



**Culture, Tourism, Antiquities & Archives Department
Government of Sindh (Pakistan)**

**STATE OF CONSERVATION REPORT
ARCHAEOLOGICAL RUINS OF MOHEN JO DARO, LARKANA
SINDH, PAKISTAN**

February, 2023

***In compliance with the extended 45th session of World Heritage Committee, UNESCO
providing update on the site in order to raise international technical and financial support.***

*A framework for the preservation in the coming years, including the strategy to cope with
natural hazards and possible effects of Climate Change.*



***The place, from where the ruins of Indus Valley Civilization were discovered in 1911 &
excavated in 1922.***

**CULTURE, TOURISM, ANTIQUITIES AND ARCHIVES DEPARTMENT
GOVERNMENT OF SINDH, PAKISTAN**

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Foreword

February, 2023

It has been a difficult period in Sindh given the disastrous monsoon flooding of 2022. The storms and floodwaters didn't only affect the lives of masses but left negative impacts and effects on Cultural Heritage and Archaeological sites including Mohen Jo Daro. This tragedy regrettably resulted in the loss of life and property. No doubt, Mohen Jo Daro is the most valuable property of this Department. A short summary regarding the site suffering from collapses, water stagnation and general structural issues is presented in this report to be presented in the forthcoming extended 45th session of World Heritage Committee. In short, during the last spell of monsoon, the site suffered huge loss; some parts of site were partially deteriorated and some were severely affected but in response to damages, prompt measures were taken in order to save the site from more destruction. The conservation and rehabilitation work on site is in process.

The Directorate General Antiquities & Archaeology extends his heartfelt thanks to the World Heritage Committee, the World Heritage Centre of UNESCO for their relentless and unyielding support and technical knowhow in the field of conservation. This has helped us to overcome obstacles and to achieve our shared desired objectives for the safety of site. This Department has left no stone unturned to cope with natural calamities and hazards affecting the sites. We are striving very hard in improving on all fronts and have achieved desired results. We are taking this opportunity to report that we are progressing by leaps and bounds and have restored the critical damages. In this regard the drainage channels are improved, the fragile foundations of the site strengthened. This State of Conservation contains the progress of works carried out and completed by the State Party during last seven months, beginning from August, 2022 to date.

Following our vision with the assistance of UNESCO, ICOMOS and the World Heritage Committee, this Directorate General (Antiquities & Archaeology) has achieved our most cherished goals and, we feel privileged to state that we taken urgent legal, procedural and operational measures to preserve, rehabilitate and prevent the deterioration of Archaeological ruins of Mohen Jo Daro.

Thank you and we look forward to the continued cooperation, support and engagement with the WHC and ICOMOS for the protection of the Historical Archaeological ruins of Mohen Jo Daro.

With best regards,


Manzoor Ahmed Kanasro
Director General Antiquities & Archaeology
Culture, Tourism, Antiquities & Archives Department
Government of Sindh



Executive Summary

This State of Conservation (SoC) Report is intended to give a straightforward evaluation of the situation at the World Heritage property of Archaeological Ruins of Mohen Jo Daro. The Government of Sindh is conscious of its responsibility towards the unique World Heritage property. The government highlights in this report the efforts it has undertaken on all fronts in conserving the site, in association with international partners and non-government stakeholders, to preserve the property's Outstanding Universal Value (OUV). Also highlighted are the efforts to prevent the site from more deterioration and have framed strategy to cope with natural hazards and possible effects of Climate Change.

Response in preparation of extended 45th Session of World Heritage Committee- This SOC report is an in-depth and a clear regarding the decisions and recommendations. The report not only comprises the actions and works that were successfully completed but also projects an overview of actions and works ongoing, including the critical response to the disastrous monsoon flooding. Several prioritized actions in response to heavy rainfall to prevent further damage to site are taken accordingly.

There have been numerous conservation efforts at Archaeological ruins of Mohen Jo Daro including improving drainage system of the site. In addition to this work, other issues of the site are being fully addressed. The commercial and residential encroachment on site has been removed; there are no longer any cases of vandalism. Much of the vegetation that caused decay of ruins has been cleared away; however this is a constant work, especially now after the heavy rains. The entry gate of the site has been fortified and rehabilitated, staff offices and documentation center has been established. The entry of vehicles of visitors in the premises of the site has been strictly prohibited and an electric Shuttle Service has been started to facilitate the delegations and visitors. This has proven very popular as there are an increasing number of visitors, along with numbers of the local community that frequently visit the site. Keeping this in mind the guidelines concerning a visitor plan have been updated and site team has been engaged to improve maintenance at the site.

