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GHAZALI SITE PRESENTATION PROJECT 2012 – 2014 PRELIMINARY RESULTS

The Christian monastery at Ghazali is located in the Wadi Abu Dom, about fifteen kilometers from the left (southern) riverbank in the modern-day Northern Province of Sudan (fig. 1). The site was visited by almost all of the famous travelers of the nineteenth and early twentieth centuries, like Richard Lepsius,¹ Louis Maurice Adolphe Linant de Bellefonds², John Gardner Wilkinson,³ Pierre Trémaux⁴ and Ugo Monneret de Villard.⁵ Peter Shinnie, Neville Chit-

tick and Sayed Nigm ed Din Sherif started excavations on the site in the 1950s on behalf of the Sudan Antiquities Service (the predecessor of the National Corporation for Antiquities and Museums).⁶ In two seasons they cleared the church, refectory and several rooms whose function has not been determined. The renewal of fieldwork on the site was possible thanks to the approval of a new project by the National Corporation for Antiquities and Museums in 2012.



Fig. 1: The Ghazali monastery

1 Lepsius 1849-59, Abth. I, 291, pl.131

2 Linant de Bellefonds and Shinnie 1958, 169-170, scans of original drawings in pencil accessed 18.03.2012 at http://www.culture.gouv.fr/Wave/savimage/manus/026/b751015202m_0269_106p-p.jpg

3 Unpublished notes of Sir John Gardner Wilkinson are stored in the Special Collection Library of the Bodleian Libraries, Oxford, UK. The author reported on Ghazali in: MS 22, XI, p.51 oraz MS 35, XLII, p.99-100

4 Trémaux 1852-58, pl. 53-5; 1862, 331-3

5 Monneret de Villard 1935, vol.1, 253-6

The aims of the project of the Polish Centre of the Mediterranean Archaeology include excavation, publication of results, conservation and presentation of the site to the increasing volume of visitors. The concession area comprises not only the monastery but also a neighboring settlement, three cemeteries

6 Shinnie P.,L., Chittick H., N., 1961 Since then the church has appeared in several publications and recently an article on the monastery has been published Ali Ahmed Gasmel Seed, 61-74



Fig. 2: Kite aerial photograph of the North Church

and at least two industrial areas associated with iron smelting. The first objective was to survey and map the site using noninvasive methods of archaeological prospection. The area was surveyed using traditional methods, geomagnetic prospection, as well kite aerial photography in order to generate photogrammetric documentation of the site.⁷ The nondestructive survey was performed with an instrument consisting of three units: two GPS (GPS RTK Topcon Hiper Pro) receivers (base and rover) and a cesium magnetometer (Geometrics G-858g Magmapper). This device, constructed by Wiesław Malkowski, stored location data simultaneously with magnetic data and paired them with the magnetic field measurements on the basis of their chronological order. The survey carried out at the settlement and monastery permitted to recognize locations with high magnetic anomalies that have polar (dipole) properties. These are clearly visible on the magnetic map as color scheme dots of low (light blue) and high values (red). It was hypothesized that the latter could indicate remains of iron ore, iron kilns or deposits of industrial rubbish, but an anomaly running along the eastern wall of the monastery, tested in 2014, turned out to be a pottery dump (colour fig. 1). Fourteen orthophotographs and digital surface models of the concession area were created. A digital surface model of the monastery (plane resolution 3.7 cm and depth resolution 15

cm) was also generated. The Orthophotomaps have a plane resolution ranging from 1 to 5 cm depending on the area they cover.

The North Church of the Ghazali monastery is a basilica with walls built of sandstone in the lower part and of fired brick in the upper part (fig. 2 & cover picture). The church was oriented toward the sunrise. An interesting discovery was made thanks to the kite aerial photographs and detailed documentation, which revealed a fact that had escaped the notice of all the people who have published plans of the church so far.⁸ The church is not rectangular in plan but has the shape of a rhombus with the north wall shifted slightly further to the east than the south one.

