

Executive Summary of the Thesis

Overseas Cultural Contact: West Asia to the Indian Sub-continent with Special Emphasis on Western India (3rd – 10th c. A.D.)

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TABLE OF CONTENTS

	Page Nos.
ACKNOWLEDGEMENTS	i-ii
CONTENTS	iii-viii
LIST OF MAPS	ix-xi
LIST OF FIGURES	xii-xx
LIST OF TABLES	xxi-xxii
LIST OF APPENDICES	xxiii
SYNOPSIS	xxiv-xxxiv
Chapter 1 - INTRODUCTION	1-15
1.1 Previous Research	4-6
1.2. Geographical Background of Western India	6-7
1.2.1. Gujarat	7-9
1.2.2. Maharashtra	9-13
1.3. Critical Objectives	13-15
Chapter 2 - POLITICAL HISTORY OF WESTERN INDIA AND WEST ASIA	16-33
2.1. Political History of Western India from the 3 rd to the 10 th centuries A.D.	16
2.1.1. Precursor to 3 rd century A.D.	16-17
2.1.2. Period from 3 rd to 7 th centuries A.D.	17-20
2.1.3. Period from 8 th to 10 th centuries A.D.	20-22

2.2.	Political History of West Asia from the 3 rd to 10 th centuries A.D.	23
2.2.1.	The Sasanian Empire (3 rd to 7 th Centuries A.D.)	23-27
2.2.2.	Early Islamic Period (7 th to 10 th centuries A.D.)	28
2.2.2.1.	Rashidun Caliphate (632–661)	28-29
2.2.2.2.	Umayyad Caliphate (661 - 750 A.D.)	29
2.2.2.3.	Abbasid Caliphate (750 - 1258 A.D.)	29-31
2.3.	Intellectual Exchanges between West Asia and Western India between 3 rd to 10 th centuries A.D.	32-33
Chapter 3 -	SITES, METHODS AND MATERIALS, SAMPLING	34-61
3.1.	Sites in Gujarat	35-44
3.2.1.	Explorations around the Gulf of Kachchh	45-48
3.2.2.	Recording the material from Excavated sites and Explorations in South Gujarat (<i>Dakshina Gujarat</i>) and Maharashtra	49-53
3.2.3.	Recording the Sasanian and Early Islamic Wares from Susiana	53-55
3.2.4.	Methods of Data Procurement	55

3.2.4.1.	Surveys	56
3.2.4.2.	Macroscopic Classification	56
3.2.4.3.	Thin-section Analysis of Pottery	56-58
3.2.5.	Materials, Sampling Strategy and Samples	58-61
Chapter 4 - RESULTS		62-161
4.1.	Finds from Excavations	64
4.1.1.	Valabhipur (N:21°53'14.9", E:71°52'24.0"E), District Bhavnagar, Gujarat	64-67
4.1.2.	Nagara (N: 22°41' E:72°38') District Kheda, Gujarat	67-69
4.1.3.	Lothal (N:22°31'23.8", E:72°14'57.3"), District Ahmedabad, Gujarat	69-70
4.1.4.	Kanmer (23° 25 '4.6" N; 70° 51 '49.7" E) Rapar taluka of Kachchh district, Gujarat	70-73
4.1.5.	4.1.5. Nagardhan (N: 21° 21', E: 79° 19") Nagpur District, Maharashtra	74-78
4.1.6.	Chaul (N:18°33'16.8", E: 72°56'26.3") Raigad District, Maharashtra	79-93
4.1.7.	Vadnagar (N: 72° 38' 21.9" E:23° 46' 56.1") Mehsana District, Gujarat	94-99

4.1.8.	Taranga Hills (N:23°, 58' and N: 23°, 59' N; E: 72°, 48' and E: 72°, 45') Mehsana District, Gujarat	99
4.1.9.	Siyot (N: 23° 46' 26.0 “, E:68° 52' 34.8”) District Kachchh, Gujarat	99-101
4.1.10.	Nani Rayan (N: 22° 52' 13.8”, E: 69° 21' 20.7”) District Kachchh, Gujarat	101-108
4. 2. 1.	Explorations in and around Valabhipur	108-109
4.2.2.	Paliyad (Paliyat Timbo) (N:22°10'0", E:71°35'0") District Bhavnagar, Gujarat	109
4.3.	Explorations around the Gulf of Kachchh – Jamnagar	110-112
4.3.3.1.	Vasai (N: 22 25' 54.9 “E: 69 56' 02.1”) District Jamnagar, Gujarat	112-115
4.3.3.2.	Hadiyana II (Fulwadi) (N: 22 36' 59.5” E: 70 15' 48.7”) District Jamnagar, Gujarat	115-117
4.3.3.3.	Kota I (N: 22 10' 09.78” E: 69 41' 40.9”) and Kota II (N: 22 10' 09.78” E: 69 41' 40.9”), District Devbhoomi Dwarka, Gujarat	117-119
4.3.3.4.	Bharana I (N: 22 25' 57” E: 69 42' 17.2”), District Devbhoomi Dwarka, Gujarat	120-122
4.3.3.5.	Concluding Remarks	123
4.4.	Explorations in <i>Dakshina Gujarat</i> and Maharashtra	124

4.4.1.	Kamrej, (N: 21°16'58.5", E:72°57'59.1") District Surat, Gujarat	124-125
4.4.2.	Sanjan, (N:20°11'59.0", E:72°48'00.0") Valsad District, Gujarat	125-133
4.5.	Sasanian and Early Islamic Wares from Susiana	134-137
4.5.1.	Torpedo Jars and other un-glazed Wares- Typology	137-139
4.5.2.	Glazed Wares - Typology	139
4.6.	Thin-Section Studies	139-140
4.6.1.	Petro-Fabric Groups	140-155
4.6.2.	Textural Data – Semi-quantitative	155-161
Chapter 5 - DISCUSSIONS		162-176
5.1.	Political Scenario and the Resulting Material Distribution	162-163
5.2.	Vicissitudes of West Asian contact with Western India – A socio-cultural and political viewpoint	164-166
5.3.	Thin-Section Petrographic Discussions on Mineralogy and Ware Types	166-169
5.4.	Textural Data and Clay Paste Preparation Techniques	169-172

5.5.	Torpedo Jars - Discussion	173-176
Chapter 6 -	CONCLUSIONS	177-181
	REFERENCES	182-197
Appendix –	List of Samples	198-212
I		
Appendix -	Recording the Site on Survey	213-215
II		
Appendix –	Context Sheet – Excavations at Nani Rayan 2019	216-218
III		
Appendix –	Harris Matrix of NRN 2 – Trench 2- 2019	219-221
IV		
Appendix -	Petro-Fabric Groups and Corresponding Samples	222-227
V		

