Arab Republic of Egypt
Grand Egyptian Museum Conservation Center

Arab Republic of Egypt
Grand Egyptian Museum Joint Conservation Project
Project Completion Report (Term1)

March 2020

Japan International Cooperation Agency (JICA)

Japan International Cooperation Center
Tokyo University of The Arts

EI
JR
20-027

Table of contents

Appendixes

Abbreviations

Abbrev.	Meaning
CAS	Capacity Assessment Sheet
CCAS	Conservation Capacity Assessment System
EM	Egyptian Museum, Tahrir
GEM	Grand Egyptian Museum
GEM-CC	Grand Egyptian Museum Conservation Center
GEM-JC	Grand Egyptian Museum Joint Conservation Project
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
UNESCO	United Nations Educational, Scientific and Cultural Organization
E-JUST	Egypt-Japan University of Science and Technology

I. Project Overview

1. Project Name

The Grand Egyptian Museum Joint Conservation Project (GEM-JC Project)

2. Project Duration

From November, 2016 to March, 2021 (52 months)

Phase III Period 1: November, 2016 -- March, 2020

Phase III Period 2: March, 2020 – March, 2021

*This report covers activities completed in Period 1.

3. Egyptian Counterparts

Responsible Institution: Ministry of Antiquities, Arab Republic of Egypt

*Currently, Ministry of Tourism and Antiquities, Arab Republic of Egypt (Since December 2019)

Implementing Institution: The Grand Egyptian Museum Conservation Center

Related Institutions: Egyptian Museum, Luxor Museum, Giza Storage

4. Japanese Implementation Organization

Responsible Institution (Client): Japan International Cooperation Agency

Implementing Institution (Consultant): A joint venture of Japan International Cooperation Center and Tokyo University of the Arts

5. Overall Goal

GEM-CC as the hub institute of conservation and study in Egypt, conducts conservation-related activities, and the artifacts in the GEM exhibition are preserved in an appropriate condition.

6. Project Purpose

GEM-CC acquires a high level of skill, technique and experience on conservation-related works.

7. Expected Achievements

Output 1: The documentation, first aid, packing and transportation to GEM is conducted for target artifacts.

Output 2: IPM and diagnostic analysis are conducted for target artifacts and the conservation plan is formulated.

Output 3: The conservation of target artifacts is conducted.

8. Background of the Project

In the Arab Republic of Egypt (hereinafter, Egypt), the tourism sector is a key industry which is one of the four major source for acquiring foreign currencies. However, the tourism had experienced two major declines after the 2011 and 2013 political turmoil which caused devastating impacts in Egyptian economy. As a key to recovery of the tourism industry, the Egyptian Government is currently putting importance on the construction project of the Grand Egyptian Museum (hereafter, GEM) which is

located near the Great Pyramid of Giza. Japanese government has been providing two loans (34,838 million Yen in 2006 and additional 49,409 million Yen in 2016) to support this construction project. The Grand Egyptian Museum is expected to give a significant effect on activating the Egyptian economy, and also Egypt is anticipating its opening as a symbol of peace and stability of the nation as well as a symbol of its history and culture of which the nation is to be proud of.

In this situation, the Egyptian government had constructed and opened the Grand Egyptian Museum Conservation Center (hereafter, GEM-CC) on its own fund before the opening of the Grand Egyptian Museum itself. Since its establishment, GEM-CC has been functioning as a center for storing and conserving the artifacts of GEM and promoting preparation for the exhibition.

JICA has been supporting GEM-CC by implementing two phases of "Grand Egyptian Museum Conservation Center Project" (Phase I and Phase II). In Phase I (June 2008 to March 2011), cooperation to plan, design, and manage GEM-CC as well as to establish a database for the artifacts, etc. was implemented. In Phase II (July 2011 to March 2016), training courses on preservation and conservation using various replicas were conducted. These training courses were aimed to increase the capacity of GEM-CC in its skills and knowledge through trainings using replicas, and the development of capacity of GEM-CC was evident. However, the needs to enhance techniques and gain experiences on actual artifacts were perceived by both sides of experts.

Before the start of Phase II, the Egyptian counterpart claimed that cultural artifacts should only be handled by Egyptian experts in the training phase. However, 8 years of intensive cooperation through the training phase, during which experts from both countries shared knowledge and worked side by side for practical training, had surely promoted mutual trust. This has led to the continuation of Phase III, which involves joint work of conservation on actual artifacts, including those belonging to the King Tutankhamun's collection. In the process of selecting the target artifacts suitable for technical cooperation in the joint conservation project, some of the best artifacts from the treasures of King Tutankhamun, such as chariots and ritual beds were proposed. This was the first opportunity for some Japanese experts to conduct conservation related works on the ancient Egyptian heritage with great responsibility, and the experience gained through this conservation project is expected to be valuable for future Japanese Cultural Cooperation.

Under such circumstances, the Egyptian government has requested the technical cooperation of Japan to jointly conduct the transportation and conservation of real artifacts in order to further enhance the human resources of GEM conservators.

II. Activities of the Project

In this Project, 72 artifacts were selected as target artifacts from the collection planned to be displayed in the Grand Egyptian Museum. Conservation work process (condition check, first-aid, packing, transportation, IPM, analysis, formulating a conservation plan, and implementing it) was conducted jointly by Egypt and Japan on these target artifacts. Through this experience, the Project was aimed to further enhance the capacity of GEM-CC staff (conservation experts) and the GEM-CC as an organization.

As shown in the Work Flow Chart (Appendix 1), the Project experts proceeded with work in stages from Output 1 to Output 3. Further, the Project was managed by implementing a monitoring system conducted every 6 months.

1. Target Artifacts

The target artifacts were classified into two categories, "Lead artifacts", which Japanese experts and GEM-CC experts conserved jointly; and "Follow artifacts", which GEM-CC experts independently conducted conservational activities (Appendix 2). The breakdown of 72 artifacts is generally as follows: wooden artifacts, textile artifacts, mural paintings, and stone artifacts (Appendix 3). Details on the target artifacts are mentioned separately in the attached as a volume of “Conservation report for each target artifacts” technical report as one of the deliverables.

2. Work Flow

Regarding the activities of Output 1 to Output 3, following detailed process was agreed in the Work plan as Plan of Operation (Appendix 4) and Plan of Operation based on artifacts (Appendix 5) and implemented during the Project.

(1) Activities of Output 1: The documentation, first aid, packing and transportation of target artifacts.

1-1. Assessment of the current condition and preparing for documentation

1-1-1. Confirming the target artifacts

1-1-2. Updating the target artifacts database

1-1-3. Confirming the conservation policy of the Project

1-1-4. Confirming the overall schedule

1-2. Formulation of the conservation team and conservation policy

1-2-1. Selection of team for each category of artifacts

1-2-2. Checking the current status of artifacts

1-2-3. Discussion of basic conservation policy of the Project

1-2-4. Formulation of conservation principles

1-3. First-aid

1-3-1. First-Aid before transportation

1-3-2. Evaluation of condition before transportation

1-3-3. Providing advice on the follow artifacts

1-4. Packing and Transportation

1-4-1. Packing the target artifacts

1-4-2. Transportation of target artifacts

1-4-3. Evaluating the condition after transportation

1-4-4. Providing advice on the follow artifacts

(2) Activities of Output 2: IPM and Diagnostic analysis, Formulation of the conservation plan.

2-1. Conducting fumigation.

2-1-1. Selecting method of fumigation

2-1-2. Conducting fumigation

2-1-3. Evaluation of the effectiveness of fumigation

2-1-4. Providing advice on the follow artifacts

2-2. Conducting diagnostic analysis

2-2-1. Selecting method of diagnosis

2-2-2. Conducting diagnosis

2-2-3. Summarizing the result of diagnosis

2-2-4. Providing advice on the follow artifacts

2-3. Formulation of the conservation plan.

2-3-1. Formulating conservation plans

2-3-2. Reviewing conservation plans

2-3-3. Providing advice on the follow artifacts

(3) Activities of Output 3: Conservation of target artifacts.

3-1. The conservation treatment.

3-1-1. Preparation for conservation treatment

3-1-2. Conservation treatment

3-1-3. Periodical monitoring and evaluation of conservation

3-1-4. Providing advice for the follow artifacts

3-1-5. Storing artifacts after conservation treatment

3-2. Recording the whole process as an archiving and publication material

3-2-1. Video Documentation

3-2-2. Preparation of Report

3-2-3. Publication

3-3. Advice to the exhibition unit on the display plan, transportation to the exhibition space and installing of the conserved artifacts

3-3-1. Sharing information with display planners

3-3-2. Providing advice on display planning

(4) Managing of the Project

4-1. Preparing the monitoring guideline

4-2. Project management

4-2-1. Drafting and discussing the Work plan

4-2-2. Drafting and discussing the monitoring sheet

4-2-3. Interim review

4-2-4. Drafting the Project report

4-2-5. Holding JCC and getting approvals

3. Project Structure

(1) Project implementation structure (On site)

The Project includes activities of surveying, transporting, and conserving the target artifacts, and all of these are fundamentally tasks of GEM. Consequently, the below structure chart was devised to put GEM in the lead of managing the project activities (Fig.1). The Joint Coordinating Committee (JCC) with the Director of GEM as chairman, consists of members including GEM authorities, JICA Headquarters, JICA Egypt Office and JICA experts. The committee is in charge of making significant decisions regarding the implementation of the Project such as the conservation principle and adjustments of conservational activity scheme until the opening of the museum. In addition, while the Director of GEM was appointed as "Project Director" responsible for the overall project management, the General Director for Conservation Technical Affairs was appointed as "Project Manager" to supervise the actual activities and implementation of the Project. Furthermore, as the counterpart of the Project Manager, Japanese experts assisted and followed up on the project management and technical and scientific activities.

In this Project, conservation teams of "wood", "textile" and "mural paintings" were formed in accordance to the nature of the artifacts, and each team consisted of both Egyptian and Japanese experts. In order to determine the course of action regarding the work plan, committees were established in each conservation team where planning of conservation work for target artifacts, managing of the progress and securing of the work quality of the team members were additionally carried out. Additionally, teams for "Documentation", "Diagnostic Analysis", "IPM" and "Packing and Transportation" were formed to assist and coordinate across each conservation team.

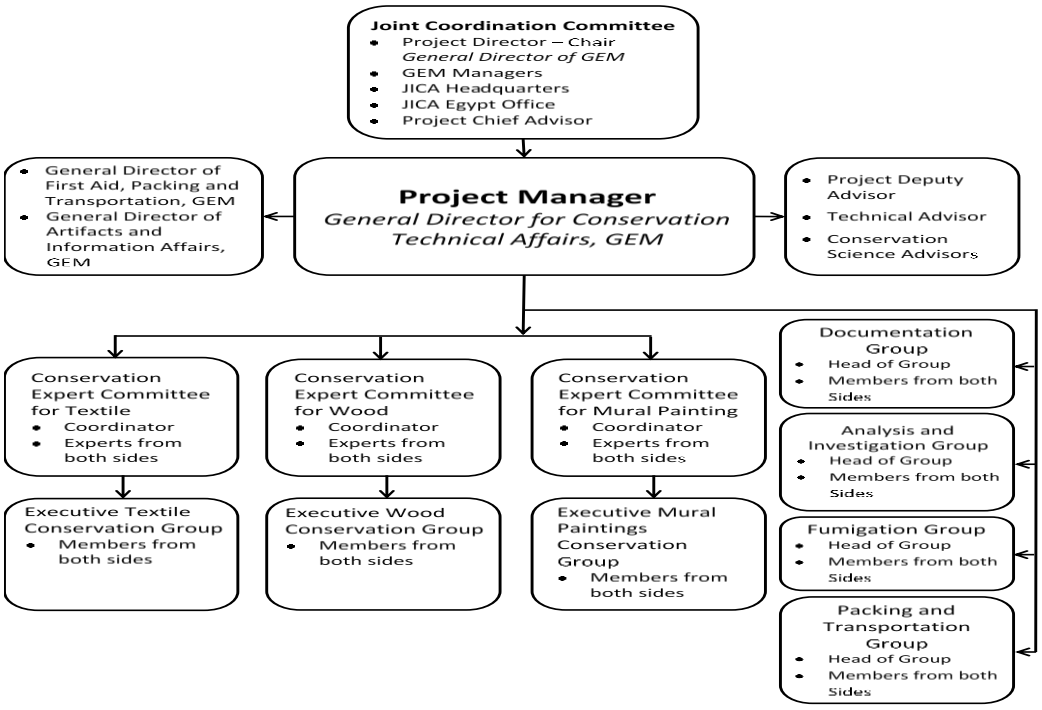


Fig.1 Project Implementation Structure

(2) The structure in Japan for supporting the Project activities

As a structure to support the management of the Project, a joint venture between Japan International Cooperation Center (JICE) and Tokyo University of Arts (TUA) was formed in order to take charge of the below activities that were conducted in Japan.

The training department at JICE managed the process and quality control of the Project under the PDCA cycle, while also confirming work progress and periodically considering solutions for the challenges that the Project faced. As for the process and quality control of the Project, they closely coordinated with the local Project office as well as other related departments and shared information between all parties. They provided support to the local office by dispatching in-charge people when necessary and by conducting periodical video conference calls.

Many conservation experts in Japan had graduated from TUA, as it is where people with the most advanced level of expertise gather. Regarding conservation expertise, generally, the experts are independent and sometimes the level of their expertise is varied. However, for this Project, TUA held a general meeting for experts once a year, where they referred to the international standards and coordinated with the experts accordingly. Moreover, they managed the quality of their work by encouraging experts to have experts' meetings.

(3) Structuring system for procurement of equipment and materials

The procurement of materials and tools is a key process that supports the conservation work conducted at GEM-CC, thus, the headquarters (JICE headquarters) has assigned and dispatched experts to perform these tasks and build a systematic structure which kept a close coordination with the local office. The actual procurement flow was designed so that each conservation team from the wood, textile, and mural painting teams would submit requests of the consumables they deem necessary for their work, to JICE and TUA for their inspection and approval. Once approved, the items would be procured by the specialist either in Japan or locally; they first acquire quotes, inspect items, transport, and deliver to GEM-CC (Fig.2 &3). However, for the tools and consumables that are particularly important or require special manufacturing through custom order, the Japanese experts engaged with manufacturing companies while consulting transportation companies, and worked diligently together to ensure the quality, safety, and finalization of the delivery.

Furthermore, during the time the Japanese procurement expert was dispatched, activities to raise awareness about the procurement process, such as study sessions aimed at improving the skills of GEM-CC experts (Fig.4) were carried out.

The study sessions were planned so that GEM-CC experts can sustainably manage the procurement of highly-specialized materials used in conservation-related fields even after the completion of the Project, and it was implemented according to the below schedule. Through the session, a lecture was given to deepen the understanding on the importance of procurement, submission procedure of request forms, the importance of quotes, schedule management, selecting companies, managing inventory, handling chemicals (toxic, and non-toxic), method of transportation, and delivery, etc.

Table 1 Procurement study sessions

Procurement study session	Session date	Participants
First session	21 Feb. 2018	3 Japanese experts 1 National staff from the local office 8 of the main GEM-CC members from each conservation team
Second session	11 Jul. 2018	2 Japanese experts 1 National staff from the local office 7 of the main GEM-CC members from each conservation team

As a result, the counterparts deepened their understanding of the procurement work, and coordination became smoother as each conservation team actively participated in the procurement process after the two sessions

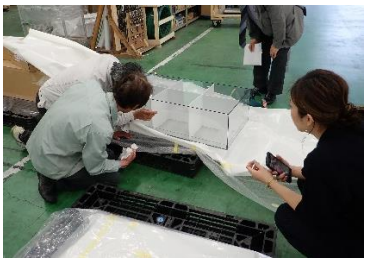


Fig.2 Inspection of Items

Fig.3 Receiving Items

Fig.4 Study Session

(4) Technical Support Meeting

The work concerning the museum support is technical and highly-specialized as it handles real objects of internationally precious cultural properties. Thus, an experts' meeting was annually held to provide technical support and incorporate the technical opinions of experts, and also to utilize their advice for appropriate management of the Project in order to maintain the international standards. Below are the meetings held over the past 3 years and list of participants:

1st: 30 Jan. 2017, at 600 Conference Room, 6th floor of JICA Ichigaya Building

2nd: 22 Feb. 2018, at 202AB Conference Room, 2nd floor of JICA Ichigaya Building

3rd: held on 3 Apr. 2019, at 202AB Conference Room, 2nd floor of JICA Ichigaya Building

Table 2 List of Participants

Name	Affiliation	Position
Sadatoshi MIURA	Public Interest Incorporated Foundation, Research center for pest damages on cultural properties.	Chairman
Kazuyoshi KAWAGOE	Ikari Shodoku CO., Ltd.	Consultant
Shigeo AOKI	Tokyo Research Institute for Cultural Properties	Honorary Research Fellow
Kazuya YAMAUCHI	Teikyo University	Professor, Tokyo Research Institute for Cultural Properties

Shingo HIDAKA	National Museum of Ethnology	Associate Professor, Research Center for Cultural Resources
Masaaki SAWADA	Tohoku University of Art and Design	Cultural Properties Conservation Center Manager/ Professor
Kousaku MAEDA	Afghanistan Culture Research Center	Director
Yousei KOUZUMA	Nara National Research Institute for Cultural Properties	Director of Conservation Science Research Office, Cultural Properties Center for Archaeological Finds
Yuji KURIHARA	Kyoto National Museum	Deputy Manager (Former Chief of the Executive Section, Tokyo National Museum)
Jiro KONDO	Faculty of Letters, Arts and Sciences, Waseda University	Professor

The advices given at each meeting are as follows:

In the first meeting, Japanese experts from the Project provided explanation on the overview of the Project, the condition of the target artifacts of each team and issues related to the three year work plan. In response, the participants of the meeting pointed out the importance of a clear and theoretical explanation on the necessity of conservational intervention and documentation to record such information. In order to realize this, it was deemed crucial that the counterpart comprehends the Japanese style and adapts it in their own way through in-depth discussion. Additionally, the participants provided technical advice on the future activities on disinfestation treatment.

The second meeting, held 1 year after the launch of the Project, focused on agendas regarding the transportation of artifacts from EM and the progress of fumigation and diagnostic analysis. In addition to the technical advice on disinfestation treatment, the participants recommended flexible troubleshooting by the Japanese experts related to any malfunctioning of analytical equipment used in the Project. Participants also emphasized the significance of report publication including scientific information and a detailed record of project implementation, such as its efforts to overcome various issues which could be utilized in other international cooperation between Japan and other countries.

In the third meeting, Japanese experts provided reports on analytical examinations and the progress of the conservation treatment. The Project was received as making a satisfactory progress. In addition to further discussion regarding conservation techniques, questions were raised on the display environment and display plans, as well as in-depth discussions considering the future cooperation between Japan and Egypt. The participants of the meeting expressed immense interest and expectations towards the opening of the museum and its future relationship with Japan. As was mentioned in the previous meeting, the significance of the scientific publication of reports were repeated, and opinions were raised on creating publication targeted to the public including English versions.

4. Details of the Activities

Through Phase I and II of the Grand Egyptian Museum Conservation Center Project, JICA had conducted training courses for GEM-CC staff so they may gain the necessary skills and knowledge. This Project was formulated based on the competencies acquired through the training courses conducted in the preceding phases; namely, the areas of training for which courses were conducted up to phase II (Appendix 6). The criteria was set from level A to E: “A. Having advanced knowledge and rich practical experience to be able to teach their colleagues”, “B. Having sufficient experience and applicable knowledge to perform their duties proactively”, “C. Basic knowledge and some practical experience is acquired”, “D. Having basic knowledge but no experience of practice”, “E. Having neither knowledge nor experience”. In the previous phase, the training courses were conducted using replicas, as real objects were unavailable for handling in the training, thus the training levels had to be limited to the evaluation criteria “C. Basic knowledge and some practical experience is acquired”. However, from phase III, the decision to handle real objects were made, and through the activities to achieve outputs 1 to 3 mentioned below, the staff built up practical experience and were expected to have developed to a stage of “B. Having sufficient experience and applicable knowledge to perform their duties proactively”.

The details of each activity are explained below along with pictures:

<table>
<tr><td colspan="2">Output 1: The documentation, first aid, packing and transportation of target artifacts.</td></tr>
<tr><td colspan="2"><u>Activity1-1. Conducting current-state condition checks and documentation.</u></td></tr>
<tr><td>1-1-1. Selecting the target artifacts
The lead and follow target artifacts agreed upon in the R/D were confirmed with the Egyptian counterparts and the experts conducted personal observations of the target artifacts. Upon confirmation, the experts held prior discussions with stakeholders at the location of the artifact (Museum of Egyptian Antiquities, Luxor Museum, Giza storeroom) and came to an agreement on transporting the target artifacts.</td><td>  </td></tr>
<tr><td>1-1-2. Updating the target artifacts database
After confirming the target lead and follow artifacts with the Egyptian counterparts, the data was compared and confirmed with the preexisting database, and missing information was augmented and registered.</td><td>  </td></tr>
</table>

1-1-3. Confirming the conservation policy of target artifacts. The principles to be applied to all the target artifacts in consideration with the overall conservation policy, including minimum intervention treatment, conservation according to the Charter of the United Nations, and preventive conservation, were discussed, confirmed, and documented in the first JCC. The conservation policies for each target artifact category of wood, textile, and mural paintings were also agreed upon and confirmed between the Japanese experts and the Egyptian counterparts.	
1-1-4. Confirming the overall schedule. The Project's overall schedule was discussed with the Egyptian counterparts, and the schedule for each target artifacts in all the categories was discussed and confirmed. Accordingly, the Plan of Operation based on Artifacts was created and attached to the Workplan.	

Activity1-2. Forming the conservation team and formulating the conservation plan.	
1-2-1. Forming groups per category and forming the team. After discussing with the Egyptian counterpart, 3 conservation teams of wood, textile, and mural paintings and experts committee were formed and their members were selected. The List of Expected Members was created and attached to the Workplan.	
1-2-2. Assessment of the current condition of target artifacts. For each target artifact in every group, the condition was observed and the aspects of deterioration were inspected and documented. Based on the results, the team managed to note the challenges they will face during the conservation process of each artifact.	

1-2-3. Formulating the draft conservation plan. Based on the understanding gained after the inspection of target artifacts and after referring to the Project's overall policy, the team discussed the conservation plan. They also paid attention to confirm whether the conservation plan follows international standards.	
1-2-4. Finalizing the conservation plan. The experts of each conservation group committee confirmed and finalized their conservation plan.	