All the conservation activities carried out on the site represent an effort to safeguard the Outstanding Universal Values of Archaeological ruins of Mohen Jo Daro. The Directorate General of Antiquities & Archaeology thrives on challenges and proactively responds to decisions and recommendations presented by World Heritage Committee and UNESCO, providing that a true partnership with World Heritage Committee exists.

Response to the forthcoming extended 45th Session of World Heritage Committee & UNESCO.

Decision: Extended 45th Session of World Heritage Committee.

The World Heritage Committee,

Request for a state of Conservation Report on Archaeological Ruins of Mohen Jo Daro in preparation of the extended 45th session of the world Heritage Committee.

Concerns of WHC	Response from Culture, Tourism, Antiquities & Archives Department, Government of Sindh
<i>a) According to the reports of the emergency missions to Mohen Jo Daro in October 2022 and recently, there have been parts of the site suffering from collapses, water stagnation and general structural issues. Following the natural disaster which brought significant impact in August, 2022.</i>	<p>In August 2022, the Moenjo Daro World Heritage Site received disastrous rainfall up to 779.5 mm that seriously affected the archaeological remains. The intensity of heavy rainfall caused severe structural damages, including collapse of walls, developing cavities and holes in structures due to loss of mud and bricks, erosion of slopes and mud <i>pushta</i>, weakened the foundations of walls and structures at Moenjo Daro Site. Heavy rain also affected the drainage system and the main drain. The main drain around the Main Stupa area choked with silt and other wastes causing accumulation of water into the ruins up to the level of two feet inflicting further damages to the structure.</p> <p>Moenjo Daro received in total about 25 inches of rain (0.64m) and therefore it is surprising, and most pleasing, to report that only minimal structural damage occurred. It is generally felt that only 25 to 30 cases of wall collapse due to rain could be identified. The fabric character of these walls points to their already severely poor condition.</p> <p>The structural remains of Archaeological Ruins Mohenjo-Daro started deteriorating from Salt, Drainage and Thermal problems soon after their excavation. The continuous rise of ground water table including the salt taken moisture to more into the structures through capillary action, hence sweet water and sweet earth can easily solve the problem. The brick walls are in danger of collapse due to their surface decay and structural distress by hydration/dehydration process of salt, rain and extreme thermal stress. The river Indus showed a tendency to move westward toward the remains, threatening the very existence of the site. All attributes of the property are within the boundaries established for proper preservation and protection.</p>

	<p>All significant attributes are still present and properly maintained. However the foundations of the property are threatened by saline action due to a rise of the water table of the Indus River. The great majority of the structural degradation are the result of an insufficient capacity of the walls capping to absorb water which resulted in water stagnation, that weakened the basis of walls while there have also been infiltrations from the top of the walls. A general structural issue assessed is that of salinity, the structural fabric of the site is badly affected by the salt originating from the water table but also from the salt present on the ground level.</p> <p style="text-align: center;"><i>(Annexure-I)</i></p>
<p><i>b) Overall, an updated management tool seems necessary to provide a framework for the preservation in the coming years, including the strategy to cope with natural hazards and possible effects of Climate Change.</i></p>	<p>The site is already in a vulnerable condition and needs urgent intervention with damage assessment and stabilization work to protect these from further decay and future disasters. In the context of limited technical and financial capacity of the staff of the Directorate of Archaeology and Antiquities, Sindh, to handle such a huge disaster and major conservation and restoration work it is required to involve and seek guidance of international experts and technical support from UNESCO. Hence World Heritage Centre strongly encouraged the State Party to apply for International Assistance and mobilized the World Heritage Fund. Directorate of Archaeology and Antiquities, Sindh worked closely with UNESCO Islamabad office to prepare international request for immediate technical and financial support for immediate and long-term conservation of the site under the guidance of international experts and UNESCO.</p> <p>Thus some of the contents in the conservation guide need to be revised according to new potential threats (climate change with potential repetition of higher instant rainfalls). That mainly concerns the following conservation practices, drainage system and flooring method, bonding between old and new materials, quality of mortar and bricks at wall basis) that will be followed by proposals for the development of complementary research / experiments to be implemented for developing complementary solutions to cope with the impact of evolving trends of the climate (Intensity and frequency of heavy rain falls) in unforeseen future to safeguard the site.</p>