LIST OF MAPS

Map No.	Title	Page No.
Map 1.1	Archaeological Map of the Sasanian Empire	3
Map 1.2	Map of the Caliphate expansion and regional areas within Iran – Iraq and major Early Islamic sites in the 9 th century A.D	4
Map 1.3	Map of Western India with Gujarat and Maharashtra highlighted in black.	7
Map 1.4	The Districts of Indian Political State of Gujarat	9
Map 1.5	District Map of the Indian Political State of Maharashtra	11
Map 1.6	Physical Map of the Indian Political State of Maharashtra with the Western Ghats shown in green hugging the coast and the river systems	13
Map 2.1	Map of Temples built by the Maitrakas and Saindhavas in Saurashtra (Courtsey: Nanavati and Dhaky 1969: Fig.1)	19
Map 2.2	Map of India and West Asia during the rule of the Maitrakas of Valabhi (Courtesy: worldhistorymaps.info)	20
Map 2.3	Map of important archaeological sites of the Sasanian empire (Courtesy: sasanika.org)	24
Map 2.4	Map of the Early Islamic Abbasid circa 850 A.D. (Courtesy: Cattette 2011)	30
Map 3.1	Vallabhipur and Water Tank Area is marked with a drop point (Courtesy: Apple Maps).	36
Map 3.2	Site of Vadnagar with the large tank (Sarmishta Lake) and the southern part of the site where the State Directorate excavated is marked with a drop point. VM = Valmiya no Mahad and AG = Amba Ghat localities excavated by the Archaeological Survey of India	39

Map 3.3	Three localities excavated by the Directorate of Archaeology & Museums, Government of Gujarat, namely Ghaskol Gate with the Monastery plan visible (Red), Durgamata Temple (Turquoise), and Primary School No. 3 - PSN3 (Green)	39
Map 3.4	Site Map of Nani Rayan with NRN 1 representing the centre of the mound, NRN 2 the Northern extent, S denoting the Southern extent and E denoting the Eastern Extent	42
Map 3.5	Sites Explored as part of the surveys around the Gulf of Kachchh. The sites in Red yielded West Asian material	48
Map 3.6	Sites in Western India yielding West Asian ceramics	48
Map 3.7	Site Map of the Localities of the Excavations at Nagardhan (Courtesy: Virag Sontakke)	53
Map 3.8	The area of Khuzestan highlighted within the Political territory of Iran (Adapted from Google Maps)	54
Map 3.9	Sites near the Karkheh River (Adapted from Google Maps)	55
Map 4.1	Map of Sites which indicate archaeological and art historical evidence of contact of West Asia from Western India	64
Map 4.2	Map of Nagardhan site and it's localities. Localities 1, 2, 3, and 9 have reported Torpedo Jars (Courtesy: Virag Sontakke)	74
Map 4.3	Site Map of Nani Rayan with NRN 1 representing the centre of the mound, NRN 2 the Northern extent, S denoting the Southern extent and E denoting the Eastern Extent	102

Map 4.4	Sites Explored in the Jamnagar and Devbhoomi Dwarka districts. The sites in Red yielded Torpedo Jars	110
Map 4.5	Sites in Western India yielding West Asian ceramics. Sites from the current survey are demarcated in smaller legend.	113
Map 4.6	Sasanian sites around Susa	135
Map 5.1	Map showing sites that have revealed West Asian contacts. The box in Turquoise contains sites that show both Sasanian and Early Islamic tangible remnants of contacts, located in <i>Dakshina Gujarat-Maharashtra</i> . Sites outside the box have not yielded Early Islamic tangible remnants.	165

LIST OF FIGURES

Figure No.	Title	Page No.
Figure 2.1	Sasanian Lineage part 1.	26
Figure 2.2	Sasanian Lineage part 2.	27
Figure 3.1	NRN Trench 1. Section facing North	44
Figure 3.2	Trench 2. Section facing East. Furnace 22 is the latest, followed by 28, and then 44	46
Figure 4.1	Torpedo Jar base and rim from Vallabhipur	66
Figure 4.2	Torpedo Jar rim from Vallabhipur with high ribbing	67
Figure 4.3	Amphora Handle from Nagara. (Courtesy: Department of Archaeology and Ancient History, The Maharaja Sayajirao University of Baroda	68
Figure 4.4	Torpedo Jar body sherds from Nagara	69
Figure 4.5	Torpedo Jar from Lothal	71
Figure 4.6	Sasanian Glazed Ware from Kanmer. (Courtesy: Jeewan Kharakwal)	71
Figure 4.7	Torpedo Jar rims (1-5 sub-rounded and 6-triangular) and base (7) from Kanmer (all PWWS fabric)	72
Figure 4.8	Reconstructed and refitted Torpedo Jar from Kanmer (PWWS fabric)	72
Figure 4.9	Torpedo Jars from Nagardhan with inner bitumen lining	75
Figure 4.10	Illustration of Torpedo Jar from Nagardhan sub-rounded rim with a shallow groove under the rim, with some ribbing on the shoulder.	76
Figure 4.11	Structures from the excavations at Nagardhan from locality 3 (XM Qd1). The marker in blue indicates the Torpedo Jar yielding levels dated to around 5 th century A.D. relatively.	76

Figure 4.12	Tin Glazed Ware (Samarran) rim from Nagardhan (Courtsey: Virag Sontakke)	78
Figure 4.13	Sherds of Sasanian Glazed Ware from Chaul	80
Figure 4.14	Torpedo Jar sherds from Chaul. Broken part of base (top) and a body sherd with cross-hatched incisions (bottom)	82
Figure 4.15	Turquoise Glazed Ware from Chaul	83
Figure 4.16	Flat White Eggshell Ware base from Chaul	83
Figure 4.17	White Eggshell Ware with leaf-like designs from Chaul	84
Figure 4.18	Grey Eggshell Ware rim and base from Chaul	84
Figure 4.19	Grey Eggshell Ware with different types of designs	85
Figure 4.20	Buff Incised Ware rims from Chaul with handle (broken off) and another with wavy incised designs and horizontal incisions close to the rim	85
Figure 4.21	White Opaque Tin Opacified Glazed Ware bowls from Chaul	86
Figure 4.22	Champlevé Sgraffiato rim sherd from Chaul	87
Figure 4.23	Green Monochrome Sgraffiato sherd from Chaul	88
Figure 4.24	Hatched Sgraffiato from Chaul. Bi-chrome variety on top with green-yellow splashes and with playing white glaze in the lower right sherd	89
Figure 4.25	Illustration of Sasanian and Early Islamic Ceramics from Chaul.	90
Figure 4.26	Illustration of Sasanian and Early Islamic Ceramics from Chaul	92
Figure 4.27	Illustration of Sasanian and Early Islamic Ceramics from Chaul	92
Figure 4.28	Torpedo Jar Body Sherds from Vadnagar, (Courtesy: IAR 2009-2010, Figure 41: 41)	94