Activity1-3. Conducting first-aid treatment.	
1-3-1. Conducting first-aid treatment to target artifacts. According to the finalized conservation plan, the conservation and transportation team discussed the necessity of conducting first-aid treatment for each artifact. They also selected the methods for first-aid treatment on the artifacts where treatment was necessary.	
1-3-2. Evaluating the condition before transportation. Egyptian and Japanese experts of conservation and transportation discussed the condition of the areas to which first aid treatment was applied, and evaluated the first aid treatment, confirming that it is suitable and durable enough for the transportation process.	

1-3-3. Giving advice on the handling of follow artifacts. Based on the experience with the lead artifacts, more advice was given regarding the deterioration aspects seen in the follow artifacts that are similar to the ones handled in the lead artifacts.	

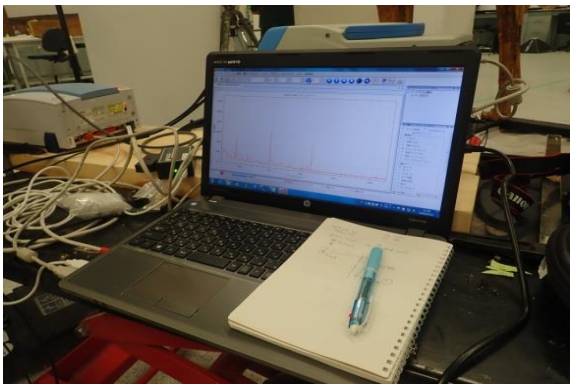
Activity1-4. Packing and transportation to GEM-CC	
1-4-1. The packing of target artifacts. The Japanese transportation experts took the lead in making the packing procedures in front of the conservation experts. Then, they made a check sheet to refer before and after the transportation and used it for the confirmation process. Furthermore, the team performed necessary processes for transportation including installing scaffolds and a chain pulley for the target mural painting artifacts, with which they removed the paintings from its display location and stored in the crate made for transportation.	
1-4-2. The transportation of target artifacts. The Japanese experts took the initiative in transporting the lead target artifacts and carried out the process with the Egyptian team. At the time, each conservation team had overseen the process and performed necessary treatments as seen necessary in parallel with the packing work.	
1-4-3. Evaluating the condition of target artifacts. In the presence of the conservation and transportation teams, the transported lead target artifacts were unpacked, and the team examined them to check whether there were any damages during the transportation.	

1-4-4. Giving advice on the handling of follow artifacts. Based on the experience gained through the packing, transportation and unpacking of the lead target artifacts, the experts provided advice for the transportation of the follow target artifacts.	

Output 2: The documentation, first aid, packing and transportation of target artifacts.	
<u>Activity 2-1. Conducting fumigation.</u>	
2-1-1. Selecting fumigation methods. The experts examined the lead target artifacts for pest infestation to confirm whether there are pest droppings or pest species, and the possibility of active infestations. Additionally, they discussed the necessity of sterilization or fumigation process, and when necessary, they selected the suitable treatment methods that are safe to apply on the artifacts without posing a risk of damage.	
2-1-2. Implementing fumigation process. Using the selected fumigation method, the fumigation experts implemented the fumigation process for the target artifacts.	
2-1-3. Monitoring and evaluating the fumigation result. They evaluated the results of the fumigation process in the presence of the conservation team. Then, they thoroughly examined the artifacts to check whether there were any damages (e.g. Discoloration).	

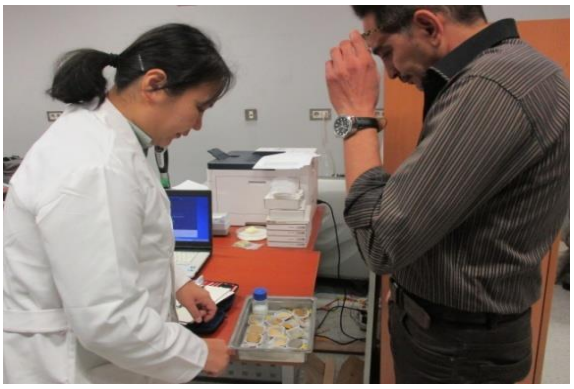
2-1-4. Giving advice on the handling of follow artifacts. Based on all the fumigation processes, from the selection of the fumigation method to implementation and evaluation applied on the lead target artifacts, the experts gave advice on the following processes conducted on the follow artifacts.	

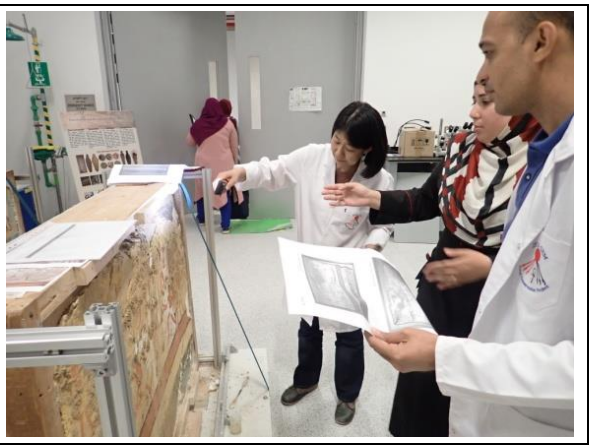
Activity 2-2. Conducting diagnostic analysis	
2-2-1. Selecting the analysis methods. Based on the assessment of the artifacts' condition and discussions about formulating the conservation plan, the experts selected the methods for scientific analyses of the materials used for manufacturing the artifacts and the materials applied as previous modern conservation.	
2-2-2. Conducting the analyses. The diagnostic analyses were conducted according to the selected methods. As for the implementation of diagnostic analysis, in regards to the experts prioritizing non-destructive methods of analysis and mainly utilizing separated parts for destructive analysis, the Japanese and Egyptian experts had thorough discussions, based on which they acquired permission for analyses from the Permanent Committee of the Supreme Council of Antiquities, associated with the Ministry of Antiquities. Then they carefully proceeded with the analysis procedures and started cooperation with third-party facilities including E-JUST.	

2-2-3. Summarizing the analysis results. Through summarizing the results of the analyses, the experts gained a comprehensive grasp of the materials used for manufacturing the artifacts, as well as the deterioration aspects and condition. They also utilized the acquired analyses data in formulating the conservation plan.	
2-2-4. Giving advice on the handling of follow artifacts. Based on the completed diagnostic analyses conducted on the lead artifacts, the experts provided advice on the unfinished follow artifacts work.	

2-3. Formulating the conservation plan.	
2-3-1. Formulation of the conservation plan. Based on the results of diagnostic analyses and the conservation policy draft, the Japanese and Egyptian conservation teams, which is consisted of not only archaeologists but also conservators and people from various specialties, discussed and documented concrete points related to the conservation plan. When necessary, they conducted tests and experiments to select conservation materials and methods and transferred their findings in the conservation plan.	
2-3-2. Confirming the conservation plan. Each conservation group committee has documented their conservation plan in a written format and approved it among themselves, after which it was reported and approved in the 3rd JCC.	

2-3-3. Giving advice on the handling of follow artifacts. According to the conservation plan of the lead target artifacts, which was approved in the 3rd JCC, advice was provided for the follow artifacts.	

Activities of output 3	
<u>Activity 3-1. The conservation treatment.</u>	
3-1-1. Preparation work before conservation. Based on the conservation plan, and after the procurement of necessary materials and securing the appropriate locations, the Egyptian and Japanese experts jointly inspected delivered materials and organized the inventories in order to prepare for the conservation process.	
3-1-2. Conservation work. The Japanese experts took the initiative in conducting the conservation treatment for the lead target artifacts according to the conservation plan and the conservation policy. Then, the Japanese and Egyptian experts worked towards reaching a mutual understanding for all the processes up to selecting the conservation method and materials, after which each conservation committee managed the daily work of the conservation team, following up with their progress, and documenting their steps.	
3-1-3. Periodical monitoring and evaluation of conservation. In line with the approved conservation policy and the conservation plan, each conservation committee periodically monitored the work and made regular evaluations. In case a problem with the conservation process was reported during the monitoring process, necessary solutions were discussed and devised.	

3-1-4. Giving advice on the handling of follow artifacts. Based on what was achieved with the target artifacts, advice on the conservation treatment process of the follow artifacts was provided. Furthermore, the Egyptian and Japanese experts made thorough considerations to overcome the challenges that faced them for the implementation of the conservation treatment.	

Activity 3-2. Documentation of the conservation process, record keeping in the form of reports and publication.	
3-2-1. Documentation on video The implemented processes during the Project including the documentation, first aid, transportation, fumigation, diagnostic analysis, and conservation treatment were filmed on video for record. These recordings represent a valuable resource and archiving is crucial. 5-minute and 20-minute videos were produced for the public and were submitted to JICA as deliverables.	
3-2-2. Drafting the Project report. All Japanese and Egyptian members who were engaged in this Project have started to summarize the results of each process from documentation, through first aid, packing and transportation, fumigation, diagnostic analysis, and conservation treatment, and will make a conservation report for each target artifact.	
3-2-3. Publishing results The achievements of the Project were presented in the Japan Society for the Conservation of Cultural Properties in Japan. Internationally, both Japanese and Egyptian project members have presented in symposiums such as ICOM-CC (International Council of Museums, Committee for	

Conservation), ICOM Kyoto, and the International Tutankhamun Symposium. Moreover, the symposium, “Protecting the Pharaoh's Treasures” was held annually for over 3 years in 2 cities, including Tokyo, Osaka, Sendai, and Kyoto, where a total of 760 people attended.	

Activity 3-3. Giving advice to the display unit for effective display of artifacts.	
3-3-1. Exchanging information with the display unit staff. Based on the results of the conservation, the experts exchanged information with stakeholders related to the display unit. For the wooden and textile artifacts, the information regarding the specifications of the display cases were relayed, while ideas for reconstructing the Mastaba tomb for the mural painting were shared and exchanged with the display unit.	
3-3-2. Giving advice to display unit staff. After creating a display plan proposal based on the diagnostic analyses’ findings and the conservation processes, the Project provided advice to display unit personnel regarding the display methods. As for wooden and textile artifacts, the Project proposed a display case suitable for the conservation treatment applied to the artifacts, while advice on the assembly methods of the stone relief and mural painting panels were provided for the mural displays.	

III. Actual Inputs

1. Inputs of Japanese Experts

During the first project period, November 15, 2016 to March 16, 2020, 43 Japanese experts were dispatched and a total of 127.6 MM was executed. Experts' names, area of expertise, duration of travel, and affiliation in Japan are shown in Appendixes 7 & 8. Other 9 experts and management staff were dispatched by the expenses of JICE and TUA (Tokyo University of Arts).

Table 3 Actual Inputs of Japanese Experts

JICE	4 persons	TUA	7 persons
JICE's reinforcement members	9 persons	TUA's reinforcement members	23 persons
JICE's expense	7 persons	TUA's expense	2 persons

2. Inputs of Egyptian Counterparts

During the first project period, November 15, 2016 to March 16, 2020, Grand Egyptian Museum and the Ministry of Antiquities has provided arrangements for counterpart coordination, suitable office space (including, furniture, electricity, water supplies etc.) and necessary information to run the Project. The members of GEM-CC assigned to the Project are shown in Appendix 9. In total, 107 GEM-CC counterparts participated in the activities, and the total volume of work built up to 335.3MM.

3. Acceptance of Interns

During the first project period of November 15, 2016 to March 16, 2020, three interns were accepted at the Project office in GEM-CC. Appendix 10 shows the scheme of internship, name, affiliation, duration, themes, and places of internship.

4. Handed-Over Equipment

Based on the agreement in R/D, three pieces of equipment required for the activities of the joint conservation work were provided. After the technical transfer by the Japanese experts, these equipment were handed-over to GEM-CC. Appendix 11 shows the name of equipment, arrival date, installation location, and status of use.

5. Local Operating Expenses

The following Table 4 shows the actual amount of expenses for each fiscal year.

Table 4 Local operation expenses in Yen as of March 2020

	Items	2016 FY	2017 FY	2018 FY	2019 FY	Total
1	General personnel	767,000	2,381,000	2,878,000	2,837,000	8,863,000
2	Special personnel	554,000	1,899,000	1,244,000	1,591,000	5,288,000
3	Vehicle	662,000	2,043,000	2,172,000	2,528,000	7,405,000

4	Rent	20,000	4,000	40,000	1,704,000	1,768,000
5	Facility/ Equipment maintenance	4,647,000	0	3,031,000	0	7,678,000
6	Consumables	400,000	10,911,000	4,265,000	15,440,000	31,016,000
7	Travel	60,000	575,000	874,000	1,251,000	2,760,000
8	Communication and Shipment	254,000	4,751,000	1,996,000	548,000	7,549,000
9	Information Material creation	252,000	436,000	2,531,000	5,994,000	9,213,000
10	Miscellaneous	1,000	26,000	11,000	14,000	52,000
Total		7,617,000	23,026,000	19,042,000	31,907,000	81,592,000

IV. Achievement of Project Purpose

1. Modifications in PDM

The PDM (Ver.1) has been proposed at the time of feasibility survey in April 2016. Since then, it has been modified three times by approval of the Joint Coordination Committee (JCC), the latest version numbered PDM (Ver.4) (Appendix 12). The reasons and details of modifications are as shown in the table below (Table 5~7).

Table 5 Modification from PDM (Ver.1) to PDM (Ver.2)（1st JCC, Dec. 2016 (Appendix 13-1))

Item	Before modification	After modification	Reason for modification
Objectively verifiable indicators/ Means of verification	TBD	Refer to PDM(Ver.2)	All items of verifiable indicators were to be determined afterwards at the signing of R/D. Realistic indicators were proposed and agreed at the 1st JCC after confirming the situations in the Project sites and consulting with related organizations, and documented in the Work Plan.

Table 6 Modification from PDM (Ver.2) to PDM (Ver.3) (2nd JCC, Nov. 2017 (Appendix 13-2))

Item	Before modification	After modification	Reason for modification
Overall Goal	—	(by 2021)	Modifications have been made to clarify the schedule of achieving the goal.
Objectively verifiable indicator of Project Purpose	—	(by October 2019)	Modification has been made to clarify the schedule of achieving the goal.
Objectively verifiable indicator 2 of Project Purpose	2. Average of CCAS (Conservation Capacity Assessment System) of the GEM-CC staff	2. A number of cases of challenges and solutions reported by participating professionals (Egyptian and Japanese) are reported.	There was a strong hesitation among the counterparts on the CCAS assessment system, as it gives a sense of being tested and monitored, which resulted in the disagreement of the implementation of the system. Consequently, since the objective assessment on one's techniques in inferiority/superiority in quantitative measurements is difficult, the method has been changed to analysis based on qualitative information.
Objectively verifiable indicator 3 of Project Purpose	—	3. A number of presentations made by participating professionals in national and international	This indicator was added because it was considered an important tool for measuring the social impact of the project outcomes.

		seminars, symposium, journals, etc.	
Objectively verifiable indicator of Output 1	1.1. Number of the "Lead" artifacts are placed at the designated location with the satisfied quality by planned time.	1.1.90% of the "Lead" artifacts are placed at the designated location with the satisfied quality by planned time.	This was modified in order to make confirmation of the achievement easier by presenting indicators based on numerical values.
Objectively verifiable indicator of Output 1	1.2. Number of the "Follow" artifacts are placed at the designated location with the satisfied quality by planned time.	1.2. 80% of the "Follow" artifacts are placed at the designated location with the satisfied quality by planned time.	This was changed in order to make confirmation of the achievement easier by presenting indicators based on numerical values.
Objectively verifiable indicator of Output 2	2.1. Number of conservation plans of the "Lead" artifacts authorized by the planned time.	2.1. 90% of conservation plans of the "Lead" artifacts are formulated by the planned time.	This was modified in order to make confirmation of the achievement easier by presenting indicators based on numerical values.
Objectively verifiable indicator of Output 2	2.2. Number of conservation plans of the "Follow" artifacts authorized by the planned time.	2.2. 80% of conservation plans of the "Lead" artifacts are formulated by the planned time.	This was modified in order to make confirmation of the achievement easier by presenting indicators based on numerical values.
Objectively verifiable indicator of Output 3	3.1. Before May 2018, number of "Lead" artifacts that are completed to be ready for exhibition (GEM opening) at a satisfied quality	3.1. 90% of the "Lead" artifacts are reported as being conserved based on the conservation plan	This was modified in order to make confirmation of the achievement easier by presenting indicators based on numerical values.
Objectively verifiable indicator of Output 3	3.2. Before May 2018, number of "Follow" artifacts that have had their conservation started based on the conservation plans.	3.2. 80% of the "Lead" artifacts are reported as being conserved based on the conservation plan	This was modified in order to make confirmation of the achievement easier by presenting indicators based on numerical values.

Table7 Modification from PDM (Ver.3) to PDM (Ver.4)
(Signed in the modification of R/D on Nov. 17, 2011 and approved in 4th JCC scheduled on Feb. 2020)

Item	Before modification	After modification	Reason for modification
Objectively verifiable	(By 2021)	(By 2024)	Modification has been made because the project period was revised due to the

indicator of Overall Goal			change in the schedule of museum's opening,
Objectively verifiable indicator of Project Purpose		(By March 2021) 1. 90% of the "Lead" artifacts and 80% of the "Follow" artifacts, conserved by GEM-CC staff, are displayed at GEM according to the display plan.	Modification has been made because the project period was revised due to the change in the schedule of the museum's opening,
Objectively verifiable indicator of Output 1	1.1. 90% of the "Lead" artifacts are placed at the designated location with the satisfied quality by planned time.	1.1 90% of the "Lead artifacts are placed at the designated location in GEM-CC with the satisfied quality by the planned time.	Modification was made in order to clearly distinguish "1-4. Packing and transfer to GEM-CC" from newly added "3-4. Placing at the designated location in GEM based on the display plan".
Objectively verifiable indicator of Output 1	1.2. 80% of the "Follow" artifacts are placed at the designated location with the satisfied quality by planned time.	1.2. 80% of the "Follow" artifacts are placed at the designated location in GEM-CC with the satisfied quality by the planned time.	Modification was made in order to clearly distinguish "1-4. Packing and transfer to GEM-CC" from newly added "3-4. Placing at the designated location in GEM based on the display plan".
Objectively verifiable indicator of Output 3	—	3.3 90% of the "Lead" artifacts are placed at the designated location in GEM with the satisfied quality by the planned time based on the display plan.	Modification was made because it was considered important for the achievement of the project purpose. Although the transportation of artifacts to GEM-CC was completed in Output 1, the internal transportation to the GEM building and installation work in the exhibition rooms are yet to be completed, and it was conceived that there will be another technical challenge.
Objectively verifiable indicator of Output 3	—	3.4 80% of the "Lead" artifacts are placed at the designated location in GEM with the satisfied quality by the planned time based on the display plan.	Modification was made because it was considered important for the achievement of the project purpose. Although the transportation of artifacts to GEM-CC was completed in Output 1, the internal transportation to the GEM building and installation work in the exhibition rooms are yet to be completed, and it was conceived that there will be another technical challenge.

Objectively verifiable indicator of Output 3	—	3.5 The project outcome is promoted through formulating appropriate display plans and installing actual equipment for display for target artifacts that requires special consideration	This was added in order to make technical cooperation for acquiring the comprehensive capacity as a museum conservator through practical processes, to ensure technical and physical accessibility of the artifacts, so the artifacts will be displayed and preserved in an appropriate condition.
Objectively verifiable indicator of Output 3	—	3.6 Multiple efforts are initiated to establish a sustainable operational structure at the GEM-CC	The effect of the human resource development was immense, however, it takes a certain period of time to acquire the skills. This was added in order to maintain the systematic technical improvement of GEM-CC where staff changes rapidly, and long-term processes are necessary.

2. Implementation of Monitoring

During the period of project implementation, periodical monitoring was undertaken every 6 months and Monitoring Sheets were submitted to JICA headquarter according to the schedule below (Table 8). The methods of survey and gathering data for monitoring was based on the Monitoring Guideline (Appendix 14) which was proposed by the Monitoring Experts and agreed by the Project's Work Plan. When there were changes in PDM, the guideline was reviewed and revised during the operation.

Table 8 Monitoring periods and submission dates of the Monitoring Sheets

	Monitoring periods	Submission dates
Monitoring Sheet Ver.1	Nov. 2016~Apr. 2017 (1st period)	May 2017
Monitoring Sheet Ver.2	May 2017~Oct. 2017 (2nd period)	Nov. 2017
Monitoring Sheet Ver.3	Nov. 2017~Apr. 2018 (3rd period)	May 2018
Monitoring Sheet Ver.4	May 2018~Oct. 2018 (4th period)	Nov. 2018
Monitoring Sheet Ver.5	Nov. 2018~Apr. 2019 (5th period)	May 2019
Monitoring Sheet Ver.6	May 2019~Oct. 2019 (6th period)	Nov. 2019
Monitoring Sheet Ver.7	Nov. 2019~Feb. 2020 (7th period)	Feb. 2020

3. Achievements of Output1 to Output 3

Based on the indicators set by PDM, it was confirmed that the planned Outputs 1 to 3 were achieved.

(1) Achievement Level of Output 1

(Objectively Verifiable Indicator 1.1.)

100 % of the "Lead" artifacts are placed at the designated location with the satisfied quality by the planned time.

(Objectively Verifiable Indicator 1.2.)

100% of the "Follow" artifacts are placed at the designated location with the satisfied quality by the planned time.