	<p>It is needed first to observe and understand what had happened at the site, including circumstances and processes of decay. These observations allowed learning as much as possible to make pertinent suggestions not only for stabilization and further restoration but also to launch a reflective process on how the site and its conservation team could be better prepared to the possible return of such heavy and long-lasting rains. They also possibly lead to identifying needs in terms of “capacity-building programs for national experts and heritage professionals to cope with disaster risk reduction/preparedness and overall site management.</p> <p style="text-align: center;"><i>(Annexure-II)</i></p>
<p><i>c) <u>Suggest</u> is to take the reports of the missions and extract the analysis of actual damages, and to <u>provide</u> the accounts on your responses to them, and a succinct list of actions needed for three year in order to meet the future needs to safeguard this exceptional site.</i></p>	<p>The engagement of an international conservation expert is intended to ensure that the damage caused to Moenjodaro site by monsoon rainfall is stabilized, and to enhance the emergency response and preparedness capacity of the Directorate of Archaeology and Antiquities and the Government of Sindh, to prevent and mitigate the impact of future natural disasters. This will be achieved through the following specific objectives:</p> <ol style="list-style-type: none"> 1. A thorough damage assessment of the World Heritage Site, to establish findings and long-term recommendation. 2. Defining adapted measures and launching the stabilization, including immediate repair of damaged sections; training on emergency conservation best practices for site management staff. 3. Capacity building training for relevant staff to address emergency response and preparedness against future natural disasters. 4. Detailed strategy for long-term conservation of sites, emergency response and preparedness against future natural disasters. 5. Identification of the potential of new knowledge that might result from some damage to be balanced with possible emergency needs including immediate repair and stabilization of affected sections of Moenjodaro as well as trainings and equipment required.

	<p>In the light of the extent of the conservation works to be implemented after the destructions resulting from the heavy rains and that such an important conservation project will require several years (probably 3 years), it is proposed take this situation as an opportunity to invest in an in-depth reflection for better preparation of Mohenjo-daro site (and its conservation team) to the potential future impacts of climate change.</p> <p>Such a project would include research and experimentation on a variety of aspects: selection of materials, improvement of mortar / bricks resistance; increased salt control/ mitigation; major changes in drainage system and should end with a revision of the current conservation manual (25 years old) and also the Master plan (approved 50 years ago).</p> <p>Keeping in view the disastrous effects of last monsoon, it is very important to address immediate conservation needs with the goal of minimizing the exposure of the structures at the site before the arrival of next monsoon (starting from July 2023). Immediate decisions were taken to restore the major damages caused on site.</p> <p>Following Measures were taken before onset of monsoon:-</p> <ul style="list-style-type: none"> • As usual in monsoon season we take all measure to protect the site from rains. • 1. De-silting and removal of debris and mud slush out of drainage devices. • 2. Renewal of mud capping and resetting of loose bricks. • 3. Re-pointing with mud mortar for consolidation of wall cores i.e. grouting of cracks, • filling voids in walls, etc. complete. • 4. Erection of dry burnt brick masonry buttressing to the leaning walls in order to • avoid from collapsing as a temporary measures. • 5. Erection of steel shoring (properly designed)
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	<p>to the extremely tilted or out of plane</p> <ul style="list-style-type: none"> • walls in order to stop them from further collapsing. • 6. Construction of shallow drains lined with pacca brick masonry. • 7. Repair and construction of barriers/mud pushtas in mud brick masonry in order to • slow down the speed of rain runoff and to divert the flow of rain water towards less sensitive areas. • 8. Filling up of cavities and holes of the mud capping of the walls with salt free pure • clay obtained from the river Indus, to prevent the rainwater entering into the core of the walls. • 9. Recording of gullies with the help of maps and the reinforcement of the same with sundried brick masonry. • Upto the July 2022 situation was in control, we conserved all the damages occurred during the rain. Contrary situation was changed in August 2022, from 16 to 26 it was downpour, rain continued for 24 hours hence we have little time to rescue the fallen walls, our first priority was to remove water from site, which we succeed and on 27 august there was no rain water in ruins. • Due to heavy rain all over material like sundried bricks, sweet earth, or river sand swept away or become unusable, which can be used for Pushtas for wall, nor do we have electricity for that we may make steel shoring. <p style="text-align: right;"><i>(Annexure-III)</i></p>
<p><i>d) A narrative report to <u>provide</u> the committee with the update on the site (the situation has drawn the attention of the UN SG who visited and our DG has also been closely monitoring through several meetings organized with</i></p>	<p>In view of the preparation of a long term plan for the restoration and preservation of site and its preparedness to Climate Change, following the warning provided by the last heavy rains in 2022, the following measures are to be taken to protect the site from damage in future.</p> <ol style="list-style-type: none"> 1. Drainage Plan for overall site: It is decided and planned to restore the main canal so that the rainwater is drained out of site immediately. 2. Drainage Plan for each site: The drainage plan for