Figure 4.29	Torpedo Jar and Sasanian Glazed Ware Illustrations from the ASI Excavations. (Courtesy: The Archaeological Survey of India). (1-2 - from Amba Ghat Area; 3-6 - from Valmiyo no Mahad Area)	96
Figure 4.30	Sasanian Glazed Ware from Vadnagar from the Directorate of Archaeology and Museums, Government of Gujarat	97
Figure 4.31	Illustration of Sasanian Glazed Ware rims and base from Vadnagar - the Directorate of Archaeology & Museums, Government of Gujarat	97
Figure 4.32	Glazed Ware Handled Jar from Vadnagar with an Iridescent Remnant of Glaze - the Directorate of Archaeology & Museums, Government of Gujarat	98
Figure 4.33	Pots and Globular Pots (GP) from Vadnagar ASI Excavations, 2018 season. (Courtesy: ASI, Vadodara Excavation Branch V)	98
Figure 4.34	Red Polished Ware Sprinkler from Vadnagar ASI Excavations, 2018 season. (Courtesy: ASI, Vadodara Excavation Branch V)	99
Figure 4.35	Torpedo Jar diagnostic rims from Siyot (Modified from Tomber 2007: Figure 3: 975)	100
Figure 4.36	Torpedo Jar from the Excavations at Siyot 2018. (Courtesy Y S Rawat, Directorate of Archaeology and Museums, Government of Gujarat)	100
Figure 4.37	Sasanian Glazed Ware from Siyot Surface Collections	101
Figure 4.38	NRN 1 Trench 1. Section facing North	105
Figure 4.39	Trench 2. Section Facing East. Furnace 22 is the latest, followed by 28, and then 44	106
Figure 4.40	Torpedo Jar Rim (1) and Base (2) from Nani Rayan Excavations (2019)	107
Figure 4.41	Glass vessel from Nani Rayan 2019	107
Figure 4.42	Body sherds of Torpedo Jars from Paliyad (Paliyat Timbo)	109

Figure 4.43	Torpedo Jars found from the current survey. (1-3 - Hadiyana I, 4 - Bharana I, 5 Vasai, and 6 - Kota II)	112
Figure 4.44	Part of the higher mound with Late Medieval <i>Paliyas</i> and modern temple	113
Figure 4.45	Torpedo Jar sherd from the surface at Vasai	114
Figure 4.46	Row of Paliyas Hero Stones and a Sati Stone from the higher mound area	115
Figure 4.47	View of the mound at Hadiyana from north-east looking towards south-west	116
Figure 4.48	Torpedo Jar sherd from Hadiyana II. The bitumen on the inner wall can be seen	117
Figure 4.49	Kota I flattened due to agricultural activities	118
Figure 4.50	A mature Harappan bowl from Kota I	118
Figure 4.51	The mound of Kota II flattened due to ploughing	119
Figure 4.52	View of the ‘slag hill ’under the Banyan tree at Bharana I	120
Figure 4.53	General view of the site Bharana, photo taken from the north facing south	121
Figure 4.54	Torpedo Jar sherd with bitumen on the inner wall from Bharana I	122
Figure 4.55	The photograph of the inlet and fisherman with their sail boats coming ashore after a day’s catch at Bharana I	122
Figure 4.56	Illustration of Diagnostic ceramics from the Jamnagar exploration. Sorath Harappan (1-2,5-8), Micaceous Red Ware (Early historic-medieval) (3) and Rangmahal Ware (5)	124
Figure 4.57	Torpedo Jar from Kamrej discovered from the researcher’s exploration	125
Figure 4.58	Buff Ware (Storage Vessel)	128
Figure 4.59	Torpedo Jar (PWWS) from Sanjan Surface Exploration	129
Figure 4.60	Turquoise Glazed Ware from Sanjan Surface Exploration	129

Figure 4.61	White Opaque Tin Opacified Glazed Ware (Samarran) from Sanjan, Surface context	130
Figure 4.62	Turquoise Splashed Tin Glazed Ware	131
Figure 4.63	Hatched Sgraffiato	132
Figure 4.64	Late Sgraffiato Wares - Champlevé? top right corner and Late Sgraffiato type? Base below	132
Figure 4.65	Illustrations of West Asian ceramics found from the survey. (1 and 3 - Sgraffiato, 2 - Champlevé, 4 and 5 - Turquoise Splashed Tin Glazed Ware - Samarran)	133
Figure 4.66	Late-Parthian/Early Sasanian Torpedo Jar from Susiana (Courtesy: Prof. Henry Wright)	136
Figure 4.67	Illustrations of Torpedo Jar rims from South-Western Iran (3-8), and related Wares (1-2) with gritty fabric	136
Figure 4.68	Sasanian-Early Islamic Glazed Wares from Jundeshapur with gritty fabric	137
Figure 4.69	PWWS fabric Torpedo Jar base from Ewan-i-Karkheh (Courtesy: Esmaili Jelodar, University of Tehran)	137
Figure 4.70	Representative sample of Torpedo Jar from Nagardhan viewed Plain Polarised Light (PPL) showing a non-pleochroic matrix with angular to sub angular grains. No preferred orientation is seen. Petro-Fabric Group 1. Field of view is 0.18mm ²	141
Figure 4.71	Representative sample of Torpedo Jar from Nagardhan viewed in (Cross Polarised Light (XPL) showing a ferruginous matrix with angular to sub angular grains of quartz, plagioclase feldspar, crypto-crystalline silica, mica (in red) and sandstone. Petro-Fabric Group 1. Field of view is 0.18mm ²	141
Figure 4.72	Photomicrograph of a Torpedo Jar from Paliyad 3 in Cross Polarised Light (XPL). The dominant minerals are Crypto-	142