The North Church exhibits all features characteristic for Makurian sacral architecture:⁹

- Tripartite eastern section of the church consisting of an apse filled with a synthronon and two ancillary rooms on both sides of the apse connected by a passage behind it.
- Central part of the church consisting of a nave and two side aisles. The church had two entran-

⁷ The geomagnetic survey and kite aerial photography were carried out by Miron Bogacki and Wiesław Malkowski, Institute of Archaeology, University of Warsaw

⁸ The documentation was prepared by Bartosz Wojciechowski, PhD candidate, Institute of Archaeology, University of Warsaw, and Szymon Maslak, Polish Centre of Mediterranean Archaeology, University of Warsaw.

⁹ They have been claimed to be characteristic for Nubian Christian architecture, yet they are features typical for architecture developed in the territory of Makuria, see Obluski, *Aegyptus and Nubia Christiana. Festschrift for Włodzimierz Godlewski*, forthcoming 2015.



Fig. 3: Remnants of the ambo, North Church

ces symmetrically located in the northern and southern walls immediately next to the western section.

- Tripartite western section with a staircase located in the south-western room and a central western bay.

There was also a western entrance to the church in the north-western room, an unorthodox feature in Nubian church architecture. The floor of the church was paved with ceramic tiles in the pastophoria, ceramic tiles and fired bricks in the aisles, marble and granite in the sanctuary and sandstone slabs in the central and western parts of the nave. These pavements were just an underlay for lime plaster flooring in the entire building except the sanctuary and probably the north-western room.

The apse is entirely filled with a synthronon of fired bricks covered with lime plaster. Ancillary rooms on both sides of the apse were accessed from the aisles. The western walls of both rooms were built of stone in the lower parts and of fired brick in the upper parts. Entrances to them were crowned with arches, which are no longer preserved. In the north-western room there was a niche, and also a mastaba built against the northern face of the wall of the apse. A passage behind the apse led from this room to the southern pastophorium. The latter was furnished with three niches in the north-

hern, western and southern walls. There was a small mastaba against the wall of the apse, positioned parallel to the one in the northern pastophorium. No traces of a baptismal font have been recovered.

The central part of the church had a nave separated from two side aisles by rows of pillars.¹⁰ The pillars, four in each row, were rectangular in plan and built of fired brick cushioned with horizontally laid wooden beams. Four central pillars (N-2, N-3; S-2, S-3) were reinforced with pilasters on the nave side. They supported

arches, which, in turn bore the weight of the dome. The part of the nave from the space between the second pair of pillars towards the east was paved with marble and granite. At a distance of 4 m from the entrance to the apse there were four pots sunken into the floor in a line spanning the width of the nave. They were used as supports for beams constituting the framework of a wooden templon. The ambo was located against the southern and western faces of pillar N-2. It incorporated an earlier bench-like structure (fig. 3). A bench made of sundried brick ran along the wall of the northern aisle. Found next to pillar N-4 was an aspersion in the form of a shallow depression hewn in a granite stone (fig. 4).



Fig. 4: Aspersion in the northern aisle

¹⁰ The pillars are identified with a letter specifying the northern (N) or southern (S) row, as well as a number indicating the pillar's position in the row counting from the East.



Fig. 5: St. Onophrius inscription. South wall of the North Church, before conservation

The western section of the church was divided into three separate rooms. The south-western one contained a staircase consisting of three flights of steps. The entrance was located in its eastern wall and was crowned with an arch the capstone of which was decorated with a carved cross. The central bay opened on the nave and there was a bench running along its walls. Up to a height of 1.40 m the inner walls of the western part were built of well-dressed sandstone blocks. Above that level, the wall was constructed of fired brick, which made the structure considerably lighter than if it was made of stone.

The cleaning of the walls and pavement of the North Church revealed three funerary stelae not recorded by the previous excavators.¹¹ The first epitaph was written in Coptic for a certain apa Chael. The name of the deceased is followed by the opening words of the prayer for the repose of his soul. The other two epitaphs discovered in the North Church were reused for the reparation of the pavement, in which they were placed with the inscribed surface facing upwards. Thus, the text they carried is almost entirely obliterated. In case of one tombstone, only several letters in the upper right corner have been

preserved, forming the ending of the first three lines of the epitaph. These remnants are enough to state that we are dealing here with a Greek epitaph containing the prayer to “God of the spirits and of all flesh”, very popular in funerary epigraphy throughout Nubia. Thus far, the epigraphic discoveries at Ghazali known to date consist of 136 funerary stelae (mostly in fragments) and a sepulchral stone cross. They constitute the second largest assemblage of epitaphs in Nubia after the cemetery of Sakinya (Toshka West) with its 314 tombstones. The textual finds from Ghazali also include 116 inscriptions on pots (two in ink, the rest scratched) and 102 graffiti on the walls of the North Church. The most interesting graffiti are “St. Onophrius” and the prayer: “The Lamb of God, you take away the sins of the world...” in Greek (fig. 5).