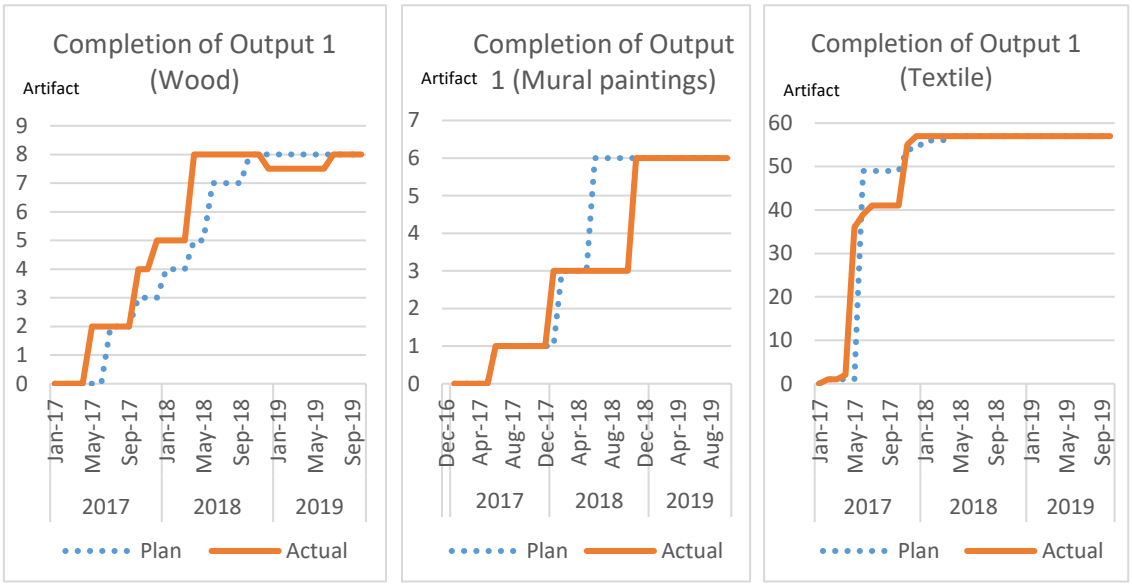


Fig.5 Completion rates of Output 1 for Wood, Mural Paintings, and Textile Groups

(2) Achievements Level of Output 2

(Objectively Verifiable Indicator 2.1.)

100% of conservation plans of the "Lead" artifacts are formulated by the planned time.

(Objectively Verifiable Indicator 2.2)

100% of conservation plans of the "Follow" artifacts are formulated by the planned time.

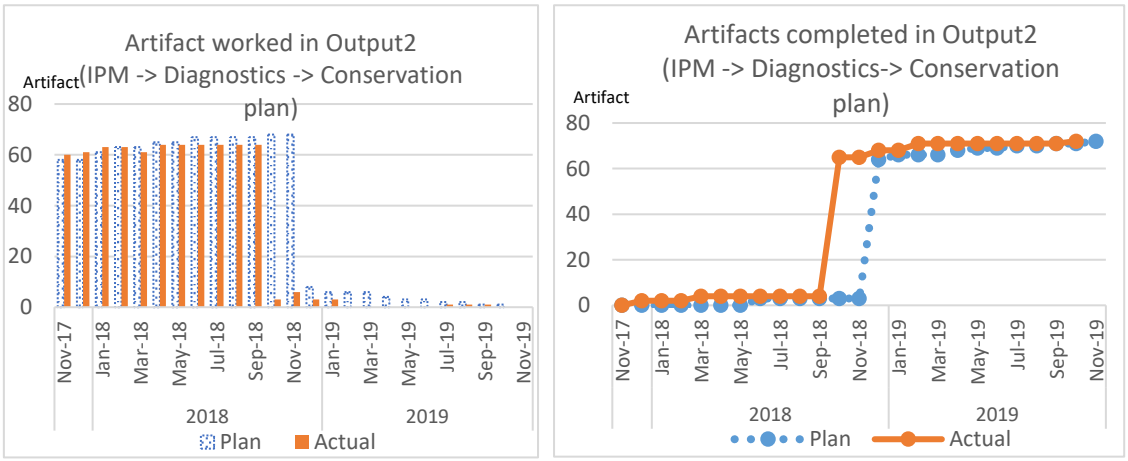


Fig.6 Completion rates of Output 2 for 72 target artifacts

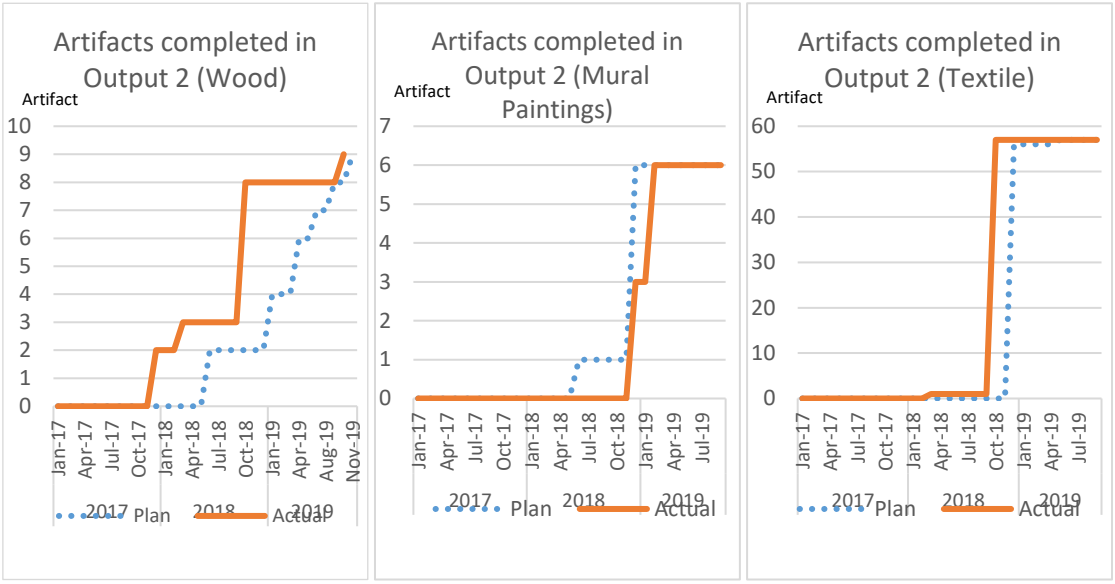


Fig.7　Completion rates of Output 2 for Wood, Mural Paintings, and Textile Groups

(3) Achievement Level of Output 3

(Objectively Verifiable Indicator3.1)

95% of the "Lead" artifacts are reported as being conserved based on the conservation plans.

(Objectively Verifiable Indicator3.2)

97% of the "Follow" artifacts are reported as being conserved based on the conservation plans.

The breakdown of the 3 target artifacts which conservation treatment is incomplete is as follows: 1 wood “Lead” artifact (Chariot 2-2 (Canopy) (GEM15636)), 2 wood “Follow” artifact (Chariot No.5 (GEM15662)), and 1 mural painting “Follow” artifact (No.3 (GEM74785)). The “Chariot 2-2 (Canopy)” was add as a target artifact in the 2nd JCC in December, 2017, a year after the launch of the Project. Transportation of the said artifact from EM was carried out in May, 2019 and at the end of the 1st period of Phase III, and after having gone through the diagnostic analysis and conservational planning process, it is still undergoing conservational treatment.

As for “Chariot No.5”, conservational errors from the past were found through the current treatment. Thus, the decoration part had to be disassembled and reassembled in the correct position based on the photograph of the time of discovery, resulting in the incompletion of the Output 3 due to necessity of final photographing.

The conservation treatment for mural painting “No.3” planned and approved in the 3rd JCC was considered to be completed at first, as this artifact was not included in the display plan. However, the display plan was amended by the GEM display unit in October, 2019, and the said artifact was newly added to the display plan. Therefore, the conservation plan was revised to carry out interventional conservation treatment on the backside of the painting, and the process is currently underway.

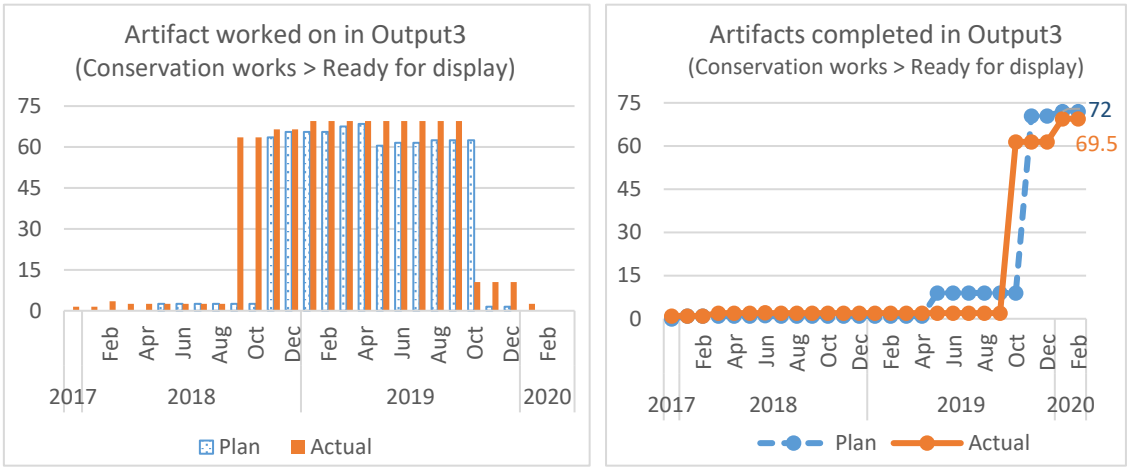


Fig. 8 Completion rates of Output 3 for 72 target artifacts

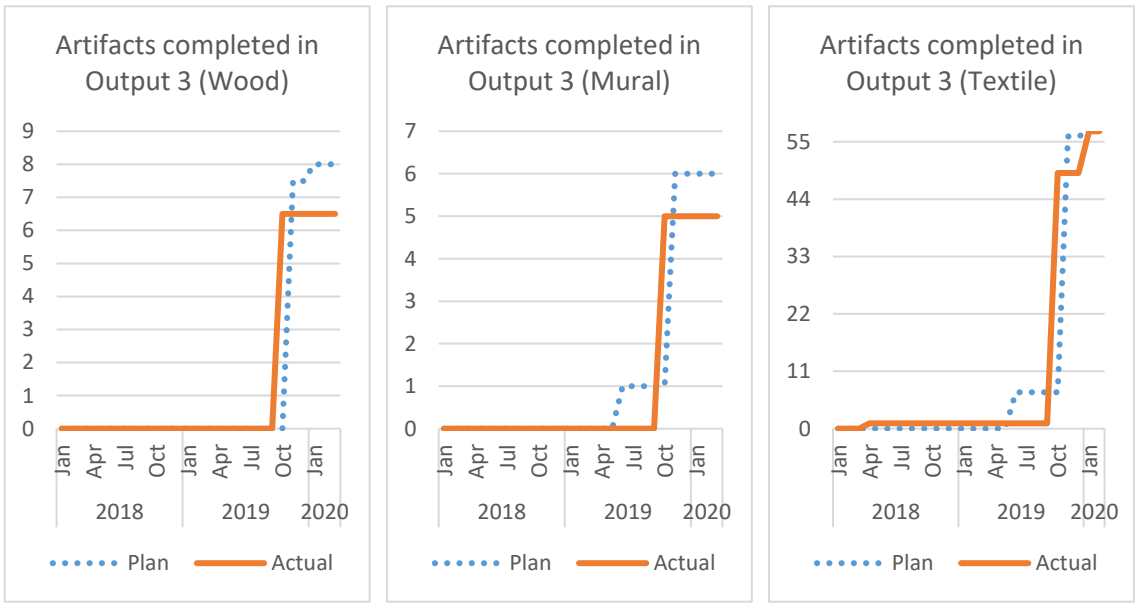


Fig. 9 Completion rates of Output 3 for Wood, Mural Paintings, and Textile Groups

The inclusion of following activities and indicators to PDM was approved in the 4th JCC held in February 2020, and plan of operation based on artifacts (Appendix 17) was agreed by both sides. Regarding activity 3-6, the proposal for sustainable activities of GEM-CC was also presented at the time, and agreed by adding the clause of health and safety actions (Appendix 18).

(Objectively Verifiable Indicator3.3)
0% of the "Lead" artifacts are placed at the designated location in GEM with the satisfied quality by the planned time based on the display plan.
(Objectively Verifiable Indicator3.4)
0% of the "Follow" artifacts are placed at the designated location in GEM with the satisfied quality by the planned time.
(Objectively Verifiable Indicator3.5)
The project outcome is promoted through formulating appropriate display plans and installing actual equipment for display for target artifacts that require special consideration.

(Objectively Verifiable Indicator3.6)
Multiple efforts are initiated to establish a sustainable operational structure at the GEM-CC.

4. Achievement of the Project Purpose
(Objectively Verifiable Indicator1)
The verifiable indicator 1 of PDM version 3, which was "90% of the "Lead" artifacts and 80% of the "Follow" artifacts, conserved by the GEM-CC staff, are accepted as being ready for display by JCC" has been achieved. However, it was recognized that the higher level of techniques will be required during this internal transportation and installation and further technical cooperation is important to acquire a high level of skill, technique and experience on conservation- related work of GEM-CC. Therefore, the objectively verifiable indicator was modified in version 4 as: "(By the end of 2021) 90% of the "Lead" artifacts and 80% of the "Follow" artifacts, conserved by the GEM-CC staff, are displayed at GEM according to the display plan." It is necessary to continue activities to achieve the Project Purpose.

(Objectively Verifiable Indicator2)
Regarding the verifiable indicator 2 for the project purpose, which is "A number of cases of challenges and solutions reported by participating professionals (Egyptians and Japanese) are reported", the monitoring based on qualitative data from interview surveys started in the 2nd monitoring period after the modification of the verifiable indictor 2 in PDM and the Monitoring Guideline. The collected cases from the interviews to the project participants were divided into 4 categories and analyzed: (1) Technical (Practice), (2) Technical (Concept), (3) Non-technical (Individual), and (4) Non-technical (Organizational).

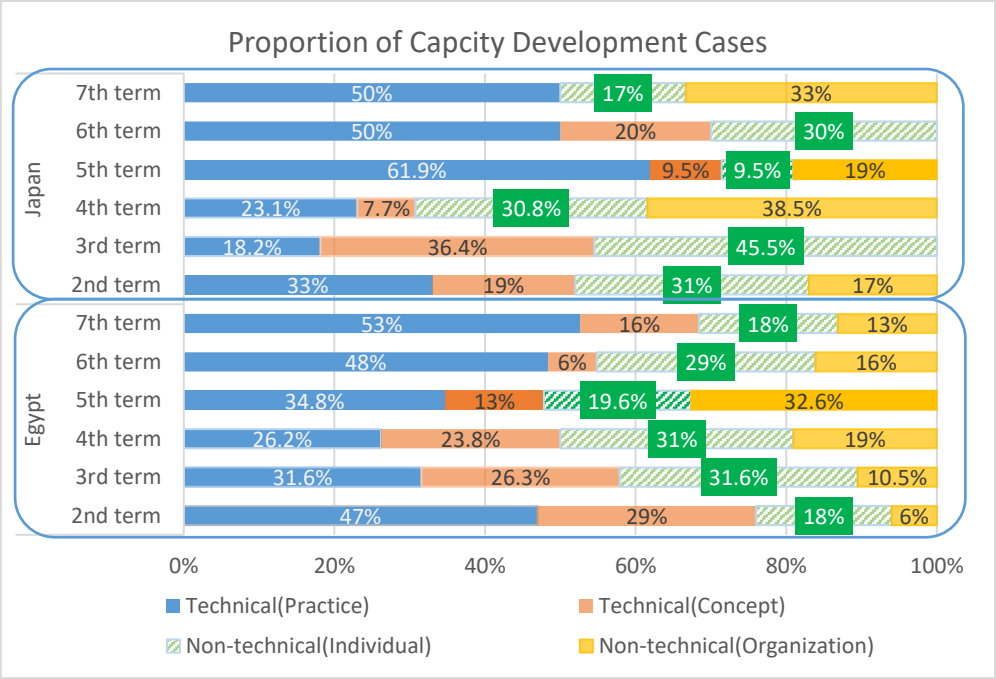


Fig. 10 Proportion of reported capacity development cases

In the 2nd monitoring period, 53 cases of capacity development were reported. Since the period included extensive work on documentation, first-aid, and transportation, many cases of developments under "Technical (practice)" category were reported (for example, "learned how to use 3D scanner", "photography technique was improved" etc.)

At the same time, the second most reported cases were under "Non-technical (Individual)" category (for example, concepts related to the mid-set like" ownership" and "time management" etc.).

In the 3rd monitoring period, 30 cases of capacity development were reported. Compared to the second monitoring period, the ratio of "Technical (Concept)" and "Non-technical (Individual)" has increased. For example, following cases were reported:

"Technical (Practice)": "I learned the techniques of stitching for conservation of textile artifacts."

"Technical (Concept)": "I am taking enough time to plan for the results", "I learned to be involved in the transportation process, which is usually done only by the transportation team."

"Non-technical (Individual)": "I learned that taking good rest is also important for best performance."

"Non-technical (Organization)": "The team that used to act individually now works in unity."

In the 4th monitoring period, 55 cases of capacity development were reported. Similar to the 3rd period, "Non-technical (Individual)" cases was reported most, followed by "Technical (Concept)". For example, following cases were reported:

"Technical (Practice)": "I learned how to use digital microscope to identify dyeing technique", "I learned to consider new polymers for first aid like Cyclododecane".

"Technical (Concept)": "I learned how the accurate diagnostic analysis before conservation work was essential in making the conservation work easier and better.", "We now make a habit of documenting each step, have regular records, and collect all the small and big details."

"Non-technical (Individual)": "Every stage of work should be done with great attention and do it very diligently."

"Non-technical (Organization)": "I understood the importance of communication between the working team and their leader.", "I learned that flexibility in discussing ideas makes the team better."

In the 5th monitoring period, 65 cases of capacity development were reported. As the remedial conservation work proceeded greatly during this period, the proportion of "Technical (practice)" increased and total of 29 cases were reported. For example, "I learned how to make stitching.", "I learned how to do tracing documentation.", "I learned the choices of materials used to restore the mud bricks, and how to choose the right material to use it correctly.", "I learned that even with the same grouting material, we were able to overcome the challenges by learning new application methods and adjusting the proportion." The number of cases was also increased in "Non-technical (Organization)": "I gained experience in managing a team and coordinating between members from different laboratories and different specialties.", "I am more responsible and passionate about the work after I engaged in the discussions."

In the 6th monitoring period, 41 cases of capacity development were reported. As the conservation treatment continued, the proportion of "Technical (practice)" was high. On the other hand, there were still many issues (96 cases) reported from the extraction of opinions by Japanese experts, and the issue of organizational capacity still seems remarkable and capacity building is an ongoing theme.

(Objectively Verifiable Indicator3)

As the verifiable indicator 2 for the project purpose which is "A number of presentations made by

participating professionals in national and international seminars, symposium, journals, etc." was considered a significant tool to measure the social impact of the project outcomes, it was added to the PDM version 3. The monitoring process once in 6 months was commenced after the modification of verifiable indicator 3 and revision of the guideline.

Details of academic achievements including lectures, conference presentations, papers, etc. are shown in Appendix 15. While number of oral presentations increased as the Project progressed, the number of papers and articles stagnated (Table 9). Documenting and producing reports to publish project results in a publication is a major challenge in the future, and more efforts will be needed to accelerate the process in the future.

Table 9 Number of publications related to the Project

*Number of publications by Egyptian counterparts (including co-authored papers) are indicated inside ( ).

Monitoring period	Number of publications			
	Papers	Posters	Oral presentations	Total
1st period			1 (1)	1 (1)
2nd period			1 (0)	1 (0)
3rd period			15 (1)	15 (1)
4th period	4 (0)	5 (5)	7 (2)	16 (7)
5th period	4 (0)	1 (0)	11 (1)	16 (1)
6th period		8 (6)	20 (15)	28 (21)
7th period	0 (0)	1 (1)	3 (0)	4 (1)
Total	8 (0)	15 (12)	58 (20)	82 (32)

On the other hand, looking at the achievement of GEM-CC counterparts, an increase in the individual achievements by GEM-CC staff was clearly indicated as seen in the number of theses submitted to the universities for Master and Doctor Degrees, which was not included in the above number of papers in Table 9. As shown in the figure below (Fig.11), the percentage of master's degree graduates has almost doubled compared to 2016. It can be said that it is also an objective data that shows the capacity improvement as an organization that performs conservation and restoration activities independently.

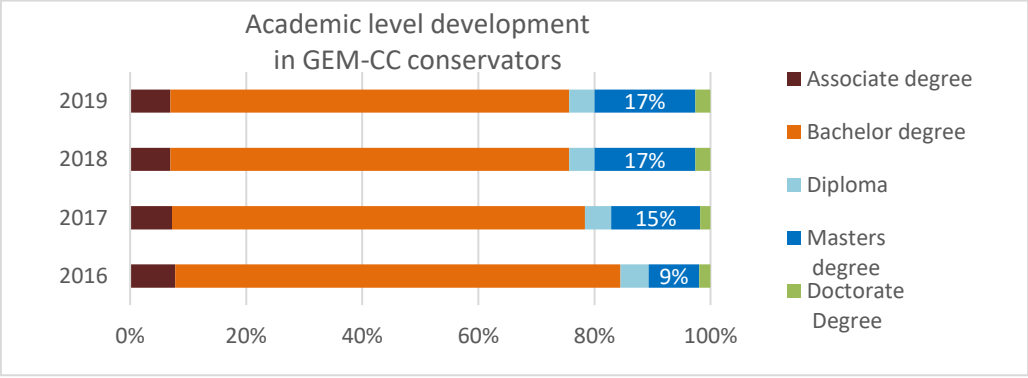


Fig. 11 Percentage of academic degree holders in GEM-CC

Another strong indication of successful achievement in GEM-CC is the organization of training and workshops targeted at newly employed GEM-CC staffs and conservation related institutions outside of GEM-CC. In the Phase III, it was expected that through intensive hands on experience, the GEM-CC experts have further enhanced their levels of skill, technique and experience in conservation related works to achieve Project Purpose in PDM. Thus, the conservators reach the stage of having applicable knowledge and sufficient practical experience to work on their own.

However, in terms of reaching the overall goal of which "The GEM-CC (functions) as the hub institute of the conservation and study in Egypt", it is expected that GEM-CC experts improve to the stage of "having advanced knowledge and rich experience that one can teach their colleagues". This issue is very important in the sustainable development of GEM-CC. As a starting point, GEM-CC assigned a "training manager" in 2017 and has started its own training programs as a small start including technical transfer from Egyptian experts to Egyptian participants (Table 10).