	Crystalline Calcite and Quartz. Other minerals present are mica. Petro-Fabric Group 2. Field of view: 0.18 mm ²	
Figure 4.73	Photomicrograph of a Torpedo Jar from Paliyad 3 in Plain Polarised Light (PPL). Petro-Fabric Group 2 .Field of view: 0.18 mm ²	142
Figure 4.74	Photomicrograph of a Sasanian Glazed Ware in Cross Polarised Light (XPL) from Kanmer (4)– (5Y 7/2) Trench Y31, Layer 5, Lot No. 128. Petro-Fabric Group 3. Field of view: 0.18 mm ²	143
Figure 4.75	Photomicrograph of a Torpedo Jar from Kanmer in Plain Polarised Light (PPL). Petro-Fabric Group 3. Field of view: 0.18 mm ²	143
Figure 4.76	Photomicrograph of a Torpedo Jar sample 7 from Iran in Plain Polarised Light (PPL). Petro Fabric Group 4. Field of view: 0.18 mm ²	144
Figure 4.77	Photomicrograph of a Torpedo Jar sample 7 from Iran in Cross Polarised Light (XPL). The dominant minerals are Crypto-Crystalline silica (angular) and Crypto-Crystalline Calcite (secondary deposition) Petro Fabric Group 4. Field of view: 0.18 mm ²	144
Figure 4.78	Photomicrograph of a Torpedo Jar Susiana 1 from Iran in Plain Polarised Light (PPL) from the site KS 139. Petro Fabric Group 4a. Field of view: 0.18 mm ²	145
Figure 4.79	Photomicrograph of a Torpedo Jar Susiana 1 from Iran in Cross Polarised Light (XPL) from the site KS 139. Grog seen along with major minerals such as crypto-crystalline silica, feldspar, quartz, and mica. Petro Fabric Group 4. Field of view: 0.18 mm ²	145
Figure 4.80	Photomicrograph of a GEGG (CHL EXP 5) in Plain Polarised Light (PPL). Petro-Fabric Group 5. Field of view: 0.18 mm ²	146

Figure 4.81	Photomicrograph of a GEGG (CHL EXP 5) in Cross Polarised Light (XPL). Petro-Fabric Group 5. Field of view: 0.18 mm ²	146
Figure 4.82	Photomicrograph of a WEGG (CHL 39) in Plain Polarised Light (PPL). Petro-Fabric Group 6. Field of view: 0.18 mm ²	147
Figure 4.83	Photomicrograph of a WEGG (CHL 39) in Cross Polarised Light (XPL). Petro-Fabric Group 6. Field of view: 0.18 mm ²	147
Figure 4.84	Photomicrograph of CHL 26 in Plain Polarised Light (PPL) with no pleochroism seen. Petro-Fabric Group 7. Field of view: 0.18 mm ²	148
Figure 4.85	Photomicrograph of CHL 26 in Cross Polarised Light (XPL) with more of plagioclase feldspar and less of quartz. Petro-Fabric Group 7. Field of view: 0.18 mm ²	148
Figure 4.86	Photomicrograph of sample S-LS2 in Cross Polarised Light (XPL). Petro-Fabric Group 8. Field of view: 0.18 mm ²	149
Figure 4.87	Photomicrograph of sample S-LS2 in Plain Polarised Light (PPL). Petro-Fabric Group 8. Field of view: 0.18 mm ²	149
Figure 4.88	Photomicrograph of a Sgraffiato Ware S-LS4 in Plain Polarised Light (PPL). Petro-Fabric Group 8a. Field of view: 0.18 mm ²	150
Figure 4.89	Photomicrograph of a Sgraffiato Ware S-LS4 in Cross Polarised Light (XPL). Petro-Fabric Group 8a. Field of view: 0.18 mm ² . Note the lack of Quartz compared to the earlier fabric.	150
Figure 4.90	Photomicrograph of a Turquoise Splashed Tin Glazed Ware (sample no. S-TS3) from Sanjan in Plain Polarised Light (PPL) and bubbly glaze at the bottom. Petro-Fabric Group 9. Field of view: 0.18 mm ²	151
Figure 4.91	Photomicrograph of a Turquoise Splashed Tin Glazed Ware (sample no. S-TS3) from Sanjan in Cross Polarised Light	151

	(XPL) with sub rounded - rounded quartz inclusions. Petro-Fabric Group 9. Field of view: 0.18 mm ²	
Figure 4.92	Photomicrograph of a Turquoise Glazed Ware (sample no. S-TGP 1) from Sanjan in Plain Polarised Light (PPL). Petro-Fabric Group 10. Field of view: 0.18 mm ²	152
Figure 4.93	Photomicrograph of a Turquoise Glazed Ware (sample no. S-TGP 1) from Sanjan in Cross Polarised Light (XPL) with both sub rounded quartz, poly crystalline quartz and feldspar along with finer quartz. Petro-Fabric Group 10. Field of view: 0.18 mm ²	152
Figure 4.94	Photomicrograph of a Tin Glazed Ware from Chaul (CHL 24) in Plain Polarised Light (PPL). Petro-Fabric Group 11. Field of view: 0.18 mm ²	153
Figure 4.95	Photomicrograph of a Turquoise Glazed Ware from Chaul (CHL 24) in Cross Polarised Light (XPL) showing majority finer quartz and feldspar. Petro-Fabric Group 11. Field of view: 0.18 mm ²	153
Figure 4.96	Photomicrograph of a Turquoise Glazed Ware (sample no. S-TGP 3) from Sanjan in Plain Polarised Light (PPL). Petro-Fabric Group 12. Field of view: 0.18 mm ²	154
Figure 4.97	Photomicrograph of a Turquoise Glazed Ware (sample no. S-TGP 3) from Sanjan in Cross Polarised Light (XPL) with a micaceous matrix and highly fine and well sorted quartz petro-fabric. Petro-Fabric Group 12. Field of view: 0.18 mm ²	154
Figure 4.98	Distribution Chart of Major and other Non-Plastic inclusions in Petro-Fabric Groups 1, 2 and 3	156
Figure 4.99	Grain Size Distribution of Petro-Fabric Groups 1, 2 and 3	156
Figure 4.100	Distribution Chart of Major Minerals and other Non-Plastic inclusions in Petro-Fabric Groups 4, 4a, and 5	157
Figure 4.101	Grain Size Distribution of Petro-Fabric Groups 4, 4a, and 5	157

Figure 4.102	Distribution Chart of Major Minerals and other Non-Plastic inclusions in Petro-Fabric Groups 6, 7, and 8	158
Figure 4.103	Grain Size Distribution of Petro-Fabric Groups 6, 7, and 8	158
Figure 4.104	Distribution Chart of Major Minerals and other Non-Plastic inclusions in Petro-Fabric Groups 6, 7, and 8	159
Figure 4.105	Grain Size Distribution of Petro-Fabric Groups 8a, 9, and 10	159
Figure 4.106	Distribution Chart of Major Minerals and other Non-Plastic inclusions in Petro-Fabric Groups 11, and 12	160
Figure 4.107	Grain Size Distribution of Petro-Fabric Groups 11, and 12	160
Figure 4.108	Ternary Diagram Textural Data of Petro Fabric Groups as derived from the Point Counting	161
Figure 5.1	Overall Distribution of minerals in Petro-Fabric Groups and Sub-Groups	169
Figure 5.2	Overall Grain Size Distribution of Petro-Fabric Groups and Sub-Groups	171
Figure 5.3	Ternary Diagram of the four distinct Textural Groups encircled	172
Figure 5.4	Sasanian Metal Wine Ewer at display in the Reza Abbasi Museum, Tehran (Courtesy: Trustees, Reza Abbasi Museum, Tehran)	176

