The Republic of the Union of Myanmar

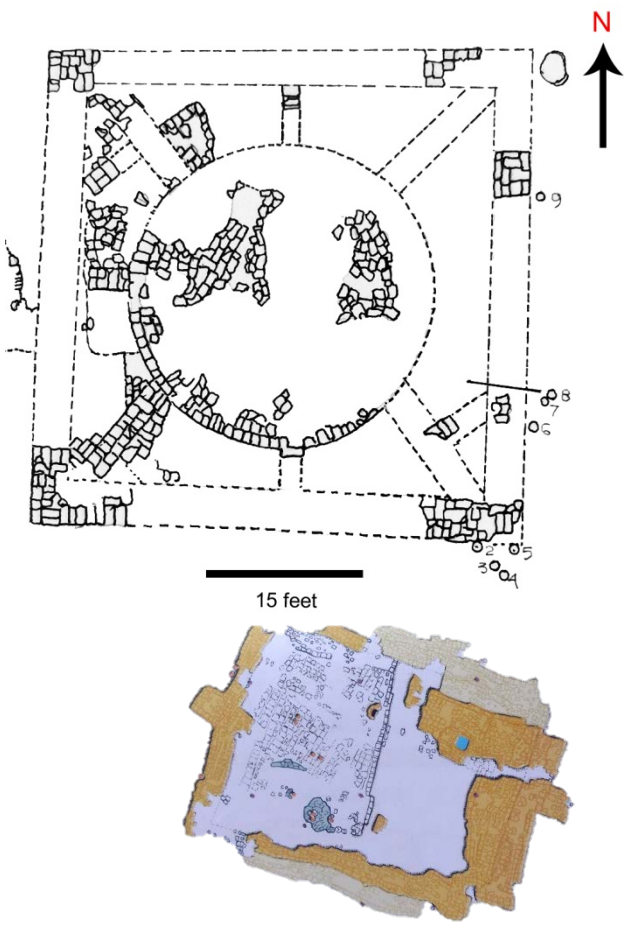
Ministry of Culture

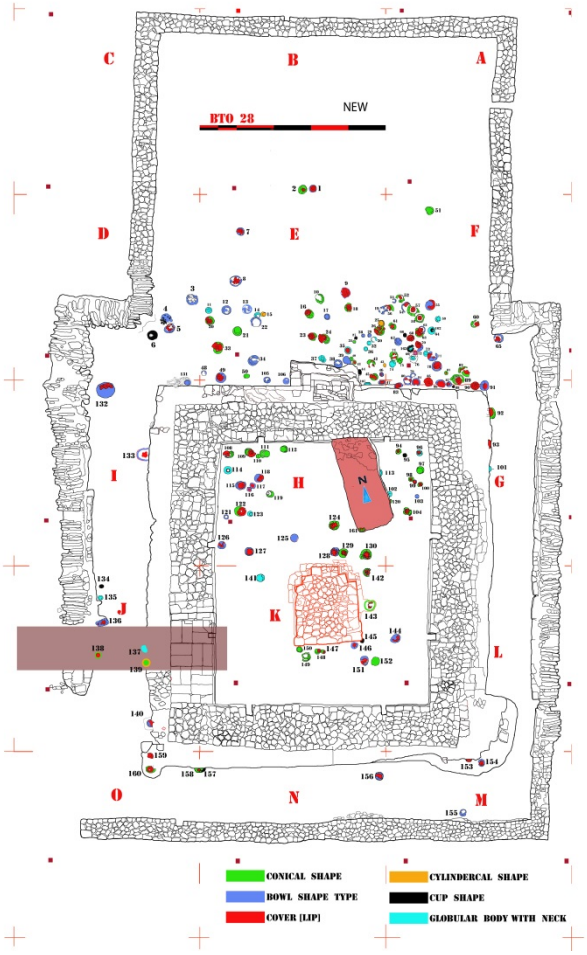
Department of Archaeology and National Museum

Nay Pyi Taw

Report to World Heritage Committee in response to 38 COM 8B.28:

World Heritage Pyu Ancient Cities (Myanmar)(1444)





DANM, Division of World Heritage Sites, November 2015

Report to World Heritage Committee in response to 38 COM 8B.28: World Heritage Pyu Ancient Cities (Myanmar) (1444)

Content

Executive Summary of Actions Undertaken

Since the inscription of the Pyu Ancient Cities serial property on the World Heritage List, the Ministry of Culture's Department of Archaeology and National Museum has cooperated closely with national and international experts to upgrade the protection of the burial sites at the component sites of Sri Ksetra, Beikthano and Halin. With funding and technical assistance from a multi-year Italian Funds-in-Trust Project with UNESCO, the authorities have carried out the following:

- Undertaken a comprehensive inventory and condition assessment of all the burial sites at the Pyu Ancient Cities (see Part I, Section 1 of report for details);
- Conducted technical capacity building activities for site management staff in collaboration with the Department of Archaeology's Pyay Field School of Archaeology (see Part II, Section 3 of report for details);
- Conducted pilot conservation activities at selected burial sites (most prominently, HMA 53 in Sri Ksetra, which is a cemetery consisting of 464 pottery urns containing cremated human remains) as a means of demonstrating the protocols and provide practicum training for staff (see Part II, Section 4 of report for details);
- Upgraded conservation facilities at the site to support conservation of artefacts associated with the burial sites and other heritage attributes. This includes a central field conservation laboratory at the site of Sri Ksetra at the Pyay Field School of Archaeology and two "first-aid" labs located at the two smaller sites of Halin and Beikthano (see Part III, Section 6 introduction).
- Developed comprehensive guidelines (protocols) for the identification, excavation, and conservation of archaeological attributes of the Pyu Ancient Cities, including the burial attributes, features, and associated objects (see Part III, Section 6);
- Re-organized the site management staff into teams responsible for of specific tasks on archaeology, conservation and research (see Part III, Section 8).

In recognition of the challenges of managing exposed archaeological sites containing fragile human remains and artefacts in the context of still-limited technical and institutional resources, the authorities have declared a moratorium on future excavations of the burial sites for 2016-17 and 2017-18 fiscal years. In lieu of new excavations, the authorities will turn their focus to consolidating, documenting, conserving and interpreting previously-excavated sites. As an exception, one unexcavated pilot burial site will be selected during the 2016-2017 field season to demonstrate the application of the above protocols from the initial site survey process all the way up to conservation of removed artefacts.

In 2016, additional technical assistance will be provided by UNESCO to enable the authorities and expert partners to continue with the application of these conservation protocols through *in situ* conservation activities, technical capacity building activities including laboratory training, and reinforcement of the institutional capacity of the site management offices. In addition, this additional support will also allow the site management authorities to address other urgent priorities, including upgrade of the on-site protective structures and interpretation and carrying out non-invasive archaeological investigation on un-excavated mounds.

Background and Overview of Report

This report has been prepared by the State Party, Myanmar, in response to World Heritage Committee Decision: 38 COM 8B.28 (2014) in which the Committee:

> *8. Recommends the State Party to develop and implement as soon as possible a conservation plan for the burial sites, allied to capacity-building in the conservation of these particularly fragile and vulnerable sites;*
>
> And further
>
> 9. *Requests the State Party to submit to the World Heritage Centre by 1 December 2015, a report, including a 1-page executive summary, on the implementation of the above-mentioned recommendations for examination by the World Heritage Committee at its 40th session in 2016.*

(The full text of the relevant World Heritage Committee decision is included below, immediately following this Executive Summary.)

There are three parts and altogether 6 annexes to this report which taken as a whole provide a complete picture of the comprehensive strategy adopted by the State Party for the identification, excavation, and conservation of all burial attributes at the three sites which comprise the inscribed property, ***Pyu Ancient Cities*** as well as the short- and medium-term activities for training and capacity-building which has been undertaken for the implementation of this comprehensive strategy, since the nomination and inscription of the ***Pyu Ancient Cities*** on the World Heritage List.

Part I of this report concerns the **current status of all burial attributes** which have been identified at the three Pyu Ancient Cities. This information is presented in the form of a **(1) Catalogue** of all known burials with information, with respect to each burial, about its location, type, contents, condition, measures which have been taken to date to protect/conserve the burial, and plans for future protection/conservation measures to be taken. Part I also consists of **(2) Three Maps** which specify the location of all known burials at each of the three Pyu Ancient Cities sites: Halin, Beikthano, and Sri Ksetra.

Part II of this report concerns the **capacity building activities** which have been undertaken with specific reference to the safeguarding and conservation of burials at the Pyu Ancient Cities, since the property was nominated to and inscribed on the World Heritage List. This section of the report consists of a tabular **(3) Record of Capacity Building and Training** activities undertaken since 2012, including all activities supported by UNESCO through a Funds-in-Trust arrangement from the government of Italy, with international technical assistance provided by the Lerici Foundation of the Milan Polytechical University. This section also includes an **(4) Illustrated Report** of capacity building activities undertaken at one specific burial attribute, known as HMA 53, which is an extensive cemetery composed of pottery vessels containing cremated human remains which was exposed and partially excavated in 2014 and 2015. This particular cemetery was selected as the site at which standardized guidelines or "protocols" for the identification, excavation, and conservation of burials found at Pyu Ancient Cities sites could be developed, tested, elaborated upon, and documented in-situ, as a practical demonstration of procedures to be followed in dealing with these particularly fragile and vulnerable attributes and their constituent features. Finally, Part II provides a brief overview of the **(5) Plan for the Pilot Application** and of the full sequence of the protocols for burial sites, to be undertaken during the upcoming field seasons 2016-2017, and which will serve as a closely supervised on-site training exercise

for staff of Myanmar Department of Archaeology, conducted within the framework of the Department's Field School of Archaeology with the continued support of UNESCO and technical assistance provided by the Lerici Foundation.

Part III of this report concerns the establishment of protocols (comprehensive guidelines) for identification, excavation, and conservation of cemeteries and burial attributes in the future. These have been drawn up by the Myanmar's Department of Archaeology and National Museums, with technical assistance provided by Italy's Lerici Foundation through the Funds-in-Trust arrangements with UNESCO which have been described above. This part of the report presents the **(6) Protocols** in four formats: a Process Flow Chart; and Outline of Procedures to be followed; detailed Guidance Notes; and finally a Synoptic Table. The purpose of presenting the Protocols in this variety of formats is to facilitate training, as well as for ease of use in the field where different staff members have different functions and responsibilities with respect to different steps I the process of the identification, excavation, conservation, and presentation of the burials and the materials excavated from them. In the **(7) Recommendation and action**, Department of Archaeology has been implemented with upstream process of Pyu burial sites. There are conservation laboratory; first-aid stations; research work with Lerici Foundation, Italy and notification to conservation work at Pyu burial site. Finally, Part III gives the data and information of **(8) Expertise Institutional Capacity to carry out Protocols** for burial sites.

In conclusion, this report acknowledges and responds to the need, identified by the Committee at the time the Pyu Ancient Cities was inscribed on the World Heritage List, for specific and urgent attention to be made to the development of a strategic approach and systematic plan to ensure the conservation of burial sites, a key attribute attesting to the outstanding universal value of the Pyu Ancient Cities, and to the allied capacity building in the conservation of these fragile and vulnerable sites. The protocols which have been developed for this purpose and which are presented in this report will be piloted and, if need be, further elaborated upon during their pilot application during the upcoming 2016-2017 field seasons, whence they will be formally adopted by the Department of Archaeology and Museums as standard operational practice and incorporated formally into the **Pyu Ancient Cities Property Management Plan** which was presented to the Committee as part of the nomination dossier submitted for the inscription of the Pyu Ancient Cities on the World Heritage List.

Recommendation of World Heritage Committee in 38 COM 8B.28

Decision: 38 COM 8B.28

The World Heritage Committee:

1. Having examined Document WHC- 14/38.COM/8B and WHC- 14/38.COM/INF.8B
2. Inscribed Pyu Ancient Cities, The Union of the Republic of Myanmar, on the World Heritage List on the basic of **Criteria (ii), (iii)** and **(iv)**
3. …
4. …
5. …
6. …
7. …
8. Recommends the State Party to develop and implement as soon as possible a conservation plan for the burial sites, allied to capacity-building in the conservation of these particularly fragile and vulnerable sites;

9. Requests the State Party to submit to the World Heritage Centre by 1 December 2015, a report, including a 1-page executive summary, on the implementation of the above-mentioned recommendations for examination by the World Heritage Committee at its 40th session in 2016.

Part I. Status of identified burial attributes of Pyu Ancient Cities

1. Catalogue of identified burials, organized by typology of burial, including:

1.1 Location, type, and unique identification number for each burial site

1.2 Inventory of contents of each burial site

1.3 Plan and/or photo of each burial site

1.4 Condition assessment of each burial site

1.5 Measures undertaken to protect and conserve burial features and objects

1.6 Future strategy for conservation of burial features

1.1 Seq. No.	1.2 Name		1.3 Type of Feature				1.4 Plan/Map	1.5 Condition Assessment	1.6 Attribute Protection				
			Burial Features		Burials Associated with Other Types of Features					Protection			
	Site	Attribute I.D.	Inhumation Graveyards	Urn Cemetery with Cremated Human Remains	Religious Areas (number of associated burial urns or skeletons)	Other Features, as indicated (number of associated burial urns or skeletons)			Present Condition	Shelter	Watch Man	Fencing	Drainage
1	Halin	HL-5	0	0	5 Urns	0	01_Halin\02_Photo\HL-5.jpg	Good	Exposed	No	Yes	Yes	Yes
2	Halin	HL-8	0	0	Unknown	0	01_Halin\02_Photo\HL-8.jpg	Presumably Fair*	Refilled	No	Yes	No	No
3	Halin	HL-10	0	0	0	1 Urn (Gateway)	01_Halin\02_Photo\HL-10.jpg	Good	Exposed	No	Yes	Yes	Yes
4	Halin	HL-12	0	0	1 Skeleton & 9 Urns	0	01_Halin\02_Photo\HL-12.jpg	Fair	Exposed	No	Yes	Yes	Yes
5	Halin	HL-13	0	0	2 skulls	0	01_Halin\02_Photo\HL-13.jpg	Fair	Exposed	No	Yes	Yes	Yes
6	Halin	HL-15	0	0	1 Skeleton & 6 Urns	0	01_Halin\02_Photo\HL-15.jpg	Good	Exposed	No	Yes	Yes	Yes
7	Halin	HL-17	0	0	0	6 Skeletons (Gateway)	01_Halin\02_Photo\HL-17.jpg	Good	Exposed	No	Yes	Yes	Yes
8	Halin	HL-20	0	0	2 Skeleton & 8 Urns	0	01_Halin\02_Photo\HL-20.jpg	Fair	Exposed	No	Yes	Yes	Yes
9	Halin	HL-25	4 Skeletons	0	0	0	01_Halin\02_Photo\HL-25.jpg	Low	Exposed	Yes	Yes	Yes	Yes
10	Halin	HL-26	12 Skeletons	0	0	0	01_Halin\02_Photo\HL-26.jpg	Good	Exposed	Yes	Yes	Yes	Yes
11	Halin	HL-28	37 Skeletons	0	0	0	No Record	Presumably Fair*	Refilled	No	No	No	Yes
12	Halin	HL-29	51 Skeletons	0	0	0	01_Halin\02_Photo\HL-29.jpg	Good	Exposed	Yes	Yes	Yes	Yes
13	Halin	HL-30	34 Skeletons	0	0	0	01_Halin\02_Photo\HL-30.jpg	Good	Exposed	Yes	Yes	Yes	Yes
14	Halin	HL-31	0	0	0	2 Skeletons (Gateway)	01_Halin\02_Photo\HL-31.jpg	Good	Exposed	No	Yes	Yes	Yes
15	Halin	HL-38	0	0	1 Urn	0	01_Halin\02_Photo\HL-38.jpg	Low	Exposed	No	Yes	No	Yes