Regular excavations have so far been carried out only in areas omitted in the 1950s. In these overlooked spots a church and fifteen latrines were uncovered in 2013 and 2014. The South Church abuts the North Church from the south (fig. 6). It is half the size of the latter and was built of sun-dried brick. The sanctuary was paved with trapezoidal ceramic tiles. The South Church has all the features characteristic of Makurian architecture (tripartite eastern and western parts of the church, passage behind the apse).

11 The epigraphic finds are studied by Dr. Grzegorz Ochala, Institute of Archaeology, University of Warsaw.

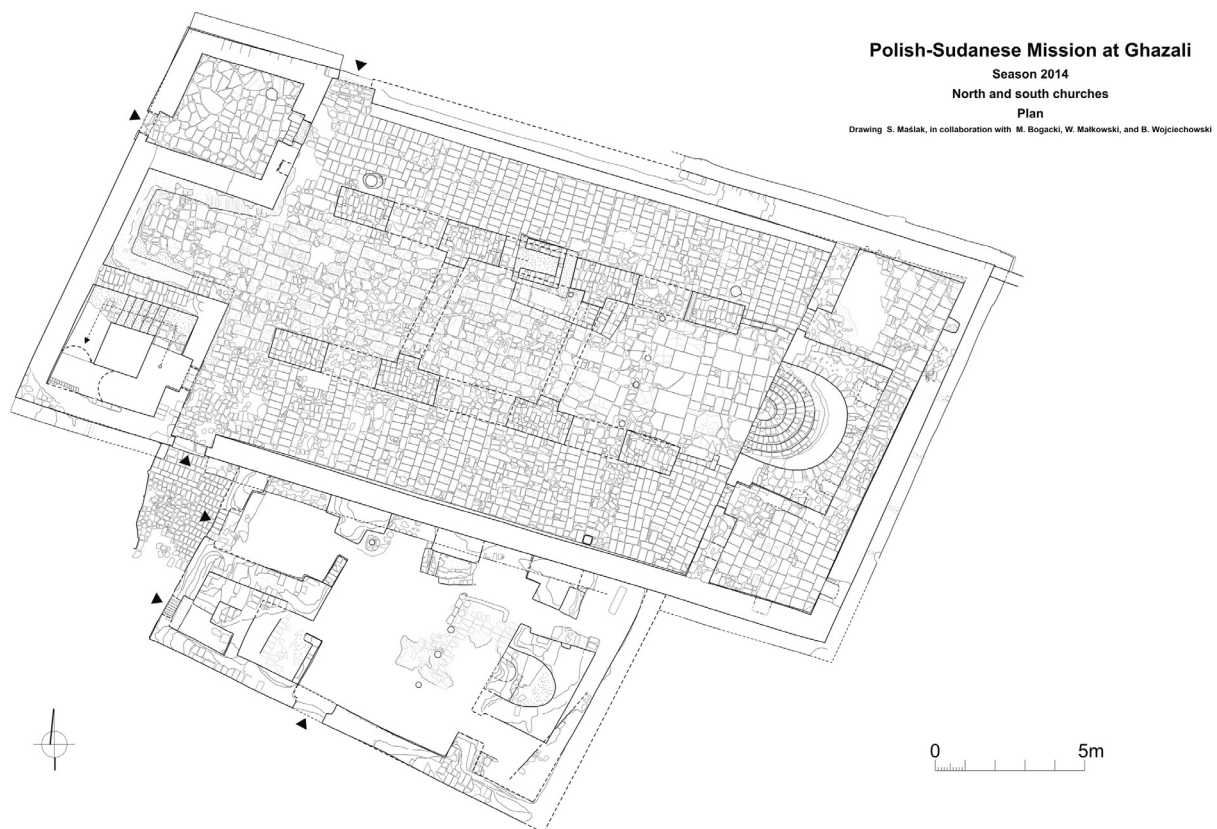


Fig. 6: Plan of the churches at the Ghazali Monastery

The state of preservation of the building is mediocre. Some parts, like the synthronon, were destroyed by flowing water.