<p><i>other sectors of UNESCO) and to raise international technical and financial support.</i></p>	<p>each site help enable to improve the entire drainage system of Mohenjo Daro.</p> <p>3. Plan showing the State of Conservation of Walls: In view of the preparation of the detailed emergency plan to be implemented before next monsoon season. It has been discussed and approved that the walls that need conservation may be repaired, restored and conserved.</p> <p>After a preparation phase and studying of the preliminary reports prepared by Mohenjodaro conservation office, the mission at the site comprised technical inspections of all site areas and technical meetings were conducted. As the site is constantly changing due to the effects of the weathering. Necessary interventions have been made to preserve the site and new conservation methods have been introduced. Different treatments have been put in force for cost effectiveness.</p> <p>The present report has been prepared along with the implementation of the mission, and elaborated taking into account the discussions held at the site and further, during the concluding meetings organized both at the site (conservation team leaders) and in Karachi.</p> <p>Obviously, the damage this year is far worse than what happened in 1994, after a long period during which Moenjodaro had been given much attention with very strong assistance brought by UNESCO and other partners for almost 20 years. And though, the recent measured rainfall has been much higher.</p> <p>The high officials of UNESCO (Ms. Cristina Manegazzi, Cultural Heritage Expert & Mr. Thierry Joffroy, International Expert) also visited the site as a result of heavy rains in order to evaluate the damages caused on site after torrential monsoon rains; the officials appreciated the efforts of the department.</p> <p>Ms. Patricia McPhillips, country Director UNESCO Pakistan described Mohen Jo Daro as <i>“the cleanest site that I have ever seen in the World”</i> after her visit to the site last year.</p> <p style="text-align: right;"><i>(Annexure-IV)</i></p>
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1. Also Requests the State Party to

<i>Submit the State of Conservation Report on Archaeological Ruins of Mohenjo Daro in preparation of the extended 45th Session of the World Heritage Committee, by 06 March, 2023.</i>	The State Party (Culture, Tourism, Antiquities & Archives Department, Govt. of Sindh, Pakistan) is hereby submitting the report before the deadline, for examination by the World Heritage Committee at its extended 45 th Session.
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A Narrative Report to provide the Committee with the Update on the site

The emergency international expert mission following the August 2022 heavy rains at Mohen-jo-daro World Heritage property was organized from 21 till 28th October by UNESCO and the Directorate of Archaeology of the Government of Sindh. After a preparation phase and studying of the preliminary reports prepared by Mohen-jo-daro conservation office, the mission at the site comprised technical inspections of all site areas and technical meetings. The content of this summary was discussed during the final synthesis meeting at the end of the mission on 28 October 2022, between the mission expert and the Sindh government.

Thanks to the good organization of the mission by the conservation team at Mohen-jo-daro, all areas of the site have been visited and examined which allowed taking stock of the level of destruction and first measures already implemented. A visit to the protective dykes and spurs was also organized, and additional reports and documents available in the office library were taken into account. The conservation laboratory was also visited with presentation of all testing procedures. The heavy rains that have occurred by the end of August 2022 have been challenging for the archaeological remains. The recorded level of rains represented twice the quantity ever measured for a full year (400 mm in 1994). In spite of all efforts made by the conservation team during the 10 days rains (pumping of water in some of the rooms, verification of drainage canals, covering of the stupa with tarpaulin, etc.), there has been numerous destructions and there is hardly any structures which have not been affected in a way or another.

The conservation works that had been undertaken for several decades were very useful. Still many built structures are in an acceptable state of conservation. The site remains impressive, more specifically as the conservation team has immediately engaged in cleaning works making already possible for visitors to access the main areas (SD & DK, VS in progress). The site has been seriously affected however with a great variety of levels of destruction, including variations from area to area.

Major findings:

1. State of the property and the causes of decay

The first need was to observe and share an understanding of what had happened at the site (circumstances and processes of decay).

- The great majority of the structural degradation are the result of an insufficient capacity of the walls capping to absorb water combined with the formation of large flows of water against wall basis and, at some places, water stagnation. That weakened the basis of walls while there have also been infiltrations from the top of the walls with a majority of the destruction resulting of combined processes involving leaning of walls (base) and further infiltration between the wall and rooms floors (top and floors levels).
- Overall, there have been 3 main causes of decay, not new but with increased level of threats
 - superficial drainage,
 - salts crystallization
 - hydration inside mortar and bricks, and pre-existing weaknesses in the walls structures

The specifications contained in the 1997 conservation manual are pertinent. Where fully implemented they have had some level of efficiency, though with insufficient capacity to cope with the level of the solicitations brought about by the intensity and repetition of heavy rains for a tenth of days;. Thus some of the contents in the conservation guide need to be revised according to new potential threats (climate change with potential repetition of higher instant rainfalls). That mainly concern following conservation practices: drainage system and flooring method, bonding between old and new materials, quality of mortar and bricks at wall basis) that will be followed by proposals for the development of complementary research / experiments to be implemented for developing complementary solutions to those existing (or upgrading the properties of the building materials);. As a result of the heavy rains and formation of gullies on some archaeological mounds, some structures have been revealed. Some structures appear to have specific interest (e.g. east side of the citadel) as a new archaeological corpus and it would also be important to analyses some situation that may require preventive measures (avoiding degradations in case of new heavy rains).

