



Palestinian Presidential Committee
For

The Restoration of the Nativity Church Bethlehem



June 2016

Church History

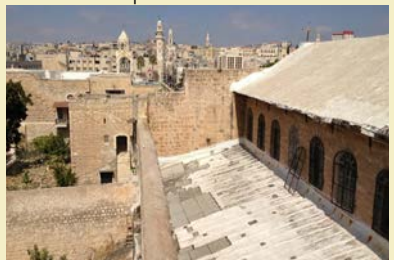
The Church of the Nativity is one of the first Christian Churches, built in the place where Jesus Christ was born. It marks the beginning of Christianity and is one of the holiest spots. The original basilica church was commissioned by Emperor Constantine in 327 and completed in 339 A.D. The Church was destroyed by the Samaritans in the 6th century and then re-built in the same century during the reign of Justinian with further alterations. Since medieval times the Church developed into a complex of religious buildings in an extraordinary architectural assemblage run by the Greek Orthodox Church, the Custody of Holy Land and the Armenian Church, all under the provisions of the Status Quo of the Holy Places as agreed upon by the treaty of Berlin (1878).

Program Background

The **Presidential Committee for the Restoration of the Nativity Church** was established in 2009 with the blessing of the three churches and a mandate to carry out a scientific restoration program of the Holy Church. An international bid for the assessment study and the establishment of the restoration program was launched in August 2009, with bids received in December 2009. The contract was awarded in June 2010 to an international consortium of Italian Universities and Research Centers (University of Ferrara, Siena, Roma-La Sapienza, Naples, CNR Ivalsa) led by CFR-Italy and supported locally by Community Development Group (CDG)-Bethlehem. The studies commenced late September 2010 with the final studies / report including the conservation plan submitted in February 2011. The **Presidential Committee** reviewed the report through independent auditors and worked on securing the necessary funds to launch an international restoration bid in April 2013 for the first Phase of works that included the Roof and Windows. The contract was awarded to Piacenti – Italy and the construction management to Community Development Group (CDG)– Bethlehem supported by the previous study consortium. The restoration commenced formally in September 2013, and since then additional funds were secured. Several other Phases were introduced to the ongoing restoration contract based on the elements and priorities defined in the project final report.

PHASE I (Roof & Windows)

The roof and its wooden structures were for centuries in precarious conditions and in dire need for conservation. It was urgent to guarantee the stability of the roof and to prevent further damages to valuable wall mosaic and plasters, caused by years of rainwater infiltration. This was the first task to be tackled starting in September 2013 including the restoration of the upper wooden windows and the roof rain water drain network.



A detailed survey was conducted for the roof structural elements including trusses, purlins, boards...etc. to assess the level of damage/decay and the required level of intervention which included, maintenance, consolidation and in some cases replacement of some severely damaged parts. The structural intervention included also some seismic improvement measures, such as increasing the in-plane stiffness of the roof and improving the connection between the trusses and the masonry walls. The new roof



system was also designed and constructed to guarantee an effective internal ventilation and a durable waterproofing protection. The new installed windows will provide both waterproof efficiency and UV transparency to properly protect the mosaic and trusses. Moreover a lifeline system was introduced to provide safe access to the roof for the Church maintenance staff. The work in this Phase was completed in March 2015.

The success of the roof and windows work activities and the availability of generous funds by several donors allowed for the continuation of the restoration program. The **Presidential Committee** launched in June 2014 new intervention in accordance with the list of work priorities and based on the final report conducted in 2010. These included the restoration of the Narthex, the Narthex eastern wooden door and the Basilica doors.

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- Narthex (Basilica Main Entrance)

The intervention was a priority to protect the Church main entrance, which along with the roof represented the main elements of risk that led UNESCO to include the Church in the list of endangered sites. The archeological excavation above the three vaults of the Narthex was completed in November 2014 and an extensive documentation was collected. A detailed consolidation solution for the damaged vaults was developed on the basis of a detailed laser scanning survey that shows the deformed current status of the vaults, the analysis of the changes that occurred over the years to the bearing walls, the information obtained from the historical documentation, the tests on masonries and their components and finally the results of 3D numerical simulations of the structural behavior. The solution was approved and the restoration works started in June 2015 and expected to be completed by the end of June 2016.



- Narthex Eastern Door

The restoration works for the Narthex eastern wooden door started in September 2014 by performing high-resolution digital photographic documentation and diagnostic research. They continued with a careful consolidation and treatment process carried out by wood restoration specialists. During the works, a major finding was made as the original upper part of the door on the eastern side (internal side of the Church) was hidden by wooden boards. On the west side, the restoration allows to fully appreciate the beauty of the original marquetry. The work was completed in December 2014 and both visitors and pilgrims can now truly admire the door in its original form.



- Stone Walls

Two construction techniques were distinguished in the Basilica. The first is characterized by the use of large and perfectly squared ashlar blocks up to 1m long and to 0.4m high, set in parallel horizontal courses of fairly consistent but not invariably identical height. The second, is characterized by the use of roughly squared blocks of fairly modest dimensions, set in

horizontal and parallel courses. The bedding joints vary in thickness up to 3cm.

The top priority was given to the restoration of the stone façades at the two corners and the lateral naves so as to avoid any damage to the lead roofing under construction. The restoration work included cleaning works, the replacement of cement pointing with lime and also the replacement of some



severely eroded and deteriorated stone pieces. This work was completed in February 2015; **the rest of the stone façades restoration works has been postponed to concentrate on priority tasks until securing the necessary funds.**

- Internal Wall Plasters

The plastered surfaces were affected by an incoherent and partially coherent, superficial deposit of atmospheric particulate due to the redeposit of the material carried by the percolation of rainwater coming from the roof, on which it was possible to see the leakages. Other principal deterioration morphologies are the complete detachment of one or more plaster layers or of the whole plastering layers. Additionally a phenomenon of salt efflorescence was detected.