1.7 Object Protection						1.8 On-site Conservation of Burial Features and Objects				1.9 Future Strategy for Conservation of Burial Features								
						Chemical			Physical	1	2	3		4			5	6
Removed to Museum or Storage	Exhibited in Museum	Conservation in Museum or Storage	Conservation in Laboratory	Replaced In Situ	Replaced with Replica	Stabilize Surface	Consoli-dation of Skeleton	Consoli-dation of Urn		Do Nothing	Docu-ment	Consolidate In Situ		Remove Objects			Replace Objects with Replica	Rebury/ Refill
No	1 Urn	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–
No	1 Urn	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	–	×	–	–	×			×	–
No	No	No	No	No	No	No	No	Yes	Regular Cleaning/ Monitoring	–	×	–	–	×			×	–
No	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	Yes	Regular Cleaning/ Monitoring	–	×	–	–	×			×	–
No	No	No	No	No	No	No	No	Yes	Regular Cleaning/ Monitoring	–	×	–	–	×			×	–
No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	Yes	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–

1.1 Seq. No.	1.2 Name		1.3 Type of Feature				1.4 Plan/Map	1.5 Condition Assessment	1.6 Attribute Protection				
	Site	Attribute I.D.	Burial Site		Burials associated with other types of features				Present Condition	Protection			
			Inhumation Graveyards	Urn Cemetery With Cremated Human Remains	Religious Areas (num. of associated burial urns or skeletons)	Other features, as indicated(num. of associated burial urns or skeletons)				Shelter	Watch Man	Fencing	Drainage
16	Beikthano	KKG-9	0	0	40 Urns	0	02_Beikthano\02_Photo\KKG-9.jpg	Fair	Exposed	No	Yes	No	Yes
17	Beikthano	KKG-12	0	0	80 Urns	0	02_Beikthano\02_Photo\KKG-12.jpg	Good	Exposed	No	Yes	No	Yes
18	Beikthano	KKG-14	0	0	1 Skeleton and 5 Urns	0	02_Beikthano\02_Photo\KKG-14.jpg	Good	Exposed	No	Yes	Yes	Yes
19	Beikthano	KKG-18	0	0	8 Urns	0	02_Beikthano\02_Photo\KKG-18.jpg	Fair	Exposed	No	Yes	No	Yes
20	Beikthano	KKG-24	0	0	9 Urns	0	02_Beikthano\02_Photo\KKG-24.jpg	Fair	Exposed	No	Yes	No	Yes
21	Beikthano	BTO-5	0	0	5 Skeletons & 5 Urns	0	02_Beikthano\02_Photo\BTO-5.jpg	Fair	Exposed	No	Yes	No	Yes
22	Beikthano	BTO-6	0	0	25 Urns	0	02_Beikthano\02_Photo\BTO-6.jpg	Low	Exposed	No	Yes	No	Yes
23	Beikthano	BTO-16	0	0	Unknown Urns & Bone fragment	0	02_Beikthano\02_Photo\BTO-16.jpg	Good	Exposed	No	Yes	Yes	Yes
24	Beikthano	BTO-19	0	0	41 Urns	0	02_Beikthano\02_Photo\BTO-19.jpg	Good	Exposed	No	Yes	No	Yes
25	Beikthano	BTO-20	0	0	46 Urns	0	02_Beikthano\02_Photo\BTO-20.jpg	Good	Exposed	No	Yes	No	Yes
26	Beikthano	BTO-23	0	0	79 Urns	0	02_Beikthano\02_Photo\BTO-23.jpg	Presumably Fair*	Refilled	No	No	No	Yes
27	Beikthano	BTO-26	0	0	6 Urns	0	02_Beikthano\02_Photo\BTO-26.jpg	Presumably Fair*	Refilled	No	No	No	Yes
28	Beikthano	BTO-27	0	0	18 Urns	0	No Records	Low	Exposed	No	Yes	No	Yes
29	Beikthano	BTO-28	0	163 Urns & Skeleton	0	0	02_Beikthano\02_Photo\BTO-28.jpg	Fair	Exposed	Yes	Yes	Yes	Yes
30	Beikthano	BTO-29	0	0	51 Urns	0	02_Beikthano\02_Photo\BTO-29.jpg	Presumably Fair*	Refilled	No	No	No	Yes
31	Beikthano	BTO-30	0	0	2 Urns	0	02_Beikthano\02_Photo\BTO-30.jpg	Fair	Exposed	Yes	Yes	No	Yes
32	Beikthano	BTO-31	0	0	15 Urns	0	02_Beikthano\02_Photo\BTO-31.jpg	Fair	Exposed	No	Yes	No	Yes
33	Beikthano	BTO-33	0	0	3 Urns	0	02_Beikthano\02_Photo\BTO-33.jpg	Good	Exposed	No	Yes	Yes	Yes
34	Beikthano	BTO-34	0	0	1 Urn& Bone fragment	0	02_Beikthano\02_Photo\BTO-34.jpg	Good	Exposed	No	Yes	Yes	Yes
35	Beikthano	BTO-37	0	0	15 Urns	0	02_Beikthano\02_Photo\BTO-37.jpg	Fair	Exposed	No	Yes	No	Yes

1.7 Object Protection							1.8 On-site Conservation of Burial Features and Objects				1.9 Future Strategy for Conservation of Burial Features								
On Site Consoli-dation	Removed to Museum or Storage	Exhibited to Museum	Conservation in Museum or Storage	Conservation in Laboratory	Replaced In Situ	Replaced with Replica	Chemical			Physical	1	2	3		4			5	6
							Stabilize Surface	Consoli-dation of Skeleton	Consoli-dation of Urn		Do nothing	Docu-ment	Consolidate In situ		Remove object			Replace objects with replica	Rebury / Refill
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	×
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	Some	some	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	Some	some	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–
No	No	some	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
Yes	No	No	No	No	No	No	No	No	Yes	Regular Cleaning/ Monitoring	–	×	–	–	×			×	–
No	Some	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	some	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	some	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–

1.1 Seq. No.	1.2 Name		1.3 Type of Feature				1.4 Plan/Map	1.5 Condition Assessment	1.6 Attribute Protection				
	Site	Attribute I.D.	Burial Site		Burials associated with other types of features				Present Condition	Protection			
			Inhumation Graveyards	Urn Cemetery with cremated human remains	Religious Areas (num. of associated burial urns or skeletons)	Other features, as indicated (num. of associated burial urns or skeletons)				Shelter	Watch Man	Fencing	Drainage
36	Sri Ksetra	HMA-6	0	0	0	Skull and Bone	No Records	Presumably Fair*	Refilled	No	No	No	Yes
37	Sri Ksetra	HMA-10	0	>58 Urns	0	0	03_Sri Ksetra\02_Photo\HMA10.jpg	Fair	Exposed	No	Yes	Yes	Yes
38	Sri Ksetra	HMA-11	0	205 Urns	0	0	03_Sri Ksetra\02_Photo\HMA11.jpg	Fair	Exposed	No	Yes	Yes	Yes
39	Sri Ksetra	HMA-14	0	17 Urns	0	0	03_Sri Ksetra\02_Photo\HMA14.jpg	Presumably Fair*	Refilled	No	No	No	Yes
40	Sri Ksetra	HMA-18	0	0	0	2-Burial Urns	03_Sri Ksetra\02_Photo\HMA18.jpg	Presumably Fair*	Refilled	No	No	No	Yes
41	Sri Ksetra	HMA-19	0	0	Pieces of Urn	0	03_Sri Ksetra\02_Photo\HMA19.jpg	Fair	Exposed	No	Yes	No	Yes
42	Sri Ksetra	HMA-31A	0	0	1 Stone Urn	0	03_Sri Ksetra\02_Photo\HMA31_A.jpg	Fair	Exposed	No	Yes	Yes	Yes
43	Sri Ksetra	HMA-31B	0	0	3 Urns	0	03_Sri Ksetra\02_Photo\HMA31_B.jpg	Fair	Exposed	No	Yes	Yes	Yes
44	Sri Ksetra	HMA-32	0	0	4 Urns	0	03_Sri Ksetra\02_Photo\HMA32.jpg	Low	Exposed	No	Yes	No	Yes
45	Sri Ksetra	HMA-34 (Lulinkyaw)	0	0	0	2	03_Sri Ksetra\02_Photo\HMA34.jpg	Fair	Exposed	No	Yes	No	Yes
46	Sri Ksetra	HMA-35	0	0	Unknown No.Urn	0	03_Sri Ksetra\02_Photo\HMA35.jpg	Low	Exposed	No	Yes	No	Yes
47	Sri Ksetra	HMA-36	0	0	1 Urns	0	03_Sri Ksetra\02_Photo\HMA36.jpg	Fair	Exposed	No	Yes	Yes	Yes
48	Sri Ksetra	HMA-37	0	0	7 Urns	0	03_Sri Ksetra\02_Photo\HMA37.jpg	Fair	Exposed	No	Yes	No	Yes
49	Sri Ksetra	HMA-39	0	0	2(Not Pyu Era)	0	03_Sri Ksetra\02_Photo\HMA39_.jpg	Presumably Fair*	Refilled	No	No	No	Yes
50	Sri Ksetra	HMA-40	0	0	2 Urns	0	03_Sri Ksetra\02_Photo\HMA40.jpg	Presumably Fair*	Refilled	No	No	No	Yes

1.7 Object Protection							1.8 On-site Conservation of Burial Features and Objects				1.9 Future Strategy for Conservation of Burial Features								
On Site Consoli-dation	Removed to Museum or Storage	Exhibited to Museum	Conservation in Museum or Storage	Conservation in Laboratory	Replaced In Situ	Replaced with Replica	Chemical			Physical	1	2	3		4			5	6
							Stabilize Surface	Consoli-dation of Skeleton	Consoli-dation of Urn		Do nothing	Docu-ment	Consolida te In situ		Remove object			Replace objects with replica	Rebury/ Refill
No	No	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–
No	No	Some	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	One	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	–	×	–	–	–	–	–	×	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	One	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	Store in FSOA Lab	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–

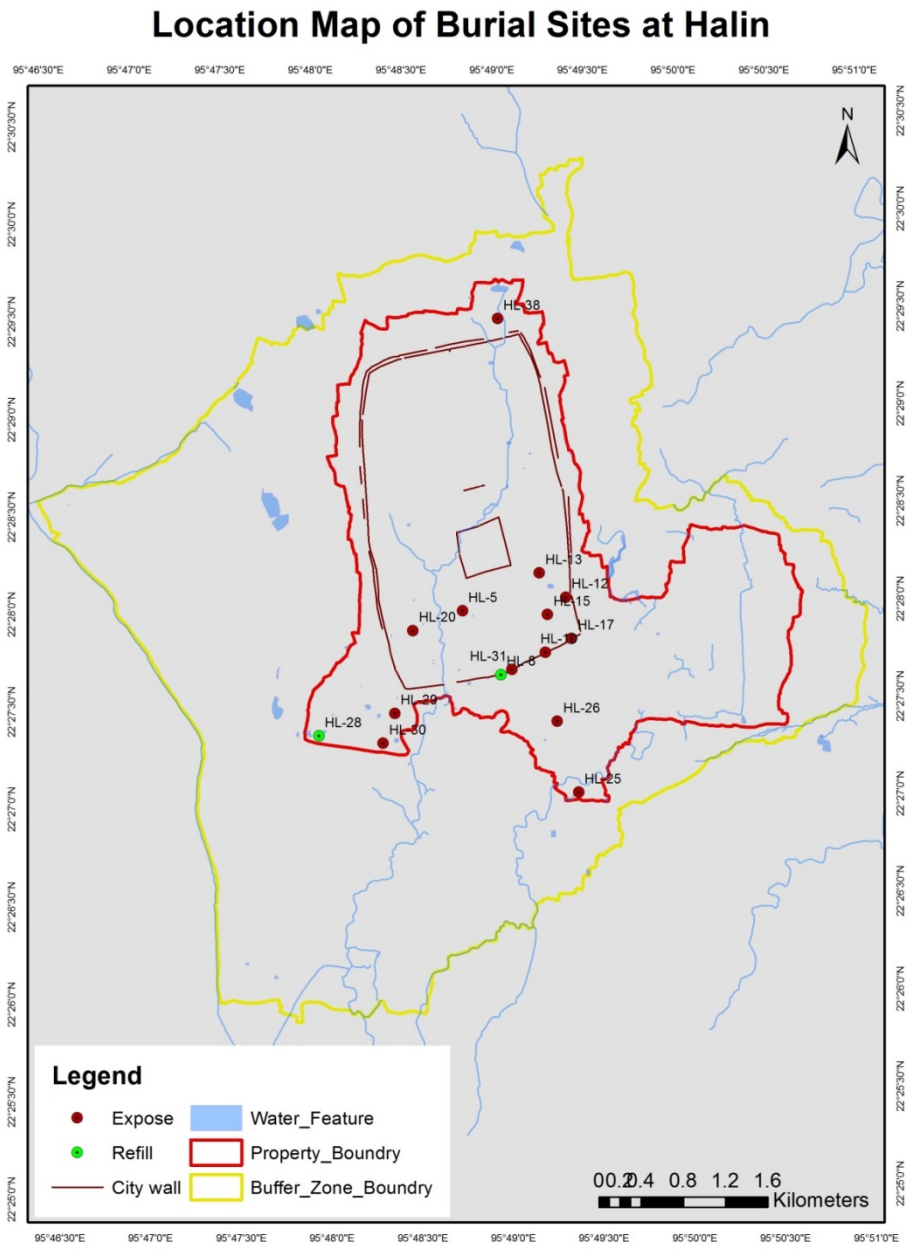
1.1 Seq. No.	1.2 Name		1.3 Type of Feature				1.4 Plan/Map	1.5 Condition Assessment	1.6 Attribute Protection				
	Site	Attribute I.D .	Burial Site		Burials associated with other types of features				Present Condition	Protection			
			Inhumation Graveyard	Urn Cemetery With cremated human remains	Religious Areas (num. of associated burial urns or skeletons)	Other features, as indicated (num. of associated burial urns or skeletons)				Shelter	Watch Man	Fencing	Drainage
51	Sri Ksetra	HMA-44	0	0	0	Piece of Urn	03_Sri Ksetra\02_Photo\HMA44.jpg	Fair	Exposed	No	Yes	Yes	Yes
52	Sri Ksetra	HMA-47	0	0	4	0	03_Sri Ksetra\02_Photo\HMA47.jpg	Fair	Exposed	No	Yes	No	Yes
53	Sri Ksetra	HMA-50	0	0	29	0	03_Sri Ksetra\02_Photo\HMA50.jpg	Fair	Exposed	No	Yes	No	Yes
54	Sri Ksetra	HMA-52	0	0	85	0	03_Sri Ksetra\02_Photo\HMA52.jpg	Low	Exposed	No	Yes	Yes	Yes
55	Sri Ksetra	HMA-53	0	446	0	0	03_Sri Ksetra\02_Photo\HMA53.jpg	Good	Exposed	Yes	Yes	Yes	Yes
56	Sri Ksetra	HMA-55	0	0	3	0	03_Sri Ksetra\02_Photo\HMA-55.jpg	Low	Exposed	No	Yes	No	Yes
57	Sri Ksetra	Mathikya	0	0	20	0	03_Sri Ksetra\02_Photo\Mathikya.jpg	Fair	Exposed	No	Yes	Yes	Yes
58	Sri Ksetra	Queen Cemetry	0	6 Stone Urns	0	0	03_Sri Ksetra\02_Photo\Royal Cemetery.jpg	Fair	Exposed	Yes	Yes	Yes	Yes
59	Sri Ksetra	Wikarama Cemetry	0	2 Stone Urns	0	0	03_Sri Ksetra\02_Photo\King Cemetry.jpg	Presumably Fair*	Refilled	No	No	Yes	No

*Note/ Presumably Fair because that all attribute have been refilled many years ago.