LIST OF TABLES

Table No.	Title	Page No.
Table 1.1	Showcasing the range of precipitation in the state of Gujarat	9
Table 2.1	Persian and Arab Translations of ‘Indian’ Works	32
Table 3.1	Sites explored by the researcher as a part of the Jamnagar survey	47
Table 3.2	Particle Sizes as prescribed by Bullock <i>et al.</i> (1985: 21)	58
Table 4.1	Provenance of Torpedo Jar finds and find-spots from Valabhipur	65
Table 4.2	Torpedo Jar finds from different localities at Nagara	68
Table 4.3	West Asian ceramics and quantification from their trench locations from the site of Kanmer	73
Table 4.4	Quantification of the Torpedo Jar sherds from Nagardhan 2016-2017 Season	77
Table 4.5	Quantification of the Torpedo Jar sherds from Nagardhan 2017-2018 Season	77
Table 4.6	Quantification of West Asian Ceramics from Chaul	93
Table 4.7	West Asian ceramics and their locations within Vadnagar	95
Table 4.8	West Asian ceramics from Siyot	101
Table 4.9	West Asian Ceramics from Nani Rayan.	108
Table 4.10	Sites explored by the researcher around the Gulf of Kachchh	111

Table 4.11	Survey by the researcher in June 2018 have yielded the following Wares from the surface context from Sanjan	127
Table 4.12	Reference list of sites recorded by the researcher from Pottery Research Department Tehran.	135
Table 5.1	Type of West Asian Materials from Western India and the respective Spatial-Temporal data	163
Table 5.2	Distribution of Major Minerals in the Different Petro-Fabric Groups	168
Table 5.3	Distribution of Textural Features of the Petro-Fabric Groups and Sub-Groups	172

List of Appendices

Appendix Nos.	Title	Page Nos.
Appendix I	List of Samples	198-212
Appendix II	Site Survey Chart	213-215
Appendix III	Context Sheet – Excavations at Nani Rayan 2019	216-218
Appendix IV	Harris Matrix of NRN 2 – Trench 2- 2019	219-221
Appendix V	Petro-Fabric Groups and Corresponding Samples	222-227

EXECUTIVE SUMMARY

The thesis entitled, **Overseas Cultural Contact: West Asia to the Indian Sub-continent with Special Emphasis on Western India (3rd - 10th c. A.D.)** focused on understanding the contact with West Asia and its cultural impact on Western India. By and large, the complex cultural process of 'Trade' is usually perceived as the exchange of goods and commodities, which is very superficial; but it is understood that there is much more in it than what is suggested by the tangible evidence. Trade facilitates an exchange of not only material objects but of vital cultural attributes, ideas, and innovations. The first attempts to understand the international trade dynamics related to the early historic period of India through archaeological excavations was made by Wheeler at Arikamedu (Wheeler *et al.* 1946) followed by many others (IAR 1979-80: 24). This resulted into the extensive investigations on Indo-Roman trade, whereby, a great majority of the trade between places within the sub-continent and the Roman world which comes within the route of Rome and India was undermined. India formed a part of the greater network of Indian Ocean trade network which stretched all the way from South-East Asia to Europe. Post this phase of Roman contact, there is a partial decrease in the Roman trade (Warmington 1928) but there are also signs of continuation (Tomber 2005, Tomber 2007: 978 Table 1, Tomber 2009). The identification of previously reported Roman Amphorae from various archaeological sites of Western India typologically as Torpedo Jars (Tomber 2007) of West Asia; and also, through diaspora directed excavations such as Sanjan (Gupta *et al.* 2004, Nanji 2011) one realises that the West Asian trade in India has possibly contributed immensely to its various cultural spheres. Thus, the then region of Western India (especially present-day Gujarat and Maharashtra) and its contact with West Asia needs to be studied in greater detail to fully ascertain the social, economic, and political implications through reviewing study of material remains, and historical-textual accounts.

The most crucial aspect of researching this contact was to address the lacunae in our understanding of the trade contacts between the two regions through the application of multi-disciplinary approaches. Between the 3rd and 10th centuries A.D., the study provided here pointed to the nature and spatial-temporal contact of West Asia with Western India. The research period for the thesis has been set between the 3rd and 10th centuries A.D, which marks a transition in West Asian polity from the Sasanian to the

Early Islamic periods. This transition is marked by changes in not only polity but also in socio-economic, religious, art historical, and administrative changes. The thesis' main goal is to use archaeological and historical sources specifically related to Western India, such as archaeological materials (such as ceramics), as well as art historic, epigraphic, numismatic, and textual evidence, to better understand the nature of the contact and the timeframe in which West Asia's cultural contact with India took place. In addition, an effort is made to comprehend the socio-cultural impact of the exchange in Western India. This has aided in a better understanding of the influence that the two regions (West Asia and Western India) had on one another, because of diverse interactions in the fields of governance, society, economy, and religion.

As a part of this research, the researcher conducted surveys of ancient settlements within Western India (Gujarat and Maharashtra) and recorded and sampled material of West Asian origin from excavations at select sites within Gujarat. The major tangible source of material which was exchanged was in the form of ceramics. This included both Glazed and un-Glazed Wares of different types.

Chapter 1- Introduction

The said chapter introduces the topic of West Asian trade and contact with the Indian sub-continent with special reference to western India and the scope of the current work. Previous studies were utilised to comprehend and review the available data of the various scholars who dealt with the topic of trade and contact. The chapter also delineates the geographical features as well as resources of the region of Western India, and the role it played in coastal-inland interactions facilitated by an exchange of goods. This helped in situating the West Asian contact with Western India within the Indian Ocean Trade system.

Chapter 2 - Political History

This chapter is devoted to familiarising the political history of Western India and that of West Asia between the 3rd to 10th c. A.D. This includes eulogies of the different political kingdoms as well as the data based on traveller accounts, epigraphy, and other written accounts which help in reconstructing the social exchanges within a set political timeframe.