2. *Human resources.*

The existing conservation team, despite high motivation, faces difficulties to undertake all necessary maintenance and preventative works as proposed in the conservation manual. That will need to be discussed further with exploring potential for additional recruitments of workers with a variety of skills (masons, one carpenter, foremen, laborers) at Mohen-jo-daro (increase of regular budget);

The team was impacted by the damaged state of the property but has remarkably addressed the situation during and after the rains. It has kept good moral and appears to be highly motivated for tackling the situation. Taking into account the extent of what is still to be done after the recent heavy rains (cleaning of debris, stacking of bricks, earth movements for drainage system), it urgently needs to be seriously reinforced.

Proposed Preliminary Plan of Action in the wake of Climate Change and damages caused during last heavy rains

In the light of the extent of the conservation works to be implemented after the destructions resulting from the heavy rains and that such an important conservation project will require several years (probably 3 years), it is proposed to take this situation as an opportunity to invest in an in-depth reflection for better preparation of Mohenjodaro site (and its conservation team) against the potential future impacts of climate change. Such a project would include research and experimentation on a variety of aspects: selection of materials, improvement of mortar / bricks resistance; increased salt control/ mitigation; major changes in drainage system and should end with a revision of the current conservation manual (25 years old) and also the Master plan (approved 50 years ago).

It should be noted that what would then become a large project would require specific funding, probably around 1.5 million USD⁵. Such a project will need time to be developed and its description cannot be prepared before getting the results of the detailed condition survey (mapping and quoting) that has been elaborated and launched during the UNESCO mission in October 2022. It also requires time for national and international experts to reflect on its extent and how each key issue identified should be addressed. Of course, time will also be needed to identify and secure the necessary funding sources.

Having this in mind, it is still very important to address immediate conservation needs with the goal of minimizing the exposure of the site structures before the arrival of next monsoon (starting from July 2023). It is thus necessary to urgently reinforce capacities of Mohenjodaro conservation team, during, at least, a first four month period to:

- Make sure that the conservators / architects at Mohenjodaro can spend most of their time on the preparation and finalizing of the agreed maps and plans indicating state of conservation + bill of quantities for each area, and collecting of information (surveys, archaeological reports) for the most sensitive areas and preparing first technical proposals for undertaking the repairs with the guidance of international expert (actual works to be launched during its second mission);
- Make proper communication system (including Internet coverage on site) available among experts (national and international) for smooth remote communication and data inputs, since there is no stable Internet facility on site. As a backup the local team can do the remote meetings in Larkana;
- Make sure that the existing field team fully concentrates on the most urgent technical work using techniques already proven and mastered: underpinning, simultaneous repair of retaining walls and room drainage, creating water outlet systems where they are needed, starting from the citadel area, then DK, HR and VS.
- Make an extra budget available (regular budget has been already allotted to take immediate measures during rains);
- Make funds available for recruitment of 28 workers allowing the deployment of 4 independent teams that will be in charge of the works that do not need high skills like cleaning of debris, transporting and properly stacking bricks to be re-used, large movements of soil and debris (e.g. drainage of temple main room in HR area), removal of paths slabs, etc.;
- Deploy (or redeploy) two additional assistant conservators for assisting in the condition surveys (elaboration of plans per theme⁶) and the supervision of works at the site;
- Confirm the task of the national expert to undertake a specific study on “Ancient drainage systems” as they appear in archaeological reports so that the year-old solutions can be given priority when taking conservation decisions.

Public Access

The State Party allows the World Heritage Centre to upload the full State of Conservation Report for public access on the World Heritage Centre's State of Conservation Information System database. <http://whc.unesco.org/en/soc>

We are eager to share our accomplishments to protect and preserve the World Heritage property Mohen Jo Daro, this SoC Report will also be placed in our documentation centre at Mohen Jo Daro as a resource for scholars and visitors on site. The information will also be made available on the new website of Department of Antiquities Government of Sindh, @ <https://antiquities.sindhculture.gov.pk/>

One can find information and update of works and initiatives taken by Directorate General (Antiquities & Archaeology), Culture, Tourism, Antiquities & Archives Department, Government of Sindh regarding all sites throughout Sindh Province on the website mentioned above. The activities at sites, maps, publications, photographs etc. available on the website project a sketch and overview of efforts of this Directorate General in preserving and conserving the sites.