Table 10　Training or Workshop organized by GEM-CC

Title of the Training or Workshop	Date	Organizer	Targets	Number of participants
1. The modern technical techniques of conservation and restoration	Aug.20 to 24, 2017	GEM-CC	Project sector, Ministry of Antiquities	25
2. Mummy and human remains conservation	Oct. 29 to Nov.2, 2017	GEM & UNESCO	GEM-CC Staff	40
3.Co-workshop about conservation	Jan.17, 2018	GEM & Bibliotheca Alexandria	Archaeologist some from Kuwait	8
4.The modern technical techniques of photographing and its role in analysis and documentation	Mar. 11 to 15, 2018	GEM-CC	GEM-CC Staff	15
5.Mummy and human remains conservation	Sep. 25, 2018	GEM-CC	GEM-CC Staff	10
6. Tour Guides workshop to introduce GEM activities	Oct. 14, 2019	GEM-CC & GEM-JC	Japanese Speaking Guides from tour agencies	50
7.　Health and Safety workshop	Nov. 19, 2018	GEM-CC & GEMJC	GEM-CC Staff	50
8. Principles of excavation and archaeological survey	Nov. 6, 2019	GEM-CC	Undergraduates Misr Univ.	40
9. An experimental study about modern applications of self-cleaning with nanomaterials for stains on some linen textile	Dec. 1, 2019	GEM-CC	Undergraduates Misr Univ.	42

10. Strategic management of museum collections at GEM workshop (day 1) - How to deal with artifacts - Do museums have to own websites -Archaeological Documentation and Registration	Dec. 8, 2019	GEM-CC & Faculty of Archaeology and Tourism, Misr university for science and technology	Undergraduates Misr Univ.	50
11. Strategic management of museum collections at GEM workshop (day 2) - GEM is cultural and heritage edifice - Development of museum exhibition to serve collections and visitors	Dec. 9, 2019			
12. Strategic management of museum collections at GEM workshop (day 3) - Strategic environmental control in Museums and storages - Integrated pest management in Museums and Storages	Dec. 10, 2019			

V. Challenges and Lessons Learned from the Project

1. Current Status of Counterparts

(1) Personnel changes in the GEM-CC

During the project period, there were major changes in staffing of the project executing members on many occasions. The director of GEM and the director of GEM-CC changed, and also the core members as well as regular members of Egyptian wood, textile, and mural painting teams had been replaced. The turning over of the highly skilled human resources from the GEM-CC has influenced the progress of the project activities. By Nov.2018, a total of 16 transfers and a total of 14 new members had joined (Table 12). Notably, as only one member of the textile team who had participated in the previous training courses was remaining in the team, there was an urgent need to transfer knowledge and skill to new members, which in result, exerted significant stress on the project progress.

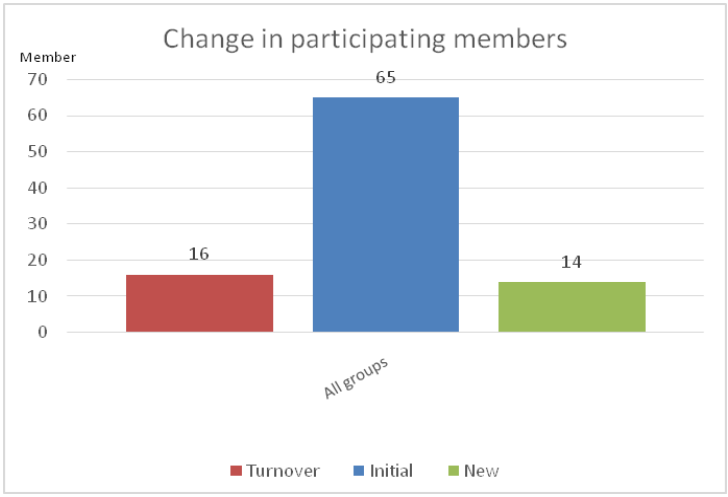


Table 12 Change in participating members of Counterparts

In order to overcome this challenge and to help advance the staff's understanding of the Project's activities and results, an interim seminar was held by the Project. Also, small-scale training has been held regularly in the labs (organic and wood labs) by GEM-CC members. Also, utilization of texts and video materials of past training courses (Phase I & II) in the technical transfer from GEM-CC staff to new staff has been suggested. It is hoped that more effective use of materials will be promoted for sustainable capacity development of the GEM-CC in the future.

(2) Maintenance of handed over equipment

Some of the GEM-CC equipment which has been handed over after the termination of Phase II and which was planned to be used in the diagnostic analysis was found to be out of order at that time. In order to avoid delays in the project activities, Japanese experts carried substitute machines from Japanese affiliations and brought them back to Japan each time, until the repairs has been completed. Prior to the handover of the equipment, it has been agreed in documents that "GEM-CC will be responsible for its maintenance and management of use, emphasizing that the priority of usage goes to GEM-JC Project inside and outside GEM-CC". After the delivery of the equipment, information about the equipment including the contact of the agent company was provided to GEM-CC. A strong

request was made for maintenance contract before the warranty expire date and the importance has been explained at GEM-CC's internal committee that registers and manage the equipment. Accordingly, a letter has been exchanged and signed with GEM-CC to make maintenance contracts before the warranty period expires. GEM-CC has carried out the procedures with Ministry of Antiquities to officially register the equipment as property of the Ministry and has made applications for allocating its budgets. GEM-CC is now waiting for approval of the budget allocation from the Ministry.

In the meantime, the members in the lab have expressed their concerns that there has been some reluctances in lending the equipment to each lab because the members in charge are too concerned about malfunctioning. The lab members consequentially fear that the frequency of use of equipment may decrease after the end of the Project. This situation where equipment cannot be easily used also hinders the sustainability of the project outcome. The sufficient utilization of materials and equipment is a factor that contributes to project evaluation. Issues regarding the management of materials and equipment were listed on the agenda of the 3rd and 4th JCC, and its understanding and mitigation has been heavily and repeatedly requested to the GEM-CC executives.

(3) Changes in schedule of GEM opening

At the beginning of the Project (November 2016), the opening of GEM was scheduled to be partially opened in October 2017 and to be fully opened in May 2018. However, the Egyptian Government announced that the opening schedule was postponed until October 2020 for a full-scale Grand Opening. Therefore, at the 2nd JCC, the plan of operation and plan of operation based on artifacts (Appendix 5) was reviewed and revised to a realistic schedule aiming at the new opening date. Because the opening schedule was in a fluid situation, this Project required flexible responses. Activities of the Project were implemented in line with preparation for opening through close cooperation with GEM and Ministry of Antiquities.

(4) Communication with exhibition designers

After informed of the final design in April 2018, there were several changes in the exhibition design of the Tutankhamun Gallery. This especially affected the textile target artifacts, which was subject to the progress of manufacturing and procurement of the mount. There was a prominent time lag until the information on final exhibition design or any change reached the Japanese experts, because the information was transmitted through so many stakeholders: exhibition design company (Atelier Bruckner) to Operation Management Consulting (Hill International) to GEM, and, then, to the Project experts. For the planning of the mural painting exhibition design, which started rather later, this situation was improved, as opportunity was provided to meet directly with exhibition company (Cultural Innovation), Operation Management Consulting (Hill International), and GEM and exchange information when necessary.

(5) Custom clearance of equipment and materials

Important equipment such as professional camera equipment carried by experts and mounts procured and shipped from Japan were often suspended at the airport customs. This custom clearance process was very difficult. Cooperation was requested to GEM, Ministry of Antiquities, and JICA to implement measures to ensure support for prompt custom clearance.

2. Current Status and Issues in Related Fields

(1) Collaboration with other JICA projects related to GEM

In addition to this Project, JICA is implementing three other projects related to GEM: 1) GEM Construction Project, 2) GEM Capacity Development Project (GEM-CD), 3) Second Khufu Boat Excavation & Conservation. In addition to the daily communication among the experts at the implementation site, information was shared and adjustments were made by inviting certain experts to participate in the Project's JCC as observers and collaborating in symposiums, so that no inconsistency would occur.

(2) Collaboration with Egypt-Japan Science and Technology University (E-JUST)

Since some analytical equipment such as Gas Chromatography are not available at GEM-CC, these analyses were planned to be conducted in Japan at the beginning of the Project. However, it was confirmed during the Project that some analytical equipment is available at E-JUST, supported by JICA, which is located in New Borg Arab City near Alexandria. From the perspective of the sustainability after the completion of this Project, the collaboration with domestic research and educational institution in Egypt is important, thus, priority has been given to cooperate with E-JUST in the analyses. In March 2018, E-JUST and GEM had signed an MOU. Additionally, in September 2019, Master degree program and diploma courses on "Heritage Science" were established at the graduate school of E-JUST. However, as there is a scarcity in the experience and sample preparation for the analysis of the ancient artifacts, continuous cooperation with Project experts is still necessary.

3. Devices and Lessons for Enhancing Efficiency, Impact, Relevance, and Sustainability

(1) Efficiency

Judging from the outputs achieved, it can be said that inputs of the experts, procurement of equipment, and placement of counterparts were performed adequately and efficiently. The timing of input of the experts was concentrated on the period of transportation from EM to GEM-CC, which involved many technical challenges. Coordinating both the transportation and the experts' schedule, the most efficient and effective timing for the technical cooperation was selected. However, there was a delay in the starting of the production and the delivery of the textile mounts to the GEM-CC, because orders could not be placed until the final decision of the exhibition design was made by GEM.

The conservation teams participating in the activities of the Project were comprised mainly of Egyptian members to foster ownership. In order to further enhance autonomy, activities of the Project were structured to allow GEM-CC conservators to work and promote ownership by defining the "lead" and "follow" artifacts categories. Furthermore, as short-term experts who were responsible for training courses in Phase I and II continued to participate in the current project, a smooth and more effective technical cooperation was achieved. Until the second phase, training was conducted on replicas, so there were some restrictions on the application on the actual work. However, by dealing with actual artifacts and actual cases of challenges, this Project resulted in efficient technical capacity improvement through joint work.

(2) Impact

The Project brought about positive impacts on the achievement of the GEM-CC's overall goal by

improving technical and organizational capabilities. During this phase, which is a critical period for the preparation of GEM opening, the transportation, diagnostic analyses and conservation of the target artifacts had been achieved stage by stage as planned. From this successful case in the Project, GEM-CC experts have gained confidence, and it led to positive ripple effect on current GEM activities. In particular, the successful result of technical transfer using the handed over equipment such as X-ray radiography and 3D scanners, has contributed to the transportation and diagnostic analysis of artifacts outside of the Project.

Another device the Project introduced was Toyota's "Kanban" system. It was to ensure the progress of activities brought out planned outputs during the implementation. A unified process was determined, in order to employ the same Conservation Cycle Management and monitoring of the progress, regardless of the difference in categories or labs. In each conservation groups (wood, textile and mural paintings), a workshop was conducted to incorporate the "Kanban" system, and team members practiced visualizing on-going tasks with sticky notes on the white board. During the absence of Japanese experts, communication regarding technical issues between Egyptian and Japanese members were sometimes difficult. In these cases, the Project office members interacted in between Egyptian and Japanese members to facilitate their communication.

The Project's packing and transport team members who are consisted mainly of members of the participants of the past training phases, have been recently assigned regularly by the Minister of Antiquities to cope with difficult cases, including lifting and transporting the heavy artifacts that has been found in the excavation of the foreign and Egyptian missions outside of GEM-CC. This is another evidence that shows the enhanced skill of the trained personnel of GEM-CC packing and transportation team.

In terms of diagnostic analysis, interdisciplinary experts has assembled to carry out procedures, utilizing the state-of-the-art analytical equipment provided. As a result, the canopy was identified as a part of the chariot for the first time. The possibility was also pointed out that the parts of the lion bed and the cow bed were mistaken in their assembly in the ancient times. It was also attested that on one of the tunic discovered from the tomb of Tutankhamun, a name of king other than Tutankhamun was woven into the textile. Such worldwide discovery had given a major impact on the archaeological society.

Moreover, as the Project progressed, information was disseminated to Egyptian and Japanese citizens to gain an understanding on the Project by updating project web pages, creating pamphlets and video materials, and holding symposiums. The Project was also promoted through appearances on different local and international media, attracting more GEM-CC visitors and occasional VIP visitors.

GEM and the Project's activities have become more widely reported in the media in Egypt and Europe (Appendix 16). Such media coverage is greatly contributing to raise interest and awareness in cultural heritage in the society as a whole, and leading to discussions on how society should conserve and preserve the cultural heritage. It is expected that this positive ripple effects will continue in the future. The great number of visitors from important international organizations and local and foreign touristic visitors to GEM and GEM-CC is also a proof of society's attention to GEM and GEM-CC's conservation related activities. Such visitors include UN Secretary General, delegation of World Bank, and heads of states, diplomats, or presidents of international corporations. At the occasions of annual "Tutankhamun International Symposium" hosted by GEM, words of admiration were heard among

the participating researchers from around the world, stating that “GEM-CC is now playing a very active role thanks to Japan's technical cooperation.” Based on such achievements and credibility, there are increasing cases where GEM-CC experts are being invited to international symposiums and gaining opportunities to study abroad.

On the other hand, awareness of the Project and GEM activities in Japan is still rather low. The Project has been holding symposiums in Japan, cooperating with NHK, other broad casting channels, and newspapers. Also the Project PR video (5 minutes and 20 minutes versions) were created and well received. Nevertheless, the recognition of GEM in Japan has not enhanced significantly. For public relations, close cooperation with experienced media strategy specialists who can strategically collaborate with the media is essential. Also, building a strategic plan for disseminating information and hosting invents aimed to the opening of the museum should be considered in the following period. In addition, as video materials are not merely for public relations purposes but also future academic research materials which accounts for the purpose of the Project to deal with the world's treasures to the society, it is important to continuingly archive such video materials.

(3) Relevance

The social expectations and needs for opening of GEM in Egypt, a tourism nation are very demanding, and the completion of GEM is undoubtedly an important policy for the current government. In addition, the Egyptian government is aiming for economic development not only focusing on GEM, but also in surrounding areas including GEM and the pyramid district of Giza. This development plan is linked to the other important development policies, such as inauguration of Cairo Subway Line 4 and Sphinx International Airport, thus, it is highly consistent with Egypt's development policies. The GEM-CC, as part of its organic component, has been an important leading institution of the area since its opening in 2010 by the Egyptian government. As mentioned above, number of cases of capacity development was reported through collaboration with Japanese experts, and the conservators are now highly skilled in targeted categories of artifacts including wood, textile, mural paintings, packing and transportation and diagnostic analyses. In addition, non-technical capacities such as high ethics, teamwork and interdisciplinary cooperation have been reported. This Project is a unique cooperation that draws on Japan's technology and experience in line with the needs of the counterpart, and is extremely important as a stepping stone for a series of development projects. Furthermore, from the viewpoint of conformity with Japan's ODA policy, it is in line with the SDG's (Sustainable Development Goals) which was adopted at the UN summit held in September 2015. It has been agreed that as one of the specific goals: to "increase efforts to protect and preserve the world's cultural and natural heritages”, this Project meets with this goal and can be a model for the pioneering future of Japan's cultural cooperation strategy.

(4) Sustainability

The turnover of highly skilled human resources from GEM-CC is a concern that may hinder self-sustainable development. In the mural painting conservation team, only one Egyptian member who was trained in the past remained, thus, the productivity of the team was much lower than the other teams at the beginning of the Project. Also, in the textile conservation team, two members who were trained in the previous training had left for studying abroad in the middle of the project period, hence leaving only one member remaining. Because of this situation the productivity of textile conservation

team saw temporary decrease, as this one member and Japanese experts must instruct and teach again the new members. Enhancement of measures to systematically transfer knowledge and skills from trained staff to the new staff, is likely to be the key to future development. While the transfer of highly qualified lab members temporarily hindered the progress of the Project, it is true that the technology and experience dealt with in this Project have spread to places outside of GEM-CC in other places where they have transferred. In some of the destinations where highly qualified staff has been transferred, such as Minister's office, Head of Museum Sector of the Ministry, Egyptian Museum and Local Storage magazines like Saqqara, there are cases where they are actively disseminating their knowledge and techniques learnt through the Project, and this effect from GEM-CC to Egypt is sprouting.

In terms of the organizational structure, the Board of Directors and the Board of Trustees were established to take the ownership of GEM, and legal procedures are in process for GEM to become an independent administrative agency which is financially independent from the Ministry of Tourism and Antiquities. It has been pointed out that there is an issue of securing a budget including ordinary expenses under the Ministry of Antiquities. The issue of proper maintenance of equipment and materials depends on appropriate budgetary measures in the future.

VI. Recommendations for achieving the Overall Goal

The following recommendations are addressed for the future achievement of the Project's overall goal: "the GEM-CC, as the hub institute of the conservation and study in Egypt, conducts conservation-related activities, and the artifacts in the GEM exhibition are preserved in appropriate condition".

(1) It can be said the effects of capacity development brought by the Project are immense, however, it takes certain duration to practice and develop higher skills. In other words, to maintain the capacity development of an organization where staff changes frequently, it will require continuous effort and time.

(2) One of the factor that might hinder the achieving of the overall goal is the turnover of the trained personnel in the previous training phases. It is critical to strengthen the transfer of knowledge and skills from Egyptian conservators and scientists who has been trained to the newly joining staff.

(3) It is important to secure the necessary budget for proper maintenance of equipment and materials.

(4) Conservation of target artifacts is nearing to completion and has achieved its initial objectives. However, the challenge of transporting artifacts from GEM-CC to GEM remains. This activity needs to be completed in the next period. In addition, it is also desirable to follow up with the museum's new environment after a year from the opening with the presence of Japanese experts on the site.

(5) Publication of reports and academic papers are still a challenge. In particular, the publication of academic books is a good proof that an organization had acquired self-dependence, development, and strength. Publishing academic books in Arabic, English and Japanese is also an important issue in terms of accountability as we are dealing with world's treasures. In this respect, it is important and is strongly recommended that GEM-CC should disseminate the achievements of the activities to the world as a leading organization in the field of conservation and restoration of cultural properties in Egypt. The Project proposes to GEM-CC to establish an "Association of conservation study" to host symposiums and publish periodical academic journals.

(6) With the opening of GEM, role of providing both long-term preservation of artifacts in the galleries and the access by visitors (including physical accessibility in terms of viewing and accessibility to the information of the artifacts) will be added to the current conservation related activities of conservators at GEM-CC.

(7) Providing opportunities where GEM-CC staff can display and convey their effort and/or experience during conservational work to the public, and adding new values to the exhibit may help create opportunities for GEM-CC to be recognized as a central institution for conservation of cultural properties. Drawing on cases of Western museums where gallery tours and demonstrations of conservational work are held in the exhibition areas, the staff of GEM-CC is expected to voluntarily disseminate information to the public on a regular basis.

(8) It is also necessary to consider the sustainable operational structure of GEM-CC, along with JICA's exit strategy, and the way of Japan's involvement in the next period.

VII. Activity Plan for the Next Period

1. The Second Project Period

The project period is expected to continue until March, 2021.

2. Project Purpose

(By the end of March 2021) 90% of the "Lead" artifacts and 80% of the "Follow" artifacts, conserved by the GEM-CC staff, are displayed at GEM according to the display plan.

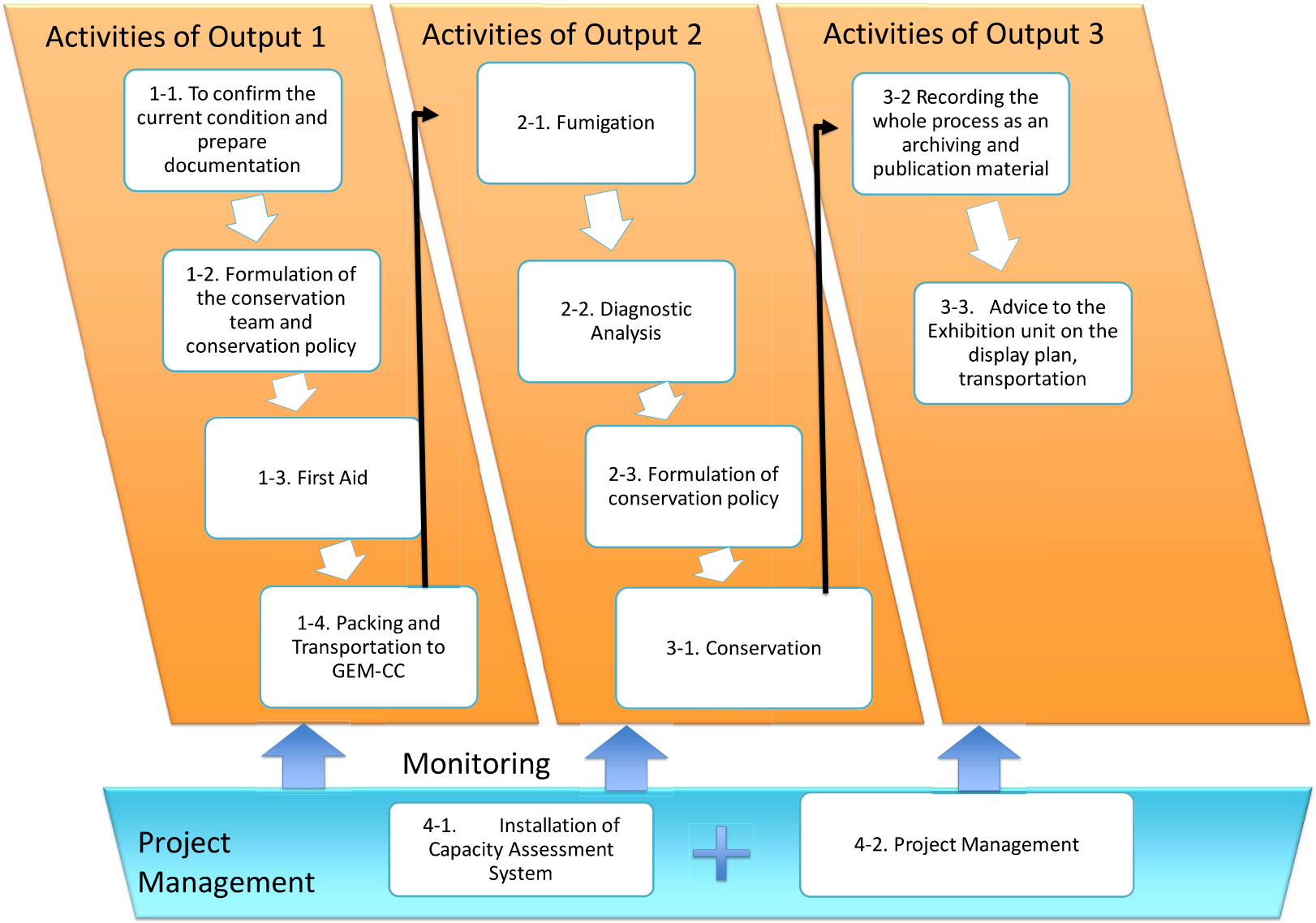
3. Expected Outputs

In the current period (Phase III-1), Outputs 1 and 2 have been completed. In the next period (Phase III-2), through activities 3-4, 3-5, 3-6 which was added to the PDM according to the modified R/D signed on November 2019, the completion of Output 3 is expected.