Excavations in the area along the eastern wall of the monastery brought to light a row of twelve latrines and a dump corridor located behind them, between the toilets and the enclosure wall (fig. 7). Two groups of latrines (Group 1 and Group 2) located in the area adjacent to the central part of the eastern wall predate the group (Group 3) situated to the east of the church. The earlier latrines formed clusters, which consisted of three units and were separated from one another by a corridor. A single toilet had the form of an elongated rectangular room. At the eastern end of the room there was an elevated space with what might have been a ceramic seat but may well be just a relic of a larger structure. The drainage pipe led to the corridor in the east, where organic remains were found. The toilets of Group 3 were built directly over the dump corridor (fig. 8).

A set of seven rooms built of sun-dried brick was uncovered in the area excavated to the north of the North Church. The rooms were oriented along the same axis as the buildings in the northern part of the monastery. One of the rooms was paved with ceramic tiles. The walls are poorly preserved, no

higher than 0.75 m above floor level. The rooms are inter-communicated and bear evidence of two phases of construction.

One of several dozen grave structures, clearly visible on the surface, were selected for excavation.¹² The superstructure was rectangular in plan, its edges were lined with broken stone and the inside was filled with gravel. At the bottom of a simple rectangular pit a skeleton of a male aged 50 (or more) was discovered. The burial was undisturbed, and the skeleton was found recumbent in anatomical position. It follows the pattern of Nubian Christian burial, the body having been laid in supine position and oriented East – West (head to the West). The head of the interred was protected by a so-called head shelter constructed of three sundried bricks. No grave goods have been found with the body except some small fragments of a severely decayed shroud or garment.

The conservation and protection works on the site were possible thanks to the generosity of Prof. Angelika Lohwasser of the University of Münster and the Qatar-Sudan Archeological Project, who supported

¹² The graves were excavated by Robert Mahler (Polish Centre of Mediterranean Archaeology) and Bruce Williams (The Oriental Institute, University of Chicago), and the anthropological analysis was conducted by the former.