Chapter 3 - Sites, Methods and Materials, Sampling

The following chapter showcases a selection of sites within the temporal timeframe delimited for the thesis, the reasons behind the selection of these sites is explained and justified. Different methods are utilised for understanding the contact with West Asia which primarily includes carrying out surface surveys (site specific and region specific) and studying and recording the ceramics and other West Asian materials, from different excavations to see the spatial-temporal distribution of the impact of the contact with West Asia. Following this, a sampling strategy was then adopted for the selection of samples from within the sample universe of the available West Asian finds. The methods would also include thin-section analysis, for further characterising the wares, and to understand the provenance of these West Asian wares.

Chapter 4 - Results

The chapter hereby outlines the results of the strategies employed in the earlier chapters, and have been divided into three parts; Finds from Excavations, Finds from Explorations, and Thin-Section Studies. The finds from excavations part deals with different finds from the excavated sites. The Exploration results are further sub-divided into three different explorations which were undertaken namely at; Vallabhipur, Gulf of Kachchh (Jamnagar), and *Dakshina Gujarat*-Maharashtra. The surveys and recordings of the excavated material yielded six hundred and eighty-two samples which belonged to a West Asian origin which were identified. These ceramics were classified into Ware classes through typo-technological studies.

The third part of the chapter deals with results of the thin-section studies of the representative West Asian ceramics found from both excavations and explorations. A hundred and forty samples were further analysed microscopically through thin-section methods. The thin-section analysis aided in determining the mineralogy of non-plastic inclusions in the ceramic section so that its provenance, paste recipe, forming procedures, and overall manufacturing methods. Petro-Fabrics is the result of fabric characterisation, which considers descriptive criteria such as non-plastic inclusions' mineralogical

composition, matrix (plastic) portions' nature, colour, and degree of birefringence, voids (and their nature), and textural features (shape, sphericity, size, frequency, sorting, orientation, and size distribution character) (Krishnan and Shah 2005: 139). The results of the thin-section studies revealed 12 Petro-Fabric Groups and two Sub-Groups and threw light on the possible geological sources from which some of the non-plastic inclusions were added to manufacture the ceramic. Further, after the sections were classified into Petro-Fabric Groups, a representative sample was chosen point-counting which helped in gaining semi-quantitative data of the inclusions in the samples.

Chapter 5 – Discussions

The chapter here manifests the results of the analysis undertaken aided by the cognisance of the earlier chapters to discuss the meaning and nature of the contact of West Asia with Western India. Further, this research demonstrated that commerce and interaction with western India thrived from the Sasanian to the Early Islamic periods based on the recording, examination, and identification of ceramics from the two locations. However, it should be remembered that 'political' relations between the two regions were tense during the Early Islamic period (approximately 8th – 10th c. A.D.) due to many attempts by the Arabs to secure political supremacy in Western India. This had an impact on the commerce mechanism, as the findings from the Gujarat region were limited to the Sasanian period. This indicates a temporary decline in 'trade havens' inside Gujarat (excluding south Gujarat), as well as a drop in the economy, because of Gujarat's de-urbanisation following the fall of the Maitrakas of Vallabhipur.

The thin-sections analysis results primarily showed four mineralogical sources for the raw-materials used namely Quartz dominant group, Feldspar dominant group, Quartz-Feldspar dominant group, and Crypto-crystalline dominant group. The chapter also discusses which Wares formed a part of the afore mentioned groups and its implications on their provenance and trade.

Chapter 6 - Conclusions

The final chapter concludes the work undertaken in the thesis, to conclude over a theoretical framework to display the vicissitudes of the contact of West Asia with that of Western India. The intensity of contacts that can be discerned through an examination of the spatial distribution of the material evidence for such contacts as indicated by sites such as Nagardhan (Sontakke *et al.* 2016) and Vadnagar (Rawat 2011), reveals that trade networks was not restricted to the coastal region, but had percolated to the mainland as well. Based on the temporality of contacts with West Asia, the region of Western India can be divided into two separate zones viz. Gujarat (excluding *Dakshina Gujarat*) and *Dakshina Gujarat*- Maharashtra, which corresponds to the political boundaries of the time.

Through an integrated methodological framework that incorporated traditional and scientific methodologies, this research presents a novel approach towards deriving an understanding of the dynamism of trade networks that existed during the Late Historic/Early Medieval in Western India. There have been limited studies that have strived to comprehend this crucial aspect of Indian Ocean trade, particularly using multi-disciplinary approaches. Thus, this work adds to our understanding of the intricacies of cultural contacts between West Asia and Western India between 3rd and 10th centuries A.D. at a regional level.

Torpedo Jars typically from Susiana region (south-west Iran) fall under Petro-Fabric Groups dominated by crypto-crystalline silica inclusions. Whereas Torpedo Jar (PWWS and Buff varieties) found from western India fall under Petro Fabric Groups which were Quartz dominant. Early Islamic material is found exclusively from *Dakshina Gujarat* and Maharashtra. In contrast the Sasanian material are widespread throughout Western India.

Shortcomings - paucity of available archaeological material that can be subjected to investigations. Further, the methodological approaches adopted in this study is subjected to certain shortcomings. Although the adoption of thin-section analysis yielded significant results, it was found that the number of non-plastic inclusions within certain Petro-Fabric Groups is too sparse to reconstruct a comprehensive picture of the ceramic production techniques and their production centres. However, despite its limitation, the study significantly addresses the issues concerning West Asian contact with Western

India. Despite the limitations, the thin-section analysis points to a larger possibility of further research. It may not be out of place here to state that a raw material source mapping followed by comparing the raw material mineralogy and texture from various zones and buffer zones would enable one to throw more light into the provenance analysis. However, this requires further incorporation of diverse scientific analysis techniques to verify the existing finds and validate them.

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THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

PUBLICATION CERTIFICATE

Name of Ph.D. Supervisor Prof.Krishnan K

Published Articles/Papers in Journals

Sr No.	Author(s)	Paper Title	Journal Name & ISSN & Volume No.	Published Year	DOI	Index in Scopus/UGC CARE/Clarivate	Document Submitted?
1	Mark Manuel, Prishanta Gunawardhana, Harendralal Namalgamuwa, Robin Coningham, Christopher Davis, K. Krishnan, Jayampath Senanayake and Umanga Roshani Rammungoda	Low-Density Urbanism in Medieval Sri Lanka: Exploring the Hinterland of Polonnaruwa	Journal Name: Asian Perspectives The Journal of Archaeology for Asia and the Pacific, ISSN: 00668435, Volume No.: 60	1-11-2021		In Scopus: Yes, In UGC CARE: Yes, In Clarivate: Yes	Submitted
2	Nupur Tiwari, P. Morthekai, K. Krishnan and Parth R. Chauhan	Microlithic occurrences associated with sediments dated to terminal Pleistocene-late Holocene in the central Narmada basin, Madhy Pradesh, India	Journal Name: Geological Society, London, Special Publications, ISSN: 5152020216	1-5-2021		In Scopus: Yes, In UGC CARE: Yes, In Clarivate: Yes	Submitted