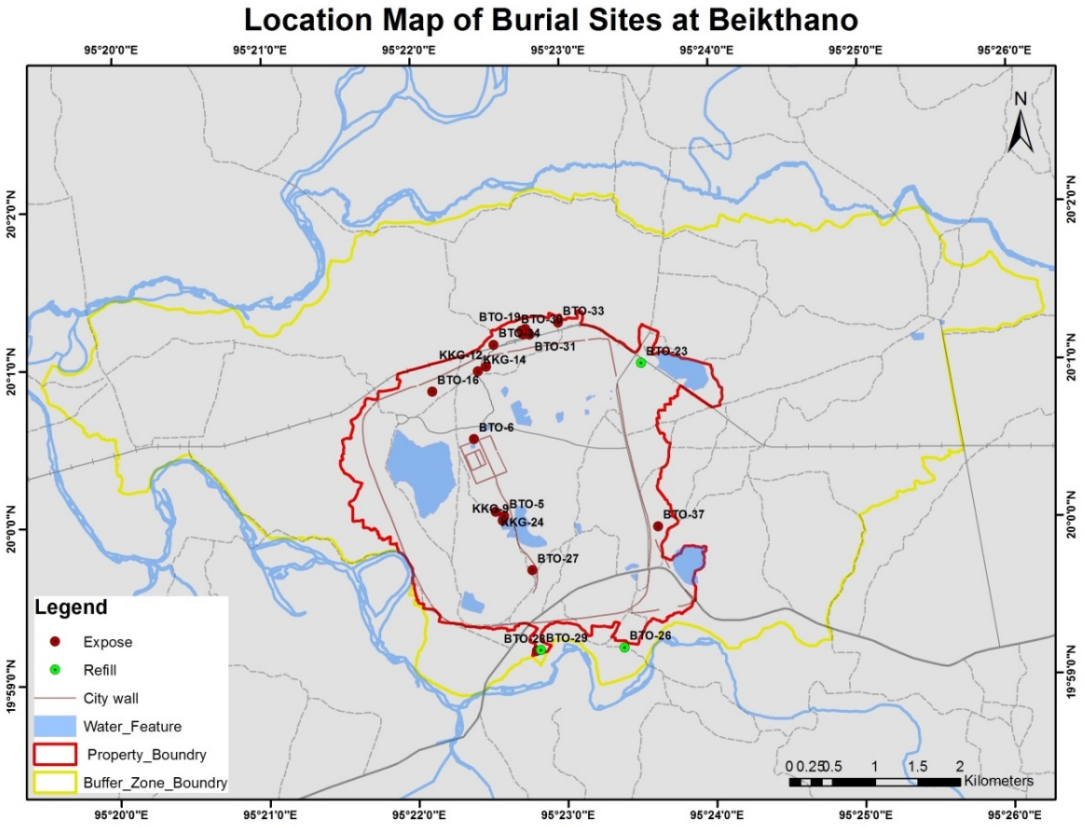
1.7 Object Protection							1.8 On-site Conservation of Burial Features and Objects				1.9 Future Strategy for Conservation of Burial Features								
On Site Consoli-dation	Removed to Museum or Storage	Exhibited to Museum	Conservation in Museum or Storage	Conservation in Laboratory	Replaced In Situ	Replaced with Replica	Chemical			Physical	1	2	3		4			5	6
							Stabilize Surface	Consoli-dation of Skeleton	Consoli-dation of Urn		Do nothing	Docu-ment	Consolidate In situ		Remove object			Replace objects with replica	Rebury/ Refill
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
Yes	No	No	No	Yes	No	No	No	No	Yes	Regular Cleaning/ Monitoring	Training Site								–
Yes	Yes	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	×
No	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	–	–	–	–	–	–
Yes	No	No	No	No	No	No	No	No	No	Regular Cleaning/ Monitoring	×	–	–	×	–	–	–	–	–
No	No	2-Stone Urn	No	No	No	No	No	No	No	Monitoring	×	–	–	–	–	–	–	–	–

2. Location Maps of identified burials at each of the three Pyu Ancient Cities sites

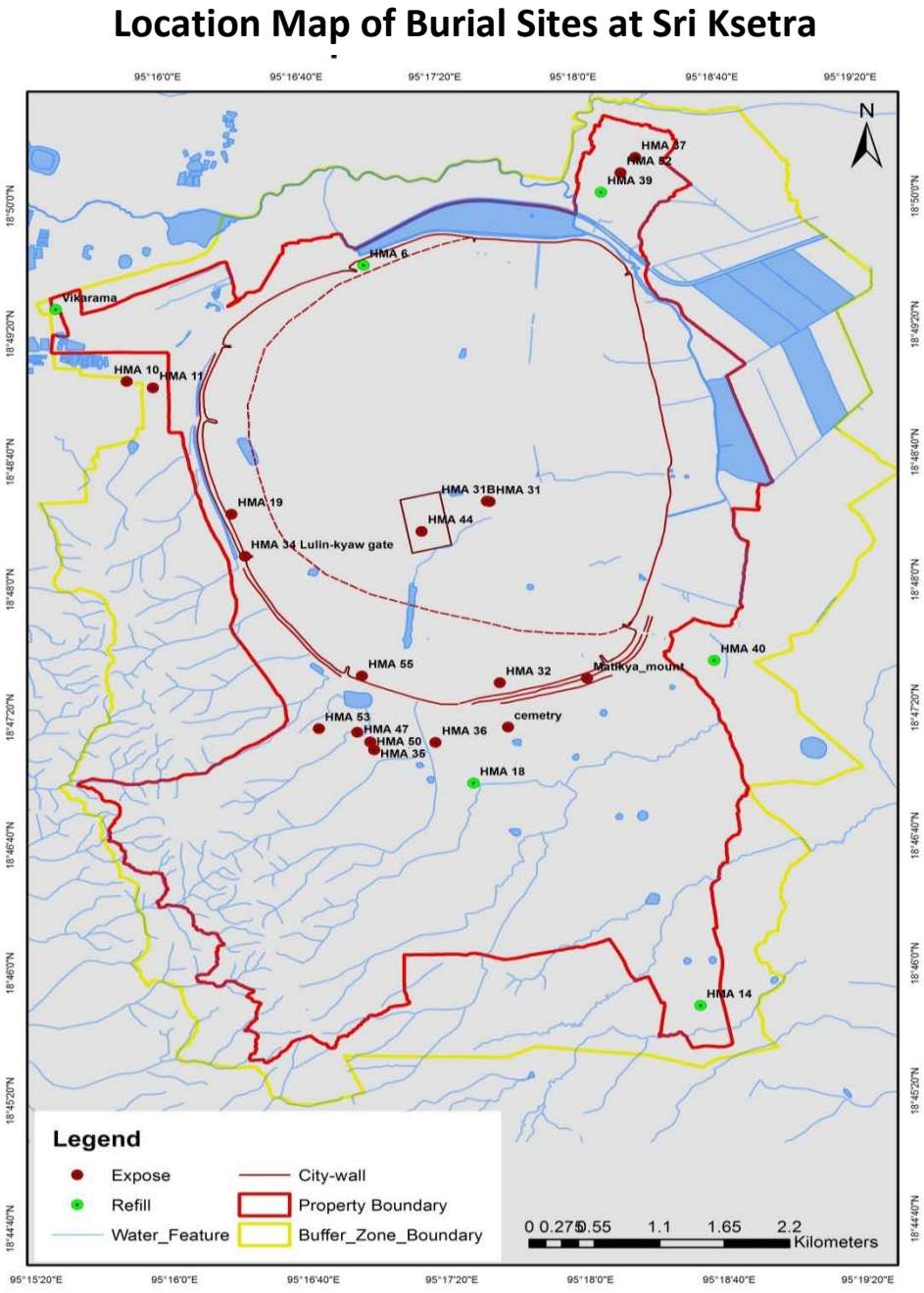
2.1 Halin



2.2 Beikthano



2.3 Sri Ksetra



Part II. Capacity building in the identification, excavation, and conservation of cemeteries and burial attributes

3. Record of training and capacity building activities, related to the identification, excavation and conservation of burial attributes, undertaken since nomination and inscription of the Pyu Ancient Cities on the World Heritage List

Step-1: Conservation Survey Before Excavation

No	Sequence/Subject	Skill	Type of training		Trainer		Number of trainees	Date/duration of training
			Theory	On-site practicum	Name	Institution		
1	**Soil Condition**							
	1. Insect, Tree, Vegetation…etc,							
	2. Water table depth, climate,	1. Ground Survey/ Surface Analysis of suspected area	X	Outside of HMA-53	Patrizia Zolese	Lerici Foundation	9	(25-06-2014 to
	weather during excavation time	2. Topographic Mapping	X	Outside of HMA-53	Patrizia Zolese	Lerici Foundation	9	02-07-2014)
		3. Recording/ Drawing/ Photography	X	Outside of HMA-53	Patrizia Zolese	Lerici Foundation	9	
		4. Geomorphological Survey	X	Outside of HMA-53	Patrizia Zolese	Lerici Foundation	9	
2	**Archaeological Environment**							
	Material Information	1. Examined the previous data and record	X	HMA 53	Patrizia Zolese	Lerici Foundation	4	(23-04-2015 to 30-04-2015)
		1. Examined the previous data and record	x	HMA 53	Patrizia Zolese	Lerici Foundation	4	(01-05-2015 to 07-05-2015)

Step-2: Excavation and Conservation During Excavation

No	Sequence/Subject	Skill	Type of training		Trainer		Number of trainees	Date/duration of training
			Theory	On-site practicum	Name	Institution		
1	**Stratigraphic Excavation**	1. Detail Topological Survey 2. Layout the grid	X	Outside of HMA-53	Roberto Machiavelli	Lerici Foundation	7	(25-06-2014 to
		3. Excavation activities 4. Documentation, Drawing,		Outside of HMA-53	Sylvie Coubray	Lerici Foundation	7	02-07-2014)
		Photograph 5. Stratigraphic record 6. Inventory		Outside of HMA-53	Patrizia Zolese	Lerici Foundation	7	
2	**Stratigraphic Excavation**	1. Detail Topological Survey 2. Layout the grid	X	Outside of HMA-53	Roberto Machiavelli	Lerici Foundation	7	(23-04-2015 to
		3. Excavation activities 4. Documentation, Drawing,		Outside of HMA-53	Sylvie Coubray	Lerici Foundation	7	30-04-2015)
		Photograph 5. Stratigraphic record 6. Inventory		Outside of HMA-53	Patrizia Zolese	Lerici Foundation	7	
3	**Stratigraphic Excavation**	1. Detail Topological Survey 2. Layout the grid	X	Outside of HMA-53	Roberto Machiavelli	Lerici Foundation	7	(01-05-2015 to
		3. Excavation activities 4. Documentation, Drawing,		Outside of HMA-53	Sylvie Coubray	Lerici Foundation	7	07-05-2015)
		Photograph 5. Stratigraphic record 6. Inventory		Outside of HMA-53	Patrizia Zolese	Lerici Foundation	7	

No	Sequence/Subject	Skill	Type of training		Trainer		Number of trainees	Date/duration of training
			Theory	On-site practicum	Name	Institution		
4	**Object In Situ**	1. Documentation	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(28-04-2015 to
	-			Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		2. Pre-consolidation	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(28-04-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		3. Remove of artifact	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(28-04-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		4. Packing for transportation	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(28-04-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
5	**Object In Situ**	1. Documentation	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to
-	-							08-07-2015)
		2. Pre-consolidation	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		3. Remove of artifact	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		4. Packing for transportation	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
6	**Object In Situ**	1. Documentation	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 t0 13-07-2015)
		2. Pre-consolidation	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 t0 13-07-2015)
		3. Remove of artifact	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 t0 13-07-2015)
		4. Packing for transportation	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 t0 13-07-2015)

No	Sequence/Subject	Skill	Type of training		Trainer		Number of trainees	Date/ duration of training
			Theory	On-site practicum	Name	Institution		
7	**Open Air Exhibition**	1. Documentation photo ,form and drawing	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(25-03-2015 to
-	-			Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		2. Pre-conservation/ consolidation	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(25-03-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		3. Cleaning	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(25-03-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		4. Bonding the fragments when possible	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(25-03-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		5. Superficial protection	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(25-03-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		6. Consolidation of the exposed surfaces	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(25-03-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		7. Consolidation of structural elements	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(25-03-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		8. Removal and packing for transportation (only in case of artifacts in a superficial layer, easy to lift without damaging the stratigraphy, that can be send to the lab for conservation) and replaced in situ	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(25-03-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		9. Eventually replica (entire feature, objects only, selected objects)	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(25-03-2015 to
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	31-05-2015)
		10. Maintenance plan according to the condition of the attribute (monitoring)	X	Outside of HMA-53	Christina Danelli	Lerici Foundation	6	(25-03-2015 to 31-05-2015)
				Outside of HMA-53	Patrizia Zolese	Lerici Foundation	6	

No	Sequence/Subject	Skill	Type of training		Trainer		Number of trainees	Date/ duration of training
			Theory	On-site practicum	Name	Institution		
8	**Open Air Exhibition**	1. Documentation photo ,form and drawing	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		2. Pre-conservation/ consolidation	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		3. Cleaning	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		4. Bonding the fragments when possible	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		5. Superficial protection	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		6. Consolidation of the exposed surfaces	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		7. Consolidation of structural elements	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		8. Removal and packing for transportation (only in case of artifacts in a superficial layer, easy to lift without damaging the stratigraphy, that can be send to the lab for conservation) and replaced in situ	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		9. Eventually replica (entire feature, objects only, selected objects)	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		10. Maintenance plan according to the condition of the attribute (monitoring)	X	BTO-28	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)

No	Sequence/Subject	Skill	Type of training		Trainer		Number of trainees	Date/ duration of training
			Theory	On-site practicum	Name	Institution		
9	**Open Air Exhibition**	1. Documentation photo ,form and drawing	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		2. Pre-conservation/ consolidation	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		3. Cleaning	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		4. Bonding the fragments when possible	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		5. Superficial protection	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		6. Consolidation of the exposed surfaces	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		7. Consolidation of structural elements	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		8. Removal and packing for transportation (only in case of artifacts in a superficial layer, easy to lift without damaging the stratigraphy, that can be send to the lab for conservation) and replaced in situ	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		9. Eventually replica (entire feature, objects only, selected objects)	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		10. Maintenance plan according to the condition of the attribute (monitoring)	X	HL-26,29	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)

Step-3: Laboratory Activities

No	Sequence/Subject	Skill	Type of training		Trainer		Number of trainees	Date/ duration of training
			Theory	On-site practicum	Name	Institution		
1	**Laboratory**	1. Documentation form (linked to database) , drawing and photo(before, during, after)	X	National Field School of Archaeology (Pyay)	Christina Danelli Patrizia Zolese	Lerici Foundation Lerici Foundation	6 6	(28-04-2015 to 31-05-2015)
		2. Analysis/identification of the content / constituent material (eg.alloy)	X	National Field School of Archaeology (Pyay)	Christina Danelli Patrizia Zolese	Lerici Foundation Lerici Foundation	6 6	(28-04-2015 to 31-05-2015)
		3. Cleaning : chemical or mechanical	X	National Field School of Archaeology (Pyay)	Christina Danelli Patrizia Zolese	Lerici Foundation Lerici Foundation	6 6	(28-04-2015 to 31-05-2015)
		4. Consolidation: chemical or mechanical	X	National Field School of Archaeology (Pyay)	Christina Danelli Patrizia Zolese	Lerici Foundation Lerici Foundation	6 6	(28-04-2015 to 31-05-2015)
		5. Search of the joining fragments	X	National Field School of Archaeology (Pyay)	Christina Danelli Patrizia Zolese	Lerici Foundation Lerici Foundation	6 6	(28-04-2015 to 31-05-2015)
		6. .Bonding (we put a primer on the edges if we used only UHU plus	X	National Field School of Archaeology (Pyay)	Christina Danelli Patrizia Zolese	Lerici Foundation Lerici Foundation	6 6	(28-04-2015 to 31-05-2015)