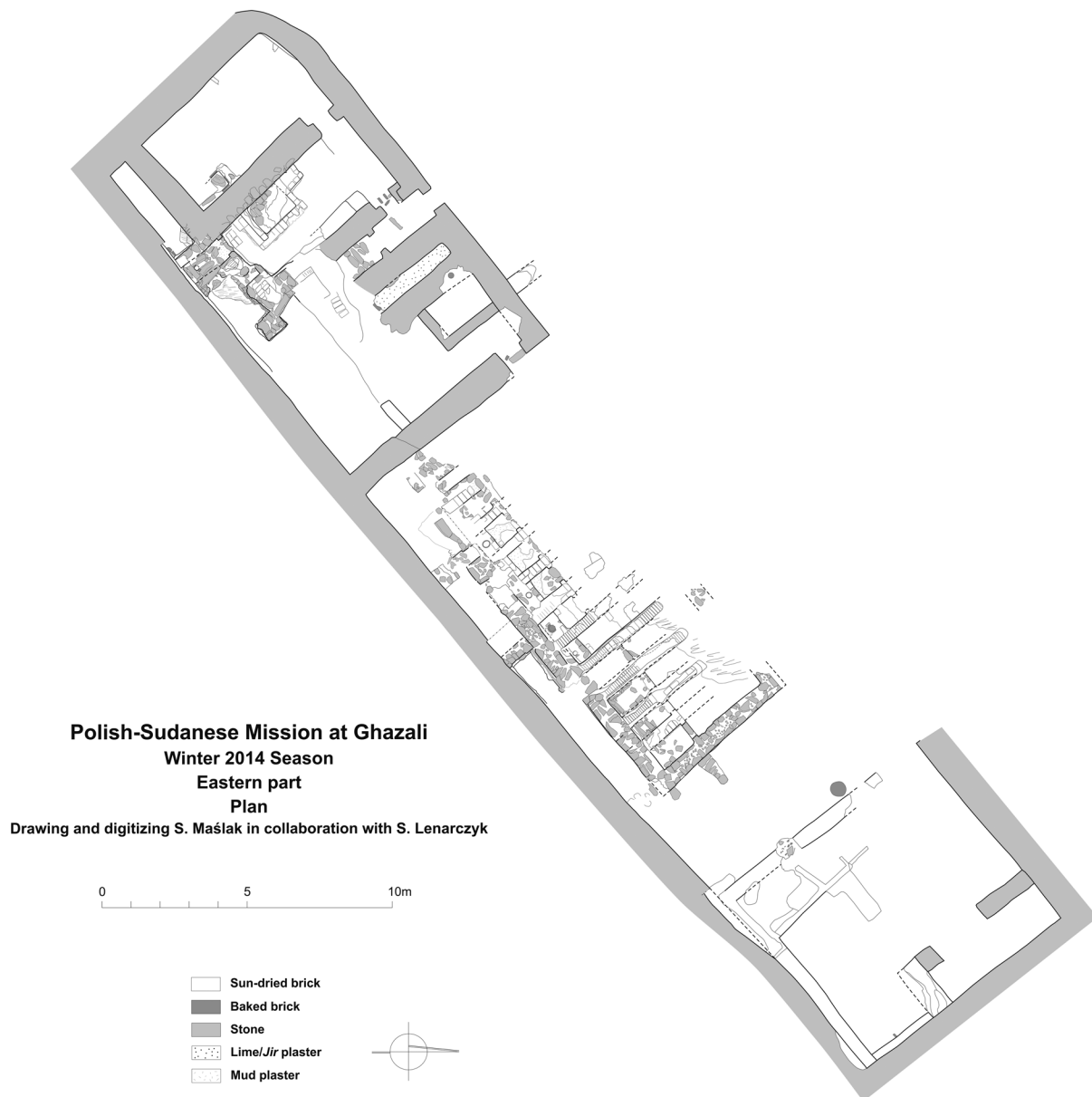


Fig. 7: Plan of the latrines

the project in 2014.¹³ The conservation treatment was extensive and focused on the consolidation of the fragile plaster of the walls of the North Church in order to preserve numerous graffiti, scratched pictures of holy figures, animals and boats, as well as traces of wall paintings. During the 2014 season, over 200 square meters of plaster were cleaned and re-attached to the walls (fig. 9). Edges of the preserved plaster were reinforced with protective bands. All of

13 The conservation was carried out by Cristobal Callaforra-Rzepka, Urszula Kusz, Wisłomira Nicieja and Maciej Zelechowski-Ston. I am grateful to Ms. Iglal al-Malik, director of the Department for Conservation, NCAM for helping the conservators overcome some logistical difficulties.

the inscriptions and drawings were traced on transparent film before and after conservation. As a result of the treatment, some previously unknown parts of decoration of the North Church were exposed (fig. 10). Measures were taken to protect the monument: some pathways were blocked with stone walls to redirect tourist traffic and limit further damage to the building. Other fragile areas were covered with clean sand. Tops of the pillars and walls of the church were cleared of stone rubble, which had posed a danger to visitors. Thousands of stones stacked in the monastery by Peter Shinnie were also moved outside and prepared for construction and reconstruction works during the stage of the project devoted to site presentation.



Fig. 8: A toilet of Group 3

The following measures have been carried out in the main church of the monastery:

- Documentation. Tracing of the graffiti; photographic documentation was made of the state of preservation and the work in progress.
- Cleaning. Mud and dust were removed using clean water, soft sponges and brushes. To target persistent accretions, 2% Contrad 2000 was applied to regular dirt and a 20% solution of ammonium carbonate in water was used for salt or gypsum recrystallization. A 30% solution of ethanol or pure ethanol and acetone were also used.
- Consolidation of the plaster. This was done in three different ways depending on the state of degradation. After cleaning, the first step in the case of highly eroded surfaces was impregnation with limewater. The edges of plaster and mortar were soaked with a 30% solution of ethanol in water to facilitate the penetration of the resin. Then the plaster



Fig. 9: Southern wall of the North Church during cleaning

was consolidated with a 10% solution of Primal AC-33 in water and ethanol. For mortar, a 5% solution of lime casein in water was used. This process was repeated several times depending on the level of integration of the mortar.