3	Prabhin Sukumaran, Dhananjay A. Sant, K. Krishnan, Govindan Rangarajan, Nathani Basavaiah and Jean-Luc Schwenninger	Multi-proxy records of late Holocene flood events from the lower reaches of the Narmada River, Western India	Journal Name: Frontiers in Earth Sciences, ISSN: 2296 6463, Volume No.: 9	1-4-2021	In Scopus: Yes, In UGC CARE: Yes, In Clarivate: Yes	Submitted
4	K. Krishnan and V. Mahesh	Awakening Myths, Legends and Heritage	Journal Name: Archaeology, Cultural Heritage, Protection and Community Engagement, , Volume No.: 1	1-7-2019	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Sumbitted
5	Krishnan K	Perceiving the Mind - A Journey Through Indian Rock Art	Journal Name: Understanding Rock Art of India-China: Rock Arts of India, , Volume No.: 1	1-6-2019	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Sumbitted
6	Oishi Roy and K. Krishnan	Understanding Ancient Iron Technology of the Vidarbhan Megalithic: An Archaeo-Metallurgical and Ethnographic Perspective	Journal Name: Pratna Samiksha A Journal of Archaeology, ISSN: 22297979, Volume No.: 9	1-12-2018	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Sumbitted
7	Ritvik Balvally, K. Krishnan, Y.S. Rawat and J.S. Kharakwal	Sassanian Glazed Ware from Western India	Journal Name: Heritage:Journal of Multidisciplinary Studies in Archaeology, ISSN: 23475463, Volume No.: 6	1-12-2018	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Sumbitted
8	Krishnan. K.	Indus Ceramic Industries: Complexities, Challenges and Prospects	Journal Name: Indian Journal of History of Science, ISSN: 00195235, Volume No.: 53	1-9-2018	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Sumbitted

9	Abhayana, G.S., P.P. Joglekar, P. Ajithprasad, K. Krishnan, K. K. Bhan and S.V. Rajesh	Fish Exploitation During the Harappan Period at Bagasara in Gujarat, India. An Ichthyoarchaeological Approach	Journal Name: 1-7-2018 Walking with the Unicorn - Social Organization and Material Culture in Ancient South Asia: Jonathan Mark Kenoyer Felicitation Volume , , Volume No.: 1	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Submitted
10	Krishnan. K. and Sneh Pravinkumar Patel	The Art and Technology of Reserving a slip. A Complex side of Indus Ceramic Tradition	Journal Name: 1-7-2018 Walking with the Unicorn - Social Organization and Material Culture in Ancient South Asia: Jonathan Mark Kenoyer Felicitation Volume , , Volume No.: 1	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Submitted
11	Rajesh. S.V., Charusmita Gadekar, P. Ajithprasad, G.S. Abhayana, K. Krishnan and Marco Madala	Pre-Prabhas Assemblage in Gujarat. An Assessment based on Material Culture from Somnath, Datrana and Janan	Journal Name: 1-7-2018 Walking with the Unicorn - Social Organization and Material Culture in Ancient South Asia: Jonathan Mark Kenoyer Felicitation Volume , , Volume No.: 1	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Submitted
12	Vrushab Mahesh, K. Krishnan, Rohita Esver and Devra Anilkumar	The character of veergal inscriptions – a reading of the engraved records	Journal Name: 1-3-2018 Heritage; Journal of Multidisciplinary Studies in Archaeology, ISSN: 2347- 5463, Volume No.: 5	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Submitted

13	Jamison, G.M., B.P. Sharma, P. Ajithprasad, K. Krishnan, K.K. Bhan and V.H. Sonawane	Inscribed unicorn seals from Bagasara, Gujarat: A Comparative Analysis of Morphology, Carving Styles and Distribution Patterns	Journal Name: Heritage: Journal of Multidisciplinary Studies in Archaeology , ISSN: 2347- 5463, Volume No.: 5	1-3-2018	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Sumbitted
14	Chauhan, P.R., K. Krishnan, N. Tiwari, A. Mukherjee, A. Anoop, D.A. Sant and R. Patnaik	At the Forest Edge: general Observations on New Microlithic Occurences in the Central Narmada basin, Madhya Pradesh	Journal Name: Rethinking the Past: A Tribute to Professor V.N. Mishra, ISSN: ISBN 978-81-908330- 6-6, Volume No.: 7	1-1-2018	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Sumbitted
15	K. Krishnan, Vrushab Mahesh, Rukshana Nanji and Atusha Irani	Glimpses of Buddhism in Early Historic Gujarat, India	Journal Name: Buddha Rashmi Vesak Volume: Essays in Buddhism and Buddhist Monastic Archaeology, , Volume No.: 1	1-7-2017	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Sumbitted
16	Rajesh, S. V. and K. Krishnan.	Roots of Sorath Harappans: A Study Based on the Reanalysis of Ceramics from Padri and Its Surroundings in Gujarat, Western India	Journal Name: Harappan Studies: Recent Researches in South Asian Archaeology, , Volume No.: 2	1-1-2017	In Scopus: No, In UGC CARE: No, In Clarivate: No	Not Sumbitted
17	K. Krishnan and R. Balvally	Assessing the Early Historic Indian Ocean Trade through Ceramics	Journal Name: Imperial Rome, Indian Ocean Regions and Muziris,	1-8-2016	In Scopus: No, In UGC CARE: No, In Clarivate: No	Not Sumbitted
18	Oishi Roy and K. Krishnan	Understanding the Megalithic Landscape of Ubali, Kalmeshwar Taluk, Nagpur District, Maharashtra	Journal Name: Heritage: Journal of Multidisciplinary Studies in Archaeology , ISSN: 2347- 5463, Volume No.: 4	1-1-2016	In Scopus: No, In UGC CARE: No, In Clarivate: No	Not Sumbitted

