

**THE DEVELOPMENT OF LUXOR OPEN AIR MUSUEM AND ITS
SOCIAL IMPACTS
AN ASSESSMENT USING GEOGRAPHIC INFORMATION SYSTEMS**

Thesis submitted for the degree of
Doctor of Philosophy
at the University of Leicester

by
Ghada Mahmoud Ahmed Mohamed Kamar
Geography Department
University of Leicester

2014

Volume Two

Table of Contents

TABLE OF CONTENTS	II
LIST OF FIGURES.....	III
CHAPTER 1. INTRODUCTION	1
CHAPTER 2. LITERATURE REVIEW	3
CHAPTER 3. METHODOLOGY	7
CHAPTER 4. EMERGENCE OF THE IDEA FOR THE LUXOR OPEN-AIR MUSEUM.....	21
CHAPTER 5. SPATIAL FORMS, EXPERIENCE, AND FUNCTIONS IN LUXOR OPEN-AIR MUSEUM: A STORY OF BUILDINGS AND BUFFERS.....	35
CHAPTER 6. THE PLANNING AND DESIGN OF THE OPEN-AIR MUSEUM IN LUXOR	74
CHAPTER 7. THE SOCIAL IMPACTS OF THE IMPLEMENTATION POLICES AT THE OPEN-AIR MUSEUM	83

List of Figures

<i>Figure 1-1: The district areas in Luxor.</i>	1
<i>Figure 1-2: The urban growth of Luxor city from 1891 to 2004.</i>	2
<i>Figure 2-1: British Museum.</i>	3
<i>Figure 2-2: National Museum of Indonesia.</i>	3
<i>Figure 2-3: Feu Factory Museum after change the old factory of sardine canning factory in Portimão city, Portugal.</i>	3
<i>Figure 2-4: Ramirez Factory after changing to be a municipal auditorium in Olhão city, Portugal.</i>	4
<i>Figure 2-5: A Schematic History of Gentrification in the United States, including a Fourth Wave of Gentrification (Lees, et al.2013).</i>	4
<i>Figure 2- 6: Urban filtering and the socio-spatial structure of the city: A positivist imagery.</i>	13
<i>Figure 2-7: GIS and urban planning.</i>	6
<i>Figure 3-1: The research methodology framework.</i>	7
<i>Figure 3-2: The process of exploring a particular theme in NVivo.</i>	8
<i>Figure 3-3: NVivo tree nodes for Luxor open-air museum</i>	9
<i>Figure 3-4: Nvivo quarrying phase for Luxor open-air museum documents and interviews.</i>	10
<i>Figure 3-5: A model created in NVivo.</i>	11
<i>Figure 3-6: A tree map created for nodes compared by number of items coded in NVivo.</i>	12
<i>Figure 3-7: The personal Geo-database analyses.</i>	13
<i>Figure 3-8: Line of sight.</i>	14
<i>Figure 3-9: Viewshed observation points in Luxor City</i>	14
<i>Figure 3-10: Three Raster Layers of Luxor City</i>	15
<i>Figure 3-11: The measurements to obtain Temple heights using SpectaRuler iPhone (Luxor Temple Dec. 2011)</i>	16
<i>Figure 3-12: Exporting Karnak Temple features layer from ArcGIS to Google SketchUp.</i>	17

<i>Figure 3-13: SketchUp 3D model for Luxor Temple and Karnak Temple for Krzysio (2007).</i>	18
<i>Figure 3-14: Creating 3D objects for Luxor Temple in Google SketchUp (on the left) and exporting them to ArcScene (on the right).</i>	19
<i>Figure 3-15: The process of creating a 3D model in ArcGIS.</i>	20
<i>Figure 4-1: Grand entrance to the Luxor Temple, with rural houses and pottery on to.</i>	21
<i>Figure 4-2: The Urban growth of Luxor city from 1891 to 2004.</i>	22
<i>Figure 4-3: A photograph for Luxor temple in 19th century from the east side where the current entrance now.</i>	23
<i>Figure 4-4: A photograph for Karnak temple in 19th century from the east side with a view for the west bank. S.</i>	23
<i>Figure 4-5: Arial Photograph for Karnak temples in 1914.</i>	23
<i>Figure 4-6: Luxor Master Plan in 1984.</i>	24
<i>Figure 4-7: Luxor Master Plan in 1993.</i>	25
<i>Figure 4-8: Luxor Master Plan in 1993: Location of New Thebes City.</i>	26
<i>Figure 4-9: The Open-air Museum and Heritage District concept Diagram.</i>	27
<i>Figure 4-10: The open-air museum Zones.</i>	28
<i>Figure 4-13: Luxor Master plan in 2004,</i>	29
<i>Figure 4-14: The planning of Karnak temple entrance.</i>	30
<i>Figure 4-15: (A) A satellite image with true colours for EL-Karnak Temple in 2002 before enhancing the northern-east area (B) A satellite image with true colours for EL-Karnak Temple in 2010 after enhancing the northern-east area.</i>	31
<i>Figure 4-16: The vision of The Avenue Sphinxes in Luxor master plan 2004.</i>	32
<i>Figure 4-17: Abu El Hagag Plaza before development at the left photo showing it congestion on the annual festival. the right photo is the temple plaza after development.</i>	32
<i>Figure 4-18: The Golden Triangle in Luxor city.</i>	33
<i>Figure 4-19: A Vision of Golden Triangle in Luxor.</i>	34
<i>Figure 5-1: Arial Photograph for Karnak temples in 1970.</i>	35
<i>Figure 5-2: Avenue of Sphinxes (Behind Adra Church).</i>	35

<i>Figure 5-3: The Entrance of Karnak Temple with an open view to the River Nile.....</i>	<i>36</i>
<i>Figure 5-4: Karnak temple at night by using Sound & Light (At the left).....</i>	<i>36</i>
<i>Figure 5-5: Luxor temple at night with visitor (At the right).....</i>	<i>36</i>
<i>Figure 5-6: Buffers types from different perspectives.....</i>	<i>37</i>
<i>Figure 5-7: The buffers around Luxor open air museum from 1965 to 2004 from different perspectives actors.....</i>	<i>38</i>
<i>Figure 5-8: The changes of Luxor Antiquities Buffer zone from 1965 to 2004.....</i>	<i>39</i>
<i>Figure 5-9: Luxor Antiquities Buffer zone in 1965.....</i>	<i>40</i>
<i>Figure 5-10: Arial Photograph for Karnak Temple in 1953</i>	<i>41</i>
<i>Figure 5-11: A survey of Egypt map of Luxor, tourist edition in 1922 for Luxor temple.</i>	<i>41</i>
<i>Figure 5-12: Luxor Antiquities Buffer zone in 1984.</i>	<i>42</i>
<i>Figure 5-13: Luxor Antiquities Buffer zone in 1993.....</i>	<i>43</i>
<i>Figure 5-14: Luxor Antiquities Buffer zone in 2000.</i>	<i>44</i>
<i>Figure 5-15: The slums areas in Luxor city (at the right)</i>	<i>45</i>
<i>Figure 5-16: The informal areas in Luxor city (at the left).</i>	<i>45</i>
<i>Figure 5-17: Luxor Antiquities Buffer zone in 2004.</i>	<i>46</i>
<i>Figure 5-18: The altered areas within Open air museum borders.....</i>	<i>47</i>
<i>Figure 5-19: The Avenue of Sphinxes 3D model, Line of sight, and Viewshed before restoration.....</i>	<i>48</i>
<i>Figure 5-20: The visibility analysis (Viewshed and Line of sight) for the Avenue of Sphinxes at the Master plan in 2004.....</i>	<i>49</i>
<i>Figure 5-21: 3D model for the Avenue Sphinxes area after development in 2012.....</i>	<i>50</i>
<i>Figure 5-22: Karnak temples entrance 3D models</i>	<i>51</i>
<i>Figure 5-23: ViewShed for Karnak temple entrance from the River Nile before development, after development and in Master plan 2004.....</i>	<i>52</i>
<i>Figure 5-24: Comparative between three models for the areas at North of Luxor Temple.....</i>	<i>53</i>
<i>Figure 5-25: North Luxor temple area after local residents return back in 2011</i>	<i>54</i>
<i>Figure 5-26: The visibility analysis (Line of sight) for the area at North of Luxor Temple.....</i>	<i>54</i>

<i>Figure 5-27: Tourism traffic before development in 2003.</i>	<i>55</i>
<i>Figure 5-28: Tourism traffic after development in 2004.</i>	<i>56</i>
<i>Figure 5-29: The visitors' observation routes at Karnak temples in 2012.</i>	<i>57</i>
<i>Figure 5-30: The two views are taken at eye level by Sketch-Up 3D model to visualise the visitors' routs from the entrance to the First pylon.</i>	<i>58</i>
<i>Figure 5-31: (A & B) The raster Layer for the Forecourt at Karnak Temple illustrate the visible and in-visible area from two different observer points.....</i>	<i>59</i>
<i>Figure 5-32: (A & B) The two photographs for the Forecourt at Karnak Temple from the two observer points illustrate the columns prevent the vision for particular areas at the court:.....</i>	<i>59</i>
<i>Figure 5-33: The ViewShed analysis at the open air museum in Karnak Temples and the visibility area with a Photograph.....</i>	<i>60</i>
<i>Figure 5-34: The raster Layer for 3rd, 4th, 5th, 6th pylons and the sanctuary at Karnak Temple illustrate the visible and un-visible area from two different observer points.</i>	<i>60</i>
<i>Figure 5-35: The two photographs for the observer point at 3rd pylon towards the sanctuary in Karnak Temple illustrate the vision at the area.</i>	<i>61</i>
<i>Figure 5-36: Karnak Sacred Lake and visitors place for Sound & Light Show</i>	<i>61</i>
<i>Figure 5-37: The Viewshed analysis for the Opt Temple at Karnak Temples illustrates the visible and un-visible area from the observer points.</i>	<i>62</i>
<i>Figure 5-38: A view for the visitors' at Opet Temple in Karnak Temples by Sketch-Up 3D model presents the visitors' rout and their movement.....</i>	<i>63</i>
<i>Figure 5-39: Sketch-Up 3D model presents the visitors' observation points at Karnak temples plaza after they finished their journey inside the Temple.....</i>	<i>63</i>
<i>Figure 5-40: The visitors' observation routes in Luxor temple. Source: Google Earth 2010.....</i>	<i>64</i>
<i>Figure 5-41: The raster Layer first pylon at Luxor Temple illustrate the visible and un-visible area from the observer point.</i>	<i>65</i>
<i>Figure 5-42: A view for the visitors at first pylon in Luxor Temple by Sketch-Up 3D model with illustrates the availability to see the entrance of Luxor temple.....</i>	<i>65</i>

<i>Figure 5-43: The visible area for peristyle courtyard at Luxor Temple from the observer point. Source: Kamar, 2013.....</i>	<i>66</i>
<i>Figure 5-44: A view for the visitors at processional colonnade courtyard in Luxor Temple at the visitors' observation for the court.</i>	<i>66</i>
<i>Figure 5-45: A visible area at hypostyle court in Luxor Temple at the visitors' observation for the court.</i>	<i>67</i>
<i>Figure 5-46: A visible area at the portico in Luxor Temple at the visitors' observation for the court.....</i>	<i>67</i>
<i>Figure 5-47: A visible area at the Amun Chappell in Luxor temple at the left side and the open air museum at the right side.....</i>	<i>68</i>
<i>Figure 5-48: A view for the visitors at Amun Chappell in Luxor Temple by Sketch-Up 3D model with A view for the visitors at open air museum in Luxor Temple.....</i>	<i>69</i>
<i>Figure 5-49: Sketch-Up 3D model for Visitors observation points at Luxor Temple S70</i>	
<i>Figure 5-50: The Avenue of Sphinxes plan in Luxor master plan in 2004.....</i>	<i>71</i>
<i>Figure 5-51: The visitors' observation roots within The Avenue of Sphinxes in Luxor Master plan in 2004.</i>	<i>71</i>
<i>Figure 5-52: The Visitors observation routes for Avenue of Sphinxes.</i>	<i>72</i>
<i>Figure 5-53: The visibility analysis (Line of sight) for the Avenue of Sphinxes before, after development and in plan 2004.....</i>	<i>73</i>
<i>Figure 6-1: Karnak temple entrance before development.....</i>	<i>74</i>
<i>Figure 6-2: The Open air museum urban strategies for surrounding areas.....</i>	<i>74</i>
<i>Figure 6-3: Luxor Open air museum strategies in 2004.</i>	<i>75</i>
<i>Figure 6-4: Transgression against monuments in Luxor</i>	<i>76</i>
<i>Figure 6-5: The structure plan for the surrounding areas of the open air museum in Luxor 2004.</i>	<i>77</i>
<i>Figure 6-6: Station Street before development.....</i>	<i>78</i>
<i>Figure 6-7: Market Street before and after development.</i>	<i>78</i>
<i>Figure 6-8: Demolition of the houses (completely or partly) in Nag -Sheikh Mosa and Nag Abu- Asbah for the restoration Avenue of Sphinxes and its Buffer zone in 2012</i>	<i>78</i>
<i>Figure 6-9: Arial Photography for Karnak entrance before redevelopment in 2001, 79</i>	
<i>Figure 6-10: The Golden Triangle area at Luxor city.</i>	<i>79</i>

<i>Figure 6-11: The built up area at Luxor Golden Triangle plan.</i>	<i>80</i>
<i>Figure 6-12: The Architectural style for Luxor Golden Triangle.....</i>	<i>81</i>
<i>Figure 6-13: The Nile Corniche in Luxor museum area in 2010,</i>	<i>81</i>
<i>Figure 6-14: Relocation areas at Luxor open air museum.</i>	<i>82</i>
<i>Figure 7-1: The public participation meetings in Luxor with the planner Dr. Ashour and the inhabitants of Luxor.</i>	<i>83</i>
<i>Figure 7-2: The residents built walls around their land in The Golden triangle in 2011 after demolishing their houses</i>	<i>84</i>
<i>Figure 7-4: New shops instated within the houses which were partly demolished</i>	<i>85</i>
<i>Figure 7-5: The informal creep on agricultural land pockets at North of Karnak villages after open air museum constructions in 2013</i>	<i>86</i>
<i>Figure 7-6: The Urban strategies in Luxor after the Open air museum implementation 2012.....</i>	<i>87</i>