3-1. To conduct conservation.
3-2. To record the result of the whole process as a report to file the information and publish it.
3-3. To give advice to the Exhibition unit on the display plan, transportation to the exhibition space and installing of the conserved artifacts.
3-4. To consider effective display for target artifacts that require special consideration to capture their historical significance and visual features, and promote the project outcome by installing necessary equipment for display.
3-5. To plan and implement activities that contribute to establishing an operational structure at GEM-CC that enables continued sustainable conservation work after the opening of GEM.
3-6. To plan and implement activities required at GEM-CC to enable continued sustainable conservation work.

4. Plan of Operation based on the Target Artifact (Next Phase)

According to the latest information from GEM as of 6 Feb. 2020, the transportation of the artifacts are planned to conclude by the end of September as the opening of GEM is scheduled during the fourth quarter of 2020. However, considering the fluidity of the situation, the Project should accommodate the plan of operation for target artifacts to the overall preparation of the opening.



Prodcedures of the Project (Flow-chart of the work)

Appendix 1

Definitions of Artifacts in the Project

Categories 1	Categories 2 (Name)	What's this?	Who conduct?	Expected achievement at GEM opening (expected in May, 2018)	Expected achievement at the Project End	Example of Artifacts in Woods
Target Artifacts of the Project	"Lead" Artifacts	A part of the Target Artifacts dealt with the whole necessary process of conservation from Output 1 to Output 3, e.g. from "documentation" to "conservation/ report writing".	Collaboration of Egyptian conservators and Japanese experts throughout the whole process, from the first "documentation" to the "report wrting after conservation".	Conservation plans have been developed. Some (e.g. textile) are already in a good condition with completion of conservation. Some others waits for conservation.	Most of them are already in a good condition for exhibition with completion of conservation.	Chariot: 1 out of 5
	"Follow" Artifacts	The remaining part of the Target Artifacts that, together with the "Lead" artifacts, are taken through the process up to Output 2, e.g. "conservation plan". Conservation will be done mainly by Egyptian conservators.	Collaboration of Egyptian conservators and Japanese experts up to Output 2. The remaining process is done by Egyptian conservators (with advice given by Japanese experts periodically).	Some are ready for exhibition, but most of them will need conservation. Some are still at the level of developing conservation plans.	Most of them are completed with conservation plan, and in the process of conservation. Some of them are already in a good condition for exhibition with completion of conservation.	Chariot: the remaining 4 out of 5
Other (Non-Target) Artifacts of the Project	"Other" Artifacts	The other artifacts that are not directly dealt with by the Project, but "Indirect" impacts are expected such as application of techniques / skills developed by the project.	Egyptian conservators take care of the whole process by use of the skills developed through the Project (with advice from the Japanese experts given on request).	Conditions are varied but it is expected that some artifacts are through the conservation process. (Out of PDM but expected indirect impact by the Project)	Some artifacts have been through the conservation process, developed by the Egyptian conservators capacitated by the Project. (Indirect impact by the Project)	All other wooden artifacts

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List of target artifacts

Serial	Group	Code	GEM No.	SR No.	Description	Current Location::Location	Target Category	Remarks
1	Wood	Chariot 1	4960	3189-3200	Decorated Chariot, covered with gesso and over laid with gold, no inscription on edge, round bottom towelve captive figures, at bottom king as lion trampling on foes – Chariot wheel	GEM-CC	Follow 	
2	Wood	Chariot 2_1	15636	3201-3210	Chariot decorated with polychrome glass consists of body, wheels, axle, yoke, two saddles,pair of horse blinders and falcon with solar disk.	GEM-CC	Lead 	
2.5	Wood	Chariot 2_2	4539	3131-3134	Wood convered with gesso & gilt, canopy on poles, slots in top straight in center, angling off gradually to corners, fastening holes in sides of slots and on top of rim in each case connecting, these slots wigh tongued ends, in fair condition	Cairo Egyptian Museum		Added in 3rd JCC
3	Wood	Chariot 3	15661	3215-3221	Chariot cosists of : pair of saddle, double pointed sticks, pair of hours blinkers and two small curved sticks.	GEM-CC	Follow 	
4	Wood	Chariot 4	15662	3222-3232	Highly Gilded woooden chariot, Completely covered with sheet gold save parts marked bound with leather, was a double-rimmed, open sides, highly ornamented chariot, Showing footboard and axle-tree, the inscription upon upright of frame-work of body at back, which might suggest it was for the Queen, or King, the pole ornamented with coloured barks, in a good condition.	GEM-CC	Follow 	
5	Wood	Chariot 5	45621	3211-3214	Chariot no decoration Saddle / Disk revolved on shaft spur? part of chariot wood with bark decoration	GEM-CC	Follow 	
6	Wood	Bed 1	260	2780	The bed or couch made of hard red wood covered with gesso and inlaid with gold, it representing the Thoueris, the body of crocodile, and then back legs inform of legs.	GEM-CC		
7	Wood	Bed 2	261	2827	The frame of bed of heavy timber, covered with gesso and overlaid with gold, the foot panel, ornamented with Dads and Sas, curving over rim, and running down back, one from bottom their heads meeting in center. Animal sides, covered with gesso and over laid with gold, on front of neck there had a bird in black paint. The base made of wood covered with gesso, coated with black resin, in a good condition.	GEM-CC	Lead 	
8	Wood	Bed 3	262	2779	A funerary bed with two elongated cow figure form, the two sides of this bed the legs back and front fill into holes in the plain black painted base, the decoration and construction similar to the bed N35, IN A good condition.	Cairo Egyptian Museum	Follow 	
9	Textile	Textile 1	4779	3139	Shirt of yellow linen, across chest two bands of tapestry woven flying ducks in green, Two similar bands at bottom, and one down each side, of walking ducks or geese, in outline only, At back similar bands across shoulders, down sides & at bottom, in bad condition	GEM-CC	Lead 	
10	Textile	Textile 2	319	2670	linen glove, made of linen with string attached to back, in poor condition	GEM-CC	Lead 	

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編集日

List of target artifacts

Serial	Group	Code	GEM No.	SR No.	Description	Current Location::Location	Target Category	Remarks
11	Textile	Textile 3	314	3171	The gauntlet was of rather coarse linen, with a lining of very fine linen. Open edges were rolled over and sewn. As worn the fingers would be in the two stalls & the thumb would The flap would cover back of wrist, and the broad part would tie round arm from underneath, in bad condition	GEM-CC	Lead 	
12	Textile	Textile 4	14338	4261	shawal in bad condition.	GEM-CC	Lead 	
13	Textile	Textile 5	14339	4262	shawl	GEM-CC	Lead 	
14	Textile	Textile 6	14695	4357	Large Ornamental garment.	GEM-CC	Lead 	
			14061	3920	A part of "Large Ornamental garment".	GEM-CC		Added in 2nd JCC
15	Textile	Textile 7	21075	No SR Number (No. 127)	Mummy Trappings	GEM-CC	Lead 	No SR Number Other No. 127 @ luxor
16	Textile	Textile 8	4593	3140	Aprons Tie at top a separate band sewn on.Loose string part 28 cm long, in bad condition	GEM-CC	Follow 	
17	Textile	Textile 9	16026	4005	loin-cloth	GEM-CC	Follow 	
18	Textile	Textile 10	16027	4020	loin cloth, unfolded.	GEM-CC	Follow 	
19	Textile	Textile 11	9505	4028-4036	Nine triangular loin-cloths .These were folded carefully into flat pads 12 x 5 x circ. 2 Originally each of them was tied round the middle by a single thread.	GEM-CC	Follow 	
20	Textile	Textile 12	14564	4283	shawl or scarf with fine fringe. (cartouche of smenkh-ka-ra)	GEM-CC	Follow 	

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編集日

List of target artifacts

Serial	Group	Code	GEM No.	SR No.	Description	Current Location::Location	Target Category	Remarks
21	Textile	Textile 13	318	2674	glove of tapestry woven fabric, neatly folded up. In poor condition	GEM-CC	Follow 	
22	Textile	Textile 14	310	3170	This belt of tapestry woven with elaborate designs, in panels which were outlined with white thread. The panels next either end contained two cartouches of the King Tutankhamun. In bad condition	GEM-CC	Follow 	
23	Textile	Textile 15	4790	3172	Gauntlet of coarse linen, with a lining of very fine linen, in bad condition	GEM-CC	Follow 	
24	Textile	Textile 16	309	3174	tapestry woven floral designs in red, green and yellow sewn on plain cloth. In bad condition	GEM-CC	Follow 	
25	Textile	Textile 17	9483	4006-4012	Bundle of seven flat rolls. These had been tied together (string now broken) by a linen cord .	GEM-CC	Follow 	
26	Textile	Textile 18	15918	3141	Apron, srtangular.	GEM-CC	Follow 	
27	Textile	Textile 19	13804	3136	Robe of tapestry woven linen fabric	GEM-CC	Follow 	
28	Textile	Textile 20	4588	3135	sleeved robe of plain linen, having auxiliary tapestry-woven fabric and open needlework ornament. The colours of the ornament are difficult to seen exactly, in bad condition	GEM-CC	Follow 	
29	Textile	Textile 21	15972	4442	Shirt with blue and brown stripes	GEM-CC	Follow 	
30	Textile	Textile 22	16017	3934	Large garment	GEM-CC	Follow 	Added in 2nd JCC
31	Textile	Textile 23	14560	4278	shawl with braid, coloured.	GEM-CC	Follow 	
32	Textile	Textile 24	14323	4254	covering	GEM-CC	Follow 	

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編集日

List of target artifacts

Serial	Group	Code	GEM No.	SR No.	Description	Current Location::Location	Target Category	Remarks
33	Textile	Textile 25	14324	4255	covering	GEM-CC	Follow 	
34	Textile	Textile 26	14325	4257	covering	GEM-CC	Follow 	
35	Textile	Textile 27	14326	4258	covering	GEM-CC	Follow 	
36	Textile	Textile 28	14335	4251	covering	GEM-CC	Follow 	
37	Textile	Textile 29	14336	4252	covering	GEM-CC	Follow 	
38	Textile	Textile 30	15944	4149	shawl with fringe.	GEM-CC	Follow 	
39	Textile	Textile 31	15956	4256	covring	GEM-CC	Follow 	
40	Textile	Textile 32	7565	4237	Cover with a strip of linen tied round neck of the statuette of Amset, in a bad condition.	GEM-CC	Follow 	
41	Textile	Textile 33	7566	4238	linen covering tied round right shoulder of the statue of the king upon reed float, in a bad condition.	GEM-CC	Follow 	
42	Textile	Textile 34	7567	4239	linen covering tied round right shoulder of the statue of the king upon reed float, in a good condition.	GEM-CC	Follow 	
43	Textile	Textile 35	7568	4240	Linen covering tied round neck of standing figure of the king , in a good condition.	GEM-CC	Follow 	
44	Textile	Textile 36	7569	4241	Linen covering tied round neck of standing figure of the king , in a bad condition.	GEM-CC	Follow 	

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編集日

List of target artifacts

Serial	Group	Code	GEM No.	SR No.	Description	Current Location::Location	Target Category	Remarks
45	Textile	Textile 37	7570	4242	Linen covering tied round at the throat of the figure of the Hawk headed god Harwer, in a bad condition.	GEM-CC	Follow 	
46	Textile	Textile 38	7571	4243	Linen covering tied round the neck of the figure of the god Hapi, in a bad condtion	GEM-CC	Follow 	
47	Textile	Textile 39	7572	4244	Linen covering tied round the neck of the figure of the God Tayet, in a bad condtion	GEM-CC	Follow 	
48	Textile	Textile 40	7573	4245	Linen covering tied round the throat of the figure of the god Khepri , in a bad condition.	GEM-CC	Follow 	
49	Textile	Textile 41	7574	4246	Linen covering (muslin)tied round the throat of the figure of the god Tatenen, in A bad condition.	GEM-CC	Follow 	
50	Textile	Textile 42	7575	4247	Two pieces of linen covering,one fine the other of coarse fabric, the coarse piece, with hieroglyphs line, in a bad condition.	GEM-CC	Follow 	
51	Textile	Textile 43	7576	4248	A mass of linen fastened round neck of the figure of god Ptah, inscribed with hieroglyphs line, in a good condition.	GEM-CC	Follow 	
52	Textile	Textile 44	7577	4249	A piece of linen covering round the figure of God Horus of letopolis, in a bad condition.	GEM-CC	Follow 	
53	Textile	Textile 45	7578	4250	A piece of linen tied at chest of the figure of the king, in a bad condition.	GEM-CC	Follow 	
54	Textile	Textile 46	4794	2673	Hand glove,made of two pieces of tapestry woven cloth, cut out to shape, fingers and all, in fair condition	GEM-CC	Follow 	
55	Textile	Textile 47	4798	2668	Hand glove made of linen,Stitched up sides, and round each finger, in very bad condition	GEM-CC	Follow 	

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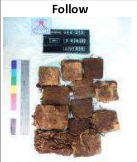
編集日

List of target artifacts

Serial	Group	Code	GEM No.	SR No.	Description	Current Location::Location	Target Category	Remarks
56	Textile	Textile 48	15985	2667	Gloves.	GEM-CC	Follow 	
57	Textile	Textile 49	39132	2671	Linen gauntlet.	GEM-CC	Follow 	
58	Textile	Textile 50	15937	3168	Collar band from shirt .	GEM-CC	Follow 	
59	Textile	Textile 51	273	2675	Gloves	GEM-CC	Follow 	
60	Textile	Textile 52	4950	2669	Driving guantlet, lined with very fine linen. This a leaf hand glove, 3 fingers in one stall.	GEM-CC	Follow 	
61	Textile	Textile 53	14344	4271	Large linen sheet	GEM-CC	Follow 	
62	Textile	Textile 54	14343	4270	Linen sheet of fairly coarse material in poor state and much darkened	GEM-CC	Follow 	
63	Textile	Textile 55	8433	3943:3956	Tie at top a separate band sewn on. Loose string part 28 cm long. 19 of these. Four of them were too decayed to save, and were thrown away, in a bad condition	GEM-CC	Follow 	
64	Textile	Textile 56	14058	3917	Gauntlet in bad condition.	GEM-CC	Follow 	
65	Textile	Textile 57	14340	4263	shawl	GEM-CC	Follow 	

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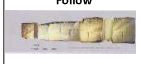
編集日

List of target artifacts

Serial	Group	Code	GEM No.	SR No.	Description	Current Location::Location	Target Category	Remarks
66	Mural_ stone	Mural 1	10013	11094	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", represented part of a large papyrus boat, and three fishes in the Nile, painted and inscribed; in bad condition.	Cairo Egyptian Museum	Follow 	1780 1779 1777
67	Mural_ stone	Mural 2	74784	11095	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", represented a standing man carrying a vase in each register, painted and inscribed; in bad condition.	GEM-CC	Lead 	1775 1778 1774
68	Mural_ stone	Mural 3	74785	11097	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", represented men leading cows to cross the river, men on a papyrous boat, painted and inscribed; in bad condition.	Cairo Egyptian Museum	Follow 	1782 1785 1786 1783 1784
69	Mural_ stone	Mural 4	74786	11098	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", represented a standing man carrying a vase in each register, part of the first register lost, painted and inscribed; in bad condition.	GEM-CC	Follow 	1772 1773 1771
70	Mural_ stone	Mural 5	74787	11100	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", two register, represented 12mens in 1st register carrying furniture, 2nd regist. showing three boats with the rowers and offerings, painted and inscribed; in bad condition.	Cairo Egyptian Museum	Follow 	1769 1770
71	Mural_ stone	Mural 6	74788	11101	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", two register, represented 3, register in 2nd regist. showing three men with staff loking to another oneand two woman 3rd register showing 3 boats , painted and inscribed; in bad condition.	GEM-CC	Follow 	1776 1781
72	Mural_ stone	Stone1 (Sneferu)	45630	#N/A	Wall of The Vally Temple Of King King Sneferu	GEM-CC	Follow 	up to Output 1*

* Note 1: Stone 1 (Sneferu) (GEM no. 45630) is conducted from documentation to transport in the Project. Following processs is out of the proejct scope.
There listed artifacts are subject to change based on the discussion between JICA and GEM
* Note 2: GEM 14061 was added to Textile 6 on 2017.11.28 because it was found to form a part of 14695 and needs to be displayed as one object in one mount
* Note 3: GEM 16017 was added as Textile 22 on 2017.11.28 because it was found to be a major 5th tunic which needs to be mounted with pressure mount of the same style as other major 4 tunics in the display.
* Note 4: GEM 4539 was added as Chariot 2_2 on 2018.11.29 because it was found to belong to Chariot 2 and that they should be displayed together

Plan of Operation (JICA Format)

Updated 2019/11/07

Project Title: "Grand Egyptian Museum Joint Conservation Project"

Category : All target artifacts	Year	1st Year (Nov.'16-Oct.'17)											2nd Year (Nov.'17-Oct.'18)											3rd Year (Nov.'18- Oct.'19)											4th Year (Nov.'19- Oct.'20)					
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	total
Inputs																																										
Number of GEM-CC Experts (Unit: Man-Month), expected*	Plan			5.8	5.8	5.8	6.1	6.7	6.7	7.5	7.5	7.5	7.7	7.9	8.1	8.1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	0.1	0.1	0.0	0.0	0.0	260
	Actual		0.9	0.9	4.0	4.0	1.8	15.2	4.6	3.8	6.9	4.4	10.2	11.5	15.2	15.1	9.8	10.8	14.1	8.2	13.5	9.7	9.1	10.6	13.4	9.0	8.7	10.8	12.5	10.9	10.2	8.3	9.0	7.9	9.8	11.8	7.8	9.1	3.4	3.2	3.4		333.6
Number of JICA Experts (Unit: Man-Month of working in Egypt)	Plan	3.0	10.5	1.6	10.0	2.3	2.8	7.8	4.3	4.7	1.6	7.4	3.3	4.8	2.3	2.8	4.5	1.6	2.0	3.9	0.5	2.6	1.3	4.7	2.1	5.4	2.5	2.2	3.0	0.5	1.3	2.6	3.2	2.8	1.5	6.4	1.0	0.0	1.6333	1.9	1.9	0.0	129.9
	Actual	0.9	7.1	2.3	4.0	4.9	3.2	13.1	3.0	4.2	2.1	3.2	7.2	5.2	5.3	3.6	3.8	1.9	5.0	1.5	0.6	2.7	1.4	2.1	2.1	5.3	1.3	1.0	4.0	1.8	1.9	1.1	2.5	5.8	2.1	2.1	1.4	0.2	1.2	1.6	3.2		126.7
Equipment (Major ones) ●Xray ▲3D ×Microscope ◇Other	Plan				●		▲	×		◇		◇		◇			◇					◇																				
	Actual					●	▲	×		◇		◇		◇			◇					◇																				
Consumable items	Plan							●						●							●		●		●		●	●	●													
	Actual							●							●							●		●	●		●	●	●				●	●	●	●						
Output 1: Documentation, first aid, packing and transportation to GEM of the target artifacts are conducted.																																										
Number of Artifacts in Activities of Output 1 (Lead)	Plan			4.5	4.5	9.5	9.5	9.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Actual		*N/a*	*2.0*	*3.5*	*8.5*	*8.5*	*8.0*	*4.0*	*2.0*	*2.0*	*2.0*	*2.0*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Number of Artifacts in Activities of Output 1 (Follow)	Plan			44.0	43.0	43.0	45.0	50.0	9.0	15.0	15.0	15.0	15.0	12.0	13.0	10.0	7.0	7.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Actual		*N/A*	*2.0*	*1.0*	*45.0*	*45.0*	*15.0*	*15.0*	*15.0*	*19.0*	*21.0*	*19.0*	*8.0*	*5.0*	*3.0*	*5.0*	*6.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Number of Artifacts completed in Output 1 (Lead)	Plan								8.0	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	Actual							1.5	5.5	7.5	7.5	7.5	7.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0	10.0	10.0	10.0	*10.0*	*10.0*	*10.0*	
Number of Artifacts completed in Output 1 (Follow)	Plan				1	1	1	1	42	42	42	42	43	48	48	51	54	54	56	56	61	61	61	61	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
	Actual				1	1	2	36	36	36	37	37	39	51	54	56	56	56	59	59	59	59	59	59	59	62	62	62	62	62	62	62	62	62	62	62	62	62	*62.0*	*62.0*	*62.0*	

GEM Opening 2020

Appendix 4

Output 2: IPM and diagnostic analysis of the target artifacts are conducted, and conservation plans are formulated.

Number of Artifacts in Activities of Output 2 (Lead)	Plan	0 0 0 0 0 0 0 0 8 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 7 7 7 7 7 7 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0 0 0 0 0 0
	Actual	0 0 0 0 0 0 0 1.5 5.5 7.5 7.5 7.5 7.5 9.5 8 8 8 8 8 8 8 8 8 8 1 1 0 0 0 0 0 0 0.5 0.5 0.5 0 0 0 0 0 0 0 0
Number of Artifacts in Activities of Output 2 (Follow)	Plan	0 0 1 1 1 1 42 42 42 42 43 48 48 51 53 53 55 55 60 60 60 60 61 61 7 5 5 5 3 2 2 1 1 0 0 0 0 0 0 0 0 0 0
	Actual	0 0 1 1 2 36 36 36 36 36 38 50 53 55 55 53 56 56 56 56 56 56 2 5 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Number of Artifacts completed in Output 2 (Lead)	Plan	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2.5 2.5 2.5 2.5 2.5 2.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 10 10 10 10 10
	Actual	0 0 0 0 0 0 0 0 0 0 0 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 8.5 8.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 10 10 10 10 10
Number of Artifacts completed in Output 2 (Follow)	Plan	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 54 56 56 56 58 59 59 60 60 61 61 61 61 61 61 61 61
	Actual	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 2 2 2 2 2 2 56 56 58 58 61 61 61 61 61 61 61 61 61 61 61 61

Output 3: Conservation of the target artifacts is conducted.