We encourage you to visit the website.

Signature of the Authority

UPDATED STATE OF CONSERVATION REPORT ON ARCHAEOLOGICAL RUINS OF MOHEN JO DARO, LARKANA, SINDH, (PAKISTAN) IN PREPARATION OF THE EXTENDED 45TH SESSION OF THE WORLD HERITAGE COMMITTEE.

State party	Culture, Tourism, Antiquities & Archives Department, Government of Sindh, Pakistan
Name of Property	Archaeological Ruins of Mohenjo Daro, Larkana, Sindh, Pakistan
Criteria under which the property is inscribed (iii) of the World Heritage Convention.	<p>Criterion (i): <i>The Archaeological Ruins at Moenjo Daro comprise the most ancient planned city on the Indian subcontinent, and exerted great influence on the subsequent urbanization of human settlement in the Indian peninsular.</i></p> <p>Criterion (ii): <i>As the most ancient and best preserved urban ruin in the Indus Valley dating back to the 3rd millennium BC, Moenjo Daro bears exceptional testimony to the Indus civilization.</i></p>

Signature of Authority



Manzoor Ahmed Kanasro
Director General Antiquities & Archaeology
Culture, Tourism, Antiquities & Archives Department
Government of Sindh

Appendix

Annexure-I

Emergency Missions to Mohenjo Daro in October 2022.

Parts of the site suffering from collapses, water stagnation and general structural issues.



Left, installing tarpaulin on top of the stupa (Covering during rain) Right, the Great bath flooded



Cleaning of debris in SD (Citadel) area immediately after rains



Removal of salty mud slurry, SD Area, using geotextile to collect and transport dust away from the site



Instability of retaining wall at the southern side of canal from bath in SD area.



Damaged pathway between SD and L areas



Pushta protection affected by water infiltration HR area



Gaps left by eroded sand under mud brick floor SV area



Traces of high humidity on retaining wall, SD area



Traces of high humidity content under floor SD area

Annexure-II

Framework for the preservation in coming years and the strategy to cope with natural hazards and possible effects of Climate Change



Successful repair of a gully at the entry of SD area



Unsuccessful test on “bricks on sand” floor.