Chapter 1. Introduction

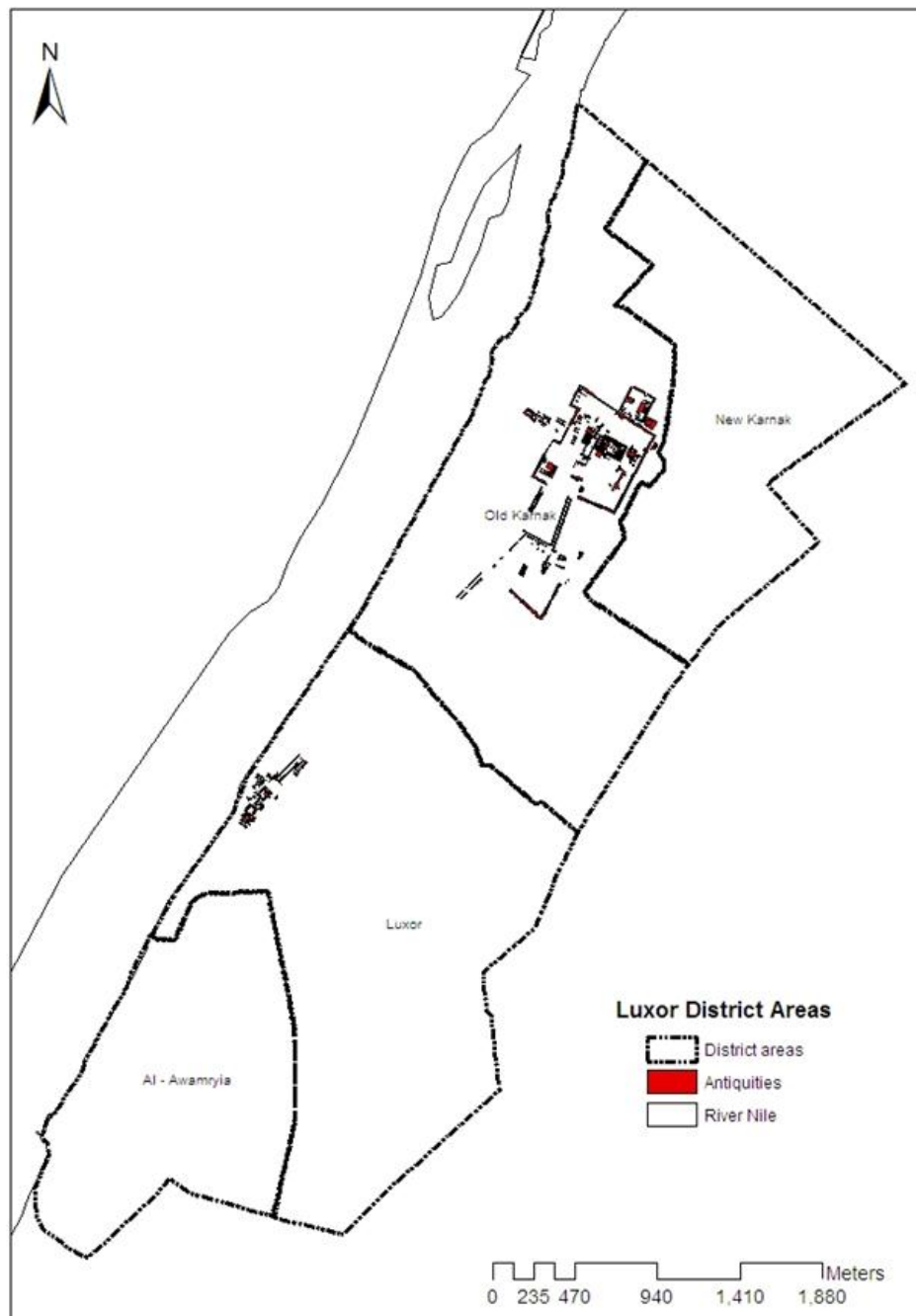


Figure 1-1: The district areas in Luxor. Source: MOH,2004

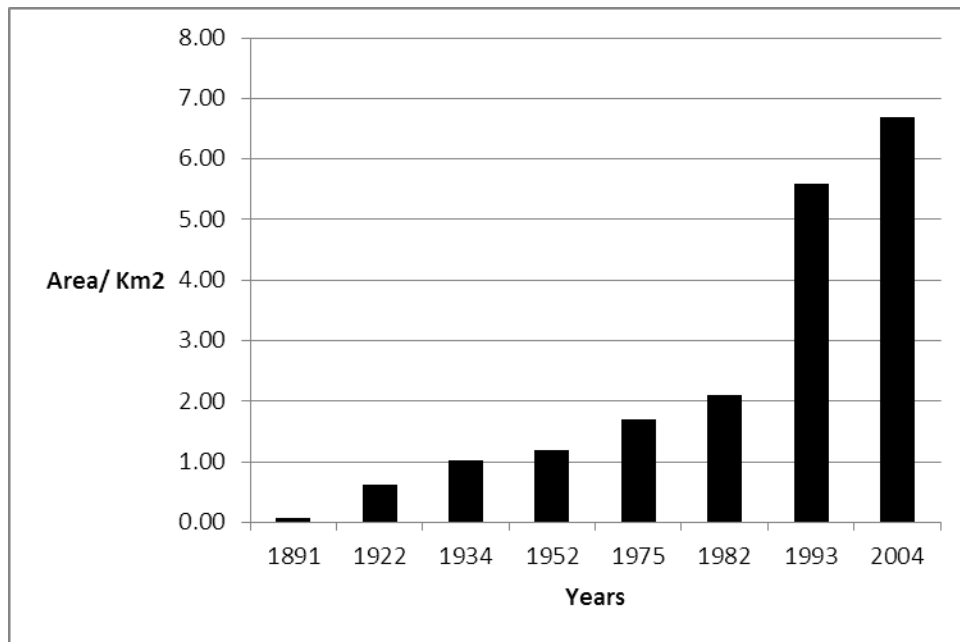


Figure 1-2: The urban growth of Luxor city from 1891 to 2004. Source, MOH: 1984,1993,2004

Chapter 2. Literature review



Figure 2-1: British Museum. Source: British Museum

Figure 2-2: National Museum of Indonesia. Source: National Museum



Figure 2-3: Feu Factory Museum after change the old factory of sardine canning factory in Portimão city, Portugal. Source: Panagopoulos, 2011



Figure 2-4: Ramirez Factory after changing to be a municipal auditorium in Olhão city, Portugal.

Source: Panagopoulos, 2011

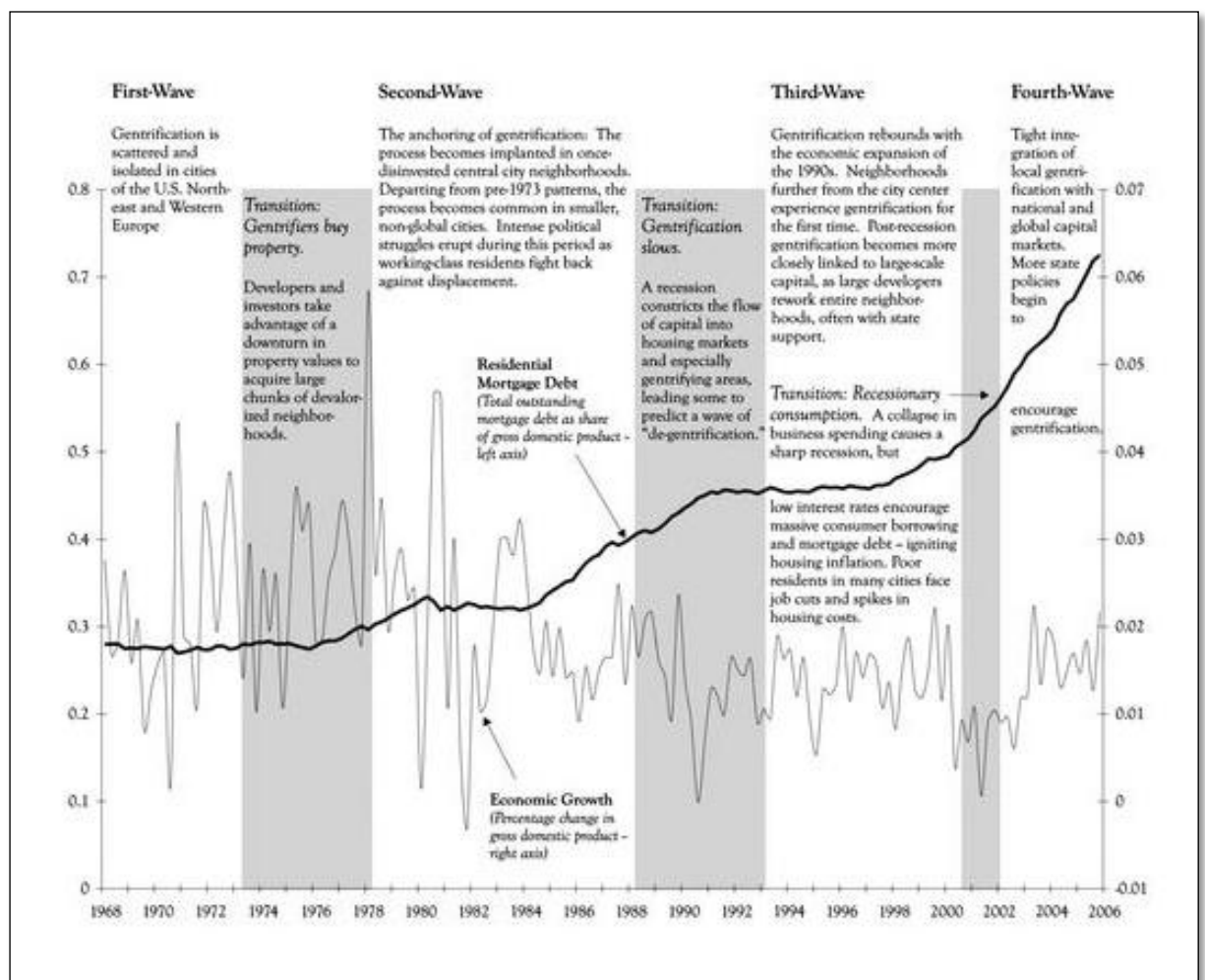


Figure 2-5: A Schematic History of Gentrification in the United States, including a Fourth Wave of Gentrification (Lees, et al.2013). Source: Hackworth and Smith (2001)

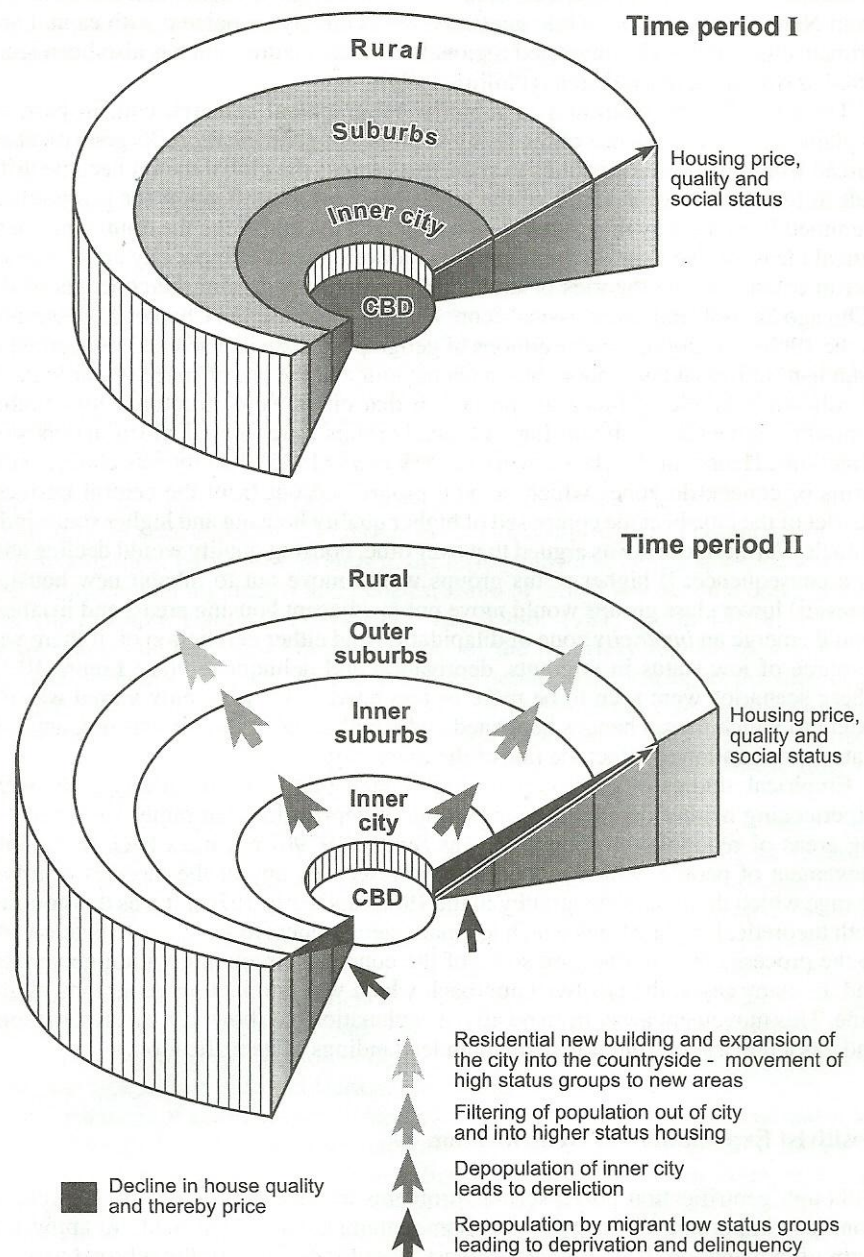


Figure 2-6: Urban filtering and the socio-spatial structure of the city: A positivist imagery. Source: Phillips (2005:320)

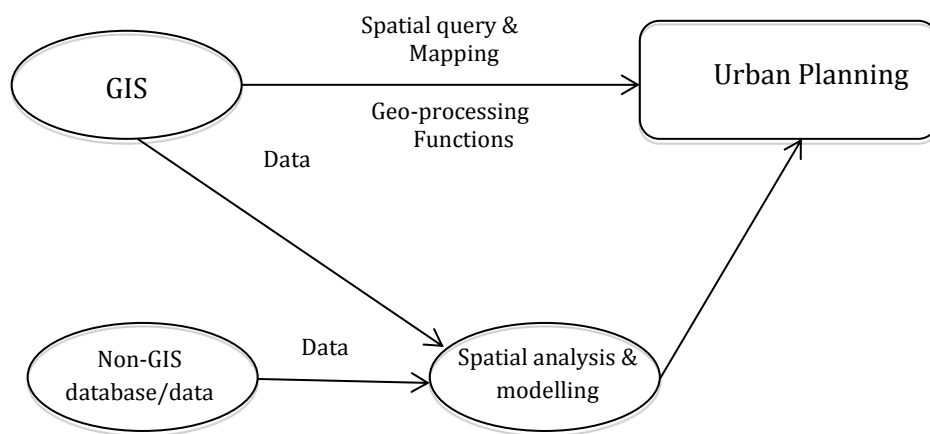


Figure 2-7: GIS and urban planning. Source: Yeh (1999: 878)