Number of Artifacts in Activities of Output 3 (Lead)	Plan	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2.5 2.5 2.5 2.5 2.5 2.5 9.5 9.5 9.5 9.5 9.5 9.5 1.5 1.5 1.5 1.5 0.5 0.5 0 0 0
	Actual	0 0 0 0 0 0 0 0 0 0 0 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 8.5 8.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 1.5 1.5 1.5 0.5 0 0 0
Number of Artifacts in Activities of Output 3 (Follow)	Plan	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 54 56 56 56 58 59 59 60 60 61 61 1 1 0 0 0 0 0 0 0
	Actual	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 1 1 1 1 1 1 56 55 57 57 60 60 60 60 60 60 60 60 9 9 9 2 0 0 0
Number of Artifacts completed in Output 3 (Lead)	Plan	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 8 8 8 8 8 9.5 9.5 10 10 10 0 0 0
	Actual	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 8.5 8.5 8.5 9.5 9.5 0 0 0 0
Number of Artifacts completed in Output 3 (Follow)	Plan	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 61 61 62 62 62
	Actual	0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 53 53 53 60 60 0 0

Monitoring Plan	Year	1st Year (Oct.'16-Sep.'17)												2nd Year (Oct.'17-Sep.'18)												3rd Year (Oct.'18-Sep.'19)											
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Monitoring																																									
Joint Coordinating Committee	Plan		▲										▲												▲						▲				▲						
	Actual		▲										▲												▲												▲			
Set-up the Detailed Plan of Operati	Plan																																								
	Actual																																								
Submission of Monitoring Sheet	Plan		▲					▲					▲						▲						▲						▲				▲						
	Actual		▲					▲					▲						▲						▲						▲				▲						
Reports/Documents																																									
Project Progress Report	Plan																		▲																						
	Actual																		▲																						
Project Completion Report	Plan																																		▲						
	Actual																																		▲						

Public Relations																																										
Website ●English ▲Arabic ◇Japanese	Plan								●					◇	▲																											
	Actual										●					◇			▲																							
Pamphlet ▲for submitting to JICA ◇PR leaflet	Plan				▲			◇ JP		◇ EN AR																																
	Actual						▲	◇		◇																																
Video ▲3 Minutes ◇15 Minutes	Plan																		▲															◇								
	Actual																								▲											◇						

Monitoring Sheet / Plan of Operation based on Artifacts

List of target artifacts

Updated: 2018-11-01

Actually done

Project END

GEM opening 2020

Serial	Group	Code	GEM No.	SR No.	Description	Category		Year 2017												Year 2018												Year 2019														
								1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Wood	Chariot 1	4960	3189-3200	Decorated Chariot, covered with gesso and over laid with gold, no inscription on edge, round bottom	Follow	Plan				1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
1	Wood					Follow	Actual									1	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	4						
2	Wood	Chariot 2_1	15636	3201-3210	Chariot decorated with polychrome glass consists of body, wheels, axle, yoke, two	Lead	Plan	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4			
2	Wood					Lead	Actual		1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4						
2.5	Wood	Chariot 2_2	4539	3131-3134	Wood convered with gesso & gilt, canopy on poles, slots in top straight in center, angling off	Lead	Plan																							2	2	2	2	2	2	2	2	2	2	2	3	3			
2.5	Wood					Lead	Actual																							1	1	1	1	1	1	1	2	2	2	3						
3	Wood	Chariot 3	15661	3215-3221	Chariot cosists of : pair of saddle, double pointed sticks, pair of hours blinkers and two small	Follow	Plan							1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	4			
3	Wood					Follow	Actual											1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	4						
4	Wood	Chariot 4	15662	3222-3232	Highly Gilded woooden chariot, Completely covered with sheet gold save parts marked bound	Follow	Plan										1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	4	4			
4	Wood					Follow	Actual													1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	4						
5	Wood	Chariot 5	45621	3211-3214	Chariot no decoration Saddle / Disk revolved on shaft spur? part of chariot wood with	Follow	Plan											1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	4	4			
5	Wood					Follow	Actual												1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	4						
6	Wood	Bed 1	260	2780	The bed or couch made of hard red wood covered with gesso and inlaid with gold,it representing the	Follow	Plan																					2	2	2	2	2	2	3	3	3	3	3	3	3	4	4			
6	Wood					Follow	Actual									1	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4						
7	Wood	Bed 2	261	2827	The frame of bed of heavy timber,covered with gesso and overlaid with gold,the foot	Lead	Plan	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4			
7	Wood					Lead	Actual		1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4						
8	Wood	Bed 3	262	2779	A funerary bed with two elongated cow figure form,the two sides of this bed the legs back and front fill	Follow	Plan				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	4			
8	Wood					Follow	Actual													1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	4						
9	Textile	Textile 1	4779	3139	Shirt of yellow linen,across chest two bands of tapestry woven flying ducks in green, Two similar bands	Lead	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	4			
9	Textile					Lead	Actual	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
10	Textile	Textile 2	319	2670	linen glove, made of linen with string attached to back, in poor condition	Lead	Plan			1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	4			
10	Textile					Lead	Actual			1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
11	Textile	Textile 3	314	3171	The gauntlet was of rather coarse linen, with a lining of very fine linen. Open edges were rolled	Lead	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	4			
11	Textile					Lead	Actual	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
12	Textile	Textile 4	14338	4261	shawal in bad condition.	Lead	Plan			1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	4			
12	Textile					Lead	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
13	Textile	Textile 5	14339	4262	shawl	Lead	Plan			1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	4			
13	Textile					Lead	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
14	Textile	Textile 6	1469514061	4357 3920	Large Ornamental garment. A part of "Large Ornamental garment".	Lead	Plan			1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	4			
14	Textile					Lead	Actual			1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
15	Textile	Textile 7	21075	No SR but (No. 127 @ luxor)	Mummy Trappings	Lead	Plan			1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	4			
15	Textile					Lead	Actual			1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
16	Textile	Textile 8	4593	3140	Aprons Tie at top a separate band sewn on,Loose string part 28 cm long, in bad condition	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4				
16	Textile					Follow	Actual	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
17	Textile	Textile 9	16026	4005	loin-cloth	Follow	Plan					1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4				
17	Textile					Follow	Actual					1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
18	Textile	Textile 10	16027	4020	loin cloth, unfolded.	Follow	Plan					1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4				
18	Textile					Follow	Actual					1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
19	Textile	Textile 11	9505	4028-4036	Nine triangular loin-cloths ,These were folded carefully into flat pads 12 x 5 x circ. 2	Follow	Plan					1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4				
19	Textile					Follow	Actual					1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
20	Textile	Textile 12	14564	4283	shawl or scarf with fine fringe. (cartouche of smenkh-ka-ra)	Follow	Plan					1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4				
20	Textile					Follow	Actual					1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
21	Textile	Textile 13	318	2674	glove of tapestry woven fabric, neatly folded up.In poor condition	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4				
21	Textile					Follow	Actual			1	2	2	2	2	2	2	2	2	2	2	2	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
22	Textile	Textile 14	310	3170	This belt of tapestry woven with elaborate designs, in panels which were outlined with white thread.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4				
22	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
23	Textile	Textile 15	4790	3172	Gauntlet of coarse linen, with a lining of very fine linen, in bad condition	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4				
23	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						
24	Textile	Textile 16	309	3174	tapestry woven floral designs in red, green and yellow sewn on plain cloth. In bad condition	Follow	Plan										1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
24	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3						

Appendix 5

Monitoring Sheet / Plan of Operation based on Artifacts

List of target artifacts

Updated: 2018-11-01

Actually done

Project END

GEM opening 2020

Serial	Group	Code	GEM No.	SR No.	Description	Category		Year 2017												Year 2018												Year 2019														
								1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
25	Textile	Textile 17	9483	4006-4012	Bundle of seven flat rolls, These had been tied together (string now broken) by a linen cord .	Follow	Plan					1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
25	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
26	Textile	Textile 18	15918	3141	Apron, srtangular.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
26	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
27	Textile	Textile 19	13804	3136	Robe of tapestry woven linen fabric	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
27	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
28	Textile	Textile 20	4588	3135	sleeved robe of plain linen, having auxiliary tapestry-woven fabric and open needlework	Follow	Plan	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
28	Textile					Follow	Actual			1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
29	Textile	Textile 21	15972	4442	Shirt with blue and brown stripes	Follow	Plan	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4			
29	Textile					Follow	Actual			1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
30	Textile	Textile 22	16017	3934	Large garment	Follow	Plan	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3			
30	Textile					Follow	Actual	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
31	Textile	Textile 23	14560	4278	shawl with braid, coloured.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
31	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
32	Textile	Textile 24	14323	4254	covering	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
32	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
33	Textile	Textile 25	14324	4255	covering	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
33	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
34	Textile	Textile 26	14325	4257	covering	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
34	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
35	Textile	Textile 27	14326	4258	covering	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
35	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
36	Textile	Textile 28	14335	4251	covering	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
36	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
37	Textile	Textile 29	14336	4252	covering	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
37	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
38	Textile	Textile 30	15944	4149	shawl with fringe.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
38	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
39	Textile	Textile 31	15956	4256	covring	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
39	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
40	Textile	Textile 32	7565	4237	Cover with a strip of linen tied round neck of the statuette of Amset,in a bad condition.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
40	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
41	Textile	Textile 33	7566	4238	linen covering tied round right shoulder of the statue of the king upon reed float,in a bad condition.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
41	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
42	Textile	Textile 34	7567	4239	linen covering tied round right shoulder of the statue of the king upon reed float,in a good	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
42	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
43	Textile	Textile 35	7568	4240	Linen covering tied round neck of standing figure of the king ,in a good condition.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
43	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
44	Textile	Textile 36	7569	4241	Linen covering tied round neck of standing figure of the king ,in a bad condition.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
44	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
45	Textile	Textile 37	7570	4242	Linen covering tied round at the throat of the figure of the Hawk headed god Harwer,in a bad	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
45	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
46	Textile	Textile 38	7571	4243	Linen covering tied round the neck of the figure of the god Hapi,in a bad condtion	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
46	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
47	Textile	Textile 39	7572	4244	Linen covering tied round the neck of the figure of the God Tayet, in a bad condtion	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
47	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					
48	Textile	Textile 40	7573	4245	Linen covering tied round the throat of the figure of the god Khepri ,in a bad condition.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4			
48	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3					

Monitoring Sheet / Plan of Operation based on Artifacts

List of target artifacts

Updated: 2018-11-01

Actually done

Project END

GEM opening 2020

Serial	Group	Code	GEM No.	SR No.	Description	Category		Year 2017												Year 2018												Year 2019														
								1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
49	Textile	Textile 41	7574	4246	Linen covering (muslin)tied round the throat of the figure of the god Tatenen, in A bad condition.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
49	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
50	Textile	Textile 42	7575	4247	Two pieces of linen covering,one fine the other of coarse fabric, the coarse piece, with hieroglyphs	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
50	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
51	Textile	Textile 43	7576	4248	A mass of linen fastened round neck of the figure of god Ptah,inscribed with hieroglyphs	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
51	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
52	Textile	Textile 44	7577	4249	A piece of linen covering round the figure of God Horus of letopolis,in a bad condition.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
52	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
53	Textile	Textile 45	7578	4250	A piece of linen tied at chest of the figure of the king,in a bad condition.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
53	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
54	Textile	Textile 46	4794	2673	Hand glove,made of two pieces of tapestry woven cloth, cut out to shape, fingers and all, in fair	Follow	Plan	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
54	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
55	Textile	Textile 47	4798	2668	Hand glove made of linen,Stitched up sides, and round each finger, in very bad condition	Follow	Plan	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
55	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
56	Textile	Textile 48	15985	2667	Gloves.	Follow	Plan	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
56	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
57	Textile	Textile 49	39132	2671	Linen gauntlet.	Follow	Plan	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
57	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
58	Textile	Textile 50	15937	3168	Collar band from shirt .	Follow	Plan	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
58	Textile					Follow	Actual			1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
59	Textile	Textile 51	273	2675	Gloves	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
59	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3							
60	Textile	Textile 52	4950	2669	Driving guantlet, lined with very fine linen. This a leaf hand glove, 3 fingers in one stall.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
60	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
61	Textile	Textile 53	14344	4271	Large linen sheet	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
61	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
62	Textile	Textile 54	14343	4270	Linen sheet of fairly coarse material in poor state and much darkened	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
62	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3							
63	Textile	Textile 55	8433	3943:3956	Tie at top a separate band sewn on. Loose string part 28 cm long. 19 of these. Four of them were too	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
63	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
64	Textile	Textile 56	14058	3917	Gauntlet in bad condition.	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
64	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	✓						
65	Textile	Textile 57	14340	4263	shawl	Follow	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
65	Textile					Follow	Actual			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3							
66	Mural_ stone	Mural 1	10013	11094	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", represented part of a large	Follow	Plan							1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
66	Mural_ stone					Follow	Actual							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3	✓						
67	Mural_ stone	Mural 2	74784	11095	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", represented a standing man	Lead	Plan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4						
67	Mural_ stone					Lead	Actual					1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	✓						
68	Mural_ stone	Mural 3	74785	11097	Painting relief on plaster from the tomb of probably "sesem-nefer", represented men leading cows to	Follow	Plan							1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
68	Mural_ stone					Follow	Actual							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3	✓						
69	Mural_ stone	Mural 4	74786	11098	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", represented a standing man	Follow	Plan							1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
69	Mural_ stone					Follow	Actual							1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	✓						
70	Mural_ stone	Mural 5	74787	11100	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", two register, represented 12mens in	Follow	Plan							1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
70	Mural_ stone					Follow	Actual							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3	✓						
71	Mural_ stone	Mural 6	74788	11101	Painting relief on plaster from the tomb of "(senefrew)-in-ist.f", two register, represented 3. register in	Follow	Plan							1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4						
71	Mural_ stone					Follow	Actual								1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	✓						
72	Mural_ stone	Stone1 (Sneferu)	45630	#N/A	Wall of The Vally Temple Of King King Sneferu (to Output1)	Follow	Plan											1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
72	Mural_ stone					Follow	Actual				1	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	✓						

List of competencies required for the conservation activities in GEM-CC
(Items of training during Phase I & II)

Evaluation Criteria

A：Having advanced knowledge and rich practical experience to be able to teach my colleagues

B：Having sufficient experience and applicable knowledge to perform their duties proactively

C：Basic knowledge and some practical experience is acquired

D：Having basic knowledge but no experience of practice

E：Having neither knowledge nor experience

I. Preventive Conservation

1. Preventive Conservation in General
   - Concept, territory and practice
   - Strategy and measures for controlling various risks in order to maintain good conditions for artifacts in a long term.
   - Assessment and management for aging and deterioration behaviors by environmental factors: Temp/ RH, light radiation (UV, Vis-light, IR), contamination (air pollution, hazardous gas, dust/ airborne particles), physical forces (shock/ vibration/ gravity/ wind), insect pests and microbes in the air etc.
   - Preventative measures from damages and losses on artifacts caused by natural and human-made disasters including earthquake, flood, thefts, vandalism etc.
   - On-site activities in a historic and archeological site, packing-unpacking, transportation, storage, conservation laboratory and exhibition.
   - Measures to prevent artifacts from any damage and deterioration.
2. Occupational Health and Safety
   - Chemical, biological, mechanical and other risks at a workplace.
   - Practical experience for surveying and managing risks at a workplace
   - Strategy and techniques for risk assessment and management at workplace
3. Integrated Pest Management (IPM)
   - IPM：Its concept, methodology and practical measures
   - Monitoring pest population and behaviors using insect traps, analyzing collected data and introducing integrated a strategy for reducing pest population.
   - About nature and ecology of pests: small animals, insects and microbes.
   - Procedures of a technical protection from pest infection to artifacts: Avoid, Block, Detect, Respond and Recover/Treat.
4. Insecticidal Treatment in Museums
   - Insecticidal treatments for preventing further damages and infection by pests: its methodology and concept in IPM

- Insecticidal mechanism of anoxia, carbon dioxide and other chemical treatments etc.
- Practical and safe measures in anoxia, carbon dioxide and other chemical treatments etc.
- Chemical and biological experiments in order to evaluate effectiveness and effect on materials of artifacts of the insecticidal treatment

5. Microorganism Management

- Knowledge about microorganism in conservation field: its ecology, infection/ habitat, toxicity and damages to artifacts.
- Practical measures in labs for air monitoring, sampling from artifacts, culturing, identifying and controlling fungi, bacteria and other microbes in safe and effective methods.

6. Preventive Conservation for Mummies

- Knowledge about application of oxygen-free environment for preventive conservation of mummies and sensitive organic artifacts: its concept and methodology with safe and effective methods.
- Techniques to create an oxygen-free condition using safe and effective methods and practical measures to prevent these artifacts from any damage.

7. Collection Management

- Knowledge about safely and effectively caring, storing and controlling environment for museum collection.
- Use of database, condition check, environment monitoring, location management in a museum,
- IPM and other suitable and effective measures for collection management with a good accessibility and safety for artifacts and human beings.

8. Packing and Transportation

- Skills about effective and safe wrapping and packing of artifacts with various sizes and shapes: its strategy, materials to use and methods.
- Methods to make suitable boxes to transport fragile artifacts inside and outside museum.
- Specific skills to move heavy artifacts (less or more than 1t) for the purpose of conservation work.

II. Conservation

1. Conservation /Conservator

- Knowledge about definitions widely used at present and understanding of the meanings of technical terms in conservation such as ”preventive conservation”, “conservation”, “remedial conservation” and “restoration” etc.
- General knowledge and experience about conservator’s activities as a whole. Knowledge, philosophy and ethics in conservation field.
- The role of conservators in museum as well as relationship between conservators and scientists.

2. Conservation Reports

- Documentation (condition check reports, conservation treatment reports and academic papers) using digital data and software and archive them.
- Taking appropriate photos for recording the condition before and after treatment.
- Using appropriate terminology and definitions for writing conservation reports.

- Creating a map of materials and deterioration of artifacts in order to understand the condition and areas of deterioration of artifacts.

3. Painted Objects

- General knowledge about materials, structures (support, gesso and pigment layers) and deterioration behaviors of painted artifacts such as cartonage, painted wooden coffin, Faiyum Portrait, papyrus, mural painting etc.
- Observation and analysis (including cross-section) of materials and condition of samples using microscopy, SEM-EDS, XRD, Raman spectroscopy.
- Writing a condition report before and after treatment.
- Conducting conservation treatment including conservation plan, selection of suitable treatment materials and procedures such as cleaning, stabilization, enhancement (consolidation, filling) etc. and mounting.
- Monitoring and evaluation after treatment.

4. Textile

- General knowledge about textile artifacts such as materials (fibers, dyes and mordants), manufacture methods, including weaving, and deterioration behaviors.
- Principle and ethics in textile conservation. Knowledge
- Practices in textile conservation such as scientific examination, condition check, observation and analysis, planning for conservation treatment, dealing with artifacts, documentation, packing and transportation, exhibition (mounting/support, lighting and environmental conditions etc.).

5. Papyrus

- General knowledge for papyrus artifacts such as materials (fibers, pigments and mediums), manufacturing methods, and deterioration behaviors.
- Principle and ethics in papyrus conservation. Knowledge
- Practice in papyrus conservation such as scientific examination, condition check, observation and analysis, planning for conservation treatment, dealing with artifacts, documentation, packing and transportation, exhibition (mounting/support, lighting and environmental conditions, etc.).

6. Stone

- General knowledge about stone artifacts such as stele, sculpture and statue, etc.: their materials, manufacturing methods, structures and deterioration behaviors.
- Principle and ethics in conservation of stone artifacts.
- Practice in stone conservation such as scientific examination, condition check, observation and analysis, planning for conservation treatment, dealing with artifacts, documentation, packing and transportation, exhibition (mounting/structural supports, lighting and environmental conditions, etc.).

7. Wood

- General knowledge for wooden artifacts such as coffins, furniture, statues, etc.: their materials, manufacture methods, structure and deterioration behavior. Especially, complex materials used in wooden artifacts and their conservation/ preservation concept and procedures.
- Principle and ethics in conservation of wooden artifacts.

- Practice in wood conservation such as scientific examination, condition check, observation and analysis, planning for conservation, treatment (stabilizing, cleaning, consolidation, filling, etc.), dealing with artifacts, documentation, packing and transportation, and exhibition (mounting/ structural supports etc.).

8. Metal

- General knowledge for metal artifacts such as coin, statue, etc.: their materials, manufacture methods, structures and deterioration behaviors (nature of corrosion and its mechanism).
- Principle and ethics in conservation of metal artifacts. Knowledge
- Practice in metal conservation such as scientific examination, condition check, observation and analysis, planning for conservation, conducting treatment (stabilizing, cleaning, reinforcing, reassembling etc.), dealing with artifacts, documentation, packing and transportation, preservation (especially RH and low-Oxygen), and exhibition.

9. Glass

- General knowledge for glass artifacts such as containers and beads etc.: their materials (chemical composition), manufacturing methods, and deterioration behaviors
- Principle and ethics in conservation of glass artifacts. Knowledge
- Practice in glass conservation such as scientific examination, condition check, observation and analysis, planning for conservation, treatment (stabilizing, cleaning, reinforcing, etc.), dealing with artifacts, documentation, packing and transportation, preservation, and exhibition.

10. Japanese paper for conservation treatment

- General knowledge about Japanese paper: its nature (chemical and physical property, deterioration), manufacturing methods, use in artifacts (traditional wall painting, scroll painting, books, etc.).
- Application of Japanese paper in conservation field (in Europe, America and Japan).
- Practical work using Japanese paper for various situations in the field of preservation/ conservation: wrapping and packing, facing on surface, stretching, filling and connecting, backing etc. and their methods in application.

III. Conservation Science

1. Conservation Science in General

- Understanding of "Conservation Science": its concept, the area of the field and methodology.
- Relationship between science and conservation and role of science in conservation.
- Knowledge and practices of scientific approaches to conservation: practical techniques of examination, analysis, diagnosis and treatment.
- Planning and conducting evaluation tests to reveal effectiveness/ ineffectiveness in conservation/ preservation as well as discussing the results for further application.
- Planning and conducting evaluation tests to reveal effect/non-effect to artifacts in conservation/ preservation as well as discussing the results for further application.

2. Materials in Conservation

- Knowledge about chemical properties and deterioration behaviors of original materials of ancient Egyptian

artifacts: wood, metal, gemstone, ceramics, glass, faience, fiber, resin, pigment, dye, adhesive, and other substances.

- Practical examination and analytical techniques (including dating) for characterization and identification of original materials of ancient Egyptian artifacts.
- Knowledge about chemical properties and behaviors on materials used in conservation: effectiveness, stability, reversibility and for cleaning agent, natural and synthetic adhesives, consolidant, filler and preservation materials such as container etc.
- Evaluation systems for examination of selecting the most suitable conservation material and for introducing it into practical work: analytical methods, strength tests, tolerance tests (physical and chemical) and accelerated aging tests etc.

3. Environmental Science in Museum

- Knowledge about environmental factors in museums: temperature/ relative humidity, light radiation (UV, Vis-light, IR), contamination (air pollution, hazardous gas, dust/ airborne particles), physical forces (shock/ vibration/ gravity/ wind), insects, pest and microbe in the air, etc.
- Practice in monitoring environmental factors with suitable devices as well as sustainable managing with HVAC (air conditioning system) and other measures.

