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Renovation in Historical Cities Emergency and City Services Streets in Fes, Morocco

The concept of what is a historical monument is changing and our planning practices should follow. Vernacular buildings may be considered monuments, a notion that may be expand to the scale of a whole city. This is the case in Fes, in Morocco. As the historical center has been listed by UNESCO as a "World Monument", the King of Morocco responded by creating a public agency to manage all the projects in Fes. In this area, planning and building streets for emergencies and services is not a simple challenge.

Oger International was chosen to develop the plans and follow the execution of the works to transform some walkways into streets accessible to emergency services. The objective of this project is to improve accessibility to the historical center for specialized small vehicles. There are many difficulties, such as for a renovation project, how far are we allowed to modify historical buildings; how to involve the local inhabitants with the project to guarantee its sustainability; and how to reach a comprehensive process (utilities planning, urban development and budgeting) and get all key people and city agencies feedback in order to design a cohesive and clear master plan?

For me, this project presents a specific challenge. Renovation work is often inspired by previous projects, but Fes is unique.

I'd like to begin with a few words about the history of Fes. Founded by Moulay Idriss the First, in the eighth century, near the Roman ruins of Volubilis, Fes quickly became an important political and cultural city. Fes is placed in a hollow by a river. Many immigrants moved there, from different countries.

Fes is a highly spiritual center, and it also has a dynamic economy, with a rich handicraft production and a solid tourist industry. Nowadays, the city has more or less one million inhabitants; most of them arrived in the last twenty years from the interior of Morocco. The historical center has one hundred fifty thousand inhabitants, and is getting more and more crowded.

The historical center is composed by two parts. In the north, Fes el Bali is the ancient part of the city, protected by walls, with the Mosque Quaraouyinne and its university, which is older than Oxford or Sorbonne. We can find other important monuments, mosques, palaces or museums in this area; however the great attraction of Fes el Bali is the



The historical center of Fes has 150,000 inhabitants and is getting more and more crowded . (Photo R. Penido)

little shops of all kinds of handicraft products. Most of them are still situated in the center of the city. The tourists come to see the impressive leather or metal production. In the last decades, the more well off inhabitants have left the center and have moved to the suburbs. The old palaces have been transformed into small flats for many families as the proprietors have given up their obligations to the preservation of the building's historic qualities.

Fes el Jedid, in the south, the newest part of the historical center, was constructed in the thirteenth century. Protected by walls too, this part of the city has wide streets; however the area and the population are smaller than Fes el Bali. The Royal palace is located here, and gives an aristocratic charm to Fes el Jedid. In the Mellah (ancient Jewish ghetto), the architecture is different, with big windows and balconies.

Between the two world wars, New Fes was constructed, placed a mile and a half from the center, with regular streets and avenues. The administration, the banks and the industrial centers have established in this part of the city.

As a result, the richer inhabitants of Fes have chosen New Fes as their place of residence, with its good accessibility and modern services.

In the eighties, UNESCO campaigned to protect the historical center of Fes and in the following ten years, a lot of research was made by the agency Ader. In 1992 the “Plan for the Preservation of Fes” was published. Many projects started at this time, with some financed by the World Bank and others by companies or rich families. In the nineties, a few monuments were restored, many ruins were rebuilt, some places and palaces were transformed.

Nowadays, Ader wants to address the structural projects. All the streets have been studied, and some of them will be transformed soon. The agency decided to create a network of streets to gain better access to the historical center.

The first structural project is the “access roads”, which will improve some of the existing wide streets for cars and large vehicles. Only a few “access roads” go to the interior of the historical center; the majority serve the area near the gates of the ancient walls of Fes.



*A typical street in the historical center of Fes.
(Photo R. Penido)*

The second structural project is “the emergency and city services streets”. More or less eight miles of streets are concerned. The objective is clear, and could be summarized in one word: accessibility - accessibility not for cars, but for the essential services such as fire fighters, ambulances, garbage collectors and such like.

It's important to know that this city has been damaged by fire many times. For this reason, the fire fighting service is still very important. For example, many little industries work with gas bottles or ovens for the traditional bread. The houses are often built with wood. So, when a fire starts, you can imagine the difficulty to combat it.

The accessibility is important for the preservation too. Ader surveys show that the buildings situated near the gates of the city are in a better state than the other parts. One of the reasons for this is the facility to transport material for building work. However, I'd like to briefly point out that the quality of the building work is low, and sometimes they destroy beautiful details or renovate the building without building regulations.