Chapter 3. Methodology

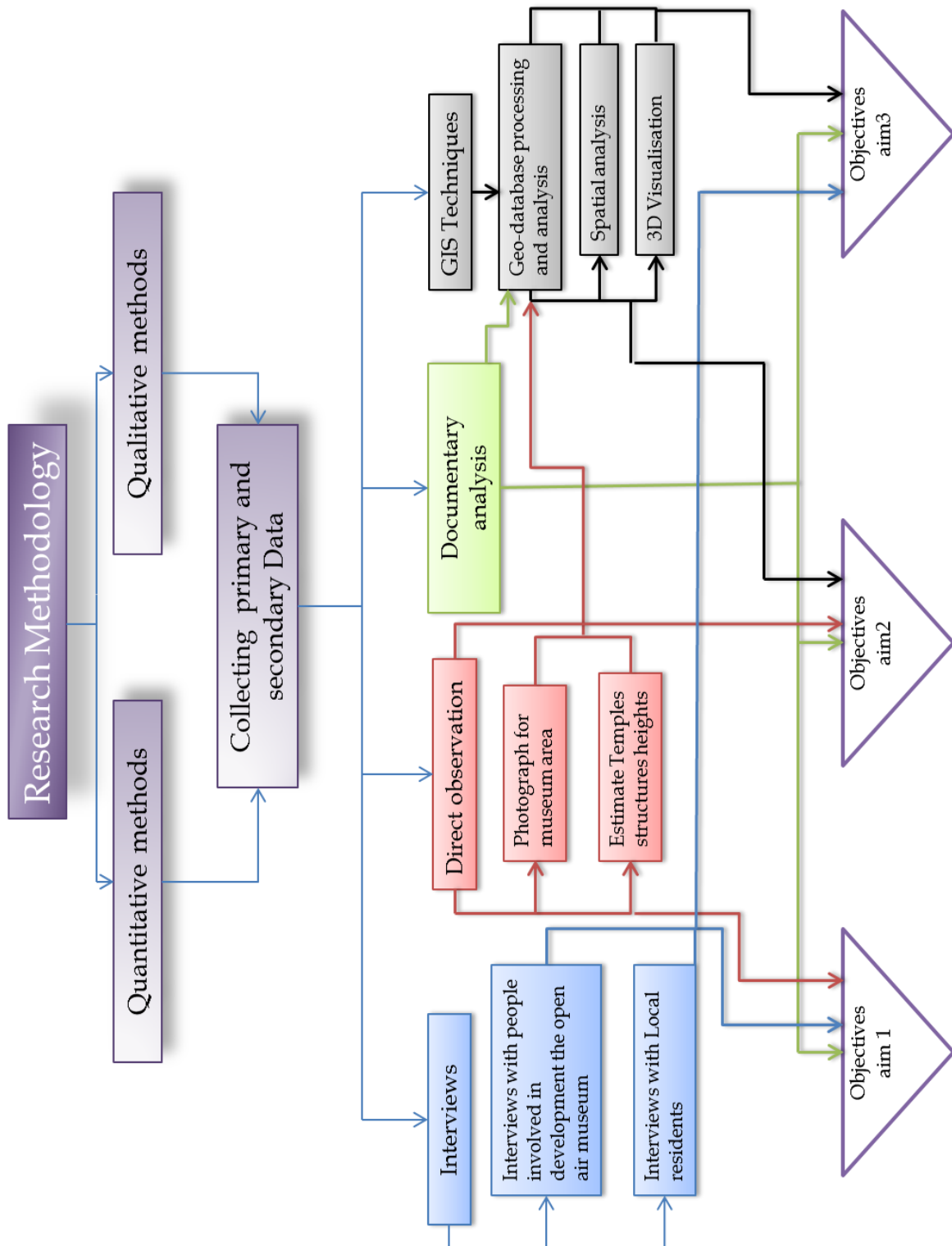


Figure 3-1: The research methodology framework

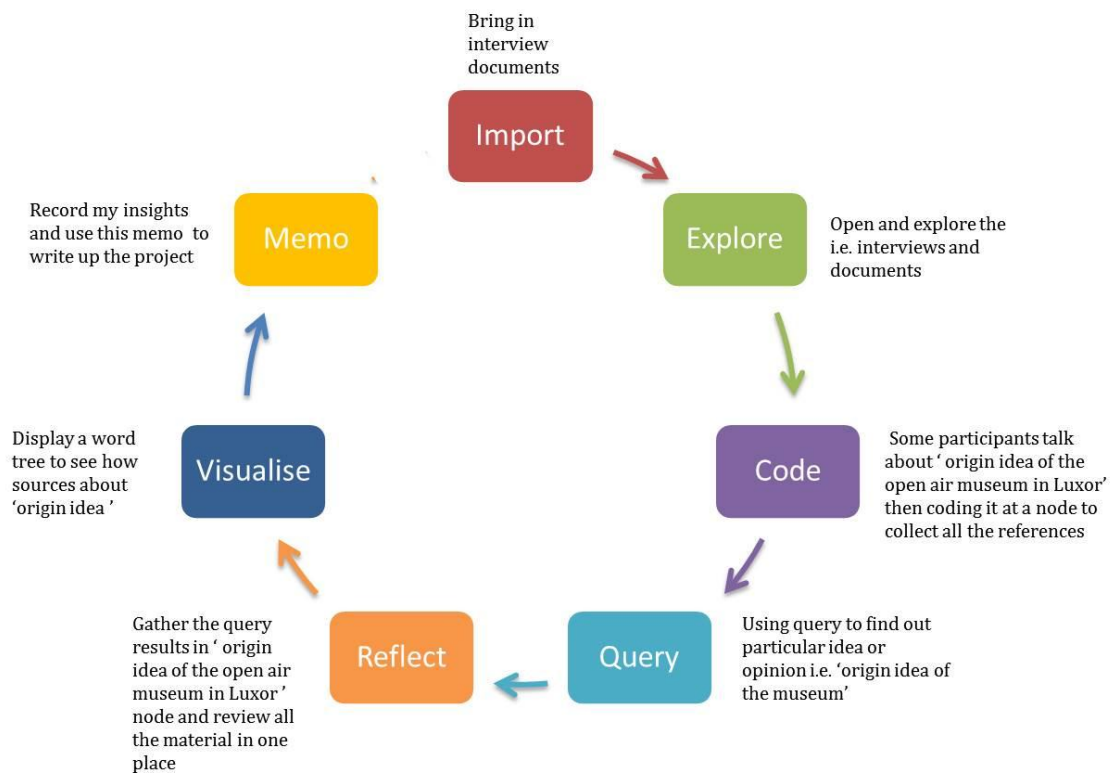


Figure 3-2: The process of exploring a particular theme in NVivo. Source: QSR International Pty Ltd, 2013

Luxor Nvivo1 (NVivo 10).nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Go Refresh Open Properties Edit Paste Copy Cut Merge Format Paragraph Styles Editing Proofing

Workspace Item Clipboard

Nodes

- Nodes
 - Cases
 - Free Nodes
 - Tree Nodes
 - Relationships
 - Node Matrices

Sources

Nodes

Classifications

Collections

Queries

Reports

Models

Folders

Look for: Search In: Tree Nodes Find Now Clear Advanced Find

Tree Nodes

Name	Sources	References	Created On	Created By	Modified On	Modified By
Museum Development	2	2	21/07/2011 03:23	GEO	07/09/2011 06:48	GEO
Avenue sphinxes	4	9	21/07/2011 03:27	GEO	07/09/2011 06:03	GEO
Karnak temple	4	10	21/07/2011 03:31	GEO	07/09/2011 06:16	GEO
Luxor city development	5	6	21/07/2011 03:25	GEO	03/10/2011 05:33	GEO
Luxor Temple	1	1	07/09/2011 05:48	GEO	07/09/2011 06:15	GEO
Museum areas	1	1	07/09/2011 05:54	GEO	07/09/2011 05:55	GEO
Museum components	1	4	07/09/2011 06:13	GEO	07/09/2011 06:17	GEO

Avenue sphinxes Impacts Museum components

<Internals\Abt comprehensive plan for Luxor in 1993-2000\Project 6. Open Air museum in Luxor> -
 \$ 4 references coded [1.61% Coverage]

Reference 1 - 0.59% Coverage

Coordinate Open Museum and Heritage District Improvements

The Luxor Open Museum and Heritage District contains four areas with common characteristics and needs. As described in the following sections, the sub-areas provide a focus for the implementation strategy.

Figure 13 identifies the boundaries for the seven areas:

1. *Monument Protection Area* – this area is defined by Luxor Temple and the Karnak

In Nodes Code At

GEO 41 Items Sources: 1 References: 4 Unfiltered 100% Show desktop

Figure 3-3: NVivo tree nodes for Luxor open-air museum

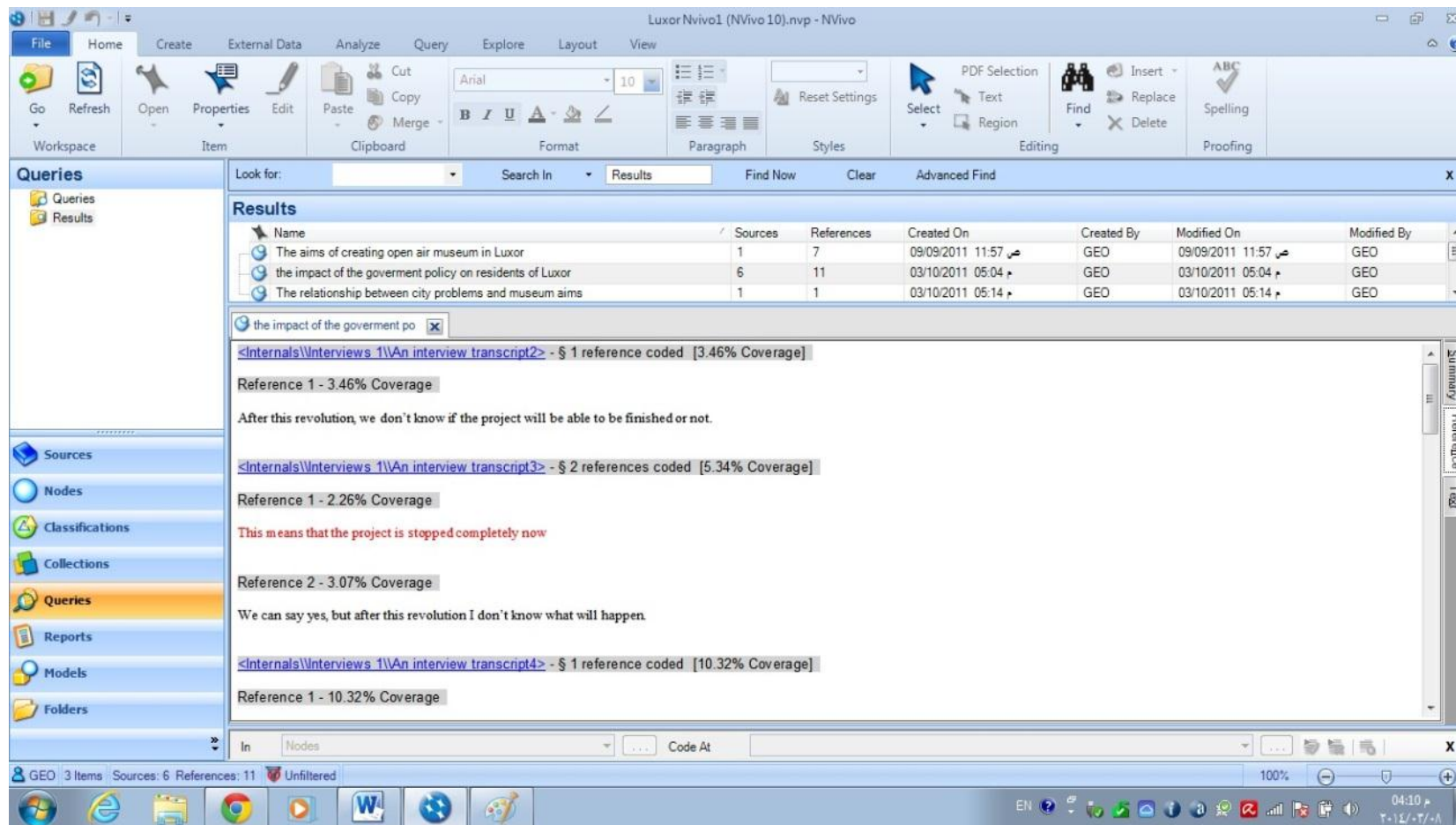


Figure 3-4: Nvivo quarrying phase for Luxor open-air museum documents and interview

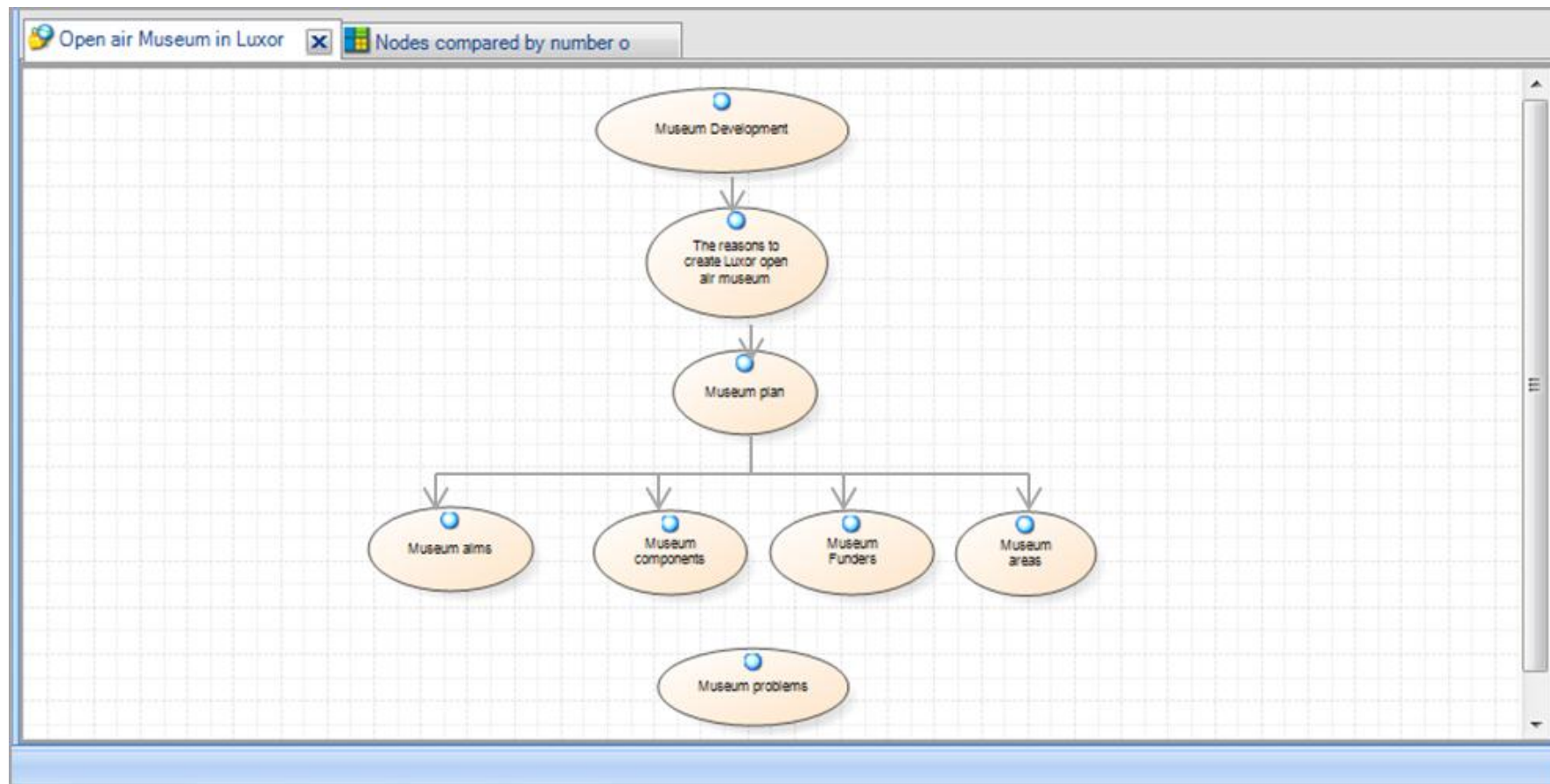


Figure 3-5: A model created in NVivo.

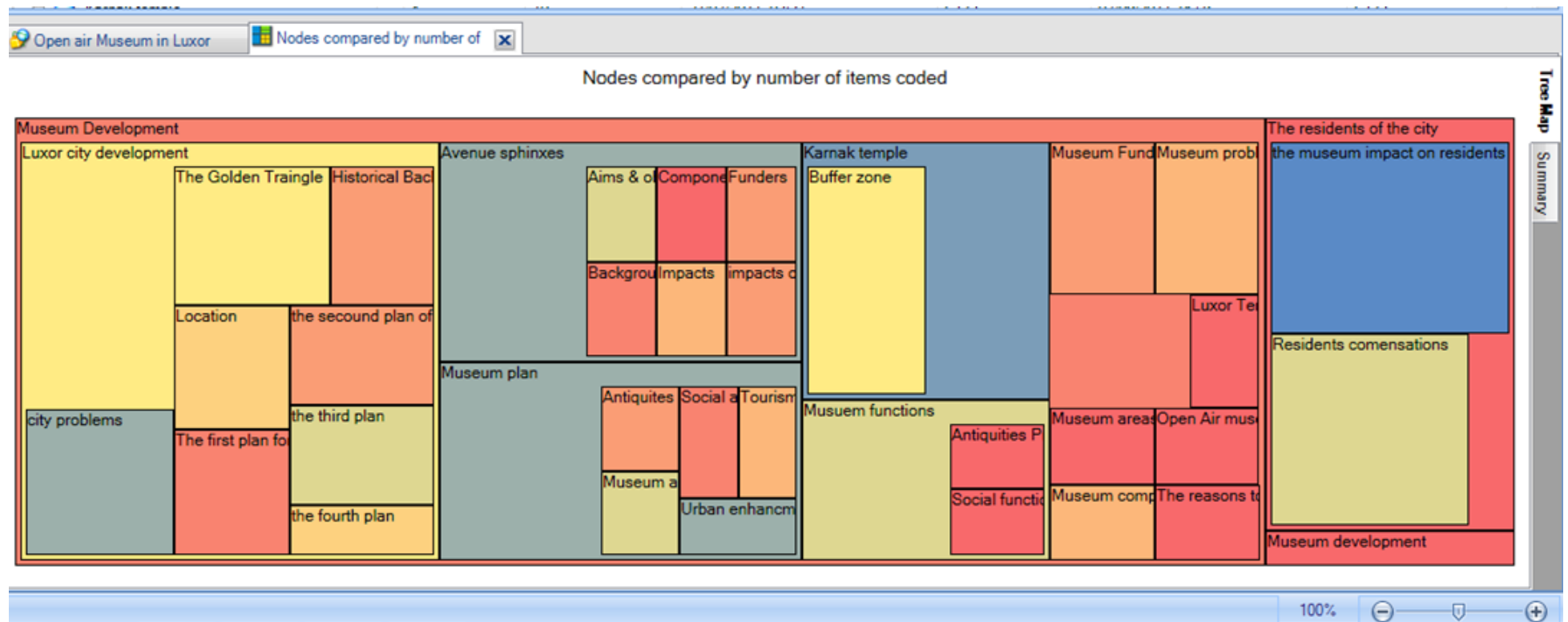


Figure 3-6: A tree map created for nodes compared by number of items coded in NVivo.