4. Diagnostic and Analytical Techniques for Conservation

- Knowledge about diagnostic and analytical measures for structure, materials and deterioration of artifacts.
- Principle and practice for non-destructive methods such as microscopy and X-radiography as well as those for micro-destructive methods such as SEM-EDS, XRD, FT-IR etc.
- Technical procedures of making, observing and analyzing cross-section sample.

IV. Others

1. Improvement of Academic Status

- Searching academic articles in journals and books for conservation and conservation science through internet sites (BCIN, AATA etc), and understanding and discussion of them with colleagues
- Encouraging academic research in conservation and its related field: case study, technical development, examination, analysis and applied researches
- Writing academic articles in Arabic, English and other foreign languages and making contributions to annual reports of GEM-CC and academic journals.
- Presentations of papers at the periodical symposia at GEM-CC as well as at outside institutes.

2. Cooperation with Same and Other Specialties

- Building good work relationship and exchanging information with GEM-CC staffs who have other specialties
- Building networks and exchanging with external specialists in your own field as well as those who have other specialties.

3. Understanding International Trends

- Researching and understanding academic trends in conservation, conservation science and Egyptian

archeology through the internet and other methods.

4. Activities outside of GEMCC

- Participation in other activities related to conservation, conservation science and Egyptian archeology, including those at archeological/ historical sites, other museums and academic institutions

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36	OSHIBA Sakiko 大柴 沙貴子(後任)	Procurement 機材調達1	一般財団法人日本国際協力センター
37	MORIYAMA Misako 盛山 美砂子	Procurement 機材調達2	一般財団法人日本国際協力センター
38	MORIYAMA Misako 盛山 美砂子	Coodination 業務調整	一般財団法人日本国際協力センター
39	TAJIMA Sakae 田島 さか恵	Public Relations 広報/メディア1	国立大学法人東京芸術大学
40	YASUDA Mamiko 安田 真実子	Public Relations 広報/メディア2	国立大学法人東京芸術大学
41	SUEMORI Kaoru 末森 薫	Collection Management 収蔵品管理	国立大学法人東京芸術大学 (補強：学校法人関西大学)
42	HARADA Rei 原田 怜	Monitoring モニタリング1 (人材育成)	国立大学法人東京芸術大学
43	MIYOSHI Takahiro 三好 崇弘	Monitoring モニタリング2 (業務管理)	一般財団法人日本国際協力センター (補強：有限会社エムエム・サービス)

業務従事者の従事計画・実績表

契約件名：エジプト国大エジプト博物館合同保存修復プロジェクト

監督職員確認印：【監督職員氏名】 坪池　明日香　印

区分	氏名	担当業務	格付		渡航回数	日数合計	人月合計	備考
現地業務	中村 三樹男	総括/プロジェクトマネジメント	1	計画	10	300	10.00	
				実績	11	264	8.80	
	西坂 朗子	保存修復計画	2	計画	7	838	27.93	2019年12月16日の変更契約により1.93MM増加
				実績	6	838	27.93	
	桐野 文良	保存科学	3	計画	9	97	3.23	2019年12月16日の変更契約により0.23MM増加
				実績	7	62	2.07	
	岡田 靖	木材保存修復1（木材総括）	3	計画	17	171	5.70	2019年12月16日の変更契約により0.47MM増加
				実績	15	208	6.93	
	足立 収一	木材保存修復2（技術補佐）	4	計画	9	75	2.50	
				実績	4	64	2.13	
	大山 幹成	木材保存修復3（木材材質診断）	3	計画	8	82	2.73	
				実績	8	95	3.17	
	栗本 康司	木材保存修復4（木材科学・安定化処理）	3	計画	9	90	3.00	
				実績	5	62	2.07	
	石井 美恵	染織品保存修復1（染織品総括）	3	計画	12	119	3.97	2019年12月16日の変更契約により0.24MM増加
				実績	12	133	4.43	
	横山 翠	染織品保存修復2（展示のための安定化処理）	4	計画	10	105	3.50	
				実績	15	138	4.60	
	柴田 みな	染織品保存修復3（技術補佐）	3	計画	10	120	4.00	
				実績	3	35	1.17	
	谷口 陽子	壁画保存修復1（壁画総括）	3	計画	10	105	3.50	
				実績	7	55	1.83	
	増田 久美	壁画保存修復2（彩色部の保存修復）	3	計画	10	105	3.50	
				実績	13	176	5.87	
	成田 朱美	壁画保存修復3（技術補佐）	4	計画	5	45	1.50	
				実績	8	86	2.87	
	橋爪 久人（前任）	壁画保存修復4（石造部の保存修復）	4	計画	3	35	1.17	現地業務実績あり。
				実績	3	35	1.17	
	古賀 路子（後任）	壁画保存修復4（石造部の保存修復）	4	計画	2	10	0.33	
				実績	3	23	0.77	
	正田 陽児	文化財移送1（移送総括）	3	計画	8	137	4.57	2017年2月9日の変更契約により0.2MM増加
				実績	8	132	4.40	2018年10月23日の変更契約により0.87MM増加
	徳田 英昌	文化財移送2（梱包総括）	3	計画	1	8	0.27	
				実績	7	142	4.73	
	今尾 浩昭	文化財移送3（木製品・複合品担当）	3	計画	2	60	2.00	
				実績	2	40	1.33	
	**	文化財移送4（木製品担当）	3	計画	2	45	1.50	
				実績	0	0	0.00	
	徳山 宜和	文化財移送5（染織品担当）	4	計画	2	37	1.23	
				実績	2	39	1.30	
	寺本 俊一	文化財移送6（壁画担当）	4	計画	2	45	1.50	
				実績	1	30	1.00	
	福島 茂明	文化財移送7（移送計画策定支援）	3	計画	1	9	0.30	2017年2月9日の変更契約により0.3MM追加
				実績	1	9	0.30	
	大石 岳史	測量・ドキュメンテーション1（三次元測量・立体物）	3	計画	2	22	0.73	
				実績	4	38	1.27	
	鎌倉 真音	測量・ドキュメンテーション2（三次元測量・平面）	3	計画	2	22	0.73	
				実績	1	12	0.40	
	影澤 政隆	測量・ドキュメンテーション3（三次元測量のデジタル処理）	3	計画	3	45	1.50	
				実績	4	39	1.30	
	木島 隆康	測量・ドキュメンテーション4（特殊光撮影）	3	計画	2	30	1.00	
				実績	1	12	0.40	
	小笠原 勇介	測量・ドキュメンテーション5（高精細写真）	3	計画	2	45	1.50	
				実績	2	45	1.50	
	松島 朝秀	測量・ドキュメンテーション6（X線撮影）	3	計画	1	30	1.00	
				実績	5	62	2.07	
	高鳥 浩介	IPM（微生物）	3	計画	1	8	0.27	
				実績	1	7	0.23	
	河合 望	診断分析1（エジプト考古学・歴史検証）	3	計画	9	97	3.23	2019年12月16日の変更契約により0.23MM増加
				実績	10	79	2.63	
	島津 美子	診断分析2（高分子化学）	3	計画	7	75	2.50	
				実績	6	70	2.33	
	藤澤 明	診断分析3（無機物分析）	3	計画	6	60	2.00	
				実績	3	27	0.90	
	松田 泰典	診断分析4（有機物分析）	3	計画	2	15	0.50	
				実績	2	15	0.50	
	塚田 全彦	診断分析5（分析総合）	3	計画	1	8	0.27	
				実績	4	55	1.83	
	村上 夏希	診断分析6（彩色材料技法）	5	計画	1	8	0.27	
				実績	1	11	0.37	
	山越 和彦（前任）	機材調達1	4	計画	0	0	0.00	現地業務実績なし。国内業務実績あり。
				実績	0	0	0.00	
	大柴 沙貴子（後任）	機材調達1	4	計画	4	36	1.20	
				実績	2	24	0.80	
	盛山 美砂子	機材調達2	4	計画	0	308	15.40	現地での業務は現地在住者のため20日/月で計算
				実績	0	308	15.40	変更契約によりMM増加 2.5(2018/1/18)1.9(2019/12/16)
		業務調整	5	計画	0	46	2.30	現地での業務は現地在住者のため20日/月で計算
				実績	0	46	2.30	変更契約によりMM増加 0.8(2018/1/18)0.5(2019/12/16)
	田島 さか恵	広報/メディア1	4	計画	2	30	1.00	
				実績	1	9	0.30	
	安田 真実子	広報/メディア2	4	計画	1	8	0.27	
				実績	1	12	0.40	
	末森 薫	収蔵品管理	3	計画	2	15	0.50	
				実績	2	23	0.77	
	原田 怜	モニタリング1（人材育成）	4	計画	7	128	4.27	
				実績	3	48	1.60	
	三好 崇弘	モニタリング2（業務管理）	3	計画	3	45	1.50	
				実績	3	45	1.50	
	現地業務小計			計画		3719.00	129.87	
				実績		3653.00	127.67	

区分	氏名	担当業務	格付		日数合計	人月合計	備考
国内業務	中村 三樹男	総括/プロジェクトマネジメント	1	計画	0	0.00	2019年5月より一部現地業務人月を国内業務に振替
				実績	26	1.30	
	桐野 文良	保存科学	3	計画	16	0.80	2019年12月16日の変更契約により0.3MM増加
				実績	19	0.95	
	山越 和彦（前任）	機材調達1	4	計画	35	1.75	現地業務実績なし。国内業務実績あり。
				実績	35	1.75	
	大柴 沙貴子（後任）	機材調達1	4	計画	13	0.65	2019年12月16日の変更契約により0.2MM増加
				実績	15	0.75	
	田島 さか恵	広報/メディア1	4	計画	10	0.50	
				実績	24	1.20	
	原田 怜	モニタリング1（人材育成）	4	計画	10	0.50	
				実績	5	0.25	
	国内業務小計			計画	84	4.20	
				実績	124	6.20	

凡例：■業務従事計画　■業務従事実績　■自社負担

合計	計画	134.07
	実績	133.87

報告書等
△11/25業務計画書　△2/22ワークプラン　△5/31モニタリングシートver.1　△11/30モニタリングシートver.2　△5/31モニタリングシートver.3　△11/30モニタリングシートver.4　△5/31モニタリングシートver.5　△9/30モニタリングシートVer.6　△2/28モニタリングシートVer.7　△F/R

注1）各業務従事者の現地、国内のそれぞれの人月は、現地業務期間は30日、国内業務期間は20日で除した数字の小数点以下第３位を四捨五入して算定してください。
注2）現地業務と国内業務の振替えは人月単位で行うため、日数に端数が出ますが、端数は国内業務日数で調整してください。
注3）各業務従事者の各配置期間の下には、日数を括弧書きで記入してください。
注4）実績については各配置期間の開始日、終了日を記載してください（計画については記入不要です）。
注5）通訳についても記載してください。
注6）自社負担による業務従事期間が発生する場合、自社負担による業務従事期間を明確に区別できるよう表記してください。

Egyptian Participants

	Name	Position
1	Hussein Kamal حسين كمال	Project Manager, Head مدير المشروع
2	Eissa Zidan Abd El Albadea عيسى زيدان	General Director of Executive affairs for conservation مدير عام الشؤون التنفيذية للترميم
3	Abd El-Rahman Mohamed Abd El-Rahman عبد الرحمن محمد	Stone Lab, Conservator مرمم بعمل الأحجار
4	Amira Abd El-Hakim Hamdi أميرة عبد الكيم	Stone Lab, Conservator مرمم بعمل الأحجار
5	Mustafa Shehata Hassan مصطفى شحاتة	Stone Lab, Head مرمم بعمل الأحجار
6	Gilan Mahmoud Gamal جيلان محمد جمال	Wood Lab, Head رئيس معمل الأخشاب
7	Hind Bayyoumi Mohamed هند بيومي	Wood Lab, Conservator مرمم بعمل الأخشاب
8	Ahmed Abd Rabou Ibrahim أحمد عبدربه إبراهيم	Wood Lab, Conservator مرمم بعمل الأخشاب
9	Mohamed Moustafa Mohamed محمد مصطفى محمد	Wood Lab, Conservator مرمم بعمل الأخشاب
10	Ali Hussein Mahmoud علي حسين محمد	Wood Lab, Conservator مرمم بعمل الأخشاب
11	Ramy Magdy Othman رامي مجدي عثمان	Wood Lab, Conservator مرمم بعمل الأخشاب
12	Nada Sayed Ahmed ندى سيد أحمد	Wood Lab, Conservator مرمم بعمل الأخشاب
13	Fatma magdy فاطمة مجدي	Wood Lab, Conservator مرمم بعمل الأخشاب
14	Mohamed Abd El-Dayem Osman El-Ansary محمد عبد الدايم الأنصاري	Wood Lab, Technician فني بمعمل الأخشاب
15	Abd Elaal Mohamed Abdel-Razik عبد العال محمد	Wood Lab, Technician فني بمعمل الأخشاب
16	Mohamed Ahmad Abd El-Kader محمد عبد القادر	Wood Lab, Technician فني بمعمل الأخشاب
17	Yaser AbdAllah Bayoumy ياسر بيومي	Wood Lab, Worker عامل بعمل الأخشاب
18	Ibtihal Mahmoud إبتهال محمد	Wood Lab, Conservator مرمم بعمل الأخشاب
19	Samar Fawzy سمر فوزي	Wood Lab, Conservator مرمم بعمل الأخشاب
20	Amany magdy أماني مجدي	Wood Lab, Conservator مرمم بعمل الأخشاب
21	Inas Mohamed إيناس محمد	Organic Lab, Conservator مرمم بعمل الآثار العضوية
22	Mohamed El-Said Abd Allah محمد السيد عبد الله	Organic Lab, Head رئيس معمل الآثار العضوية
23	Mohamed Yossry Ramadan محمد يسري	Organic Lab, Conservator مرمم بعمل الآثار العضوية
24	Ahmed Mohamed Mostafa أحمد مصطفى	Organic Lab, Conservator مرمم بعمل الآثار العضوية
25	Mohamad Ragab Ibrahim Al-Shurbagi محمد رجب	Organic Lab, Conservator مرمم بعمل الآثار العضوية
26	Hasnaa Abdrabou mohamed حسناء عبدربه	Organic Lab, Conservator مرمم بعمل الآثار العضوية
27	Mennatallah Mohamed منة الله محمد	Organic Lab, Conservator مرمم بعمل الآثار العضوية
28	Yasmeen Ahmad Mohamad ياسمين أحمد محمد	Organic Lab, Technician فني بعمل الأثار العضوية
29	Sara Ismail سارة إسماعيل	Organic Lab, Conservator مرمم بعمل الآثار العضوية
30	Shaimaa ahmed Alyamany شيماء أحمد اليمني	Organic Lab, Conservator مرمم بعمل الآثار العضوية

31	Ahmed Tarek Abd El-Aziz أحمد طارق	Human remains, Conservator مرمم بعمل المومياوات
32	Nour Mohamed Abd El-Hamid نور عبد الحميد	Special Project Lab, Conservator
33	Mahmoud Abu Elsoud محمود أبو السعود	Heavy Artifacts Lab, Conservator مرمم بعمل الآثار الثقيلة
34	Ahmed Mamdouh Mohamed أحمد ممدوح	Heavy Artifacts Lab, Conservator مرمم بعمل الآثار الثقيلة
35	Ahmad Adel Hussein أحمد عادل حسين	Mounting lab, Conservator مرمم بعمل الماوننتج
36	Manar Mohamad Abd El Azziz منار الخيال	Fumigation Lab, Conservator رئيس معمل التبخير
37	Somaya Mohamed Al-Hindawey سمية الهنداوي	TEM Lab, Supervisor مشرفة معمل TEM
38	Hanan Mostafa Abd El-Aziz حنان مصطفى	TEM Lab, Scientist علمية بعمل TEM
39	Hassan Ali Farag حسن علي فرج	XRD Lab, Scientist علمية بعمل XRD
40	Dina Mamdouh Mohamed دينا ممدوح	FT-IR Lab, Scientist علمية بعمل FTIR
41	Essam Emad-el-Din Saqr عصام صقر	First Aid Department, Conservator مرمم بفريق النقل و التغليف
42	Sami Girgis Asaad سامي جرجس	First Aid Department, Conservator مرمم بفريق النقل و التغليف
43	Sahar Shafik Mohamed سحر شفيق	First Aid Department, Conservator مرمم بفريق النقل و التغليف
44	Reda Al laithy Morsy رضا الليثي	First Aid Department, Conservator مرمم بفريق النقل و التغليف
45	Abd El-Ghany Mohamed Aly عبد الغني محمد علي	First Aid Department, Conservator مرمم بفريق النقل و التغليف
46	Abd El-Aziz Said Abd al-Rashed عبد العزيز سيد	First Aid Department, Conservator مرمم بفريق النقل و التغليف
47	Sherif Kobissy Al Asuti شريف قبيصي	First Aid Department, Conservator مرمم بفريق النقل و التغليف
48	Nermeen Abd El-Fatah Khafagui نرمين خفاجي	First Aid Department, Conservator مرمم بفريق النقل و التغليف
49	Dalia Ali Abd El Aaal داليا علي	First Aid Department, Conservator مرمم بفريق النقل و التغليف
50	El-Hussein Ahmed El-Sayed الحسين أحمد السيد	First Aid Department, Conservator مرمم بفريق النقل و التغليف
51	Yasser Thabet Bakry ياسر ثابت	First Aid Department, Conservator مرمم بفريق النقل و التغليف
52	Sameh Ahmed Mahmoud سامح أحمد محمود	First Aid Department, Conservator مرمم بفريق النقل و التغليف
53	Seif Eldin سيف الدين	First Aid Department, Conservator مرمم بفريق النقل و التغليف
54	Ragab Ismael رجب إسماعيل	First Aid Department, Conservator مرمم بفريق النقل و التغليف
55	Ayman Al-Saied Atia أيمن السيد عطية	First Aid Department, Technician فني بفريق النقل و التغليف
56	Mona Taha Noaman منة طه نعمان	Tutankhamun Team, Curator أثري مجموعة توت عنخ آمون
57	Elhamy Aly Mousa إلهامي علي	ADD, Archaeologist أثري، قاعدة البيانات
58	Mohamad Badr - ElDin Hassan محمد بدر	Store room, Curator أثري بالمخازن
59	Hassan Mohamed El Sayed حسن محمد السيد	Store room, Curator أثري بالمخازن
60	Sara Shawky Abd El Fattah سارة شوقي	Store room, Curator أثري بالمخازن
61	Mustafa Ahmed Salem مصطفى أحمد سالم	Store room, Curator أثري بالمخازن
62	Laila Fayez ليلى فايز	Store room, Curator أثري بالمخازن
63	Sara Ahmed Ali سارة أحمد علي	Store room, Curator أثري بالمخازن

64	Sara Mohamed Sayed سارة محمد سيد	Store room, Curator أثري بالمخازن
65	Rasha رشا	Store room, Curator أثري بالمخازن
66	Tamer Ibrahim Elnawagy تامر إبراهيم النواجي	Store room, Curator أثري بالمخازن
67	Doaa Kamal Hussein دعاء كمال	Store room, Curator أثري بالمخازن
68	Mr. Yaser AbdAllah Bayoumy ياسر عبدالله بيومي	Wood lab ,Conservator مرمم بعمل الأخشاب
69	Mr. Shabaan Eltony شعبان التومي	First Aid Department, Conservator مرمم بفريق النقل و التغليف
70	Mr. Hetam Gamel حاتم جميل	First Aid Department, Conservator مرمم بفريق النقل و التغليف
71	Mr. Noor Eldin Mohamed Abdelhamid نورالدين محمد	First Aid Department, Conservator مرمم بفريق النقل و التغليف
72	Mr. Mahmoud Elbehery محمود البحيري	First Aid Department, Conservator مرمم بفريق النقل و التغليف
73	Dr. Eltayeb Abbas الطيب عباس	General Director of Archaeological Affairs مدير عام الشؤون الاثرية
74	MAJ.GEN. Atef Moftah Saleh اللواء عاطف مفتاح	General Director of Grand Egyptian Museum and Surrounding Area Head of Engineering Committee of Armed Forces Engineering Authority مدير عام المتحف المصري الكبير و المشرف على المنطقة المحيطة
75	Ms. Hind Yaseen هند ياسين	Organic lab ,Conservator مرمم بعمل الآثار العضوية
76	Ms. Mennatallah Mohamed منةالله محمد	Organic lab ,Conservator مرمم بعمل الآثار العضوية
77	Mr. Ahmed Mohamed Mostafa أحمد محمد مصطفى	Organic lab ,Conservator مرمم بعمل الآثار العضوية
78	Manar Hafez منار حافظ	Wood lab ,Conservator مرمم بعمل الأخشاب
79	Ms. Nadia Ali نادية علي	Wood lab ,Conservator مرمم بعمل الأخشاب
80	Ms. Shaimaa Mustafa شيماء مصطفى	Wood lab ,Conservator مرمم بعمل الأخشاب
81	Maha Salah Eldin Eisa مها صلاح الدين	TEM Lab, Scientest علمية بعمل TEM
82	Yousief Saber يوسف صابر	Preparation Area (Unpacking/ CO2 Fumigation), Technician فنى بمعمل الأخشاب
83	Ahmad Mohamad Rohim أحمد محمد رحيم	Preparation Area (Unpacking/ CO2 Fumigation), Worker عامل بمنطقة التجهيز
Past participants:		
84	Dr. Tarek Tawfik طارق السيد توفيق	General Supervisor of GEM المشرف العام على المتحف المصري الكبير
85	Dr. Osama Abou Elkeir أسامة أبو الخير	General Manager of Technical Affairs مدير عام الشؤون الفنية
86	Mohamed Atwa محمد عطوة	Director of Artifacts & Information Affairs مدير شؤون الآثار و المعلومات
87	Dr. Medhat Abdullah Abdelhamid مدحت عبدالله	Wood lab ,Conservator مرمم بعمل الأخشاب
88	Ms. Eman Ahmed Hanafi إيمان حنفي	Stone lab ,Conservator مرمم بمعمل الأحجار
89	Dina Atwa (XRD) دينا عطوة	XRD Lab, Scientist عالم بمعمل حيود الأشعة السينية
90	Dr. Abd El-Rahman Medhat (interpretation) عبدالرحمن مدحت	Human remains, Conservator مرمم بعمل المومياوات
91	Mr. Hisham Hakem هشام حاكم	Preparation Area, Conservator مرمم بمنطقة استلام و تجهيز الآثار
92	Mahmoud Helmy AbdElKawy محمود حلمي	Human remains, former head رئيس سابق بمعمل المومياوات
93	Mr. Ahmed Mohamed Sadek أحمد صادق	Preparation Area ,Conservator مرمم بمنطقة استلام و تجهيز الآثار