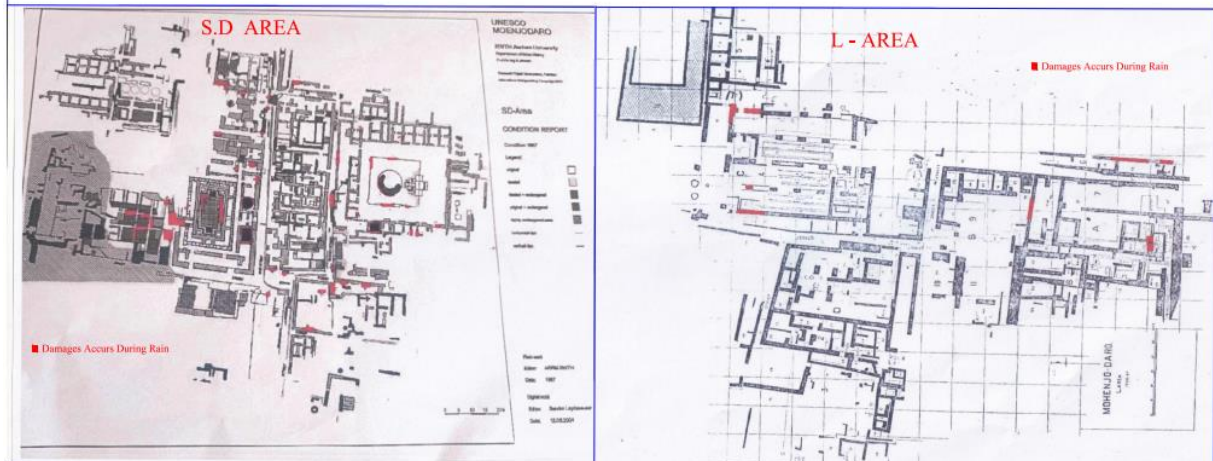


Soil just delivered at DKG Area with high humus content

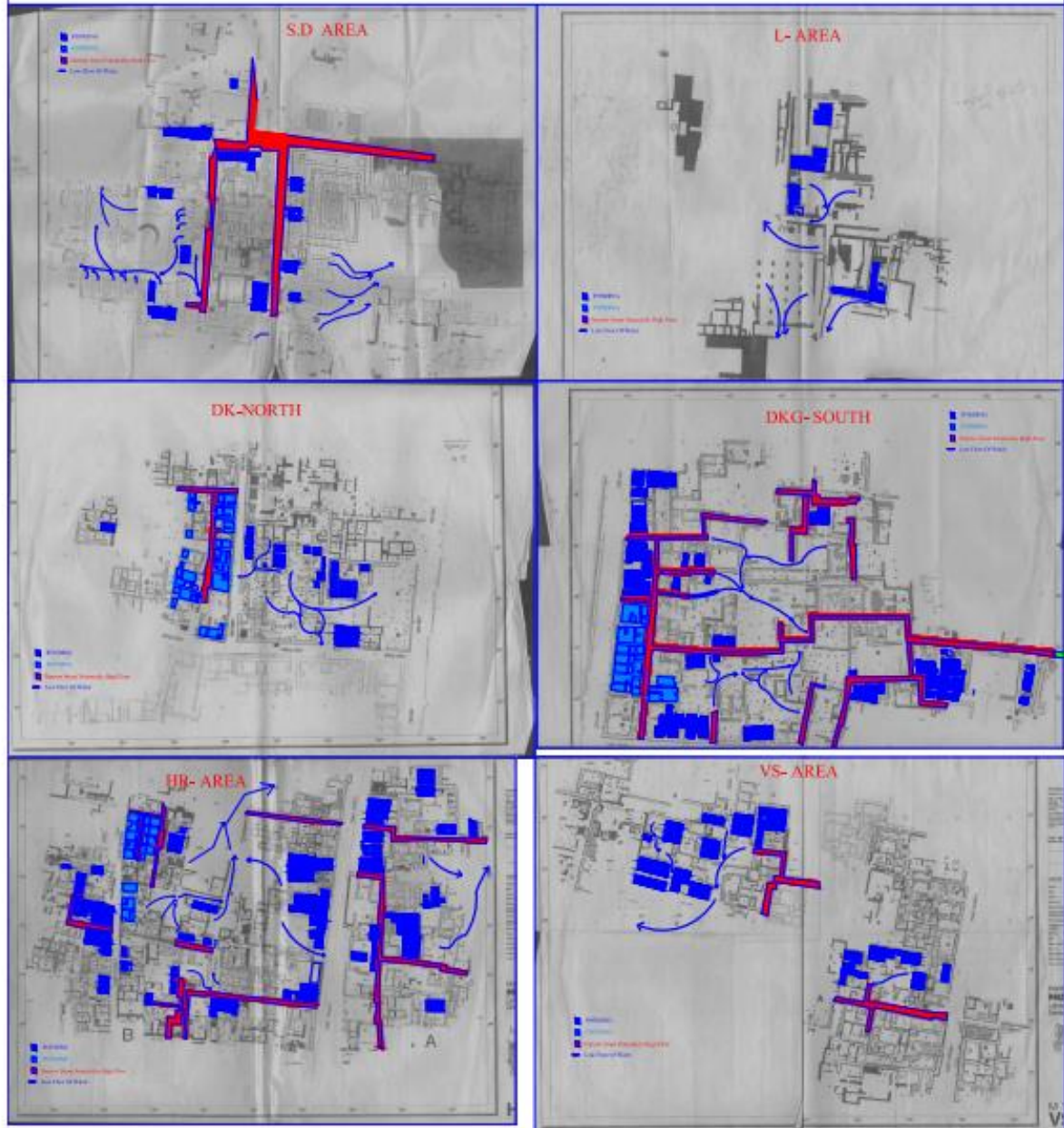


Same type of soil applied on wall capping at SD Area

Damages Plan Durring Rain 2022



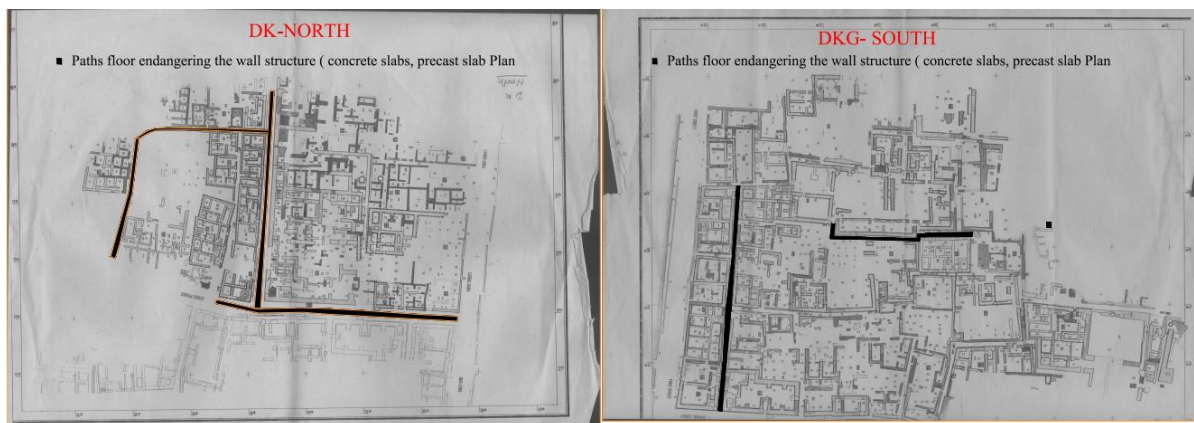
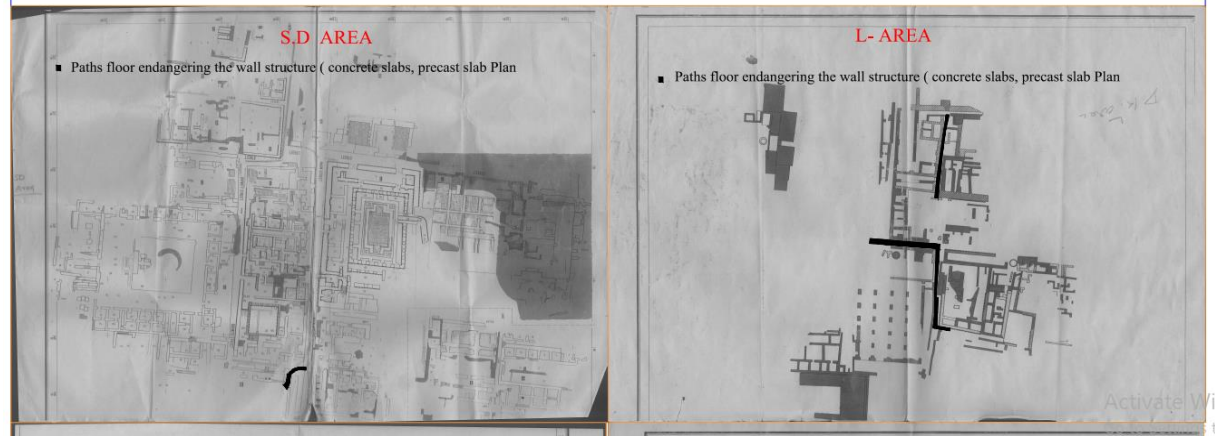
Drainage Plan



Gullies Plan



Paths floor endangering the wall structure (concrete slabs, precast slab Plan



Annexure-III

**Reports of the Missions and extract the analysis of actual damages.
The responses to damages and actions taken on site.**



FM Bilawal briefed Guterres on the damages conceded by Mohenjo Daro due to historic rains and floods



The rainwater could at sometimes become a source of losses not only the shaky structures but also damages to the sound structures.



The Stupa and the staircase near the stupa also affected by rain



Washing away the soil (erosion and scouring)



Mud brick capping and resetting of loose brick walls. Resetting of loose bricks by relaying the loose and decayed courses of the brick walls exactly similar to the original



Manufacturing special size Bricks and material stack at Mohenjo-Daro





Pictures showing damages caused during torrential rains at Mohen Jo Daro and labors working to repair damages caused by heavy rains



Damages after the monsoon



Conservation and Repairing Work immediately after the monsoon

Annexure-IV

UNESCO experts visiting site after heavy rainfall.



UNESCO expert mission at Archaeological Ruins of Mohenjo-Daro, Pakistan



UNESCO expert mission at Archaeological Ruins of Mohenjo-Daro, Pakistan



National and International experts conducted thorough survey of site after heavy rainfall





Experts assessed the damages minutely before commencing conservation work



Workshops were conducted and participants were awarded certificates of appreciation from international experts



Prize Distribution





After completion of Workshops at Mohenjo Daro, the archaeologists from Sindh, Pakistan presented Ajrak and Sindhi Topi (symbols of Sindhi Culture and Tradition) to International Experts to show Unity and Love.





**Conservation Work carried out after thorough assessment of damages.
The work was carried out as per guidelines of international experts**









Mr. Thierry Joffroy, UNESCO Expert meets Secretary Culture, Tourism & Antiquities Department & Director General (Antiquities & Archaeology), CTA&AD along with Mr. Jawad Aziz, UNESCO Official on Zoom