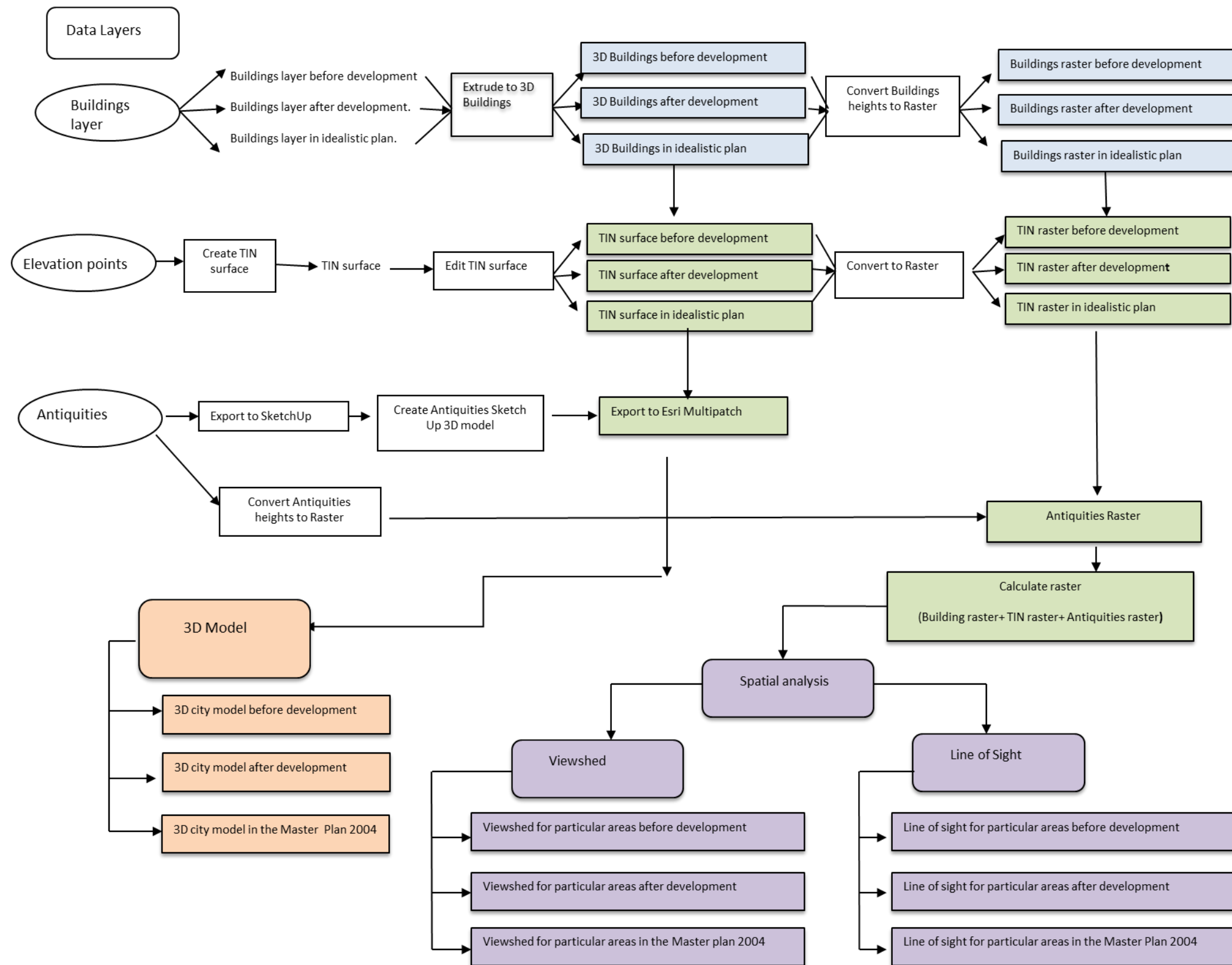


Figure 3-7: The personal Geo-database analyses

Reversing locations



Figure 3-8: Line of sight (source: Fisher, 1996)

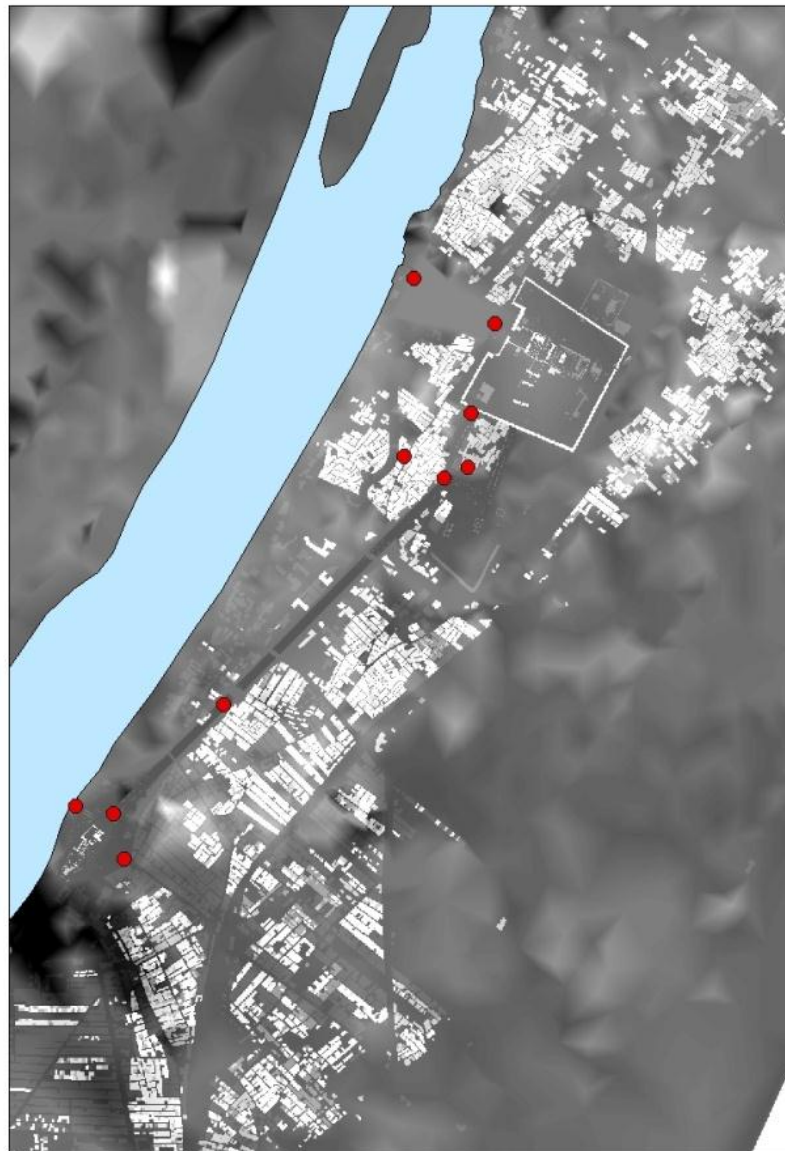


Figure 3-9: Viewshed observation points in Luxor City

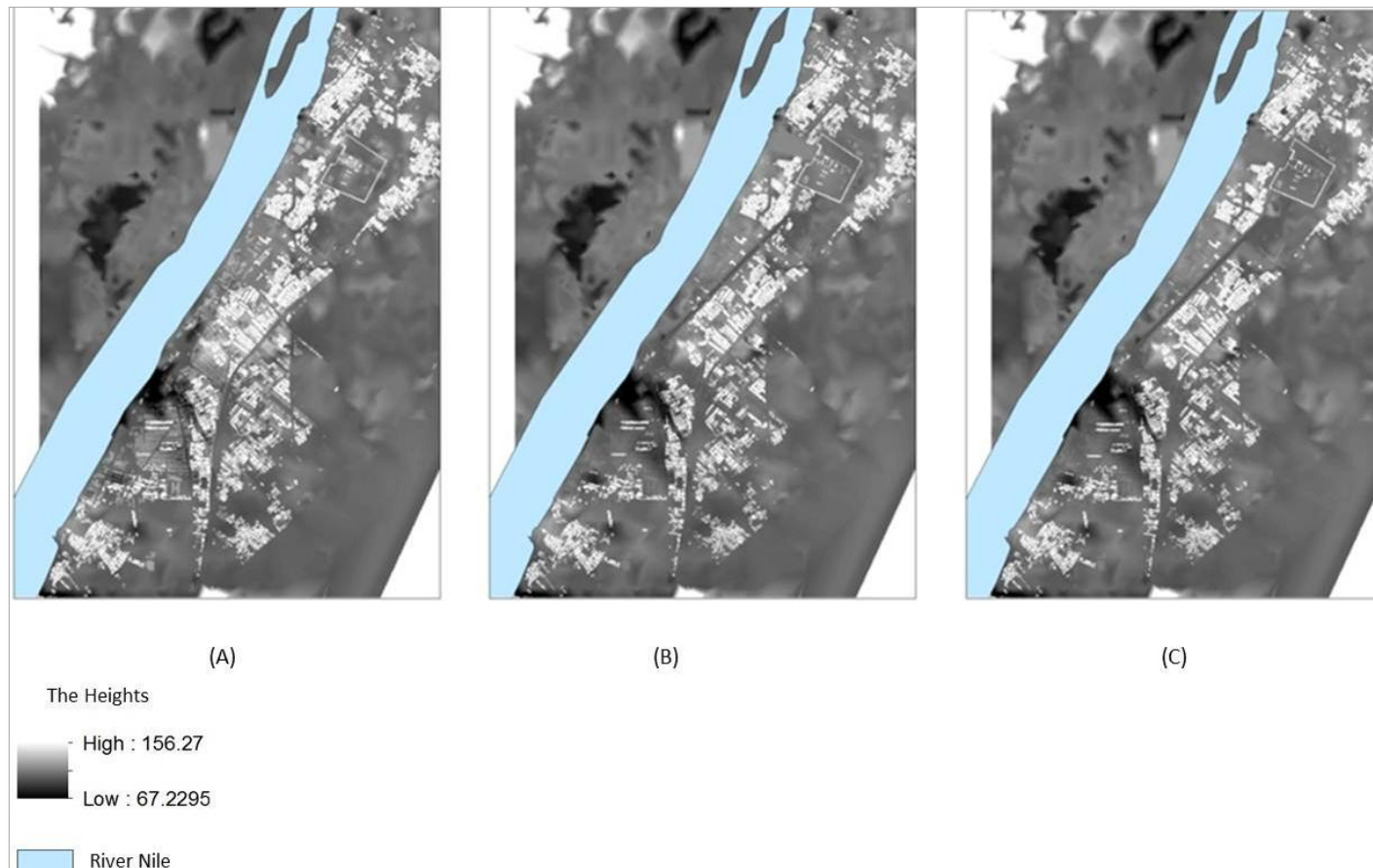


Figure 3-10: Three Raster Layers of Luxor City

(A) Luxor City before development; (B) Luxor City after development 2009; (C) Luxor City in Master plan 2004.



Figure 3-11: The measurements to obtain Temple heights using SpectaRuler iPhone (Luxor Temple Dec. 2011)

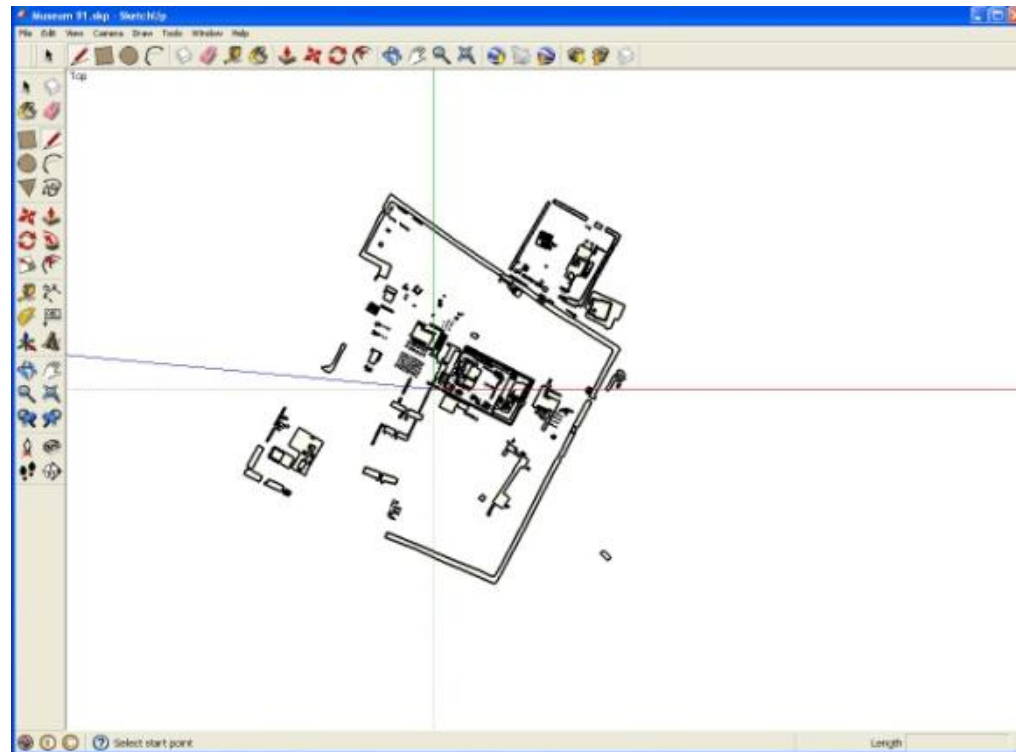


Figure 3-12: Exporting Karnak Temple features layer from ArcGIS to Google SketchUp

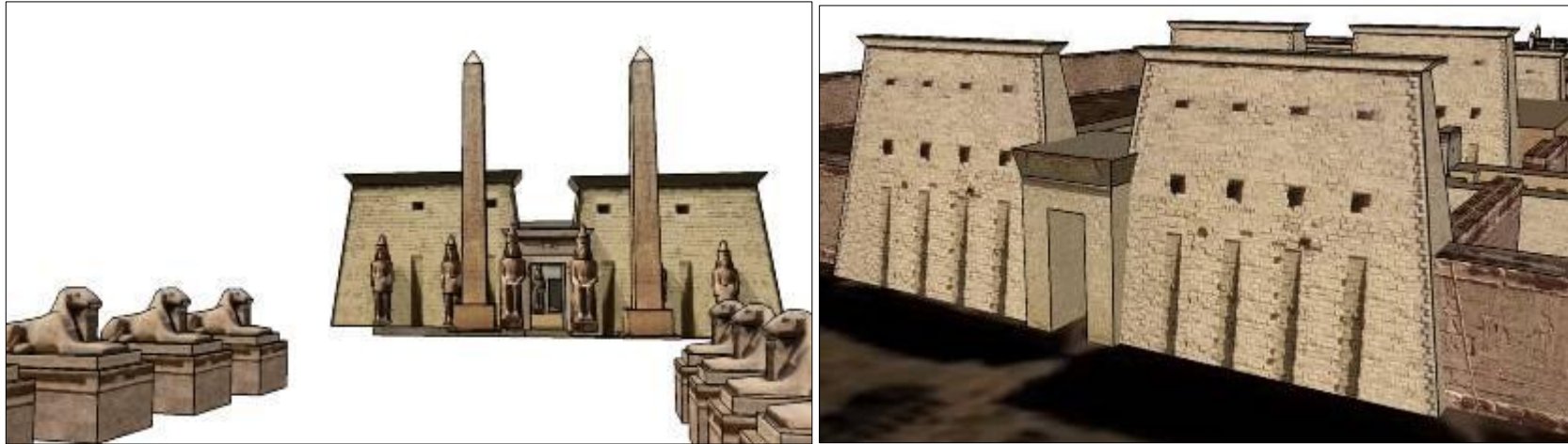


Figure 3-13: SketchUp 3D model for Luxor Temple and Karnak Temple for Krzysio (2007). (Source: Google SketchUp models, 2007)

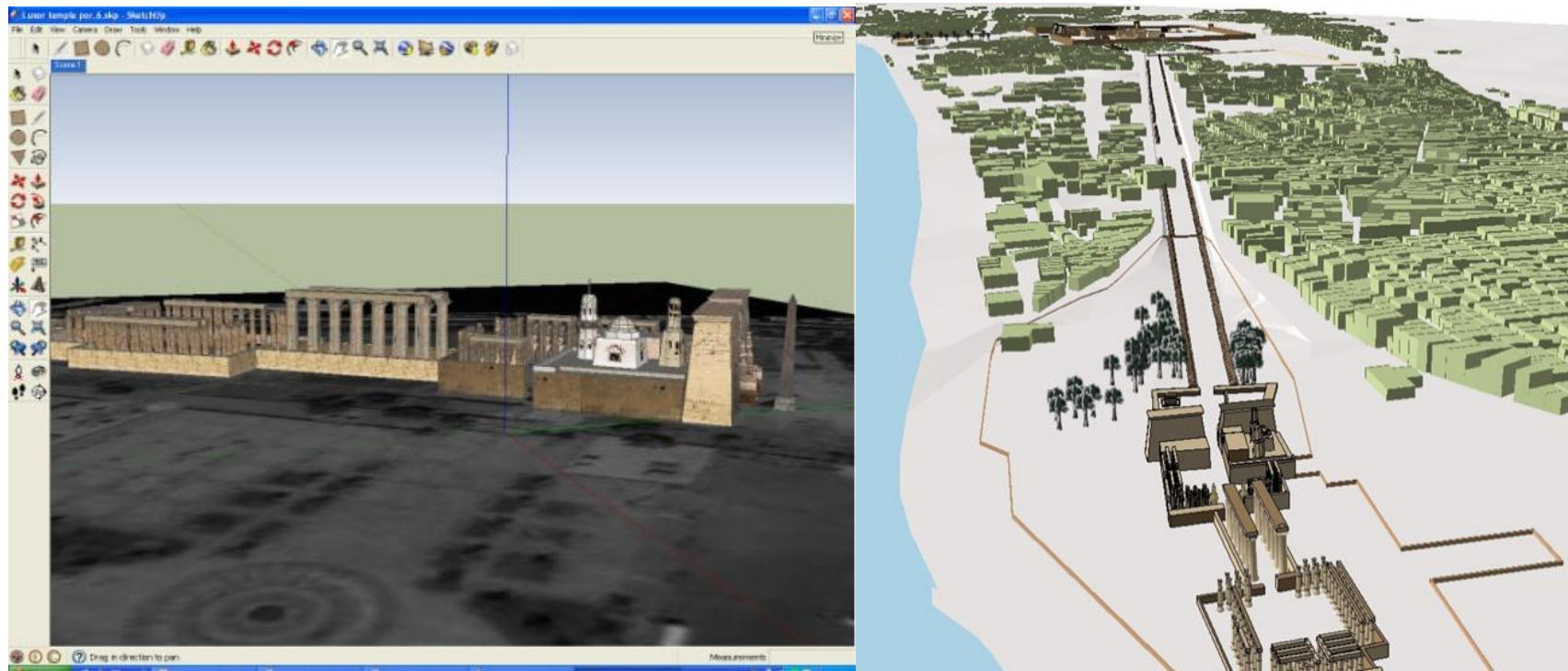


Figure 3-14: Creating 3D objects for Luxor Temple in Google SketchUp (on the left) and exporting them to ArcScene (on the right)