No	Sequence/Subject	Skill	Type of training		Trainer		Number of trainees	Date/ duration of training
			Theory	On-site practicum	Name	Institution		
		7. Gaps filling	X	National Field School of Archaeology (Pyay)	Christina Danelli Patrizia Zolese	Lerici Foundation Lerici Foundation	6 6	(28-04-2015 to 31-05-2015)
		8. Superficial protection	X	National Field School of Archaeology (Pyay)	Christina Danelli Patrizia Zolese	Lerici Foundation Lerici Foundation	6 6	(28-04-2015 to 31-05-2015)
		9. Packing for transportation to: - Museum - Storage (special container for long term storage) - Exhibition (condition report with drawing and photo) Remark: special packing is needed in case of flight	X	National Field School of Archaeology (Pyay)	Christina Danelli Patrizia Zolese	Lerici Foundation Lerici Foundation	6 6	(28-04-2015 to 31-05-2015)
2	**Laboratory**	1. Documentation form (linked to database) , drawing and photo(before, during, after)	X	BTO Museum	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		2. Analysis/identification of the content / constituent material (e.g. alloy)	X	BTO Museum	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		3. Cleaning: Chemical or mechanical	X	BTO Museum	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		4. Consolidation: Chemical or mechanical	X	BTO Museum	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)

No	Sequence/Subject	Skill	Type of training		Trainer		Number of trainees	Date/ duration of training
			Theory	On-site practicum	Name	Institution		
		5. Search of the joining fragments	X	BTO Museum	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		6. Bonding (we put a primer on the edges if we used only UHU plus	X	BTO Museum	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		7. Gaps filling	X	BTO Museum	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		8. Superficial protection	X	BTO Museum	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
		9. Packing for transportation to: - Museum - Storage (special container for long term storage) - Exhibition (condition report with drawing and photo) Remark: special packing is needed in case of flight	X	BTO Museum	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	10	(06-07-2015 to 08-07-2015)
3	**Laboratory**	1. Documentation form (linked to database) , drawing and photo(before, during, after)	X	HALIN	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		2. Analysis/identification of the content / constituent material (e.g. alloy)	X	HALIN	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		3. Cleaning: Chemical or mechanical	X	HALIN	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)

No	Sequence/Subject	Skill	Type of training		Trainer		Number of trainees	Date/ duration of training
			Theory	On-site practicum	Name	Institution		
		4. Consolidation: chemical or mechanical	X	HALIN	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		5. Search of the joining fragments	X	HALIN	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		6. Bonding (we put a primer on the edges if we used only UHU plus	X	HALIN	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		7. Gaps filling	X	HALIN	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		8. Superficial protection	X	HALIN	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)
		9. Packing for transportation to: -Museum - Storage (special container for long term storage) - Exhibition (condition report with drawing and photo) Remark: special packing is needed in case of flight	X	HALIN	Khin Myint Myint Htwe	National Field School of Archaeology (Pyay)	14	(10-07-2015 to 13-07-2015)

4. Illustrated report on the in-situ development and demonstration of protocols for conservation of burials at demonstration site HMA 53, undertaken during 2014-2015 field seasons

Several activities related to the Pyu burial attributes were carried out during the training courses program of the "***Capacity building to safeguarding Cultural Heritage in Myanmar*** - ***Phase 2***".

Such activities can be summarized as follow:

- *Archaeological excavation in Urn Cemetery Area*
- *Archaeological Activity in Restoration Laboratory*
- *Restoration of Archaeological Object*
- *Archaeo-anthropology and Archae-botany activities*

On the basis of the recommendations made by ICOMOS and the observations made by Lerici Foundation the graveyard HMA 53 has been selected as sample of rehabilitation of a burial attribute. This project was specifically addressed to the officials of the Department of Archaeology and National Museum, in order to train them on the procedures to follow in case of intervention in an archeological area already excavated.

The rehabilitation of graveyard HMA 53 (already mapped in detail by leveling survey and photogrammetric documentation in 2014[1]) involved not only the issue on the preservation of an open museum, its presentation, and the restoration of its materials, but, most of all, it offered the opportunity for research, without which the remains have not historic significance.

The work done during 2015 has been reported in detail in the '***Technical Report of Activities carried out in the frame of 2° Phase of UNESCO Project (Dec. 2014-July 2015)'***.

The main achievement of the project can be summarized as follow:

- *Inspection of the labeling and the map made in 2014, adding new inventorying number of urns, not detected in the previous season*
- *Inventory of all the archeological material still in-situ or removed in the previous excavation (more than 400 objects, including broken pottery urns, oxidized iron tools and small finds)*
- *Store-room and archive organization*
- *Documentation of the state of conservation of the pottery urns in order to plan the type of restoration intervention*
- *In-situ consolidation of pottery urns*
- *Establishment of laboratory for material restoration and analyses*
- *Urns' restoration in laboratory (when possible) together with micro-stratigraphic excavation of the filling in order to understand the burial process and to recover minute finds (seeds, beads and charred bones).*
- *Archaeo-anthropology and Archae-botany activities on the content of pottery urns excavated during previous seasons*
- *Recommendation on graveyard maintenance and site presentation*

[1] P. Zolese UNESCO report 2014, F. Barocco, UNESCO report 2014 and G. Guidi, UNESCO report 2014

Site	Excavation	Period	Expert	Institution	Staff	Demonstration Area
Sri Ksetra	Test Pit (2×2mtr)	25-06-2014 to 02-07-2014	Patrizia Zolese,	Lerici Foundation	HL 1 BK 2 SK 2	Outside of HMA 53
Sri Ksetra	Test Pit (2×2mtr)	02-02-2015 to 20-02-2015	Patrizia Zolese,	Lerici Foundation	SK 4 BK 1	SK 044
Sri Ksetra	Test Pit (2×2mtr)	02-02-2015 to 20-02-2015	Patrizia Zolese,	Lerici Foundation	SK 4 BK 1	SK 065
Sri Ksetra	Test Pit (1×0.5mtr)	23-04-2015 to 30-04-2015	Patrizia Zolese	Lerici Foundation	SK 4 BK 1	HMA 53
Sri Ksetra	Test Pit (1×0.5mtr)	01-05-2015 to 07-05-2015	Patrizia Zolese	Lerici Foundation	SK 4 BK 1	HMA 53

5. Plan for pilot application of and training in the use of the protocols at a selected site during 2016-2017 field seasons

For the purpose of testing the protocols for the identification, excavation, and conservation of burial attributes at Pyu sites, and training staff in the application of these protocols, during Phase III of the Italian-Funds-in-Trust Project with UNESCO, an as-yet unexcavated urn cemetery will be systematically conserved in accordance with the now-established protocols to be explained in Section 6.

Part III. Establishment of protocols (comprehensive guidelines) for identification, excavation, and conservation of cemeteries and burial attributes in the future

6. Protocols (comprehensive guidelines) newly-established for identification, excavation, and conservation of burial attributes at the Pyu Ancient Cities sites

6.1 Brief Introduction

Since inscription, a multi-year Italian Funds-in-Trust Project with UNESCO has made available technical assistance for the establishment of comprehensive guidelines (protocols) for the identification, excavation, and conservation of archaeological attributes of the Pyu Ancient Cities, including the burial attributes, features, and associated objects. The Lerici Foundation, Milan Polytechnical University, has provided the technical and training expertise necessary for these purposes, as detailed in the annexes to this report on Training and Capacity Building.

During the Phase I of the project a careful survey was been made to verify the conservation condition of the exposed.

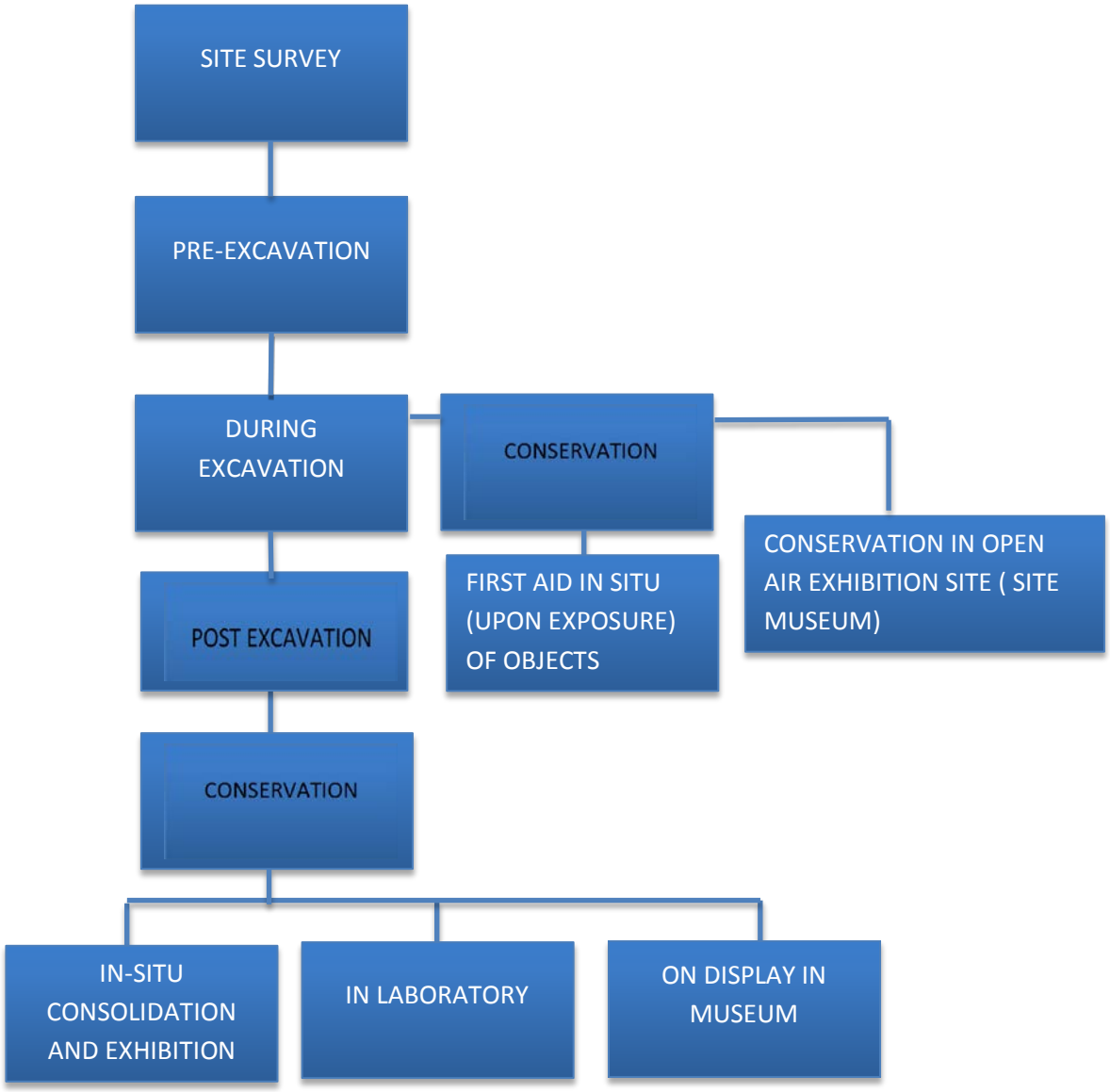
During Phase II of the project, in order to support the on-site conservation work, a central field conservation laboratory has been set up at the site of Sri Ksetra (one of the three Pyu Ancient City sites inscribed on the World Heritage List), within Department of Archaeology's Field School of Archaeology (Pyay).This field laboratory services all three Pyu Ancient Cities sites and is complemented by so-called "first-aid" conservation stations located at the two smaller and remote of the Pyu Ancient Cities sites of Halin and Beikthano. The field conservation laboratory at Sri Ksetra is equipped with the appropriate equipment and materials to carry on conservation of different typologies of objects, including human bones and associated artifacts excavated from inhumation graveyards, and burial urns containing cremated human remains – the two types of burial features found at the Pyu Ancient Cities.

On the permanent staff of all three Pyu Ancient Cities sites, there are trained conservators who work under the supervision and leadership of the Chief Conservator who heads the central field conservation laboratory located at Sri Ksestra. In this laboratory, there have been trained conservators belonging from Halin and Beikthano sites. In the Phase II, there have been set up two more laboratories in Halin and Beikthano where places were less equipped, but these laboratories established for able to carry out the emergency conservation. Also during Phase II of the project, one archaeologically-excavated and still-exposed burial site (HMA 53, which is a cemetery consisting of 464 pottery urns containing cremated human remains) was selected as the demonstration training site for the development and implementation of the newly-established protocols for the conservation of this type of burial feature, typical of Pyu ancient culture.

During Phase III of project, conservation and training activities will be continued and enhanced, following the protocols which have now been established.

6.2 Process Flow Chart

Flow Chart of Conservation Work at the Pyu Ancient Cities Sites



6.3 Protocols on the identification, excavation, and conservation of Pyu burial sites

A. Burial Attributes

The burial attributes of the three sites which comprise the Pyu Ancient Cities are of three types:

I. Graveyards comprised of multiple inhumation burials (without coffins). These burials are typically accompanied with a range of burial objects, including body ornaments in stone, pottery, bronze and iron, a rane of associated artifacts of a religious, secular or domestic nature and sometimes the bones of animals, which archaeologists have usually interpreted as food offerings for the deceased. .

II. Cemeteries of ceramic urns containing cremated human remains. Some of urns contain small votive offerings made of glass, stone, or iron. Traces of animal remains have also been identified in some of the urns, the significance of which has not yet been interpreted.

III. Individual instances of a single skeleton, or one or more burial urns, interred not in a graveyard or cemetery, but instead in association with another feature of the site, such as a religious building or a city gate.

For the purposes of testing the protocols for the identification, excavation, and conservation of burials attributes at Pyu sites, and training site staff in the application of these protocols, during Phase III of the Italian Funds-in-Trust Project with UNESCO, an as-yet unexcavated urn cemetery will be systematically identified, excavated, and conserved in accordance with the now-established protocols.

Protocol 1:

Field survey or archeological field evaluation

Field survey is a non-intrusive method of investigation aimed to verify the presence or the absence of archeological features (e.g. deposits, structures, cemeteries etc.), to elaborate topographic and morphological map of the territory under study, to localize archaeological sites, to delimitate their extension, to establish a relative chronology by the material collected on surface.

The field survey of large areas is based on an integrated system of three main investigations: cartography, remote sensing and on ground exploration.

Cartography, satellite or aerial picture readings are providing a quite large amount of data on natural and anthropic characteristics that are present in the territory under study.

Ancient river bed, erosions, canalizations, aligned or geometrical traces of buried structures are defined as anomalies or elements of discontinuity on the ground surface, and these traces are more visible from a view of whole than on ground. The anomalies detected are reversed in a map, and are providing the first data to understand a settlement pattern, a settlement hierarchic as well as to determinate the function of different areas, for example, graveyards, urban areas, cultivated areas etc.

Data collected from cartography, and aerial pictures in any case must be verified by the on ground survey.

The on ground survey is carried on by a team of archaeologists and topographers, usually in dry season, to localize archaeological remains on surface, as pottery fragments, ancient ruins, and to map precisely their extension, and cultural context. Samples collected on ground survey are useful to draft a relative chronology of the area.

Total station and GPS are suitable equipment to positioning on maps archaeological data recovered. In case of a complex and articulated site showing a great amount of remains, is necessary to carry out a detailed plan of the surfacing elements, showing the distribution and the typology of the material as bricks, tiles, stone or architectural decoration, that might indicate still buried structures.

It is important to note that the survey activity is one of the most useful methods of research, and if correctly applied, can avoid the excavation, highly costly in terms of money and of time.

Furthermore, data obtained by ground survey, geophysical prospecting and trial trench are a useful tool to prevent destructive actions, for example urban expansion.