94	Shireen Helmy Abd El-Azim شرين حلمي	Human remains, Conservator مرمم بعمل المومياوات
95	Hossam Eldin Rashed Abd El Latief حسام الدين راشد	Heavy Artifacts Lab, Head مدير عام منطقة الآثار الثقيلة
96	Sayed Mansour Abdullah سيد منصور	Human remains, Head رئيس سابق معمل المومياوات
97	Eman Shalaby Nagaty إيمان شلبي	Organic Lab, Head رئيس معمل الآثار العضوية
98	Fatma adel Sayed فاطمة عادل سيد	Wood Lab, Conservator مرمم بعمل الأخشاب
99	Islam Abd El-Maksoud Shaheen إسلام عبد المقصود	Organic Lab, Conservator مرمم بعمل الآثار العضوية
100	Eman Mohamed Taha إيمان طه	Stone Lab, Conservator مرمم بعمل الأحجار
101	Mahmoud Anis Hammam محمود أنيس	Inorganic Lab, Conservator مرمم بعمل الآثار غير العضوية
102	Medhat Abdullah Abd el Hamid مدحت عبد الحميد	Wood Lab, former head رئيس معمل سابق بعميل الأخشاب
103	Nagm El-Deen Morshed نجم الدين مرشد	Organic Lab, Conservator مرمم بعمل الآثار العضوية
104	Asmaa Abd El-Moaty Ali أسماء عبد المعطي	Organic Lab, Conservator مرمم بعمل الآثار العضوية
105	Wael Ibrahim Morad وائل إبراهيم مراد	Preparation Area (Unpacking/ CO2 Fumigation), Conservator مرمم بمنطقة التجهيز
106	Basem Gehad باسم جهاد	Minister Office, Education Department إدارة التعليم، مكتب وزير الآثار و السياحة
107	Ahmed Mohamed Abd El Lateef أحمد عبد اللطيف	Human remains, Conservator مرمم بعمل المومياوات

Appendix 10

研修員受け入れ実績　Internship accepted by GEM-JC Project

研修スキーム Scheme	研修生氏名 Name	本邦所属 Affiliation	研修期間 Duration	研修テーマ Theme	主な研修先 Places
JICA インターンシップ・プログラム JICA Internship Program	岡部睦 Mutumi Okabe	金沢大学 人間社会学域 人文学類 3 年 Kanazawa University	2018/08/15 ～ 2018/09/29	国際協力における文化遺産の活用と地域社会への還元 Utilization of cultural heritage and return to local communities in international cooperation	大エジプト博物館保存修復センター The Grand Egyptian Museum
東京芸術大学海外インターンシップ・プログラム Tokyo University of Arts Overseas Internship Program	高橋香里 Kaori Takahashi	東京芸術大学 美術研究科 博士課程 3 年 Tokyo University of Arts	2019/2/12～ 2019/3/16	文化財保存修復の分野における国際協力の在り方を学ぶ Ways of international cooperation in the field of cultural heritage conservation	
JICA インターンシップ・プログラム JICA Internship Program	渡邊　紘貴 Koki Watanabe	慶応義塾大学 経済学部 4 年 Keio University	2019/10/13～ 2019/11/12	観光大国エジプトにおける GEM の潜在的可能性を探る Exploring the Potential of GEM for Egypt	

Appendix 11

List of Handed over Equipment

Equipment (Handed over)

Installation location：GEM-CC Laboratory

	Item	Price	Arrival date	Usage situation	Remarks
1	Portable X-Ray	¥18,460,500	2017/3/14	In use	Procurement in Japan
2	Digital microscope	¥4,653,997	2017/4/23	In use	Procurement in Egypt
3	3D Scanner	¥10,409,816	2018/6/5	In use	Procurement in Egypt

Continue to use in the next period (phaseIII-2)

Equipment (more than 50,000yen)

Installation location：GEM-CC Laboratory

	Item	Price	Arrival date	Usage situation	Remarks
1	LED Black Light 128 with filter	¥ 56,000	2017/4/12	In use	Procurement in Japan/ Wood team
2	diamond compression cell 2	¥ 331,500	2017/4/20	In use	Procurement in Japan/ Diagnostic analysis team
3	DSLR camera(D810)	¥ 462,963	2017/6/9	In use	Procurement in Japan/ Wood team
4	Grinder: Espert500 230v specs standard set	¥ 146,200	2017/7/5	In use	Procurement in Japan/ Mural painting team
5	Ultrasonic scalpel: sonic cutter with 230v specification standard set	¥ 108,000	2017/7/5	In use	Procurement in Japan/ Mural painting team
6	PC(Dell) for diagnostic analysis	¥293,468	2018/2/13	In use	Procurement in Egypt/ Diagnostic analysis team

7	Ultrasonic scalpel: sonic cutter with 230v specification standard set	¥112,590	2018/8/27	In use	Procurement in Japan/ Mural painting team
8	Color printer(Xerox)	¥76,022	2019/6/5	In use	Procurement in Egypt / office
9	Metallurgical Microscope warymer	¥310,970	2019/1/25	In use	Procurement in Japan/ Wood team
10	Multifunction Printer(Canon)	¥965,205	2019/9/10	In use	Procurement in Egypt / office

Project Design Matrix

Project Title: "Grand Egyptian Museum Joint Cooperation Museum Activities Project" Version 1
Implementing Agency: GEM **Date**
Target Group: Staff of GEM
Period of Project: XXX
Project Site: GEM and related organization

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal					
The GEM-CC, as the hub institute of the conservation and study in Egypt, conducts conservation-related activities, and the artifacts in GEM exhibition are preserved in appropriate condition.	TBD	TBD	TBD		
Project Purpose					
GEM-CC acquires high level of skill, technique and experience on conservation related works.	TBD	TBD	TBD		
Outputs					
1. Documentation, first aid, packing and transportation to GEM of the target artifacts are conducted.	TBD	TBD	TBD		
2. IPM and diagnostic analysis of the target artifacts are conducted, and conservation plans are formulated.	TBD	TBD			
3. Conservations of the target artifacts are conducted.	TBD	TBD			

Activities	Inputs		Pre-Conditions
	The Japanese Side	The Egyptian Side	
Output 1	1. Experts Short/long-term experts in the fields of: 1) Chief Advisor 2) XXX 3) XXX 4) XXX 5) XXX 6) XXX X) Others, whenever needed and agreed by both sides. 2. Trainings XXX 3. Machinery and Equipment XXX In case of importation, the machinery, equipment and other materials will become the property of the GOE upon being delivered C.I.F. (cost, insurance and freight) to the authorities concerned of GOE at the ports and/or airports of disembarkation.	(a) Services of counterpart personnel and administrative personnel of GEM (b) Suitable office space with necessary equipment (c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA (d) Information as well as support in obtaining medical service (e) Credentials or identification cards (f) Available data (including maps and photographs) and information related to the Project (g) Running expenses necessary for the implementation of the Project (h) Expenses necessary for transportation within Egypt of the equipment as well as for the installation, operation and maintenance thereof (i) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Egypt from Japan in connection with the implementation of the Project; (j) Necessary arrangement for the smooth custom clearance (k) Permission to enter the project sites.	TBD
1-1. To confirm the current condition and prepare documentation.			
1-2. To formulate conservation team and conservation policy.			
1-3. To conduct first aid.			
1-4. To conduct packing and transportation to GEM-CC.			
Output 2			
2-1. To conduct fumigation.			
2-2. To conduct diagnostic analysis.			
2-3. To formulate conservation plan.			
Output 3			
3-1. To conduct conservation.			
3-2. To record the result of the whole process as a report to file the information, and publish it.			
3-3. To give advice to Exhibition unit on display plan, transportation to the exhibition space and installing of the conserved artifacts.			

Project Design Matrix

Project Title: "Grand Egyptian Museum Joint Conservation Project" Ver. 2

Implementing Agency: GEM **Date 2016/12/14**

Target Group: Staff of GEM

Period of Project: October 2016 - Septermber 2019 (3 years) + 1 year(*1)

Project Site: GEM and related organizations

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal			
The GEM-CC, as the hub institute of the conservation and study in Egypt, conducts conservation-related activities, and the artifacts in the GEM exhibition are preserved in appropriate condition.	1. Number of services provided to other museums and other stakeholders relevant to antiquities. 2. Percentage of clients satisfied about the service provided.	Annual report of GEM-CC about the services of conservation by the GEM-CC for other museums.	
Project Purpose			
GEM-CC acquires a high level of skill, technique and experience on conservation-related works.	1.Number of the "Lead" and "Follow" artifacts which are conserved by the GEM-CC staff and accepted by JCC(*2). 2. Average of CCAS (Conservation Capacity Assessment System) of the GEM-CC staff	JCC's evaluation report on the artifacts. Results of CCAS: CCAS is an system to evaluate the capacity level of the lab staff with self-evaluation of techniques, their participation in the project activities, presentations in national and international seminars, etc.	
Outputs			
1. Documentation, first aid, packing and transportation to GEM of the target artifacts are conducted.	1.1. Number of "Lead" artifacts that are placed at the designated location with the satisfied quality by the planned time. 1.2 Number of "Follow" artifacts that are placed at the designated location with the satisfied quality by the planned time.	GEM Database Project's monitoring sheets	
2. IPM and diagnostic analysis of the target artifacts are conducted, and conservation plans are formulated.	2.1. Number of conservation plans of the "Lead" artifacts are authorized by the planned time. 2.2. Number of conservation plans of the "Follow" artifacts are authorized by the planned time	GEM Database Project's monitoring sheets	
3. Conservation of the target artifacts is conducted.	3.1. Before May 2018, number of "Lead" artifacts that are completed to be ready for exhibition (GEM opening) at the satisfied quality. 3.2. Number of "Follow" artifacts that have had their conservation started based on the conservation plans.	GEM Database JCC's evaluation report on the "Lead" artifacts. Project's monitoring sheets	

Activities	Inputs		
	The Japanese Side	The Egyptian Side	
Output 1 1-1. To confirm the current condition and prepare documentation. 1-2. To formulate the conservation team and conservation policy. 1-3. To conduct first aid. 1-4. To conduct packing and transportation to GEM-CC. Output 2 2-1. To conduct fumigation. 2-2. To conduct diagnostic analysis. 2-3. To formulate conservation plan. Output 3 3-1. To conduct conservation. 3-2. To record the result of the whole process as a report to file the information, and publish it. 3-3. To give advice to the Exhibition unit on the display plan, transportation to the exhibition space and installing of the conserved artifacts.	1. Experts 1) Chief Advisor / Project Management 2) Technical Chief Advisor / Conservation 3) Conservation Science 4) Wood Conservation 5) Textile Conservation 6) Mural Painting Conservation 7) Packing and Transportation 8) Survey / Documentation 9) IPM 10) Diagnostic Analysis 11) Collection Management 12) Monitoring 13) Procurement / Coordination Others, whenever needed and agreed by both sides 2. Machinery and Equipment 1) X-ray radiography 2) Digital Microscope 3) 3D laser scanner and consumables required for the Project activities. In case of importation, the machinery, equipment and other materials will become the property of the GOE upon being delivered C.I.F. (cost, insurance and freight) to the authorities concerned of GOE at the ports and/or airports of disembarkation.	(a) Services of counterpart personnel and administrative personnel of GEM (b) Suitable office space with necessary equipment (c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA (d) Information as well as support in obtaining medical service (e) Credentials or identification cards (f) Available data (including maps and photographs) and information related to the Project (g) Running expenses necessary for the implementation of the Project (h) Expenses necessary for transportation within Egypt of the equipment as well as for the installation, operation and maintenance thereof (i) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Egypt from Japan in connection with the implementation of the Project; (j) Necessary arrangement for the smooth custom clearance (k) Permission to enter and work in the project sites.	1. Permission for tranportation of artifacts is issued timly to enable the tranportation on time. 2. Other museums release the artifacts to GEM timely to enable the transportation on time. **Pre-Conditions**

Note1: Projecr periood is three(3) years, and the one (1) more year will be added after reviewing the progress.
Note2: "JCC" stands for Joint Coordiating Committee. The roles are described in Annex 4 of R/D.

Project Design Matrix

Project Title: "Grand Egyptian Museum Joint Conservation Project"
Implementing Agency: GEM
Target Group: Staff of GEM
Period of Project: November 2016 - October 2019 (3 years) + 1 year(*1)
Project Site: GEM and related organizations

Version 3 (Approved in 2nd JCC)
Date: 2017/11/20

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal			
The GEM-CC, as the hub institute of the conservation and study in Egypt, conducts conservation-related activities, and the artifacts in the GEM exhibition are preserved in appropriate condition.	(By year 2021) 1. Number of services provided to other museums and other stakeholders relevant to antiquities. 2. Percentage of clients satisfied about the service provided.	Annual report of GEM-CC about the services of conservation by the GEM-CC for other museums.	
Project Purpose			
GEM-CC acquires a high level of skill, technique and experience on conservation-related works.	(By the end of October 2019) 1. 90% of the "Lead" artifacts and 80% of the "Follow" artifacts, conserved by the GEM-CC staff, are accepted as being ready for display by JCC(*2). 2. A number of cases of challenges and solutions reported by participating professionals (Egyptians and Japanese) are reported. 3. A number of presentations made by participatingprofessionals in national and international seminars,symposium, journals, etc.	JCC's evaluation report on the artifacts. Results of Monitoring Survey	The main GEM-CC staff continue with working in GEM-CC.
Outputs			
1. Documentation, first aid, packing and transportation to GEM of the target artifacts are conducted.	1.1. 90% of the "Lead" artifacts are placed at the designated location with the satisfied quality by the planned time. 1.2. 80% of the "Follow" artifacts are placed at the designated location with the satisfied quality by the planned time.	- GEM Database - Project's monitoring sheets (Plan of Operation based on Artifacts) - Quality confirmation report of transported artifacts by the committee of each section (Wood, Textile and Mural/Stone)	
2. IPM and diagnostic analysis of the target artifacts are conducted, and conservation plans are formulated.	2.1. 90% of conservation plans of the "Lead" artifacts are formulated by the planned time. 2.2. 80% of conservation plans of the "Follow" artifacts are formulated by the planned time	- GEM Database - Project's monitoring sheets (Plan of Operation based on Artifacts) - Quality confirmation report of conservation plans by the committee of each section (Wood, Textile and Mural/Stone)	
3. Conservation of the target artifacts is conducted.	3.1. 90% of the "Lead" artifacts are reported as being conserved based on the conservation plans. 3.2. 80% of the "Follow" artifacts are reported as being conserved based on the conservation plans.	- GEM Database - Project's monitoring sheets (Plan of Operation based on Artifacts) -Quality confirmation reports of conservation submitted by conservation teams	

Activities	Inputs		
	The Japanese Side	The Egyptian Side	
Output 1 1-1. To confirm the current condition and prepare documentation. 1-2. To formulate the conservation team and conservation policy. 1-3. To conduct first aid. 1-4. To conduct packing and transportation to GEM-CC. Output 2 2-1. To conduct fumigation. 2-2. To conduct diagnostic analysis. 2-3. To formulate conservation plan. Output 3 3-1. To conduct conservation. 3-2. To record the result of the whole process as a report to file the information, and publish it. 3-3. To give advice to the Exhibition unit on the display plan, transportation to the exhibition space and installing of the conserved artifacts.	1. Experts 1) Chief Advisor / Project Management 2) Technical Chief Advisor / Conservation 3) Conservation Science 4) Wood Conservation 5) Textile Conservation 6) Mural Painting Conservation 7) Packing and Transportation 8) Survey / Documentation 9) IPM 10) Diagnostic Analysis 11) Collection Management 12) Monitoring 13) Procurement / Coordination Others, whenever needed and agreed by both sides 2. Machinery and Equipment 1) X-ray radiography 2) Digital Microscope 3) 3D laser scanner and consumables required for the Project activities. In case of importation, the machinery, equipment and other materials will become the property of the GOE upon being delivered C.I.F. (cost, insurance and freight) to the authorities concerned of GOE at the ports and/or airports of disembarkation.	(a) Services of counterpart personnel and administrative personnel of GEM (b) Suitable office space with necessary equipment (c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA (d) Information as well as support in obtaining medical service (e) Credentials or identification cards (f) Available data (including maps and photographs) and information related to the Project (g) Running expenses necessary for the implementation of the Project (h) Expenses necessary for transportation within Egypt of the equipment as well as for the installation, operation and maintenance thereof (i) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Egypt from Japan in connection with the implementation of the Project; (j) Necessary arrangement for the smooth custom clearance (k) Permission to enter and work in the project sites.	1. Permission for transportation of artifacts is issued timely to enable the transportation on time. 2. Other museums release the artifacts to GEM timely to enable the transportation on time. **Pre-Conditions**

Note1: Project period is three(3) years, and the one (1) more year will be added after reviewing the progress.
Note2: "JCC" stands for Joint Coordinating Committee. The roles are described in R/D and workplan.

Project Design Matrix

Project Title: "Grand Egyptian Museum Joint Conservation Project"
Implementing Agency: GEM
Target Group: Staff of GEM
Period of Project: November 2016 - March 2021
Project Site: GEM and related organizations

Version 4
Date: 2019/10/28

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal			
The GEM-CC, as the hub institute of the conservation and study in Egypt, conducts conservation-related activities, and the artifacts in the GEM exhibition are preserved in appropriate condition.	(By year 2024) 1. Number of services provided to other museums and other stakeholders relevant to antiquities. 2. Percentage of clients satisfied about the service provided.	Annual report of GEM-CC about the services of conservation by the GEM-CC for other museums.	
Project Purpose			
GEM-CC acquires a high level of skill, technique and experience on conservation-related works.	(By the end of March 2021) 1. 90% of the "Lead" artifacts and 80% of the "Follow" artifacts, conserved by the GEM-CC staff, are displayed at GEM according to the display plan. 2. A number of cases of challenges and solutions reported by participating professionals (Egyptians and Japanese) are reported. 3. A number of presentations made by participatingprofessionals in national and international seminars,symposium, journals, etc.	JCC's evaluation report on the artifacts. Results of Monitoring Survey	The main GEM-CC staff continue with working in GEM-CC.
Outputs			
1. Documentation, first aid, packing and transportation to GEM of the target artifacts are conducted.	1.1. 90% of the "Lead" artifacts are placed at the designated location in GEM-CC with the satisfied quality by the planned time. 1.2. 80% of the "Follow" artifacts are placed at the designated location in GEM-CC with the satisfied quality by the planned time.	- GEM Database - Project's monitoring sheets (Plan of Operation based on Artifacts) - Quality confirmation report of transported artifacts by the committee of each section (Wood, Textile and Mural/Stone)	
2. IPM and diagnostic analysis of the target artifacts are conducted, and conservation plans are formulated.	2.1. 90% of conservation plans of the "Lead" artifacts are formulated by the planned time. 2.2. 80% of conservation plans of the "Follow" artifacts are formulated by the planned time	- GEM Database - Project's monitoring sheets (Plan of Operation based on Artifacts) - Quality confirmation report of conservation plans by the committee of each section (Wood, Textile and Mural/Stone)	
3. Conservation of the target artifacts is conducted.	3.1. 90% of the "Lead" artifacts are reported as being conserved based on the conservation plans. 3.2. 80% of the "Follow" artifacts are reported as being conserved based on the conservation plans. 3.3 90% of the "Lead" artifacts are placed at the designated location in GEM with the satisfied quality by the planned time based on the display plan. 3.4 80% of the "Follow" artifacts are placed at the designated location in GEM with the satisfied quality by the planned time. 3.5 The project outcome is promoted through formulating appropriate display plans and installing actual equipment for display for target articacts that require special consideration.	- GEM Database - Project's monitoring sheets (Plan of Operation based on Artifacts) -Quality confirmation reports of conservation submitted by conservation teams	

Activities	Inputs		
	The Japanese Side	The Egyptian Side	
Output 1 1-1. To confirm the current condition and prepare documentation. 1-2. To formulate the conservation team and conservation policy. 1-3. To conduct first aid. 1-4. To conduct packing and transportation to GEM-CC. Output 2 2-1. To conduct fumigation. 2-2. To conduct diagnostic analysis. 2-3. To formulate conservation plan. Output 3 3-1. To conduct conservation. 3-2. To record the result of the whole process as a report to file the information, and publish it. 3-3. To give advice to the Exhibition unit on the display plan, transportation to the exhibition space and installing of the conserved artifacts. 3-4. To conduct packing and transportation of the target artifacts from GEM-CC to GEM, and install them at the location of display. 3-5. To consider effective display for target artifacts that require special consideration to capture their historical significance and visual features, and promote the project outcome by installing necessary equipment for display. 3-6. To plan and implement activities required at GEM-CC to enable continued sustainable conservation work.	1. Experts 1) Chief Advisor / Project Management 2) Technical Chief Advisor / Conservation 3) Conservation Science 4) Wood Conservation 5) Textile Conservation 6) Mural Painting Conservation 7) Packing and Transportation 8) Survey / Documentation 9) IPM 10) Diagnostic Analysis 11) Collection Management 12) Monitoring 13) Procurement / Coordination Others, whenever needed and agreed by both sides 2. Machinery and Equipment 1) X-ray radiography 2) Digital Microscope 3) 3D laser scanner and consumables required for the Project activities. In case of importation, the machinery, equipment and other materials will become the property of the GOE upon being delivered C.I.F. (cost, insurance and freight) to the authorities concerned of GOE at the ports and/or airports of disembarkation.	(a) Services of counterpart personnel and administrative personnel of GEM (b) Suitable office space with necessary equipment (c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA (d) Information as well as support in obtaining medical service (e) Credentials or identification cards (f) Available data (including maps and photographs) and information related to the Project (g) Running expenses necessary for the implementation of the Project (h) Expenses necessary for transportation within Egypt of the equipment as well as for the installation, operation and maintenance thereof (i) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Egypt from Japan in connection with the implementation of the Project; (j) Necessary arrangement for the smooth custom clearance (k) Permission to enter and work in the project sites.	1. Permission for transportation of artifacts is issued timely to enable the transportation on time. 2. Other museums release the artifacts to GEM timely to enable the transportation on time. **Pre-Conditions**

Note: "JCC" stands for Joint Coordinating Committee. The roles are described in R/D and workplan.