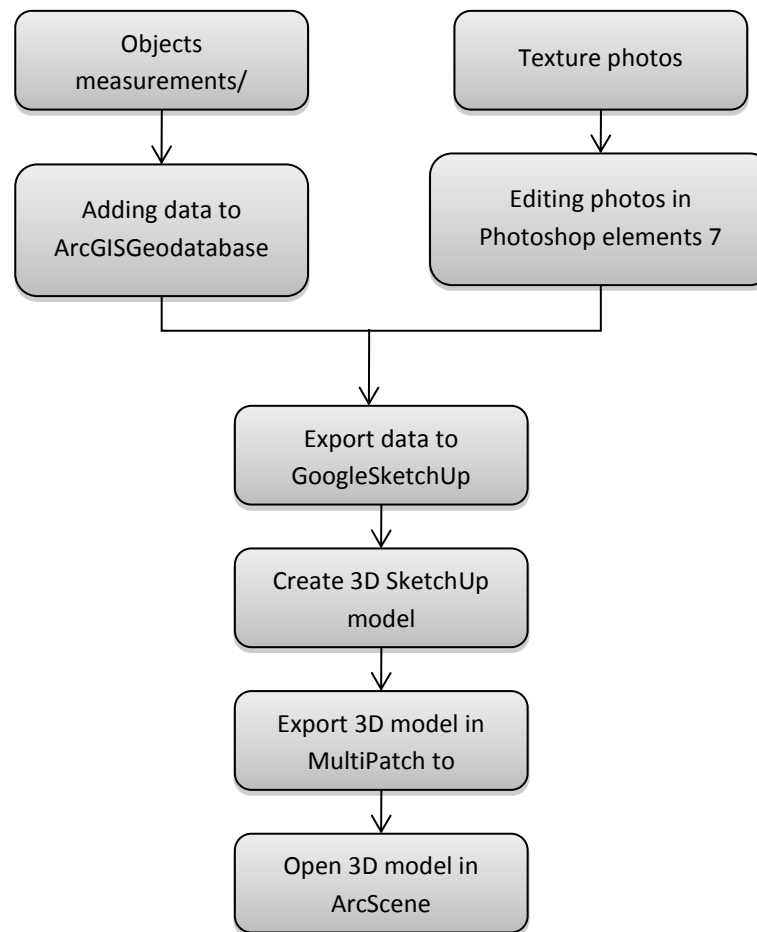


Figure 3-15: The process of creating a 3D model in ArcGIS

Chapter 4. Emergence of the idea for the Luxor Open-air Museum



Figure 4-1: Grand entrance to the Luxor Temple, with rural houses and pottery on top. Source: Roberts, 1838.

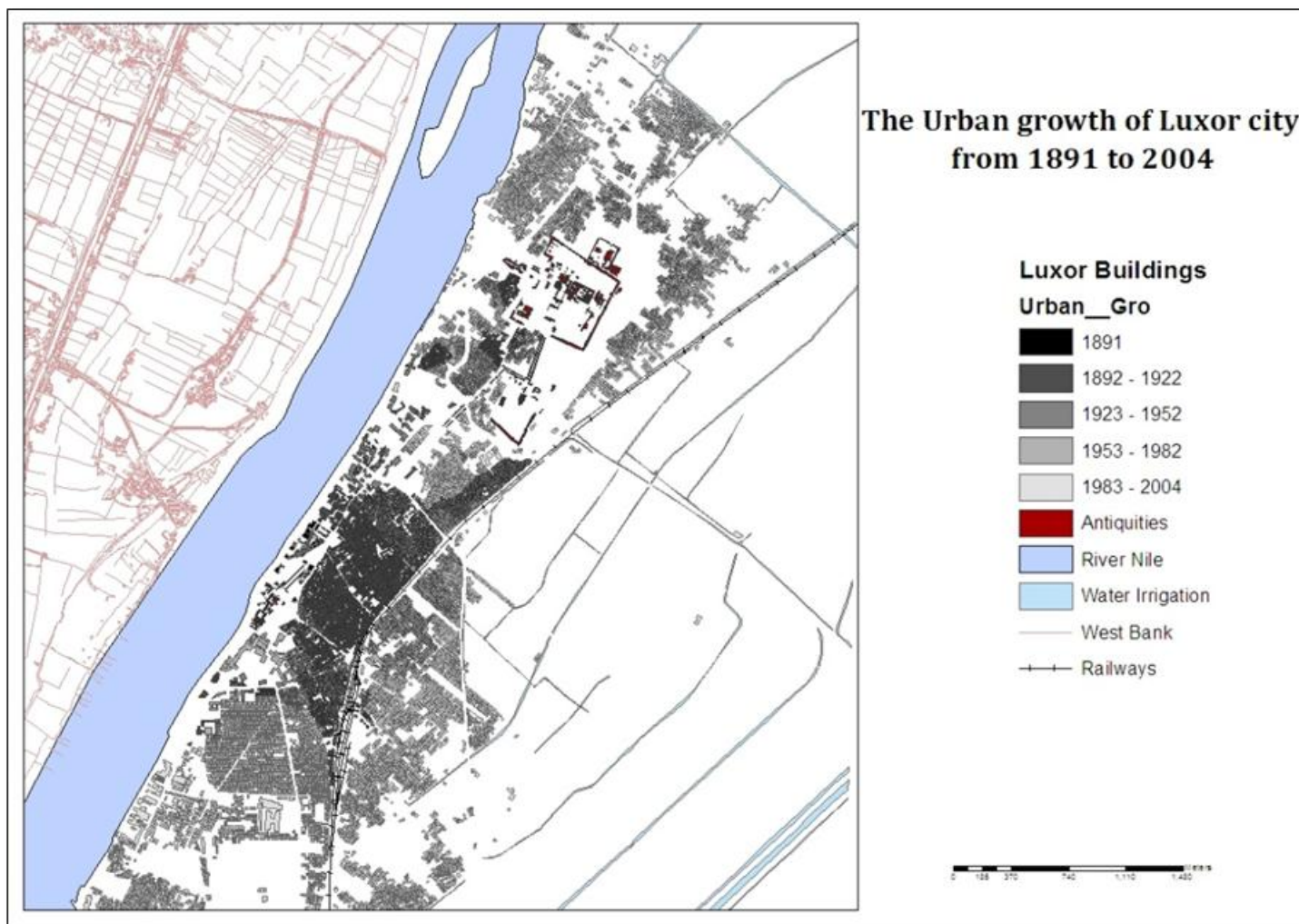


Figure 4-2: The Urban growth of Luxor city from 1891 to 2004. Source: MOH, 2004



Figure 4-3: A photograph for Luxor temple in 19th century from the east side where the current entrance now.
Source: SCA, 2007. This figure presents the rural life and its houses on and around Luxor temple and the east side is covered with Nile flood

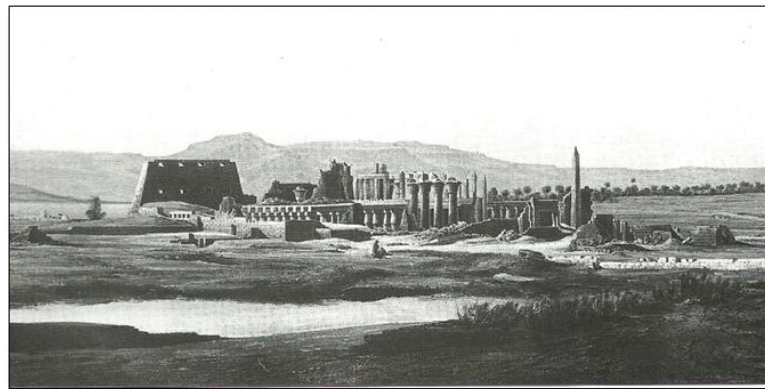


Figure 4-4: A photograph for Karnak temple in 19th century from the east side with a view for the west bank.
Source: SCA, 2007. This figure illustrates the few of agricultural lands surrounded with the temple.

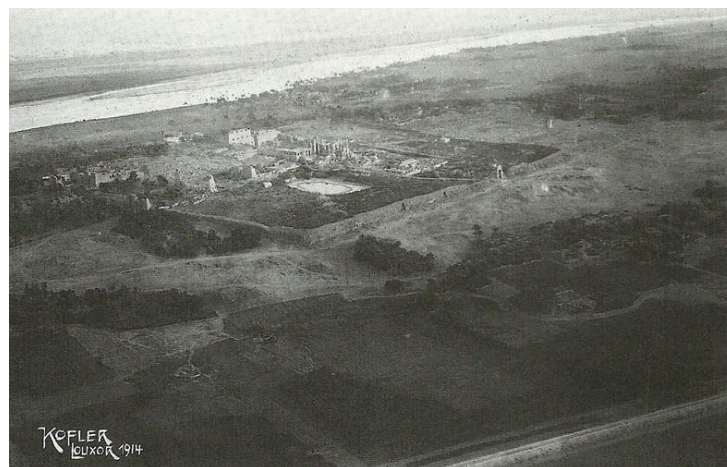


Figure 4-5: Arial Photograph for Karnak temples in 1914. Source: SCA, 2011

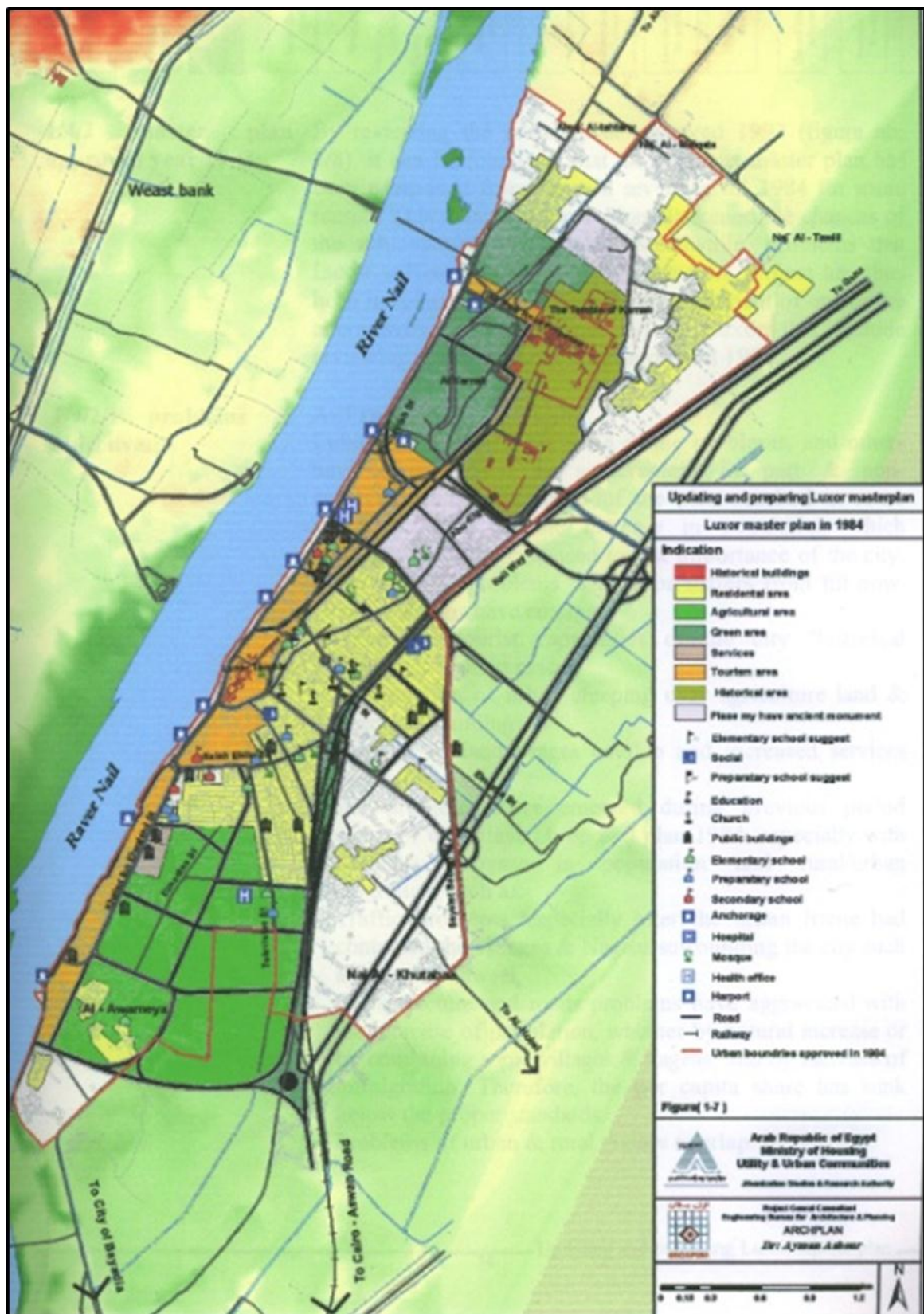


Figure 4-6: Luxor Master Plan in 1984. Source: MOH, 2004

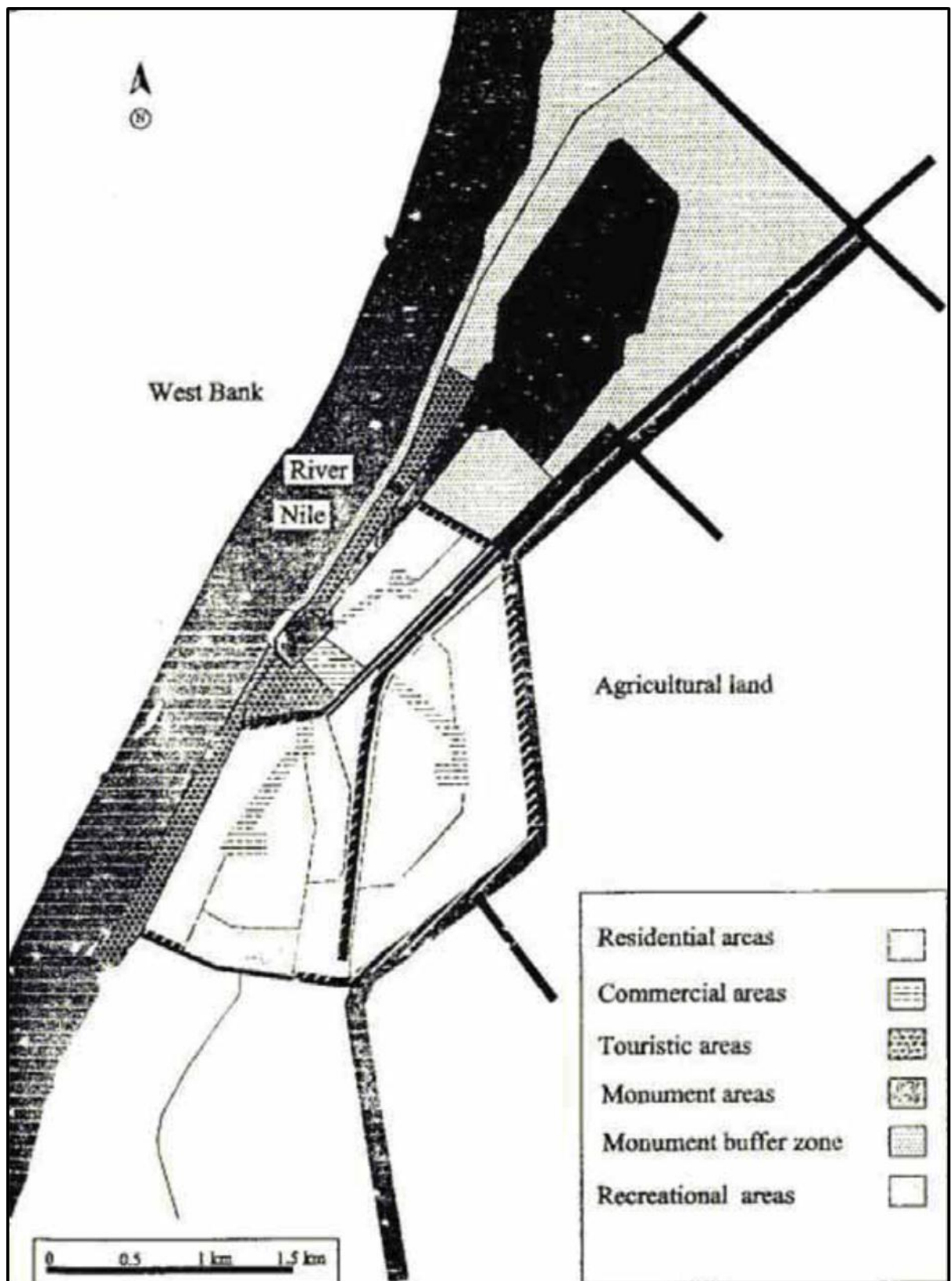


Figure 4-7: Luxor Master Plan in 1993. Source: (APCO, 1993)