19	Rajesh, S.V., Prabhin Sukumaran and K. Krishnan	Scenario of Chalcolithic Site Surveys in Gujarat	Journal Name: Pakistan Heritage, ISSN: 2073-64IX, Volume No.: 7	1-12-2015	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Sumbitted
20	Vrushab Mahesh, Abhijit Dandekar, Mahesh Jambulingam and K. Krishnan	The Hero-stone Tradition and its Chronology in Hassan District, Karnataka	Journal Name: Swarajya Smriti, Homage to Dr. S.P. Gupta, , Volume No.: 1	1-11-2015	In Scopus: No, In UGC CARE: No, In Clarivate: No	Not Sumbitted
21	Morthekai, P., P.R. Chauhan, M. Jain, A.D. Shukla, H.M. Rajpara, K. Krishnan, D.A. Sant, R. Patnaik, D.V. Reddy, and A.K. Singhvi	Thermally re- distributed IRSL (RD- IRSL): A new possibility of dating sediments near B/M boundary	Journal Name: Quaternary Geochronology, ISSN: 1871- 1014, Volume No.: 30	1-5-2015	In Scopus: No, In UGC CARE: No, In Clarivate: No	Not Sumbitted
22	Parth Chauhan, K. Krishnan, Ketika Garg, Shubham Pal, Bharti Singh and Avinandan Mukherjee.	Revisiting the Joshipur Rockshelter Complex (Sehore District, Madhya Pradesh)	Journal Name: Heritage: Journal of Multidisciplinary Studies in Archaeology, ISSN: 2347- 5463, Volume No.: 3	1-1-2015	In Scopus: Yes, In UGC CARE: No, In Clarivate: No	Not Sumbitted

Paper Presented in Conference/Symposia/Seminar

Sr No.	Authors	Paper Title	Paper Theme	Organising Body	Date of Publication	Documents Submitted?
1	K. Krishnan	Monument in Isolation: Issues in the Conservation and Preservation of Mohenjodaro, the South Asian Bronze Age Settlement recognized as UNESCO World Heritage	Comparative Regional Archaeological Workshop and Field Tour in the Greater Lumbini Area	UNESCO and Lumbini Development Authority	8-3-2020	Submitted

2	Srisamarth Inamdar and K. Krishnan	A note on the recent explorations of Megalithic monuments of Belagavi	Iron Age in Peninsular India	Joint annual conference of IAS, ISPQS and IHCS	9-11-2019	Not Submitted
3	K. Krishnan	Science Based Researches in South Asian Ceramics and their Cultural Implications	Workshop on Archaeological Ceramic Studies	Tamil University	25-9-2019	Not Submitted
4	K. Krishnan	Understanding the Archaeology of Ceramics	Workshop on Archaeological Ceramic Studies	Tamil University	24-9-2019	Not Submitted
5	K. Krishnan	Introduction to Categorization and Characterization of Archaeological Ceramics	Workshop on Archaeological Ceramic Studies	Tamil University	24-9-2019	Not Submitted
6	K. Krishnan and Sneha Chavali	Compositional Variation in Pottery from Harappa: Comparing the Ravi, Kot Diji, Harappan and Late Harappan Periods	Recent Archaeological Advances in Ceramic, Copper/ Bronze, and Iron Technologies in Ancient South Asia; The 47th Annual Conference on South Asia	University of Wisconsin, Madison, USA	13-10-2018	Submitted
7	K. Krishnan	Identity and Heritage at Champaner-Pavagadh. Balancing Visitors and Pilgrims at a multi-faith Heritage Site	International Workshop on Heritage and Identity	Department of Archaeology, Durham University	26-6-2018	Submitted
8	K. Krishnan	Champaner-Pavagadh Archaeological Park: A Review and Pathway Towards Benchmarking Social and Economic Impacts	International Workshop on Social and Economic Impacts of Heritage and its Potential for Development	The Maharaja Sayajirao University of Baroda, Durham University, University of Allahabad and Archaeological Survey of India	21-5-2018	Not Submitted

9	K. krishnan	Complexities in Indus Ceramic Technology	Dialogue of Civilizations - IV	National Geographic, Archaeological Survey of India and Indian Institute of Technology, Gandhinagar	10-10-2017	Not Submitted
10	K. Krishnan	Studies on Indus Ceramic Industries: Complexities, Challenges and Prospects	Harappan Technology	Indian National Science Academy	15-9-2017	Not Submitted
11	K. Krishnan	Protecting Heritage Sites: Calamities and Challenges	International Workshop on Protecting Heritage	Department of Archaeology, Government of Nepal; AHRC, UK; UNESCO Chair, Durham University; ICOMOS, Nepal and University of Sterling	6-9-2017	Not Submitted
12	Vrushab Mahesh and K. Krishnan	Veeragals of Hassan District, Karnataka: A reading of their chronological spatial distributions	Archaeology, History, Art, Museums and Folklores of the North-east India	Indian Archaeological Society, Indian History and Culture Society and National Museum University	22-4-2017	Not Submitted
13	K. Krishnan	Indus Ceramic Industries: An investigation into their Complexities	Archaeology, History, Art, Museums and Folklores of the North-east India	Indian Archaeological Society, Indian History and Culture Society and National Museum University	22-4-2017	Not Submitted
14	Oishi Roy and K. Krishnan	Understanding Ancient Iron Technology of the Vidarbhan Megalithic: An Archaeo-Metallurgical and Ethnographic Perspective	Archaeology, History, Art, Museums and Folklores of the North-east India	Indian Archaeological Society and Indian History and Culture Society	20-4-2017	Not Submitted

15	Ritvik Balvally, Aditya Singh and K. Krishnan	Exploring the early historic/ early medieval and medieval settlements of the Mahi River	Archaeology, History, Art, Museums and Folklores of the North-east India	Indian Archaeological Society, Indian History and Culture Society and National Museum University	20-4-2017	Not Submitted
16	K. Krishnan	Contextualizing the Past	Field Archaeology	University of Kerala	16-1-2017	Not Submitted
17	K. Krishnan	Form, Function and Fabric: the Archaeology of Ceramics	Archaeology: New Trends and Perspectives	Archaeological Survey of India	27-9-2016	Not Submitted
18	Vrushab Mahesh, K. Krishnan and Rohitha Esver	Perceiving the Veeragal Tradition in Hassan District, Karnataka	Archaeology of Burials	Department of Archaeology, University of Kerala	13-1-2016	Not Submitted
19	Oishi Roy and K. Krishnan	Situating Ubali in the Megalithic Context of Vidarbha	Archaeology of Burials	Department of Archaeology, University of Kerala	13-1-2016	Not Submitted
20	Parth R. Chauhan and K. Krishnan	Recent prehistoric Surveys in Sehore and Hoshangabad Districts of Madhya Pradesh (2014-15)	Annual conference of IAS, ISPQS and IHCS	University of Hyderabad	20-12-2015	Not Submitted
21	Rajesh S.V., K. Krishnan, Bhanu Prakash Sharma and Prabhin Sukumaran	Field investigations in Bhal Region, Gujarat (Poster Presentation)	New perspectives on Pre-and Protohistory in India in Pune	Deccan College, Pune	18-8-2015	Not Submitted

I Undersign, agree that all submitted information in above format is true as per my knowledge and belief.

Prof.Krishnan K