The restoration works on plaster started in November 2014, starting with the thermographic survey that was carried out to be sure that no mosaic exists under the plasters. Then a comprehensive evaluation of the existing plastering layers was made to prepare the mapping and the shop drawings for the restoration works, which included the consolidation of the existing plastering layers, replacing the cement patches with lime plastering and filling the damaged or missing parts of the plastering layers. The plastering restoration work is expected to be completed by the end of June 2016

- Wall Mosaic

The existing mosaic surface is uniformly covered by an incoherent, or partially coherent, deposit of atmospheric particulate due to the deposit of the material carried by the percolation of rainwater coming from the roof. The detachment of the preparatory layers is the most severe and widespread morphology of damage, involving all mosaic surfaces.



The restoration works on the wall mosaic started in March 2015. A group of mosaic restoration specialists started the survey of the wall mosaic and performed detailed evaluation and tests. During the survey, a new fragment of an angel on the north wall between the fourth and the fifth window was discovered. The restoration of wall mosaic at central nave was completed in January 2016.

The wall mosaic restoration at the transepts are still on going where preliminary cleaning works were completed as well as considerable progress was made in their consolidation. The works are expected to be completed by the end of June 2016.

- Architrave (Trabeation)

Trabeation is located above the capitals of the columns and under the walls separating the two aisles, both on the North and South side and along the whole aisles. Considering their position, such architraves play an important structural role, because of what they play in bearing the weight of the masonry above. They also have a great value because of the inlaid works still visible nowadays.



Sophisticated analyses proved that they date back to the VI century. The diagnostic survey made in 2010 and 2015 evidenced four decay problems in the architraves. The restoration works started in December 2015 and expected to be completed in October 2016.

UNFUNDED FUTURE PRIORITY WORKS

The elements below were part of the final study and analysis report. Concentrated efforts are currently taking place to secure the necessary funds to carry out these works along with the rest of the Stone façades that were postponed until securing the necessary funds.

- Capitals and Columns

The capital and column surface is uniformly affected by an incoherent and partially coherent, superficial deposit of atmospheric particulate, while cracks, micro-cracks and lacks appear in specific places. Previous interventions for restoration consisted of filling with mortar, stone reconstruction of missing parts by using the same constituent limestone and repainting of the carved stony capitals.

- Paint on Columns

After the restoration of capitals and architraves, the intervention plan is to continue with the removal of the protective system applied to the column paintings and with restoration of the stone columns. Afterward, the coherent and incoherent deposits will be removed, the surfaces cleaned and the unsuitable fillings replaced by more appropriate fillings. At the end the paint films will be consolidated and subjected to proper interventions of restoration.

Each Phase of restoration will be preceded by tests aimed at choosing the most appropriate materials and products to be used and to define the intervention methodologies, with particular reference to pre-consolidation and consolidation, cleaning and filling.

- Stone Floor

The stone floor surface is affected by an incoherent and partially coherent, superficial deposit of atmospheric particulate. In general there are cracks and lacks in the basilica, while in the north transept area some marble slabs appear widely cracked due to the anthropic damage.

- Floor Mosaic

The last stage of the intervention will be the floor mosaic; the first step will be the removal of superficial incoherent deposit from the mosaic surface, contextual to the blocking of loose tesserae and to the pre-consolidation of the tesserae and of the bedding mortar, followed by the consolidation of preparatory mortar layers, the disinfection and the removal of unsuitable fillings.

The interventions will proceed with the cleaning





Signing ceremony of Phase I contract with "Piacenti spa" in Aug. 26th 2013 in the presence of the Presidential Committee Chairman, Prime Minister Dr. Rami Hamdallah and the head of the three churches



Palestinian President "Mahmoud Abbas" follow up visit to the Nativity Church on Oct. 25th 2010

and the extraction of soluble salts and finally with a new filling and some biocide treatment. Each Phase of restoration will be documented by graphic and photographic documentations of the works

- Lighting and Fire Alarm Systems

A new study and assessment took place in May 2015 to prepare designs for Lighting and Smoke detection systems. The study included the preliminary locations of the main cable ducts to run the necessary cables, number and position of the linear smoke detection barriers, type and location of lighting Fixtures.

The Grotto

The Grotto is the holiest place in the church located in the lower level under the altar and houses the star that identifies the exact birth location.

The restoration of this holy place will be carried out directly by the churches in respect of the status Quo and in coordination with the presidential committee's construction management team.

Project Contributors

Sorted in respective order of the committed contribution date:

- | | | |
|--------------------------------|------------------------------------|---|
| 1. The State of Palestine | 10. Bank of Palestine | 19. Federal Republic of Germany |
| 2. Republic of Hungary | 11. Republic of Greece | 20. Kingdom of Morocco |
| 3. Mr. Saeed Tawfiq Khoury-CCC | 12. Mr. Alberto Kassis - Chile | 21. Republic of Poland |
| 4. Palestine Investment Bank | 13. Mr. Jose' Said - Chile | 22. Paltel Group – Palestine |
| 5. Republic of France | 14. Russian Orthodox Patriarchate | 23. Turkish cooperation TIKA |
| 6. Russian Federation | 15. Kingdom of Spain | 24. Arab Fund for Economic and Social development |
| 7. The Holy See- Vatican | 16. Pontifical Mission | 25. Belgium |
| 8. Palestinian Investment Fund | 17. Armenian Orthodox Patriarchate | |
| 9. Palestinian Commercial Bank | 18. Republic of Italy | |

All project contracts and disbursement of fund are audited by Deloitte & Touche.

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