Let me turn now to the companies that are working on this project. After the tendering for the project, Oger International was chosen to develop the plans and follow the execution of the project. We are managing the project with five Moroccan collaborators: Etafat (responsible for topography), CBEE (road concepts), Ingebatt (structure), Archi 33 (architecture), Proctor (perforations and soil analyses). The group of companies must also collaborate with all the services of the City, for example Radeef (responsible for the water, sanitary engineering and electricity), Morocco Telecom (communications), GMF (responsible for garbage collecting), as well as the Governor, the firemen, the police, the authorities, and the inhabitants. You can image the complexity of this project.

Now I'd like to move on to my third point, which is our method. I want to tell you that the first design was made by our client. Some concepts were specified. For example, the streets that will be prepared to be accessible for the emergency and city services were chosen. The technicians of Ader anticipate that thirty-three houses would have to be interfered with.

We started our work in October 2001 with a topographic survey; however some streets are so crowded in the day that we had to work at night to accomplish our task.



Garbage collection and transportation in the historical center of Fes. (Photo R. Penido)

At the same time, we started to make the perforations and soil analyses. Most of them showed something like a filling material, very mixed and porous, with sand, little rocks and ceramic pieces. It's well known that the city of Fes has been destroyed many times by earthquakes. Each time, the city has been reconstructed over the ruins. The consequence is that the level of the soil today is very different than the original.

We made a survey of the entire underground infrastructure, which was observed by the technicians of each service. Many problems were detected, some of them repaired quickly. However some of the systems are too old and must be changed. One project has started and some parts of the city have already repaired its systems.

Now, I want to talk about the emergency and city services vehicles. The initial idea of our client was to utilize a small pickup truck. The garbage services have one, and work with it in a few streets. The garbage in the majority of the city is collected and piled on donkeys. In fact, all transportation in the interior of the historical center is made by donkeys or horses. I can guarantee that they work very well, and we don't want to stop that. It's one of the tourist attractions of the city.

We researched possible vehicles based on the dimensions of the vehicles and their ability to maneuver. When the topographic survey was ready, we studied all eight miles of roadway. We found more than one hundred houses have to be modified to accommodate the turning radius of a pickup truck. After some meetings, our client agreed with us.

It's not the historical center that has to be adapted to the vehicle, but the opposite.

Oger International found a company from Canada that produces a small vehicle, perfect for this situation. I must explain that this vehicle is not capable of transporting water for fire fighting purposes. The system of Fes will be modified, to construct fire hydrants all over the city. That's why we can work with a vehicle which is three feet wide, and nine feet in length. The radius of its capacity to turn around is nine feet.

The process to make this decision was very difficult, and it took some months to make it. All the services and authorities were consulted. After that, we analyzed the streets in consideration of our decision with regards to the vehicle. We were able to reduce the number of the houses that have to be modified from the originally envisioned one hundred fifty to a modest fifteen.

Let's talk a little about the modification of these buildings. Most of the time, the problem is the corner of a house situated in a very narrow street. One idea of our project is that the small vehicle will turn at an extremely slow speed. However, it must turn with only one maneuver. The plans for these modifications follow the principles of the traditional Moroccan architecture.

We always try to utilize the traditional techniques and materials, to give work for the inhabitants of Fes, and preserve the traditional know-how. For example, concrete is our last solution. We utilize supporting walls in brick or a wood structure. For the decoration, we would like to use a ceramic mosaic, a metallic bar screen or wood ceiling.

After all this research and analyses, we made a circulation plan. The idea for circulation is that the vehicle comes by an "access road" in a high point in the city, goes through one gate, and goes down into one of the "emergency streets". The exit must be another gate, in the low part of the city. All the emergency streets will be one way only. The services of the city must know exactly where they have a problem, to map out the best route.

Finally, with regards to the subject of our methods, I want to show you a typical cross section. The client's request was a central drain, changing the profile of ninety per cent of the streets. After more than a year of working, we understood that one revolution like this is impossible.

I'm talking specifically about the consequences in all connections with the underground infrastructure. This was a key point in our task, and it was not easy to convince the client.