- Filling gaps and voids. Empty spaces between the layer of plaster and the construction support were consolidated by injections of Primal AC-33 (1:5 in water), Ledan TB1 (1:2 in water), or with a liquid lime mortar. The result was satisfactory. Detached edges and some gaps were filled by lime mortar modified by white cement. Two recipes were used depending on the characteristics of the original material:
 - Slaked lime, white cement, sand (1:1:4)
 - Slaked lime, white cement, calcium carbonate, sand (1:1:1:4)
- Consolidation of the paint and whitewash layers. The powdery whitewash on the walls was consolidated with limewater, with the addition of a 30% solution of ethanol. The flaking or powdered paint layer was consolidated with a 5% solution of ammonium casein.

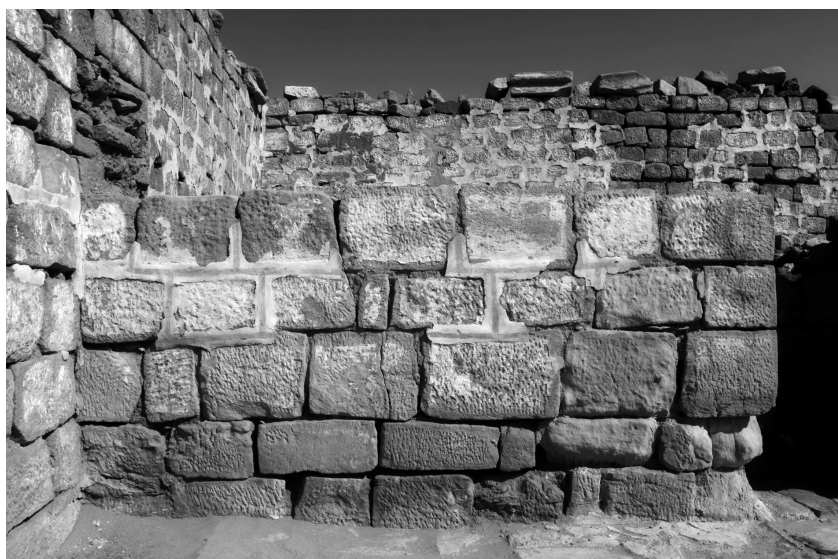


Fig. 10: Western wall of the north-east room of the North Church



Several samples were taken from the wooden beams used in the construction of the North Church and subjected to C14 analysis. The samples come from the staircase, as well as from fired brick pillars in the nave; two are from the foundation level of the South Church and the uppermost occupation level in the passage between the South Church and the southern monastic wall. The first sample, collated with the evolution of the Makurian sacral architecture, points to the erection of the North Church in the second half of the seventh century. The next two samples were taken from two different pillars in the nave. The analyses gave almost identical results and dated the replacement of stone columns with the fired brick pillars in the North Church to the second half of the 10th and beginning of the 11th century. This corresponds in date to another sample taken from the foundation level of the South Church. The South Church stands on a level of crushed fired brick and lime plaster originating from the upper part of the North Church, which no doubt had to be altered during the modification of the roof support. The last sample, obtained from the uppermost occupation layers at Ghazali, is the latest and indicates that occupation of the monastery ceased by the end of the thirteenth century. Thus, we can say that according to C14 dates the monastery of Ghazali remained in use for over six hundred and fifty years, from the mid-seventh to the late thirteenth centuries.

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ZUSAMMENFASSUNG

Der Artikel gibt einen kurzen Überblick über laufende archäologische und konservatorische Arbeiten an einem der am besten erhaltenen Altertümerstätten im nördlichen Sudan: das christliche Kloster von Ghazali im Wadi Abu Dom. Die Ausgrabung, von Peter Shinnie in den 1950ern begonnen, wurden bereits nach zwei Kampagnen eingestellt. Sie konnten 2012 vom Polish Centre of Mediterranean Archaeology wieder aufgenommen werden. Die Konservierungsarbeiten begannen 2014 durch die Unterstützung des Qatar-Sudan Archaeological Project.

Die neuen Ausgrabungen führten zur Entdeckung einer neuen Kirche und einem großen Latrinenkomplex. Letzterer ist die größte sanitäre Einrichtung, die bisher in Nubien gefunden wurde. Darüber hinaus wurden über 100 beschriftete Gefäße und über 100 Graffiti an den Wänden der nördlichen Kirche entdeckt. Durch die Reinigung des Verputzes konnten Spuren von Malerei im Inneren der Kirche freigelegt werden.