Competent cultural office (local, provincial or governmental) could use the data to bound (to bind?) the area by legislative regulations, avoiding rescue excavations sometime too late, when most of the remains have been destroyed or looted.

Burial Area General Characteristic:

It is important to underline that sub-tropical areas (as Myanmar) with extensive rainforest and sometime with a deep alluvial deposit, present a quite difficult obstacle to fieldwork or excavation. Erosion caused often by clearance for farming or extensive deforestation, can bury ancient settlement or cemeteries under meters of silt. Wet condition produce a rapid decay of organic material.

The burial cemeteries are discovered or by a systematic archaeological survey or by the signs left after looting actions. These cases request two different approaches of research and excavation.

Burial graves of Halin, are located in a quite flat area, under around two meters from the present ground level, and covered by alluvial silt deposit.

The graves were not marked by any symbolic sign (no clear if in the past excavation has been found a stone slab marking the grave, or other material indicator), and, moreover, the cemetery areas, related to late bronze and early iron age, have been covered by structures or remains of a later different culture: the Pyu.

These environmental and archaeological peculiarities make more difficult to elaborate a standard methodology of investigation, so the following protocol has been elaborated in two sections: what to do before, during and after the recovering of a grave.

Protocol 2: Before the excavation of burial cemetery

An accurate contour survey has to be done of the whole area, and the documentation already collected in libraries and archives of earlier accounts, has to be prepared as part of equipment to carry in the site.

Geological map or bore drillings or trial pit and result of geophysical prospecting, if performed, should give insights into the natural or anthropic subsoil that will be encountered.

A good quality of recording and the preservation of finds are essential to obtain a good interpretation of the excavation. Records come in many forms, written, drawn, photographic, and digit. It is necessary to have a staff with appropriate expertise, both archaeological and technical, to compile documentation and to take care of the findings, before to perform the excavation.

Technical equipment,(camera, theodolite, GPS) and work equipment (trowels, brushes, baskets, bags labels, should be prepared in advance.

Set up a grid by regular squares or trenches, maintaining balk to control the vertical stratigraphy. The squares and trenches marked by pickets with topographic references

Surface cleaning and collection of surface remains

Protocol 3: Excavation of burial grave

Clean carefully the ground surface to detect the original edges of the pit and examine the area surrounding the burial where remains of ritual ceremonies (feast, banquet?) or some funeral marker (stone or gravel) might be found.

The edges (margin?) are detected by using a trowel, slowly scratching the soil, and not to dig with a pickaxe.

Follow the edges of the grave, until appear the complete shape of the pit.

Drawn, photograph of the pit and topographic leveling-

Remove the filling of the pit, according to a stratigraphic method: sometime the filling might be composed by different layers of soil as alluvial silt –sand soil, covering a layer of only of sand or layer of gravel. The record of the filling sequence deposit is important to reconstruct the whole process of burial in use in a specific period that can be different from a burial of a different chronological period.

Every layer has to be documented by using SU card, and related reference point

The excavation of the inhumation it is also complicate because it is necessary to work with special equipment (dental probe) and soft brush, to do not remove the bones from their primary deposition.

Because the space of a grave is sometime quite narrow, only one archaeologist can clean the grave. A suspended bamboo bridge has to be placed over the pit, to avoid treading on artifacts and bones.

The exact position of human remains must be recorded, for they may be related to factors revealed by pathology such as injuries or disease.

The skeleton can wear ornaments, as bronze or stone bracelet, beads necklace, ear-rings made of fragile material as bone or ivory. Both skeleton and ornaments has to be clean only by soft brush and dental probe. A conservator should be helpful to carry on this delicate cleaning.

The artifacts cannot be removed until the accomplishment of graphic and photographic documentation. Remember to place a board indicating the number of grave and, the date. Put a metric scale and the arrow indicating the North.

A label with a temporary inventorying number has to be placed close to the every object found, and this number has to be reported in the graphic documentation. (drawn and photo).This documentation is accomplished in situ, to record the precise location of the grave gifts ,and the position of the human remains. (Fig 1)

On site, a temporary inventorying of the finding has to make. The inventory is recording the precise location, leveling and layers where the object was found, and the material description.

Immediately following excavation, and before the removal of the skeleton and the objects, it is necessary to maintain an environment around the artifact as similar to its burial conditions as possible. The decay of material is fast, especially in hot and humid conditions.

Accomplished the documentation work, it is possible to remove the remains. Again, the assistance of a conservator is recommended, to avoid damages.

The removal of skeleton has to be done with the help of an anthropologist. Often there is not the condition to have this specialist present in the team: again, the conservator can be very useful to pack, and to move the human remain into a laboratory, where scientific analyses and conservation activities are carried out.(see Giulia report)

When the pit will be empty, the excavation will continue, to verify the original shape of the bottom. A new drawn of the pit and its section has to be done, including the bottom leveling.

Protocol 4: After excavation work

The removal of the finding (human remains and objects) need time and accuracy.

The study of a grave is intending as a comprehensive study of the human and the objects, because they are strictly correlated.

The archeologist will prepare in advance the suitable container to place the different find, by the study of the collected graphic and photographic documentation, elaborated during the excavation work.

A list of finds found during the excavation, (with their temporary inventory number, as recorded in the drawn) has to be compiled, to be sure that all the objects are in place.

An on- site conservation laboratory is essential where for the cleaning, the consolidation and the study of delicate finds, often recovered in a grave.

Human remains have to be treated with respect and care: the presence of a physical anthropologist is strongly recommended, to analyze all the feature of the primary deposition, before the removal. The anthropologist will divide the bones according to the anatomic type, (i.e. right femoral, left femoral), and he/she will start anthropometric investigation in the laboratory.

According to the state of preservation of the bones, it is possible to determine age, sex, or stature. Paleopathology is to study disease ranging from malnutrition, arthritis and dental decay to the erosion of bone produced by leprosy or injuries and so on. The bone study could provide important information about particular environmental and dietary features that affected the population or affected particular gender and sector of that population.

Bone sampling is necessary for laboratory destructive analyses as C 14 dating, or DNA study.

Every artifact must be labeled, bagged or boxed, according to type of material, after documentation and if necessary conservation work has been completed: inventory, photo, drawn.

Human remain and artifacts could be show only if there are the right condition for their conservation, (temperature, no dust case window etc.), that can guarantee their preservation for further study when required.

The excavation of cemeteries should be never undertaken without the consulting of religious group or people, who consider themselves relative of a dead. Reburial of human remains has become an important issue in many part of the world. (Hubert 1989)

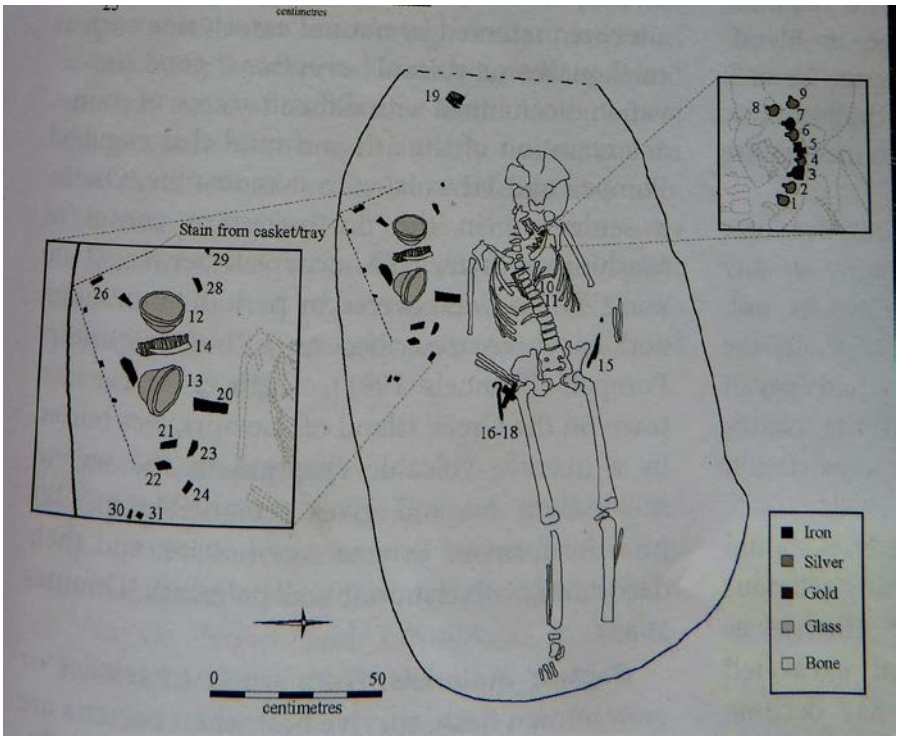


Fig.1 Sample of a drawn showing the graphic documentation of a grave

(Lucy, S. *et al*. (2009)

B. General characteristic of Urn Graveyard:

Peculiar aspect of Pyu culture is found in the funerary custom, aspect almost lost in other coeval South East Asia civilizations. Great importance has been given to keep the memory of passed away people, preserving their cremated bones, into pottery urns, sometime accompanied by personal items (beads, knife, bells).placed in a "collective" space, that it could be defined as graveyard. The graveyards have similar shape: a rectangular brick structure often oriented NS, surrounding one or two tiered brick enclosures.

The urns were placed on ground, and covered by soil. Two or three layers of overlying urns were found, of different types. Excavated graveyard showed a great variability of urn number: from ten to 1000.

Graveyards were placed in and out of the city wall, according probably to different historic phases. Sri Ksetra was the city preserving a broad number of graveyards among the Pyu cities, but despite a quite large number of archaeological investigation have been carried out since beginning of XX c. , it is still unclear the funerary custom (except for the cremation), unclear which social class benefit to be buried, still unclear the dating.

The occasion to re-habilitate graveyard HMA 53 (SK) and BTO 28 (Beitkhano), gave the possibility to carry on further archeological investigation and to build up a protocol as guideline for future research.

Cremation, definition: Burials where the body was cremated and the surviving fragments of bone were placed into an urn or other container. Cremated remains are less favorable for scientific studies, though in some instance sex, age, and pathological information can still be retrieved. Careful examination of all aspects of cremation sites can also produce information on the process involved that may have significant implications for understanding the individuals' place in society or rituals involved.

Protocol 1: Identification*: before the excavation of Urn Graveyard*

Desk-based assessment: Collation of existing written, graphic, photographic and electronic information, in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local or regional context, as appropriate.

There are numerous reports and pictures left by the archeologists during past researches and samples of urns scattered in different storeroom of the country. A useful job could be re-examine this documentation and fill the lack of information.

Re-check the dimension of the excavated graveyard and inventorying the material still not registered. Build a" graveyard pattern" by using also old data and recomposing the material found in every graveyard.

The urn graveyards have a similar dimension and on ground, have a shape of a shallow mound of 40x 20 m. Usually the graveyards are locate not far from the city wall,(walking distance) and pottery shreds ,and iron nail fragments are scattered on surface.

Before to open an excavation is necessary to plan which type of excavation and which kind of methodology is intending to apply. The plan is also concerning where is more convenient to start the excavation and on the base of which elements the decision has been taken.

For this reason before the excavation is necessary to well evaluate the characteristic of the site, carrying out a systematic field research and when possible the following investigations:

Geo-morphologic investigation of deposit characteristic understands the formation process of the site.

Geophysical prospecting where possible, it is the most suitable methods, such as, geomagnetic, geo-electric, geo-radar, to identify buried features, without disturbing or destroying the archaeological surface. The result of the prospecting will be a thematic map with the localization of the detected structures.

Bore drillings or trial pit to verify the results of geophysical prospecting and to evaluate the stratigraphic sequence of the anthropic deposit.

The prospecting investigation carried out in Pyu context, geophysical and core drillings, gave good results.

The graveyards are not very deep: to perform a trial pit to verify the type of remain of the mound, could be done in short time.

By documentation, ground survey and other non-intrusive methods, the archeologists could collect an acceptable bulk of data to plan a systematic campaign of excavation, and to put the area under protection.

Protocol 2: Excavation strategy for Urn Graveyard

Set up a large topographic grid of the area, including at least 20 m. of space from the mound. Other structures or annexed buildings could be close to the graveyard. In case of necessity, the grid will be very helpful.

An accurate surface survey, according to the grid, could give the possibility to locate possible cluster of material. (brick or pottery fragments) : if some, make a map of distribution and keep the material labeled in the laboratory.

Select a portion of the mound to start the excavation, according to the data resulted by previous core drilling or geophysical investigation.

The extensive excavation of the mound needs different campaigns of research: test excavation will provide to know:

1) Type of filling employed to close the graveyard. The graveyards were in fact closed or by soil mixed with brick fragments (HMA 53), or by fragile roofing sustained by poles (BTO 28),

2) Type of brick masonry and its state of preservation,

3) Type of urn (to establish a relative chronology)

4) Layers of urns deposition are present,

5) Depth of the archaeological deposit.

The excavation has to follow the stratigraphic trend: when rim or cover of pottery urn is found, clean only the upper part and check where are located the urns belonging to the layer.

Clean the urns until their bottom and no remove until a map with topographic reference of the position of the urns is accomplished. Label the urns on site, before removal and transfer the numeration of the drawn.

If the state of conservation of the material is critical, ask the assistance of the conservator to avoid loss of fragments.

After the documentation, the material can be removed, (see protocol of conservation on site)

Archaeological material found during the excavation, must be kept in basket with the label reporting the location of finding, the layer, the leveling and the date.

Clean again the area paying attention to the deposit between the first layer of urns and the second one. Each layer of urns must be mapped.

A foundation test has to be carried out along the brick enclosures: a test outer and a test inner the graveyard. The foundation test has to reach the natural subsoil: in this way it is possible to acquire information about the depth of the enclosure, about the building technique (sometime foundation and elevation showed different way of building), the preparation of the area performed by the ancient builder before the construction.

Documentation of the foundation test: (drawn of stratigraphy of the section, drawn of the masonry, topographic reference).

Re-fill the foundation test by using the same technique of the ancient builder: a proper refilling will preserve the foundation by water infiltration.

Documentation of the brick enclosure must carried out to compare different technique of building, to know precisely the state of conservation, in case is necessary to make a conservation intervention. Following card, summaries what to document:

Card 1: Sample of masonry card

Location: room, sector, trench, square …

Object:

Stratigraphic relationship;

Chronology: Generic chronology; specific chronology; period or stratigraphic phase; dating features

Technical data: Dimension; leveling; orientation; building material; state of conservation; modern restoration; old restoration

Description of the structure: Typology of the structure; building technique;

Building material: Binder material; masonry description; texture description; quarry or shop marks; sign of manufacturing; decorative elements visible; observations

Documentation: Photo; graphic documentation; comparative bibliography; date of registration; signature of responsible

Protocol 3: <u>After excavation work:</u>

On site

After the removal of the material recovered, a decision has to be taken about the brick structure .There are different options according to the state of preservation of the building, or about peculiar feature of the material found. The possible options are:

The graveyard was not showing relevant features and the masonry condition is in a very poor state of conservation: better to rebury the remains.

The graveyard has the enclosure well preserved and the masonry is maintained the original elevation: it is possible to carry on consolidation where necessary and leave open the site (covered by a simple shelter and with board showing the some pictures and map of the excavation)

The material found in the graveyard was of a very great historic interest and this graveyard is of a unique type: a plan of “on-site exhibition” could be considered.

Archaeological open- air museums are often concerning replica of pre/proto-historic periods, where the settlement are reconstructed on the archaeological evidences, as wood hut, farming area etc. and material exposed is mainly lithic.

Due the tropical environmental condition of Myanmar and due to the impossibility to made a heavy structure maintaining air condition day and night, a compromise could be to simply shelter the enclosure (after consolidation) , set up a good drainage system around the excavated to discharge the rainy water, and put good replica of the urns, placed according to the original map. Information board will fill and decorate the area, showing phases of the excavation.

In laboratory:

The urn has to be stored in the conservation laboratory

Each urn must be placed in a basket , together with its grave good (if any), a label indicating the inventory number given on site, the location ,the date, the SU.

