administration Building which was interrupted by the intervention of the occupation authorities. However, the new development scheme is somewhat different from the original, and the project was assigned to other architects.

B. Total costs and main sources of finance

The total building cost is estimated 824,487 JD which corresponds to 2,360,000 US$.

According to the University administration, only 5% of the budget comes from local funds. The major part of the work was financed by donations of Palestinian or Arab individuals or associations; this fund was directed to the University by the Joint Committee.

C. Qualitative and comparative cost analysis

The average building cost is 92 JD per square meter (coresponding to 263 US$ per m^2). Higher figures were given for current university projects realised in Palestine or Israel, in which more sophisticated details, imported materials and equipment and some foreign professionals are used.

D. Maintenance costs

No figures concerning maintenance costs were obtained from the University Engineering Office. However, basic maintenance is realized from the ordinary university budget which is mostly based on student fees. Since the central heating system does not yet function, the maintenance cost is mixed with other maintenance costs (such as electricity).

V. TECHNICAL ASSESSMENT

A. Functional assessment

Presently, the building use is quite intense. Such usage, however, is not made according to the original space allocation. Although during construction one floor was added to the small courtyard wing, more space is actually used for administrative purposes, staff offices, new departments, etc. In addition, the administration made alterations to the original scheme by closing some semi-open spaces - such as the iwan-dividing spaces - by temporary partitions to create narrow passages through larger rooms, etc.

These alterations were due to the growing overcrowding, and the University authorities justify these changes by the argument that there is no other choice, since new development was handicapped because land at the new campus was partly confiscated and construction there almost paralyzed.

The most efficiently used spaces are the open and semi-open spaces: the courtyards, passages, and even the stairs, which provide room for public and social events and spontaneous activities.

B. Climatic performance

With the exception of the lack of a heating system, the interior climatic and lighting conditions are satisfactory. The double lighting and cross-ventilation of spaces are also found to be adequate. The narrow window openings and insulated walls have proved successful, regardless of the orientation of different facades. However, the original concept of open windows in upper galleries around the inner courtyards was abandoned by the administration and glazed window frames were installed in order to protect against rain and winter winds.

The original concept is fully realized and has proved particularly adequate in semi-open spaces: courtyards, passages and arcades.

C. Choice of materials and technological level

The simple, durable local materials and technology which were used are appropriate. They were easy to provide, not expensive and generally suitable for maintenance purposes. This positive assessment does not exclude a criticism which of the poor quality of some interior finishes, including the added partitions, the timber elements and the iron grids.

The most successful work is the stone cladding.

D. Ageing and maintenance problems

The same appraisal can be made with regard to ageing and maintenance. The best materials are those which also proved better for other technical reasons (stone cladding and pavements) while the tiny metallic window frames, badly produced wooden elements and plastering can create problems in terms of maintenance.

E. Design features

The basic elements of the design concept, i.e. the massing and volume, the alternance of volumes and open spaces, and the rythmic and regular arrangement of openings on facades, prove satisfactory and are well scaled. However, the articulation and connection of masses and courtyards, an important part of the design concept, can be altered after the completion of the new buildings which, at the present stage of their respective new projects, seem less connected and less articulated.

On the other hand, the compact nature of the volumes, which differentiate them from neighbouring blocks, can be accentuated by the contribution of the new development of the campus, leading to an overly dense scale.

VI. USERS

As mentioned above, about 3500 students (55% male and 45% female) and 400 teaching and administrative staff use the entire campus site. Roughly,

half of them constantly use the new annex building, and the open spaces created by it shelters all the university community.

The university each year accepts 1000 new applicants from the region and from other parts of occupied Palestine. Some research programmes of the university are oriented to current regional problems. The Student Council of the University provides volunteer services to the local community and culture.

VII. AESTHETIC ASSESSMENT

By the unity of external material, by the simplicity and harmony of forms, by the articulation of masses and open spaces and, finally, by the simplicity and alternance of a few elements (surfaces, arches and window combinations), the architectural ambiance realised in and around the building creates a restrained spatial environment. The scale, the sense of quiet and protection, and the interrelation of spaces yield a pleasant comfortable quality to the spaces.

This unity is partly altered in some modified inner spaces and by some mediocre detailing solutions (such as the staircases).

Technical Reviewer : Dr. Atilla Yücel

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