We should not forget that some streets are very narrow, and one drain in the center could be an obstacle for the pedestrians and animals. Conserving the lateral drains, we suggested a new concrete piece to protect the buildings and stop water and humidity.

The other problem was the price of the stones to pave the streets. In Morocco, only a few companies could produce the stones, and this is much more expensive than concrete paving. Our client wanted stone paving for the principal streets. But when we presented a budget, the authorities of Fes didn't agree with it. They decided to utilize concrete paving, with one color and texture, which would harmonize with the historical character of the city.

To finish this presentation, I would like to tell you some of the other problems we are facing. First of all, I want to talk about planning. It was stipulated in the contract that Oger International had only nine months to make all the research and plans. However, it's taken two years of studies before we are ready to start the actual work of the project. The execution of the work will start in the beginning of 2004 and our client anticipates it will take three years to complete it.



*Example of vernacular architecture in Fes.
(Photo: R. Penido)*

Three keys points are responsible for the delay of our planning: the vehicle dimensions, the type of paving, and the architectural survey. I have talked about the difficulties with the vehicle and the paving; now let me tell you about the problems concerning the architectural survey.

The first task was to understand the characteristics of the Arabic architecture. In Fes, for example, the design of a building is very different from the modern architecture. The place of the walls varied on different floors, and their thickness was also variable. The buildings were built in different periods, and sometimes they had dissimilar levels. We found many geometric forms in our plans: rectangular, triangular, and trapezoidal, with different angles. Consequently, with all these variations, it created a challenge to draw a traditional staircase!

The second problem was to gain access to these houses. The cultural tradition in Morocco is very different. You could imagine the difficulties to enter in a private house, notably when the men are working and the women are alone. To accomplish the architectural survey, we needed help of the authorities of each district.

Next, I'd like to talk about how the population felt about this project. The problem is how to involve the local inhabitants with the project to guarantee its sustainability. Let's translate this in real terms: Oger International is responsible only for the technical work. We can, and we must, give advice to our client about the social aspects of the project. Our client is aware of this situation and made an exhibition about their projects. I saw a lot of news, both in the newspaper and TV, when I was working in Morocco. One expert from Ader was with us when we were working in the streets of Fes, discussing with people who wanted to know more about the project.

For the accomplishment of this project, many people will be disturbed in their lives, at different levels. The majority of the inhabitants of the historical center are poor. They have had little education. In the historical center, we could feel a sense of exclusion on the part of the poor people whose situation would improve if the authorities made decisions with their consultation.

I think that a specific campaign should begin. I would recommend a group of public relations workers talking to the people directly in the streets. If the people of Fes understand the objectives of the project, they will feel that the city is gaining something after all these problems. I think this is

the best way to obtain the understanding and trust of the inhabitants of Fes and its participation.

Another difficulty Oger International had with this project was the coordination between the technicians, the city services, the authorities and the inhabitants. It's not easy to make a decision, when so many people are concerned. And to guarantee the success of the project, we must hear the opinion of everybody.

Our client understood the importance of meetings and spent time discussing some structural decisions and the priority of each city service. This is why the planning has been delayed. Ader has some political support, and sometimes the Governor comes to special meetings. I think an urban project like this, which will develop over many years, needs a strong political support to help its actions. The other essential force is the backing of the inhabitants.

The "emergency and city services streets in Fes" are a good example of a renovation project in a historical city. To conclude, I want to point out some important ideas for an urban planner. First of all, the planner needs to balance the renovation project with the master plan of the city. In my presentation, I have spoken about the importance of getting the key people and city agencies feedback, in order to design a comprehensive and clear process.

The planner should not forget that the inhabitants and the visitors should be considered equally as key people too. We need to be careful as to their feelings towards a monument in order to incorporate this into the project. However, a planner must not forget the surroundings where they are working. In the case of Fes, it's a project situated in a country with many economic and social difficulties. Regarding the budget, I think that countries like Morocco need a special strategy. For example, it's better to develop many little projects rather than one very expensive one. The investments should be made in different parts of the city, to prevent the value of property going up in only one part of it. An extreme change of rates in a historical district could expel the original inhabitants.

Finally, I think that an urban planner who works with the renovation of historical cities needs some humility. We have to respect the inhabitants and their technical traditions, the materials they use, their culture. Perhaps in this profession, the urban planner needs a sensibility of an actor, who needs to understand the psychology of the role to play his part. That's why this profession fascinates me.