Because most of the urn will be fragmented, and the cremated bones are by an original filling, the archaeologist and the conservator will remove the filling.

The filling will be analyzed by a micro-stratigraphy and then the soil that usually is very compact, has to be floated. Floatation allowed to recover the bone remains without damage and to recover beads often left among the bones.

The cremated bones, when dried will be selected, to find remain useful for anatomical study,(teeth, mandible etc.) or for C 14 analysis.

Documentation of all the phases concerning bone research has to be carried out.

The bone not useful for studies has to be packed, labeled and re-buried in a selected area of the graveyard.

When the conservation work of the urn is completed, the pottery go back to the inventorying room, where the archaeologist will make a more complete inventorying and cataloguing card. Drawn and pictures will be attached to the inventory card.

6.4 Protocols on conservation of artefacts associated with Pyu burial sites

1. **Procedural Outline**

GENERAL GUIDELINES FOR IMPLEMENTING THE CONSERVATION PROCESS

First Step: Site Survey before excavation to identify the possible issues

Generally speaking, the conservator goes on the site when the archaeologists discover some objects or human remains. The role of the conservator, in this instance, is to assist the archaeologist to uncover the finds without causing any damage to them.

In order to accomplish this task, the conservator needs first to understand the archaeological attribute under excavation, and its component parts (features and their constituent elements). In this the conservator is aided by the archaeologist(s) excavating the attribute.

Then, the conservator undertakes takes the following preliminary assessments before carrying out any intervention or treatment:

- **Identification of Material** (pottery, iron, bone…) and type (urn, nail, skeleton…)
- **Assessment of the Conservation Condition** of feature and elements
- **Cause(s) of Deterioration** (natural, anthropic…)

The observation of the situation of the attribute leads to the design of the most appropriate preservation and conservation measures.

Second Step: Treatment Procedure

(1) FOR THE OBJECT IN SITU:

(A) First Aid In-Situ (upon exposure through controlled excavation or otherwise):

I. Documentation (photo, form and drawing)
II. Pre-conservation /consolidation
III. Removal of artifact (bandaging, backing, lifting the block of soil)
IV. Packing for transportation

(B) In-Situ Consolidation and Exhibition (temporary or permanent):

I. Documentation photo ,form and drawing
II. Pre-conservation/ consolidation
III. Cleaning
IV. Bonding the fragments when possible
V. Superficial protection
VI. Consolidation of the exposed surfaces
VII. Consolidation of structural elements
VIII. Removal and packing for transportation (only in case of artifacts in a superficial layer, easy to lift without damaging the stratigraphy, that can be send to the lab for conservation) and replaced in situ
IX. Maintenance plan according to the condition of the attribute (monitoring)
X. Replacement by replica

(2) IN THE LABORATORY

I. Documentation form (linked to database),drawing and photo(before, during, after)
II. Analysis/identification of the content / constituent material (e.g. Alloy)
III. Cleaning : Chemical or mechanical
IV. Consolidation: Chemical or mechanical
V. Search of the joining fragments
VI. Bonding (we put a Primer on the edges if we used only UHU plus)
VII. Gaps filling
VIII. Superficial protection
IX. Packing for transportation to:
    - Museum
    - Storage (special container for long term storage)
    - Exhibition (condition report with drawing and photo)
      Remark: Special packing is needed in case of flight

(3) IN THE MUSEUM

I. Maintenance plan (monitoring the objects and the environment)
II. Stand and hang project
III. Display of replicas (originals of special objects to be kept in the steel safe or in a special room

2. Guidance Notes

Detailed Guidance For Conservation Measures To Be Carried Out at Pyu Burial Site

Detailed guidance for Conservation activities before excavation, applicable to burial attributes (inhumation graveyards, urn cemeteries of cremated human remains) at the Pyu Ancient Cities

Site Survey before excavation to identify the possible issues

Good excavation planning reduces the risk of the loss of data in case of unexpected situation. For this reason the archaeologist should consult with a conservator to work out methods and treatments appropriate for that particular site.

The main factors to be considered are:

1. **Soil condition**: kinds of minerals, their granulometry, PH, if it is sandy or clayey. Territory possible situations in Pyu context:
   - **(a) Open country side:** No particular issues. Excavation can be carried out according to the archaeological methodology
   - **(b) Country side with vegetation**

     In this case, there are two possible procedures: the removal of the tree, according to the stratigraphic condition, as, for example, the risk to remove also anthropic layers, or to damage archaeological material (masonry or objects).A second possibility is to inject, a biocide into the root and at the base of the trunk and to repeat this operation until the roots became dried. The archaeologist will evaluate if to remove the roots or to leave the dried roots in situ.
   - **(c) Insect nests: (i.e. termite)**

     Presence of insects in the field is showed by the nests, continuing in the ground with galleries. The area needs a clearance but it is not possible to use chemicals that could affect the results in cases of analysis. The archaeologist can fumigate the area and then remove mechanically the nest.
2. **Depth of deposits and the presence of groundwater. In this last case, if the water is:**
   - **(a) Above the attribute:** No excavation is possible
   - **(b) Below the attribute:** The excavation is possible but water pumps are required. In any case, the elements of the features must be removed and brought to the lab or to the storage, after being well documented.
3. **Local climatic conditions**: Temperatures and humidity in summer and in winter.

   The excavation must be planned in the best season (no rain, no too hot). In case of emergency excavation (i.e. graveyard found during the construction of a building or of a road) if the weather is not suitable, some precautions should be provided.

   Rain: Built up temporary shelter covered by plastic foil or other hydro-repellent material; provide water drainage. Do not leave the objects under the rain.

   Hot direct sunlight: The temperature range between the environment in the ground and the atmosphere causes a shock to the finds just uncovered. In fact, this is the first reason of their breakage, especially if they are dump or wet. To avoid the fast dehydration of the artifacts, the feature could be covered by tent or temporary shelters (bamboo walls, jute…). If not available, an emergency blanket with reflective surface can be used.

4. **Awareness of the <u>kinds of materials</u> that could be found (based on the previous experiences in Pyu contest). This information is important to plan the intervention on site.**
   Inorganic: Porous materials can absorb and release soluble salts in case of variations of HR%. Let them dry slowly. Metals are very unstable and tend to corrosion in presence of moisture and oxygen. If found wet, keep the metal wet. If dump, put in three polyethylene bags and cut a small corner of the bag to let it dry very slowly. If found dry, put an amount of silica gel in the box (not in contact with the metal) so that the HR% do not exceed 35%. Metals cannot be left in open air museum but only in a controlled environment.

   Terracotta (burial urns, bowl, beads…) — porous
   Stone (beads, rings…) — porous
   Iron artifacts (nails…) — metals
   Copper alloy (bronze) artifacts — metals
   Silver — metals
   Gold (metal stable in any condition) — metals

   Organic: If the environment is dry, the uncovering could cause cracks and breakage. If found wet/dump, an organic material should be kept in in the same condition, at low temperature (3°- 4°C) to avoid the growth of molds and brought to the laboratory to be dehydrated very slowly, until 50% HR is reached. Organic materials should be consolidated only if strictly necessary, and only if mineralized. They cannot be left in open air museum.

   Ivory
   Other organic materials (wood, vegetable strings…)
   Human bones
   Cremated human remains

<u>Detailed guidance for Conservation during archaeological excavation</u>

Treatment Procedures during the excavation based on the project done and the observation of the state of preservation of the attribute already excavated.

FOR THE OBJECTS IN SITE:

A. First Aid In Situ (upon exposure through controlled excavation or otherwise)

I. <u>Documentation</u> (photo, condition form and graphics)

The first operation is the documentation of the feature and the inventory of the elements uncovered. The documentation is comprehensive of photos (with the scale and the north indicator) and possibly the photogrammetry. In case of complex inhumation with presence of offering, a drawing 1:1 should be done in order to remove the bones and the artifacts without the loss of their position. The conservator starts to fill the conservation form with the collaboration of the archaeologist for the identification of the typology (see conservation form attached)

II. <u>Pre -consolidation</u>

For those materials in bad state, de-coheted or fragmentary, a pre-consolidation is needed. The use of chemicals affects the further analysis, so the conservator must follow the indications of the anthropologist or the scientist in charge of the analysis to pick up the samples before the consolidation. Do not exceed with the consolidation.

Different products (solved chemicals) are used depending on the situation: acrylic resin **Paraloid B72** (PB72) in acetone or polyvinyl butyrral resin **Mowital B60HH** (MWB60HH) in ethanol, low and increasing percentage (from 1.5% to 3%).

The choice of the consolidate resin and of the solvent depends mostly on the environment. In fact, if the temperature is high, it is better to choose a less volatile solvent (ethanol).

In presence of wet or dump objects, it is not possible to use these consolidate, but the conservator can use an hydroxypropylcellulose **Klucel G** in a solution of deionized water/ethanol (70 and 30). The consolidation can be applied by dropping with a syringe.

III. Removal of artifact

Once documented, the elements can be lifted from the original position. There are mainly three methods:

- **Bandaging** – consists in wrapping the object, usually the urns, if cracked but with the fragments still in their position, with plastic film or gauzes
- **Backing** – when the object is broken and the fragments are not more in the original position, or in case of broken flat metals mostly mineralized. It consists in the application of Japanese paper already glued with PB72 or MWB60 (10%-20%) or thin gauzes glued by brush, over the fragments to avoid their dispersion during the recovery. Then a rigid support is inserted below.
- **Lifting the block of soil –** this method is used to recovery more complex features, such as entire inhumation with the bones and offering, or to hold a mass of indefinable material. It destroys the stratigraphy, so this operation should be carried on in the presence of the archaeologist.

  Depending on the size of the element (or feature), the conservator can use different methods:

- If the surrounding soil is cohesive, like a clayey soil or a wet soil, lifting can be done by isolating a block of soil containing the object. Then surround the block with a wooden frame and slowly undercut the block and, when free, slide it onto a rigid support. Take it in a short time to a conservator because a clayey soil cracks when is dry. If it is no possible to construct a wooden frame, you can use a bandage with “plaster of Paris”, (calcined gypsium).
- When the surrounding soil is not cohesive, like a sandy soil, leave the object on a base of ground and cover the object with a plastic film or with aluminum foil. Then pose a wooden frame around the object and cover it with plaster of Paris, filling the surrounding space too. When the plaster has set, place a grid of thin wooden strip and prepare other plaster. Cover this grid with a new layer of plaster. When it is dry, cut the pedestal and invert the block.
- When you want lift a large object avoiding the use of too much heavy plaster of Paris. Polyurethane foam, being both rigid and lightweight is a good material. Polyurethane foam, being both rigid and light-weight can be

used for this purpose. It is however a very dangerous material and it should be used wearing a mask for organic vapors.

- Remove the surrounding dirt, leave the object on the pedestal of soil, and cover the object with a layer of plastic film followed by a layer of aluminum foil. Wrap the block tightly with long strips of plaster bandage.
- Cover the object with one or more plastic film. When joining two pieces or two layers of plastic film, be careful to fold the joining edges over together and use masking tape. Make very sure that there are no holes in the plastic where the foam could get through to the object.
- Construct a wooden frame leaving a generous (10-15 cm) margin around it.
- Prepare the foam following the mixing instructions.
- As soon as the foaming begins, work quickly because the mixture will seem to explode into foam. Depending on the ambient temperature, it will take approximately 15 minutes for the foam to cure after the initial foaming begins. Polyurethane foam does not work well in cool temperature and will not foam at all below 10 °C.
- As cured, the foam can be cut following the procedure described above.

IV. Packing for transportation

- Only inert materials should be in contact with the finds, i.e. acid free paper for the metals and polyethylene bags, bubble pack or foam.
- The small objects should be put in polyethylene zip lock bags or bags for freezing the food. Then, the bag should lay on a soft cushion on a rigid support or box and positioned in bigger plastic container so that they do not hurt each other's. The urns, possibly wrapped, can be put in bigger bags and kept in containers, separated by soft, shock-absorbing cushions.
- If the objects are wet, they must be kept wet, using three bags instead of one to avoid the dehydration.
- If not possible to find proper packing materials, other materials can be used only for the transportation and not for the storage. Cotton wool for its fibers should never coming in direct contact with extremely fragile or flaking surfaces, but it is possible to use plastic film as separator.

B. Conservation in open air exhibition site (Site Museum)

I. Documentation: photo, condition form and graphics (see above)

II. Pre- consolidation (see above)

III. Superficial cleaning:

Use tools like soft brushes, bamboo sticks, and dental probe. In case of pottery in good state is it possible to use a dump sponge. Do not wet the metals.

IV. Bond the fragments when possible, and only when the object is dry, with PB72 15-25% in acetone or MW B60HH 15%-25% in ethanol

V. Superficial protection of the dry pottery with PB72 or MW B60HH 2% applied by brush

VI. Consolidation of the exposed surfaces: it is possible to use an acrylic – water solution or vinyl - water solution in low percentage to fix the soil and prevent the dispersion of dust. Avoid the formation of film on the surface! It requires a planned maintenance
VII. Consolidation of structural elements
VIII. Eventually removal and packing for transportation (only in case of artifacts in a superficial layer, easy to lift without damaging the stratigraphy, that can be send to the lab for conservation) and replacement in situ after the restoration
IX. Eventually replica (entire feature, objects only, selected objects)
X. maintenance plan according to the condition of the attribute (i.e. monitoring once a month)

Detailed guidance for Conservation in the laboratory

A well-equipped laboratory should provide for the presence of instrumentation useful to treat various materials and especially to the study of all those information that with a wrong treatment can be lost.
For example, a too pushed cleaning can cancel delicate decorations on a vase, or traces of use of an object. General operations carried on by the conservator are:

I. Documentation form (linked to database) , graphics and photo (before, during, after)
II. Analysis/identification of the content / constituent material (e.g. Alloy). The content of the urns should be removed by a stratigraphic micro-excavation after some specific samples are taken for the analysis. After that, it can be submitted to flotation to find small objects.
III. Cleaning: chemical (water, ethanol, acetone or mixtures) or mechanical (by tools like brushes, bamboo sticks, dental probe, micro-drill with different tips…)
IV. Consolidation of the clay body of the urn or of the metal (MWB60HH or PB72)
V. Stabilization of the corrosion of metals (iron: use acid tannic 5% in water and ethanol; bronze :use Cysteine 3% in Ethanol)
VI. Search of the joining fragments before gluing
VII. Bonding (Pottery and organic materials: with PB72 or MWB60HH 20-25% or in case of big heavy pottery with epoxy resin UHU PLUS 12h previous application of a layer of primer on the edges; metal: UHU PLUS 12h or UHU 5')
VIII. Gaps filling to reinforce the structure (pottery: dental gypsum+ plaster of Paris added with pigments or colored by watercolors or acrylics; metals: UHU PLUS 12h or UHU 5', added with pigments; organic materials: plaster of paris colored by pigments or watercolors/acrylics)
IX. Superficial protection (PB72 or MWB60HH low percentage). Avoid the creation of a film on the surface.
X. Packing for transportation to:
    - Museum
    - Storage (special container for long term storage: use only inert materials like acid free paper, polyethylene bags, bubble foil, or foam)

- Exhibition (fill a condition report with drawing and photo to check the state of conservation before and after the exhibition)

Remark: special packing is needed in case of flight because of low temperature reached in the stiva. Fragile materials shouldn't be moved.

Detailed Guidance for Conservation during storage and on exhibition

A. In-Situ Consolidation and Exhibition (temporary or permanent)

XI. Documentation: photo, condition form and graphics (see above)

XII. Pre- consolidation (see above)

XIII. Superficial cleaning:

Use tools like soft brushes, bamboo sticks, and dental probe. In case of pottery in good state is it possible to use a dump sponge. Do not wet the metals.