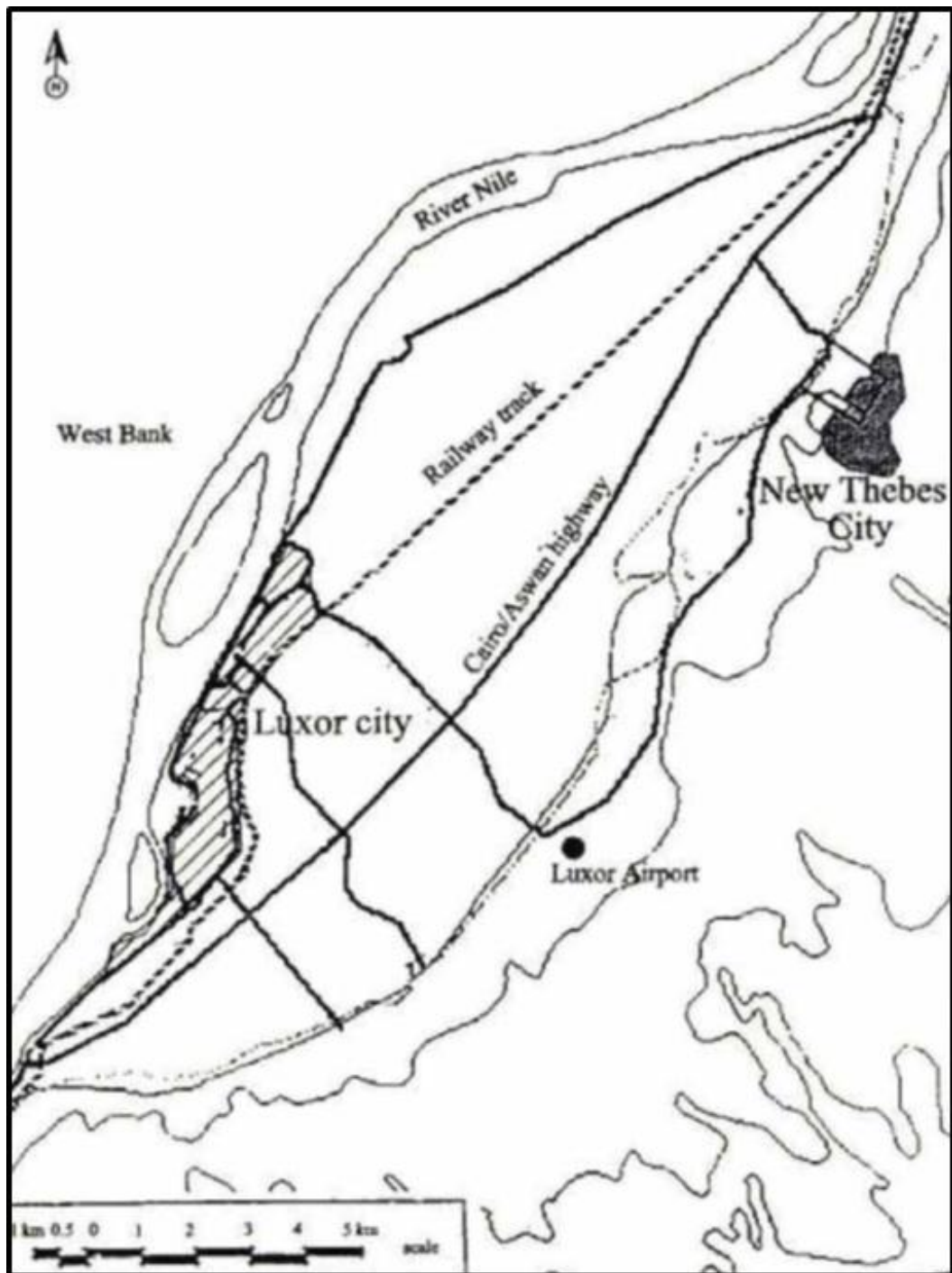


Figure 4-8: Luxor Master Plan in 1993: Location of New Thebes City. Source: APCO, 1993



Figure 4-9: The Open-air Museum and Heritage District concept Diagram. Source: MOH, 2000

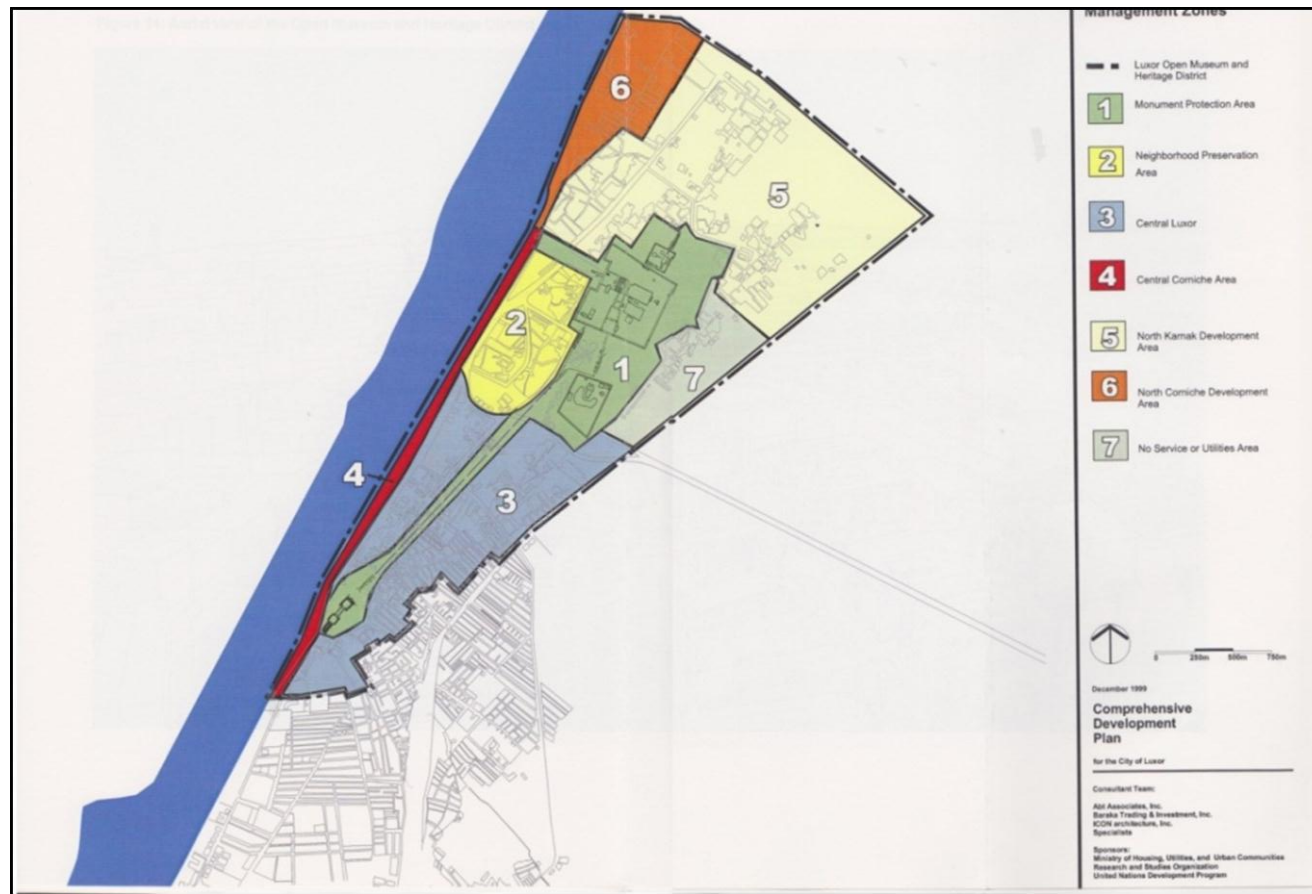


Figure 4-10: The open-air museum Zones. Source: MOH, 2000.

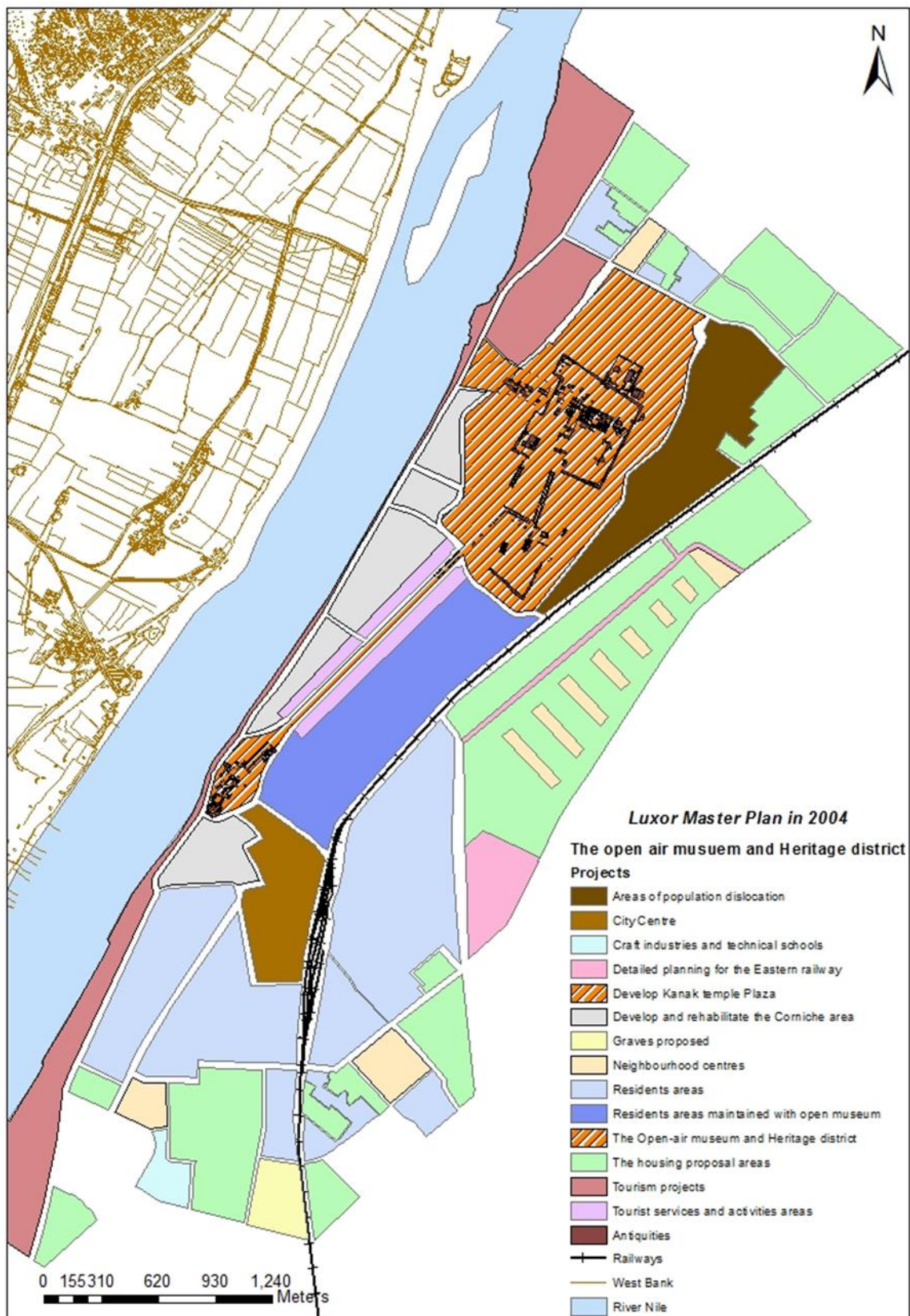
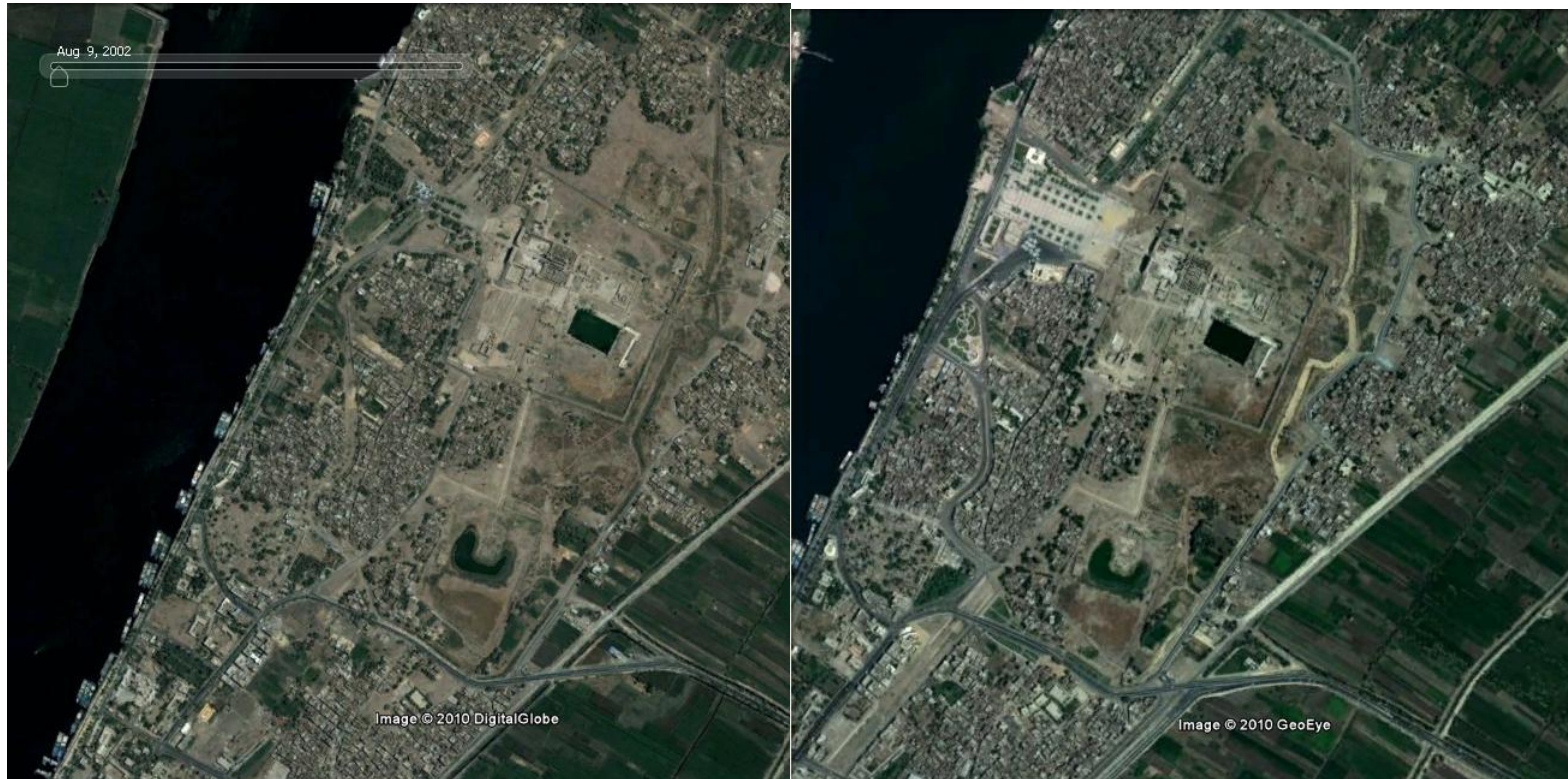


Figure 4-11: Luxor Master plan in 2004, Source: MOH 2004



Figure 4-12: The planning of Karnak temple entrance. Source: MOH, 2004.