XIV. Bond the fragments when possible, and only when the object is dry, with PB72 15-25% in acetone or MW B60HH 15%-25% in ethanol

XV. Superficial protection of the dry pottery with PB72 or MW B60HH 2% applied by brush

XVI. Consolidation of the exposed surfaces: it is possible to use an acrylic – water solution or vinyl - water solution in low percentage to fix the soil and prevent the dispersion of dust. Avoid the formation of film on the surface! It requires a planned maintenance

XVII. Consolidation of structural elements

XVIII. Eventually removal and packing for transportation (only in case of artifacts in a superficial layer, easy to lift without damaging the stratigraphy, that can be send to the lab for conservation) and replacement in situ after the restoration

XIX. Eventually replica (entire feature, objects only, selected objects)

XX. maintenance plan according to the condition of the attribute (i.e. monitoring once a month)

B. In Laboratory

A well-equipped laboratory should provide for the presence of instrumentation useful to treat various materials and especially to the study of all those information that with a wrong treatment can be lost.

For example, a too pushed cleaning can cancel delicate decorations on a vase, or traces of use of an object. General operations carried on by the conservator are:

XI. Documentation form (linked to database) , graphics and photo (before, during, after)

XII. Analysis/identification of the content / constituent material (e.g. Alloy). The content of the urns should be removed by a stratigraphic micro-excavation after some specific samples are taken for the analysis. After that, it can be submitted to flotation to find small objects.

XIII. Cleaning: chemical (water, ethanol, acetone or mixtures) or mechanical (by tools like brushes, bamboo sticks, dental probe, micro-drill with different tips…)

XIV. Consolidation of the clay body of the urn or of the metal (MWB60HH or PB72)

XV. Stabilization of the corrosion of metals (iron: use acid tannic 5% in water and ethanol; bronze :use Cysteine 3% in Ethanol)

XVI. Search of the joining fragments before gluing

XVII. Bonding (Pottery and organic materials: with PB72 or MWB60HH 20-25% or in case of big heavy pottery with epoxy resin UHU PLUS 12h previous application of a layer of primer on the edges; metal: UHU PLUS 12h or UHU 5')

XVIII. Gaps filling to reinforce the structure (pottery: dental gypsum+ plaster of Paris added with pigments or colored by watercolors or acrylics; metals: UHU PLUS 12h or UHU 5', added with pigments; organic materials: plaster of paris colored by pigments or watercolors/acrylics)

XIX. Superficial protection (PB72 or MWB60HH low percentage). Avoid the creation of a film on the surface.

XX. Packing for transportation to:

- Museum
- Storage (special container for long term storage: use only inert materials like acid free paper, polyethylene bags, bubble foil, or foam)
- Exhibition (fill a condition report with drawing and photo to check the state of conservation before and after the exhibition)

Remark: special packing is needed in case of flight because of low temperature reached in the stiva. Fragile materials shouldn't be moved.

7. Overall recommendations and planned actions for conservation of Pyu Ancient Cities Burial Sites

Department of Archaeology and National Museum (DANM) has been implementing the management objective No. 5 **"To ensure protection and preservation of remains that are uncovered through archaeological excavation"** as mentioned in Property Management Plan. Through cooperation with Lerici Foundation, Polytechnic of Milano, Italy, and DANM, the on-job training of staffs from Division of World Heritage Sites and Field School of Archaeology (Pyay) has been organized and one Conservation Laboratory of Sri Ksetra and two First Aid Stations in Halin and Beikthano have been established respectively in 2014-2015.

There is an moratorium on future excavations of the burial sites for 2016-17 and 2017-18 fiscal years, except a pilot application of and training in the use of the protocols at a selected site during 2016-2017 field seasons, to firstly focus on consolidating, documenting, conserving and interpreting previously-excavated sites until such time as conservation of the already exposed sites is complete AND a comprehensive, long-term research strategy to investigate scientifically Pyu era burials has been drawn up, timetabled, and budgeted. Preferably, moratorium on excavations of the burial sites would be until conservation of already excavated burials is completed. Even after that, first priority would be conservation but would not be new excavation/exploration.

In 2015-2016, there is collaboration between DANM and Lerici Foundation to carry out the **"Project of Geo-Prospecting or Non-invasive Surveying the Mounds in Halin and Sri Ksetra".** Recently, there are surveying the some archaeological mounds at Sri Ksetra and Beikthano on November-December 2015 and Halin on January 2016) with the help of Non-invasive Surveying Technique. As result of one potential mound in Sri Ksetra, it will be conducted in 2016-2017. That project has been collaborated with staffs from Division of World Heritage Sites, Field School of Archaeology (Pyay) and researchers from Lerici Foundation.

Timetable of Geo-prospecting or Non-invasive Survey of Potential Archaeological Mounds in Pyu Ancient Cities

No	Site	Period	Expert	Institution	Staffs	Demonstrative Area
1	Halin	January' 2016	Mauro Cucarzi Patrizia Zolese	Lerici Foundation Lerici Foundation	HL3 FSA4	Around Palace Site Around Palace Site
2	Beikthano	December' 2015	Mauro Cucarzi Patrizia Zolese	Lerici Foundation Lerici Foundation	BK3 FSA4	Surrounding of KKG 2,3,4
3.	Sri Ksetra	November-December 2015	Mauro Cucarzi Patrizia Zolese	Lerici Foundation Lerici Foundation	SK3 FSA4	South and east of Sri Ksetra

The DAML already has adopted in the form of notification No. 23/2015 the various protocols/guidelines contained in this report.

Detailed plan of such activities will be prepared an implemented during the Phase III.

No.	CONSERVATION MEASURE OF BURIAL ATTRIBUTE				
	PRE-EXCAVATION	DURING EXCAVATION	POST EXCAVATION		
	Site Survey	First Aid In-Situ	In-Situ Consolidation and Exhibition	In Laboratory	On display nn Museum
I.	Identification of Material (pottery, iron, bone…) and type (urn, nail, skeleton…)	Documentation (Photo, form& drawing)	Documentation (Photo, form& drawing)	Documentation form (linked to database), drawing and photo (before, during, after)	Maintenance plan (Monitoring the objects and the environment)
II.	Assessment of the Conservation Condition of feature and elements	Pre-conservation /consolidation	Pre-conservation / consolidation	Analysis/ identification of the content/ constituent material (e.g. Alloy)	Stand and hang project
III.	Cause(s) of Deterioration (natural, anthropic…)	Removal of artifact (bandaging, backing, lifting the block of soil)	Cleaning	Cleaning: Chemical or mechanical	Replica of special object to be kept in the steel safe or in a special room
IV.		IV. Packing for transportation	Bonding the fragments	Consolidation: Chemical or mechanical	
V.			Superficial protection	Search of the joining fragments	
VI.			Consolidation of the exposed surfaces	Bonding (We put a Primer on the edges if we used only UHU plus)	
VII.			Consolidation of structural elements	Gaps filling	
VIII.			Removal and packing for transportation (only in case of artifact in superficial layer, easy to lift without damaging the stratigraphy, that can be sent to the lab for conservation) and replaced in situ.	Superficial protection	
IX.			Eventually replica (entire feature, objects only, selected objects)	Packing for transportation to: - Museum - Storage (Special container for	

				long term storage) - Exhibition (Condition report with drawing and photo) Remark: Special packing is needed in case of flight	
X.			Maintenance plan according to the condition of the attribute (monitoring)		

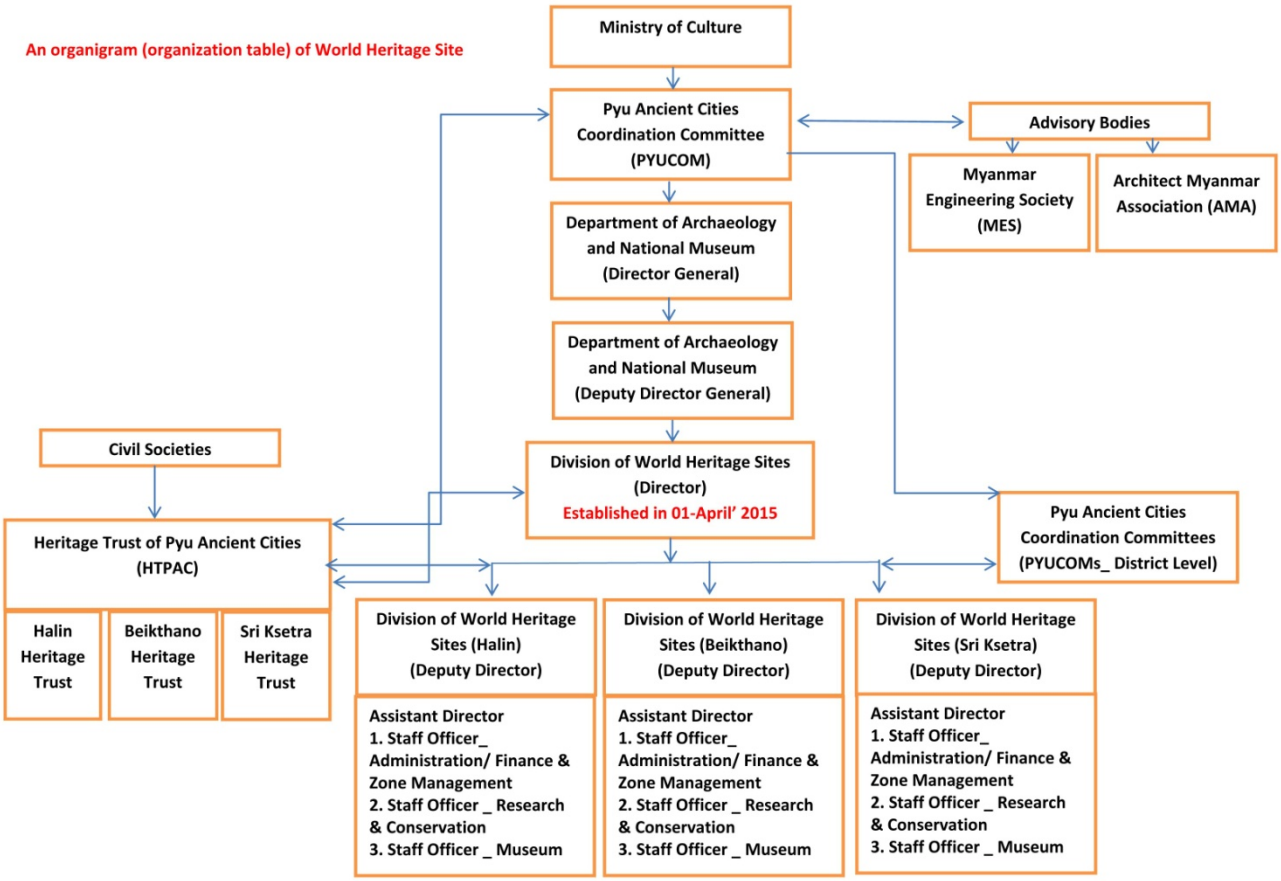
8. Institutional Capacity To Carry Out Protocols

8.1 Internal Department of Archaeology and National Museum Staff Expertise

Diagram below shows DANM's newly appointed staff in charge of specific tasks on archaeology, conservation laboratory and first aid stations and international cooperation.

8.2 Mapping of National and International Partner Institutions

External collaborations (with Association of Myanmar Architects, Myanmar Engineering Society, Heritage Trustse seen through an organigram (organization table).



8.3 Upgraded site management facilities

After inscribed the world heritage lists in Pyu Ancient Cities, there has implemented by National Level, Ministerial interventions and departmental concerned. Moreover, Ministry of Culture has been approved the collaboration with national and international organizations and institutions for strengthening the Research and Conservation Work in heritage of Pyu Ancient Cities. PYUCON and DANM have performed the following actions:-

1. Formed the Committee of Management for Three Pyu Ancient Cities
   (Lead by Vice President and formed into (8) Sub-committees lead by Minister, Vice Minister and Director General with respective Ministries; Included by Minister of Culture_ One of Sub-committee of Monitoring and Supervision which committee was led by Minister (Chairman) and conducted by Vice Minister (Secretary)).
2. Sub-committee of Research (Vice Minister of Ministry of Science and technology) and Conservation (Vice Minister of Ministry of Culture) have been outlined the research items and priorities conservation measures in Pyu Ancient Cities
3. Collaborated with Lerici Foundation, Italy for upstream process in research and conservation work at Pyu burial sites (Funded by Lerici Foundation; Funds-in-Trust with Lerici and DANM)
4. Established the Conservation Laboratory and First-Aid Station in Pyu Ancient Cities
5. Established the Non-profit organization of Heritage Trust of Pyu Ancient Cities
6. Set up the Division of World Heritage Sites (It is new Division where locates in Sri Ksetra Pyu Ancient City of Department of Archaeology and National Museum. It is leading with Director)
7. Collaborated with Department of Rural Development, Ministry of Breeding, Fishery and Rural Development for local communities development (Supported to Budget Inline, Advised to Basic Need in Local Communities, Necessary Infrastructure)

Annex. I

CONSERVATION LABORATORY REGULATION: Practical recommendation for daily use and maintenance

The laboratory is the place where to carry on activities concerning conservation and archaeological material studies. The laboratory is composed by 3 sectors:

1. Inventorying room
2. Conservation and restoration room
3. Documentation and scientific room

Furthermore, the lab is provided by equipment storage room and an archaeological material storeroom.

The lab responsible has **an office**, where to work, where to keep reference books and register of the daily conservator's activity and to edit reports.

1. INVENTORYING ROOM: In this room, archaeologists work on the material found during excavation or ground survey, after cleaning and sorting .Material has to be labeled (location, date, trench, layers etc...), and kept in basket. Findings selected to be inventoried, are under the responsibility of the chief of the excavation. These findings are registered in the INVENTORY REGISTER according to following the format already delivered during the training course. The format is similar to the **"Management data base** "cards of inventory. Graphic and photographic documentation are completing the cards.

   Material needs conservation intervention is delivered to the conservation responsible. After conservation the material go back to inventorying room for furthermore description and the stored in the general storeroom (out from the laboratory building) or in the museum store room.

   The inventorying room has to be provided by the "Register of presence", recording the name, date and hour of person in and out from the room, and their signature, to guarantee the safety of the material stored.

   The register is kept by the responsible of the inventorying room

1. CONSERVATION ROOM: the staff of the conservation room is responsible of equipment, chemical material and all the furniture of the laboratory.

   The lab rooms have to be maintained clean and in order to avoid dangerous contamination, as dust or chemical smell, or firing. Trash flammable material (paper, cotton, etc…) must be removed from litter basket before the closing of the lab. The conservator has the possibility to refuse material not properly labeled or not properly washed. The conservator has to remove fragile material found during the exaction to do not compromise its integrity. A kit for emergency removal has to be always ready. After the conservation the conservator has to fill a report, describing the intervention made. (type of glue, chemical products etc..), with pictures illustrating the material before and after the restoration. Dangerous and chemical products have to be preserved in a safety cabinet, and tools and equipment have to be maintained clean. The

conservator is also responsible of the safety of the archaeological material: a register with the signature and the date of the delivery and of the withdrawal of the objects is strongly recommended.

2. DOCUMENTATION AND SCIENTIFIC ROOM: in this room are placed delicate equipment as camera, computer, and microscope. This area is devoted to take picture of the objects and other material significant for the inventorying and for the research as well as organic material found in excavation. (human or animal bone, wood, seeds etc.).

   Room has to be kept very clean and equipment protected from dust, after their use. Authorized personnel can use the equipment under supervision of the lab responsible.

3. EQUIPMENT STOREROOM: Here is kept stationary, tracing paper, plastic bags of different size, plastic baskets to put the objects etc. Topographic equipment, (level, total station) trowels, sieves and others and equipment can be used only by the local staff. Register of equipment is recommended.
4. ARCHAEOLOGICAL MATERIAL STOREROOM: The material inventoried and restored, is kept temporary in the storeroom. Manager or other authorized persons has to decide the final destination of the objects (Museum, or external store room).

The laboratory has to be very clean: before the closing, each person working in the lab has to leave equipment and material, safe and clean. Trained cleaners at least 3 time a week, has to clean furniture, floor, shelves. The cleaners are under the lab responsible control.

(2) CONSERVATION ACTIVITY IN THE MUSEUM

I. Maintenance plan (monitoring the objects and the environment)
II. Stand and hang project Showcase outfitting compatible to the displayed objects,
III. Replica of special object to be kept in the steel safe or in a special room

Annex. II

3. Record of training and capacity building activities, related to the identification, excavation and conservation of burial attributes, undertaken since nomination and inscription of the Pyu Ancient Cities on the World Heritage List_ Number of Trainings

Number of Training: Step-1: Conservation Survey Before Excavation (2014)

1. (25-06-2014 to 02-07-2014)

No.	Name	Designation	Department	Remark
1	U Kyaw Khaing	Lecturer	Field School of Archeology (Pyay)	Soil Condition
2	U Tun Tun Aye	Research-Officer	Division of World Heritage Site (Sri Ksetra)	Soil Condition
3	U Lin Tun Kyi	Research-Assistant	Division of World Heritage Site (Beikthano)	Soil Condition
4	U Phyo Pyae Ko Ko	Research-Assistant	Division of World Heritage Site (Beikthano)	Soil Condition
5	U Ye Myat Lwin	Research-Assistant	Division of World Heritage Site (Halin)	Soil Condition
6	U Kyi Linn	Research-Officer	Division of World Heritage Site (Halin)	Soil Condition
7	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Soil Condition
8	Daw Zin New Han	Research-Officer	Division of World Heritage Site (Beikthano)	Soil Condition
9	U Min Thein Zan	Research-Assistant	Division of World Heritage Site (Sri Ksetra)	Soil Condition

2. (23-04-2015 to 30-07-2015 & 01-05-2015 to 07-05-2015)

No.	Name	Designation	Department	Remark
1	U Lin Tun Kyi	Lecturer	Field School of Archeology (Pyay)	Archaeological Environment
2	U Ye Myat win	Research-Officer	Division of World Heritage Site (Sri Ksetra)	Archaeological Environment
3	U Min Oo	Research-Assistant	Division of World Heritage Site (Beikthano)	Archaeological Environment: Now, Promoted to be Research-Officer
4	U Phyo Pyae Ko Ko	Research-Assistant	Division of World Heritage Site (Beikthano)	Archaeological Environment: Now, Promoted to be Research-Officer

Number of Training: Step-2: Excavation and Conservation During Excavation

1. (25-06-2014 to 02-07-2014)

No.	Name	Designation	Department	Remark
1	U Kyaw Khaing	Lecturer	Field School of Archeology (Pyay)	Stratigraphic Excavation
2	U Tun Tun Aye	Research-Officer	Division of World Heritage Site (Sri Ksetra)	Stratigraphic Excavation
3	U Lin Tun Kyi	Research-Assistant	Division of World Heritage Site (Beikthano)	Stratigraphic Excavation
4	U Phyo Pyae Ko Ko	Research-Assistant	Division of World Heritage Site (Beikthano)	Stratigraphic Excavation
5	U Ye Myat Lwin	Research-Assistant	Division of World Heritage Site (Halin)	Stratigraphic Excavation
6	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Stratigraphic Excavation
7	U Min Thein Zan	Research-Assistant	Division of World Heritage Site (Sri Ksetra)	Stratigraphic Excavation

2. (23-04-2015 to 30-04-2015)

No.	Name	Designation	Department	Remark
1	U Kyaw Khaing	Lecturer	Field School of Archeology (Pyay)	Stratigraphic Excavation
2	U Tun Tun Aye	Research-Officer	Division of World Heritage Site (Sri Ksetra)	Stratigraphic Excavation
3	U Lin Tun Kyi	Research-Assistant	Division of World Heritage Site (Beikthano)	Stratigraphic Excavation
4	U Phyo Pyae Ko Ko	Research-Assistant	Division of World Heritage Site (Beikthano)	Stratigraphic Excavation
5	U Ye Myat Lwin	Research-Assistant	Division of World Heritage Site (Halin)	Stratigraphic Excavation
6	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Stratigraphic Excavation
7	U Min Thein Zan	Research-Assistant	Division of World Heritage Site (Sri Ksetra)	Stratigraphic Excavation

3. (01-05-2015 to 07-05-2015)

No.	Name	Designation	Department	Remark
1	U Kyaw Khaing	Lecturer	Field School of Archeology (Pyay)	Stratigraphic Excavation
2	U Tun Tun Aye	Research-Officer	Division of World Heritage Site (Sri Ksetra)	Stratigraphic Excavation
3	U Lin Tun Kyi	Research-Assistant	Division of World Heritage Site (Beikthano)	Stratigraphic Excavation
4	U Phyo Pyae Ko Ko	Research-Assistant	Division of World Heritage Site (Beikthano)	Stratigraphic Excavation

5	U Ye Myat Lwin	Research-Assistant	Division of World Heritage Site (Halin)	Stratigraphic Excavation
6	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Stratigraphic Excavation
7	U Min Thein Zan	Research-Assistant	Division of World Heritage Site (Sri Ksetra)	Stratigraphic Excavation

4. (28-04-2015 to 31-05-2015)

No.	Name	Designation	Department	Remark
1	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Object In Situ
2	Daw Thwet Thwet Aye	Tutor	Field School of Archeology (Pyay)	Object In Situ
3	U Lin Tun Kyi	Research-Assistant	Division of World Heritage Site (Beikthano)	Object In Situ
4	U Min Oo	Research-Assistant	Division of World Heritage Site (Sri Ksetra)	Object In Situ
5	U Ye Myat Lwin	Research-Assistant	Division of World Heritage Site (Halin)	Object In Situ
6	U Ko Ko Phoe La Min	Research-Assistant	Division of World Heritage Site (Sri Ksetra)	Object In Situ

5. (06-07-2015 to 08-07-2015) : Beikthano Pyu Ancient City

No.	Name	Designation	Department	Remark
1	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Object In Situ
2	Daw Thwet Thwet Aye	Tutor	Field School of Archeology (Pyay)	Object In Situ
3	Daw Hay Mar Min	Tutor	Field School of Archeology (Pyay)	Object In Situ
4	Daw Zin New Han	Research-Officer	Division of World Heritage Site (Beikthano)	Object In Situ
5	Daw Hla Khin Mu Aung	Research-Assistant	Division of World Heritage Site (Beikthano))	Object In Situ
6	Daw Khin Thu Zar Aung	Research-Assistant	Division of World Heritage Site (Beikthano)	Object In Situ
7	Daw Mu Mu Hla	Research-Assistant	Division of World Heritage Site (Beikthano)	Object In Situ
8	Daw Su Myut Mon	Research-Assistant	Division of World Heritage Site (Beikthano)	Object In Situ
9	Daw Su Mon Lwin	Research-Assistant	Division of World Heritage Site (Beikthano)	Object In Situ
10	Daw Ei Phyo Wai	Volunter	Division of World Heritage Site (Beikthano)	Object In Situ

6. (10-07-2015 to 13-07-2015) : Halin Pyu Ancient City

No.	Name	Designation	Department	Remark
1	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Object In Situ
2	Daw Thwet Thwet Aye	Tutor	Field School of Archeology (Pyay)	Object In Situ
3	Daw Hay Mar Min	Tutor	Field School of Archeology (Pyay)	Object In Situ
4	Daw San San Pyone	Research-Officer	Division of World Heritage Site (Halin)	Object In Situ
5	Daw Htet Htet Wai	Research-Assistant	Division of World Heritage Site (Halin)	Object In Situ
6	Daw Mya Mya Nwe	Research-Assistant	Division of World Heritage Site (Halin)	Object In Situ
7	Daw Khin Thida Lin	Research-Assistant	Division of World Heritage Site (Halin)	Object In Situ
8	Daw Malar Oo	Research-Assistant	Division of World Heritage Site (Halin)	Object In Situ
9	Daw Mar Mar San	Research-Assistant	Division of World Heritage Site (Halin)	Object In Situ
10	U Phyo Wai Aung		Division of World Heritage Site (Halin)	Object In Situ
11	U Zin Myo Aung		Division of World Heritage Site (Halin)	Object In Situ
12	U Kyaw Htet Zaw		Division of World Heritage Site (Halin)	Object In Situ
13	Daw Nawe Yin Win		Division of World Heritage Site (Halin)	Object In Situ
14	Daw Htet Htet Win		Division of World Heritage Site (Halin)	Object In Situ

7. (25-03-2015 to 31-05-2015)

No.	Name	Designation	Department	Remark
1	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Open Air Exhibition
2	Daw Thwet Thwet Aye	Tutor	Field School of Archeology (Pyay)	Open Air Exhibition
3	U Lin Tun Kyi	Research-Assistant	Division of World Heritage Site (Beikthano)	Open Air Exhibition
4	U Min Oo	Research-Assistant	Division of World Heritage Site (Sri Ksetra)	Open Air Exhibition
5	U Ye Myat Lwin	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition
6	U Ko Ko Phoe La Min	Research-Assistant	Division of World Heritage Site (Sri Ksetra)	Open Air Exhibition

8. (06-07-2015 to 08-07-2015) : Beikthano Pyu Ancient City

No.	Name	Designation	Department	Remark
1	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Open Air Exhibition
2	Daw Thwet Thwet Aye	Tutor	Field School of Archeology (Pyay)	Open Air Exhibition
3	Daw Hay Mar Min	Tutor	Field School of Archeology (Pyay)	Open Air Exhibition
4	Daw Zin New Han	Research-Officer	Division of World Heritage Site (Beikthano)	Open Air Exhibition
5	Daw Hla Khin Mu Aung	Research-Assistant	Division of World Heritage Site (Beikthano))	Open Air Exhibition
6	Daw Khin Thu Zar Aung	Research-Assistant	Division of World Heritage Site (Beikthano)	Open Air Exhibition
7	Daw Mu Mu Hla	Research-Assistant	Division of World Heritage Site (Beikthano)	Open Air Exhibition
8	Daw Su Myut Mon	Research-Assistant	Division of World Heritage Site (Beikthano)	Open Air Exhibition
9	Daw Su Mon Lwin	Research-Assistant	Division of World Heritage Site (Beikthano)	Open Air Exhibition
10	Daw Ei Phyo Wai	Volunter	Division of World Heritage Site (Beikthano)	Open Air Exhibition

9. (10-07-2015 to 13-07-2015) : Halin Pyu Ancient City

No.	Name	Designation	Department	Remark
1	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Open Air Exhibition
2	Daw Thwet Thwet Aye	Tutor	Field School of Archeology (Pyay)	Open Air Exhibition
3	Daw Hay Mar Min	Tutor	Field School of Archeology (Pyay)	Open Air Exhibition
4	Daw San San Pyone	Research-Officer	Division of World Heritage Site (Halin)	Open Air Exhibition
5	Daw Htet Htet Wai	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition
6	Daw Mya Mya Nwe	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition
7	Daw Khin Thida Lin	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition
8	Daw Malar Oo	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition
9	Daw Mar Mar San	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition
10	U Phyo Wai Aung	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition
11	U Zin Myo Aung	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition

12	U Kyaw Htet Zaw	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition
13	Daw Nawe Yin Win	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition
14	Daw Htet Htet Win	Research-Assistant	Division of World Heritage Site (Halin)	Open Air Exhibition

Number of Training: Step-3: Laboratory Activities

1. (28-04-2015 to 31-05-2015)

No.	Name	Designation	Department	Remark
1	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Laboratory
2	UMin Oo	Research Assistant	Division of World Heritage Site (Sri Ksetra)	Laboratory
3	Daw Thwet Thwet Aye	Tutor	Field School of Archeology (Pyay)	Laboratory
4	U Ye Myat Lwin	Research-Assistant	Division of World Heritage Site (Beikthano)	Laboratory
5	U Min Thein Zan	Research-Assistant	Division of World Heritage Site (Sri Ksetra)	Laboratory
6	U Ko Ko Phoe La Min	Research-Assistant	Division of World Heritage Site (Sri Ksetra)	Laboratory

2 (06-07-2015 to 08-07-2015) : Beikthano Pyu Ancient City

No.	Name	Designation	Department	Remark
1	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Laboratory
2	Daw Thwet Thwet Aye	Tutor	Field School of Archeology (Pyay)	Laboratory
3	Daw Hay Mar Min	Tutor	Field School of Archeology (Pyay)	Laboratory
4	Daw Zin New Han	Research-Officer	Division of World Heritage Site (Beikthano)	Laboratory
5	Daw Hla Khin Mu Aung	Research-Assistant	Division of World Heritage Site (Beikthano))	Laboratory
6	Daw Khin Thu Zar Aung	Research-Assistant	Division of World Heritage Site (Beikthano)	Laboratory
7	Daw Mu Mu Hla	Research-Assistant	Division of World Heritage Site (Beikthano)	Laboratory
8	Daw Su Myut Mon	Research-Assistant	Division of World Heritage Site (Beikthano)	Laboratory
9	Daw Su Mon Lwin	Research-Assistant	Division of World Heritage Site (Beikthano)	Laboratory
10	Daw Ei Phyo Wai	Volunter	Division of World Heritage Site (Beikthano)	Laboratory

1. (10-07-2015 to 13-07-2015) : Halin Pyu Ancient City

No.	Name	Designation	Department	Remark
1	Daw Khin Myint Myint Htwe	Assistant Lecturer	Field School of Archeology (Pyay)	Laboratory
2	Daw Thwet Thwet Aye	Tutor	Field School of Archeology (Pyay)	Laboratory
3	Daw Hay Mar Min	Tutor	Field School of Archeology (Pyay)	Laboratory
4	Daw San San Pyone	Research-Officer	Division of World Heritage Site (Halin)	Laboratory
5	Daw Htet Htet Wai	Research-Assistant	Division of World Heritage Site (Halin)	Laboratory
6	Daw Mya Mya Nwe	Research-Assistant	Division of World Heritage Site (Halin)	Laboratory
7	Daw Khin Thida Lin	Research-Assistant	Division of World Heritage Site (Halin)	Laboratory
8	Daw Malar Oo	Research-Assistant	Division of World Heritage Site (Halin)	Laboratory
9	Daw Mar Mar San	Research-Assistant	Division of World Heritage Site (Halin)	Laboratory
10	U Phyo Wai Aung	Research-Assistant	Division of World Heritage Site (Halin)	Laboratory
11	U Zin Myo Aung	Research-Assistant	Division of World Heritage Site (Halin)	Laboratory
12	U Kyaw Htet Zaw	Research-Assistant	Division of World Heritage Site (Halin)	Laboratory
13	Daw Nawe Yin Win	Research-Assistant	Division of World Heritage Site (Halin)	Laboratory
14	Daw Htet Htet Win	Research-Assistant	Division of World Heritage Site (Halin)	Laboratory

Annex III

Finance (Budget and Extra Budget) of Burial Sites in Pyu Ancient Cities: Excavation & Conservation

No	Year	Halin (US$)		Beikthano (US$)		Sri Ksetra (US$)	
		DANM	EXTRA	DANM	EXTRA	DANM	EXTRA
1	2008-2009	8,400	Nil	2,300	Nil	Nil	Nil
2	2009-2010	27,000	Nil	3,000	Nil	Nil	Nil
3	2010-2011	16,000	Nil	1,300	Nil	7000	
4	2011-2012	8,300	Nil	Nil	Nil	20,000	Nil
5	2012-2013	Nil	Nil	2,700	Nil	1,200	Italy, P I
5	2013-2014	5,700	Lerici, Italy	3,700	Lerici, Italy	3,000	Lerici, Italy
6	2014-2015	1,000	Nil	700	Nil	5,000	1.Italy, P II 2.Rural Development
7	2015-2016	1,100	Nil	3,200	Nil	1,000	Italy, P II
8	2016-2017	3,900	Nil	15,625	Nil	3,000	Italy, P III