(A)

(B)

Figure4-13: (A) A satellite image with true colours for EL-Karnak Temple in 2002 before enhancing the northern-east area (B) A satellite image with true colours for EL-Karnak Temple in 2010 after enhancing the northern-east area.

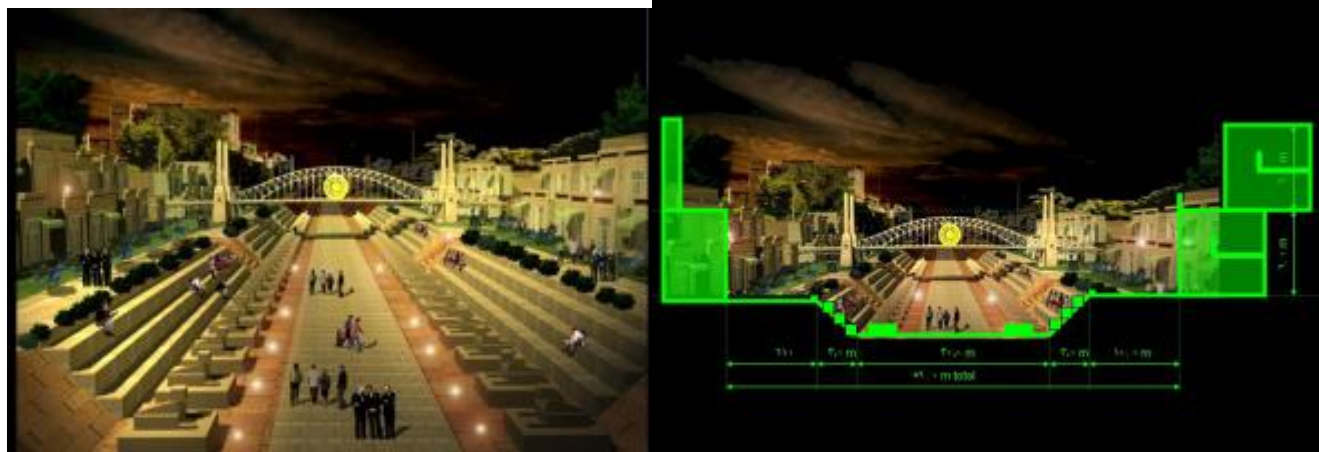


Figure 4-14: The vision of The Avenue Sphinxes in Luxor master plan 2004.



Figure 4-15: Abu El Hagag Plaza before development at the left photo showing it congestion on the annual festival. However, at the right photo is the temple plaza after development. Source: Ashour, 2009.



Figure 4-16: The Golden Triangle in Luxor city. Source: Cube (2010)



Figure4-17: A Vision of Golden Triangle in Luxor. Source: Cube, 2010.

Chapter 5. Spatial forms, experience, and functions in Luxor open-air museum: A story of buildings and buffers



Figure 5-1: Aerial Photograph for Karnak temples in 1970. Source: CFEETK, 1970



Figure 5-2: Avenue of Sphinxes (Behind Adra Church). Source: Kamar, 2012.



Figure 5-3: The Entrance of Karnak Temple with an open view to the River Nile. Source: CFEETK, 2006



Figure 5-4



Figure 5-5

Figure 5-4: Karnak temple at night by using Sound & Light (At the left)

Figure 5-5: Luxor temple at night with visitor (At the right)

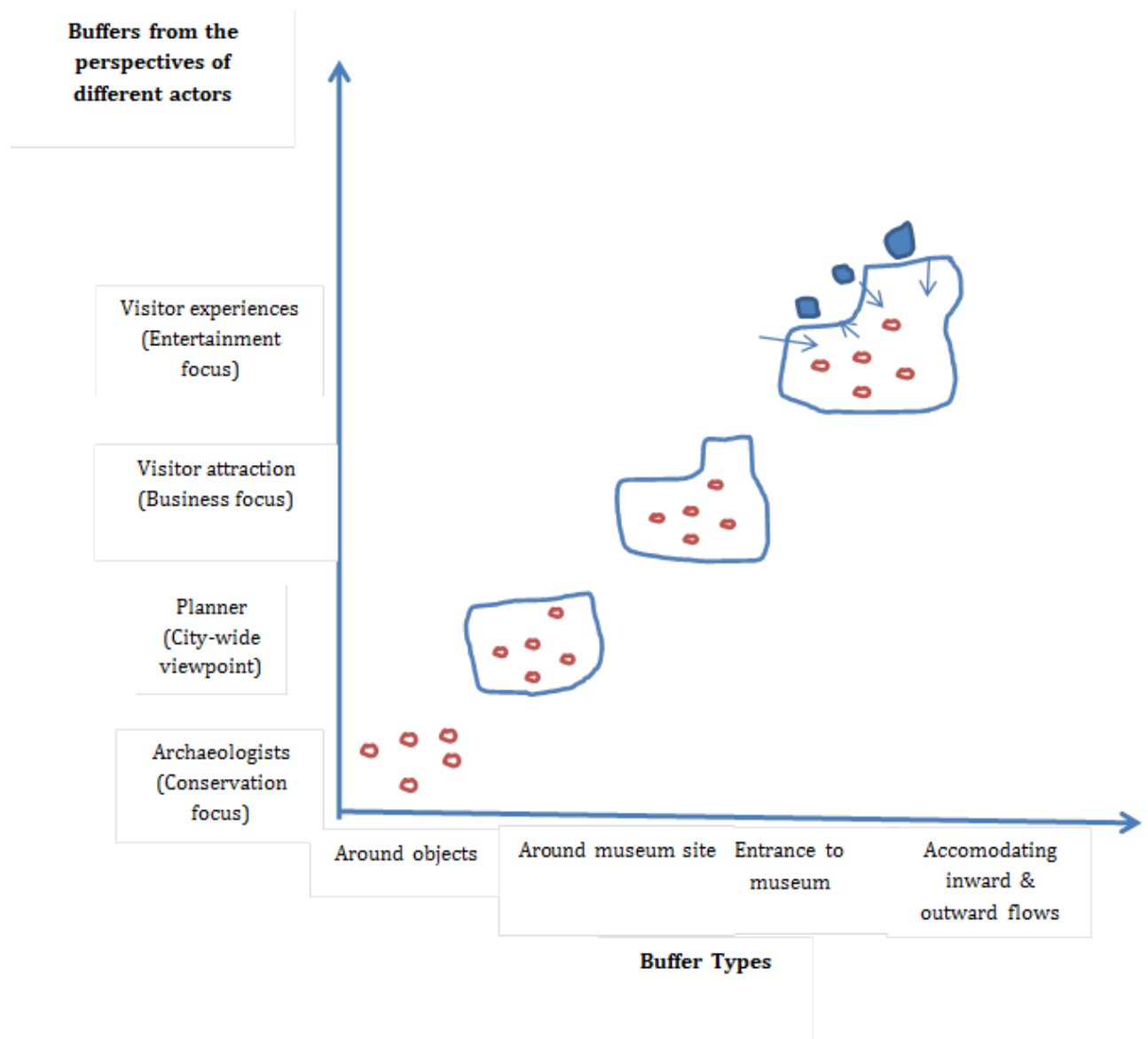


Figure 5-6: Buffers types from different perspectives

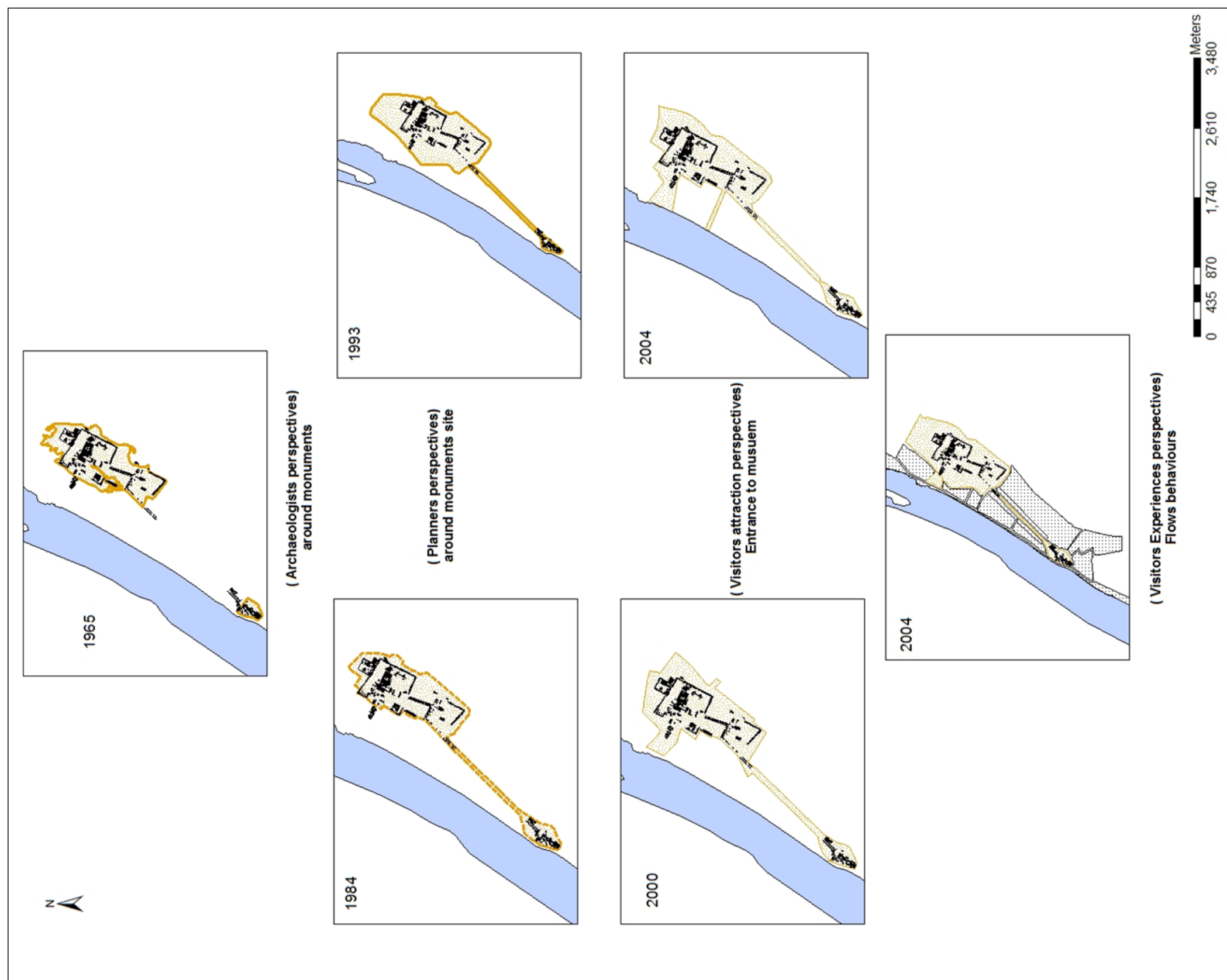


Figure 5-7: The buffers around Luxor open air museum from 1965 to 2004 from different perspectives actors

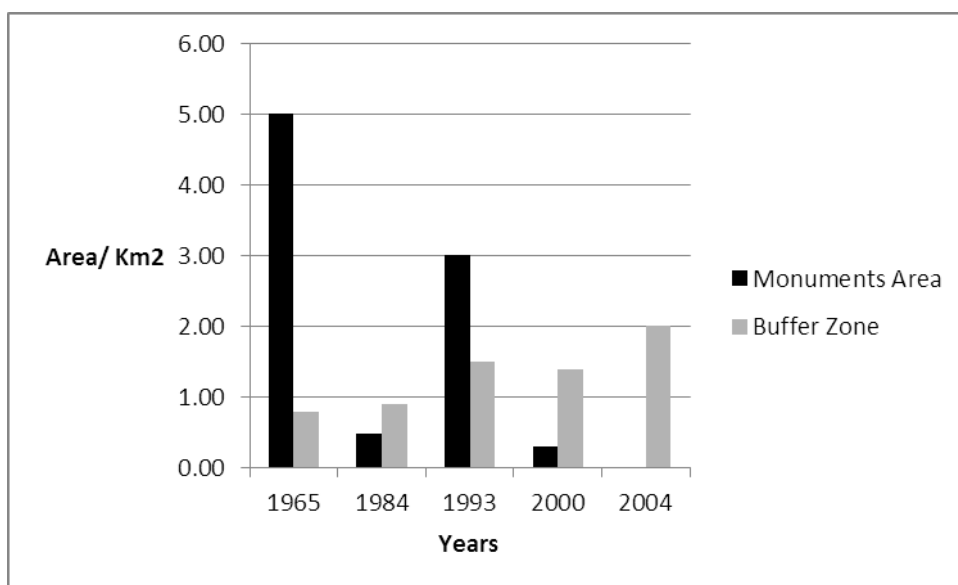


Figure 5-8: The changes of Luxor Antiquities Buffer zone from 1965 to 2004

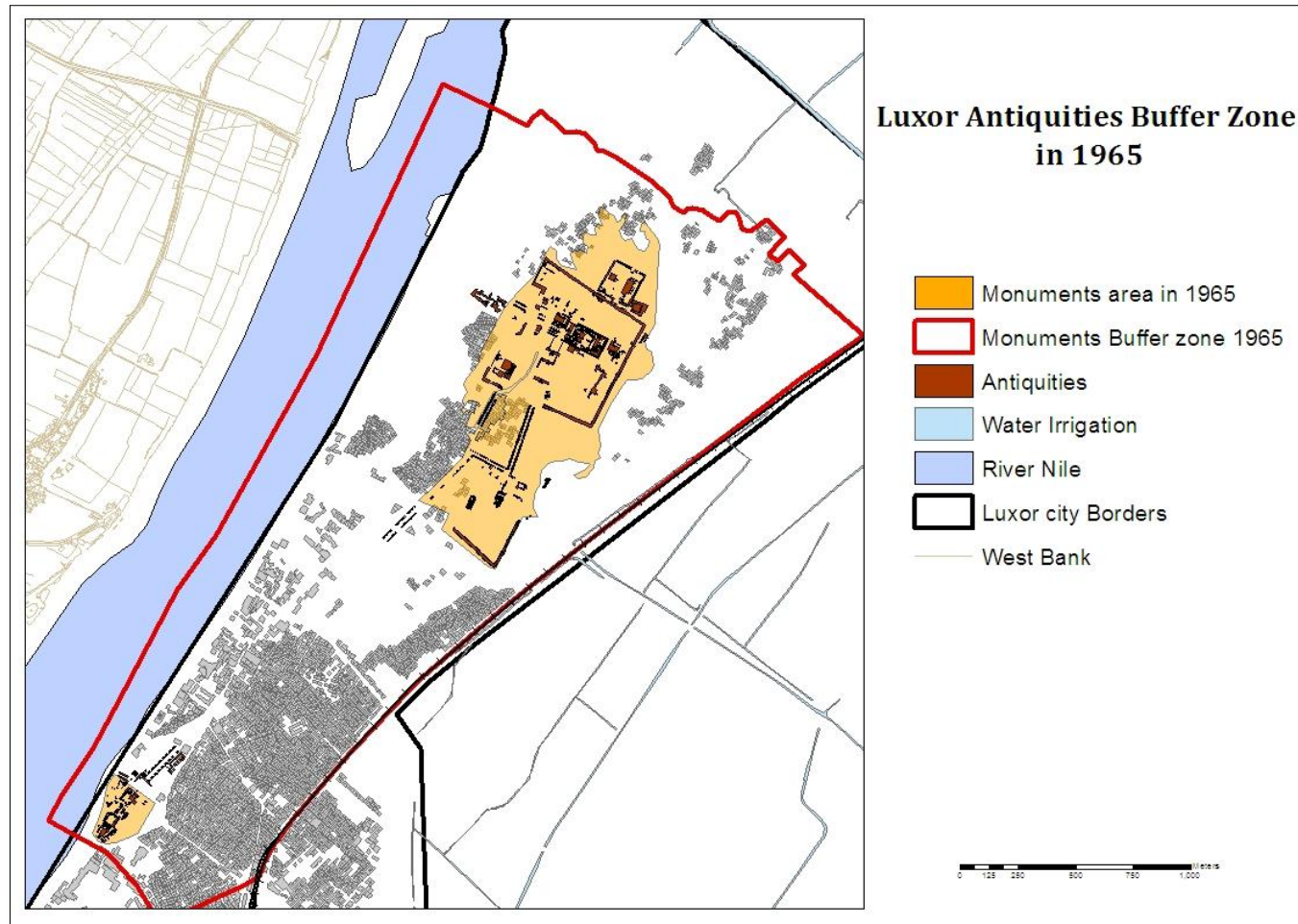


Figure 5-9: Luxor Antiquities Buffer zone in 1965. Source: SCA, 1965

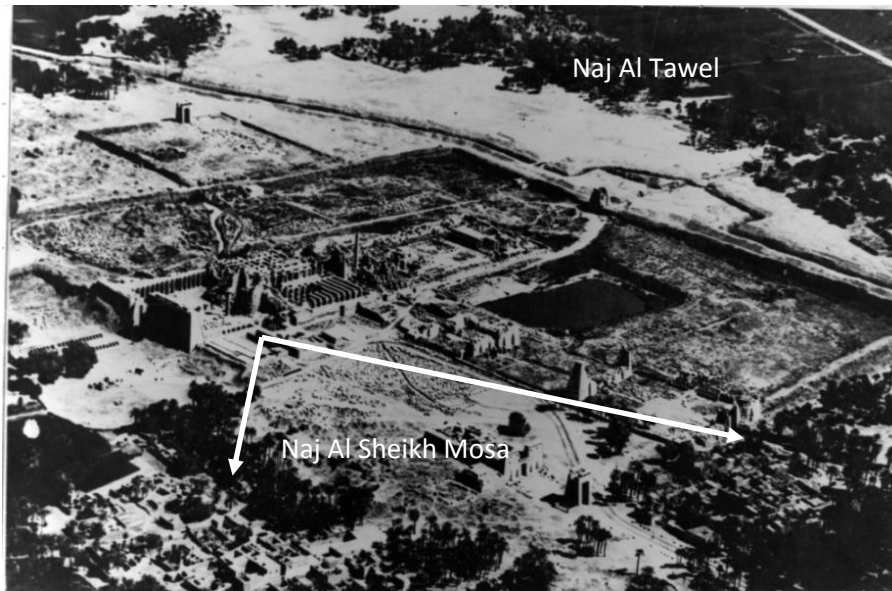


Figure 5-10



Figure 5-11

Figure 5-10: Aerial Photograph for Karnak Temple in 1953 (Source: CFEETK)

Figure 5-11: A survey of Egypt map of Luxor, tourist edition in 1922 for Luxor temple.

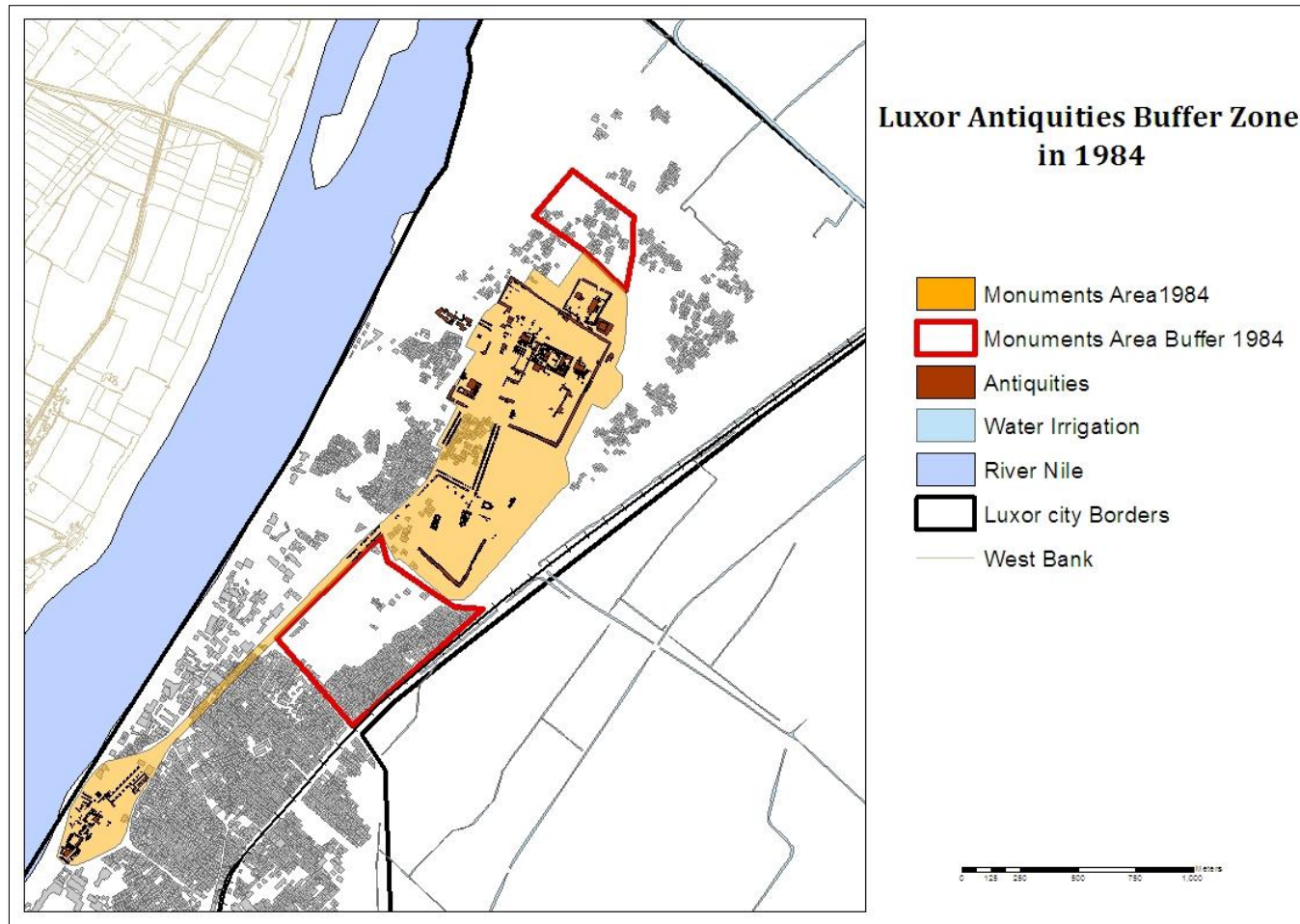


Figure 5-12: Luxor Antiquities Buffer zone in 1984. Source: MOH, 1984.

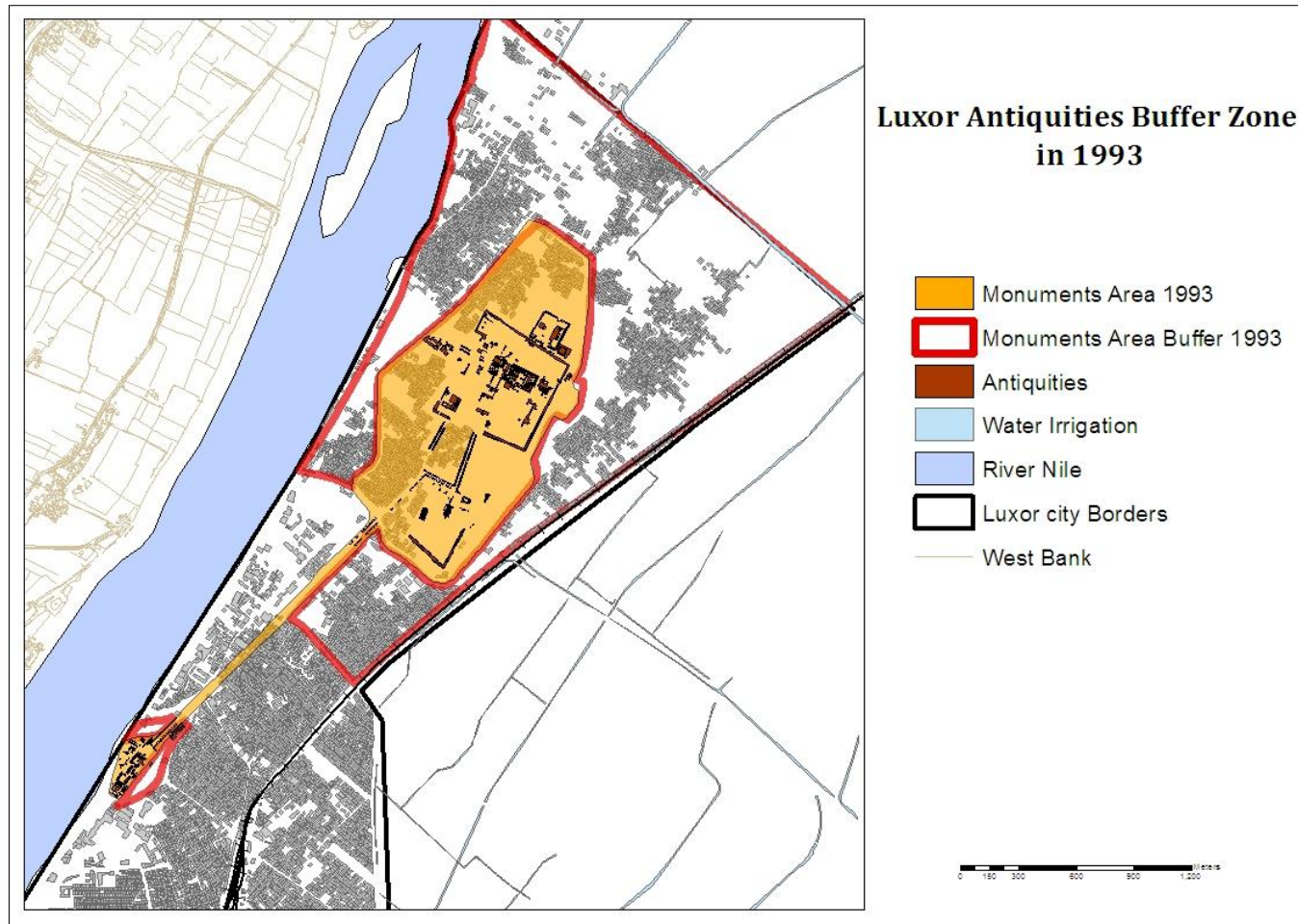


Figure 5-13: Luxor Antiquities Buffer zone in 1993. Source: MOH, 1993.

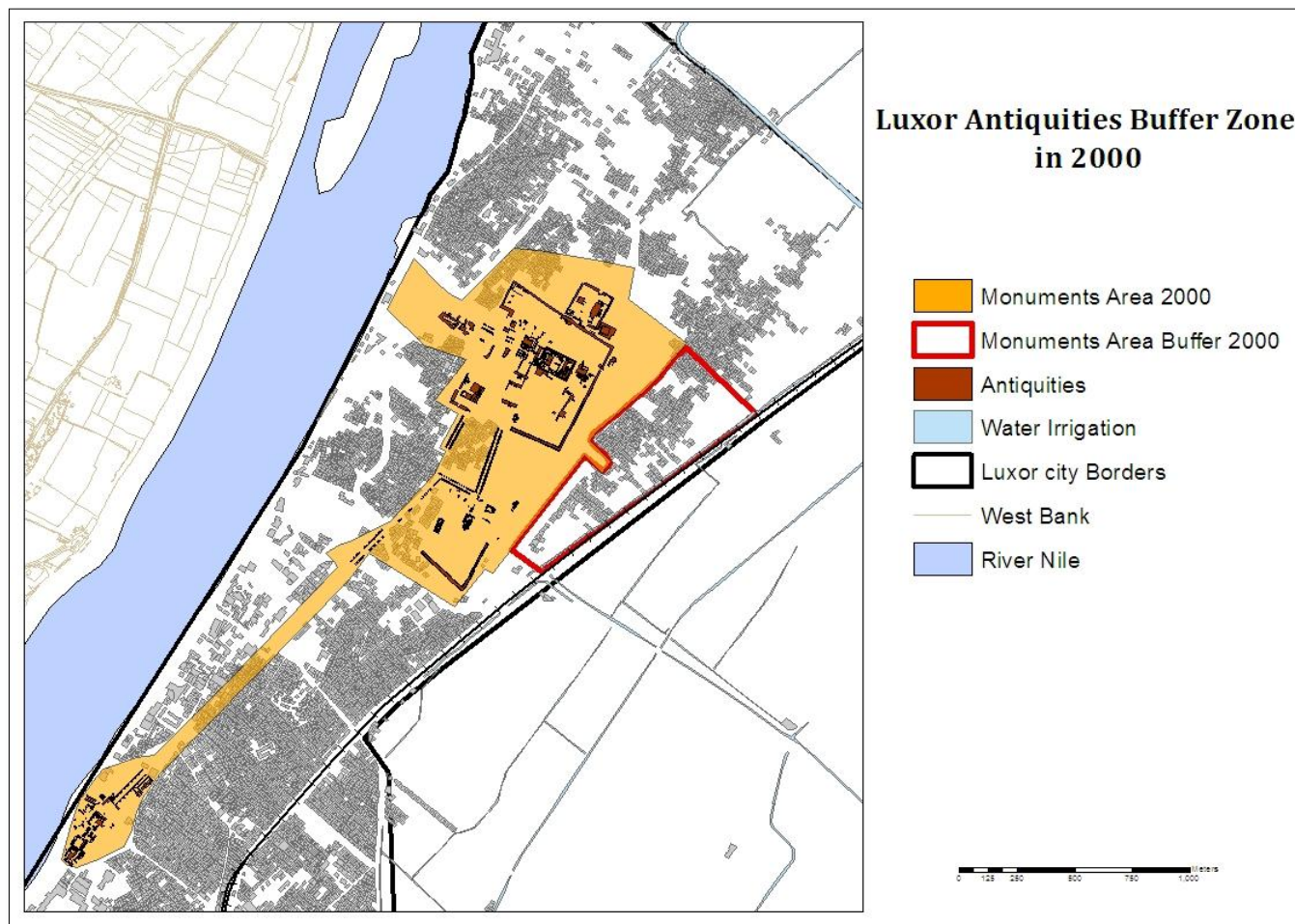


Figure 5-14: Luxor Antiquities Buffer zone in 2000. Source: MOH, 2000.

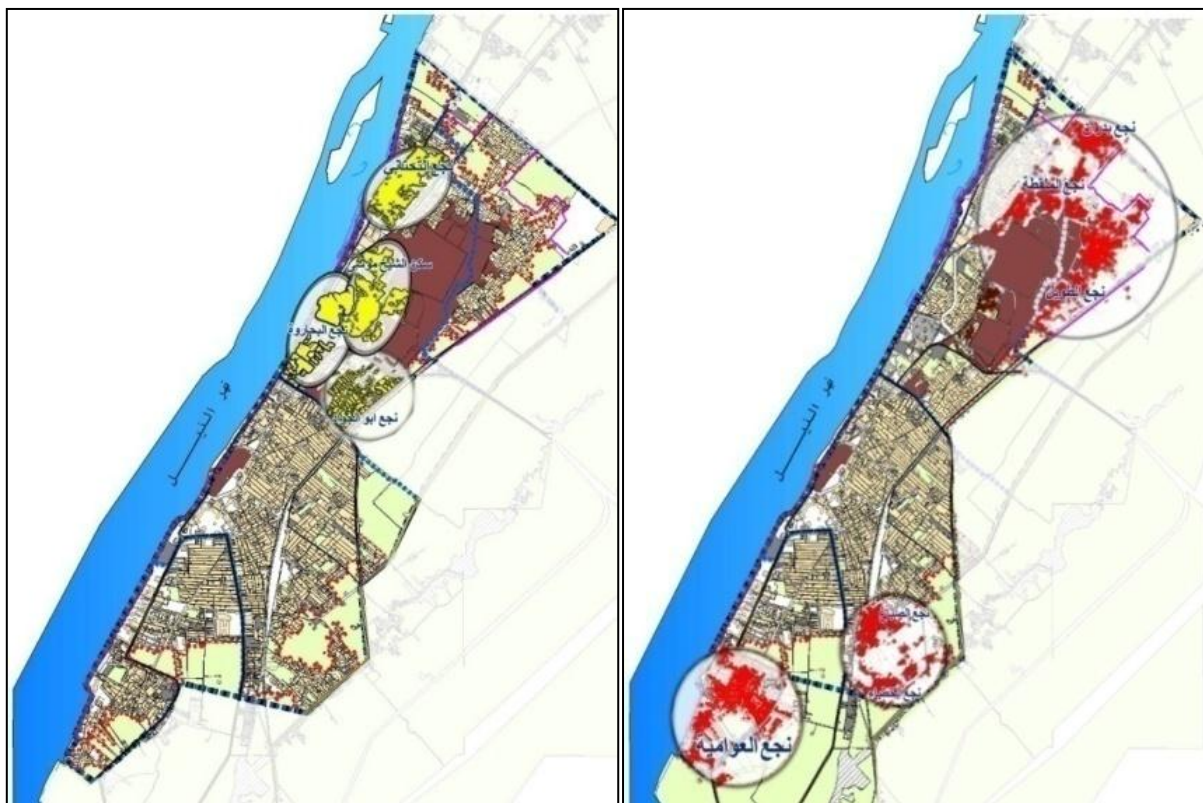


Figure 5-15: The slums areas in Luxor city (at the right) .Source: MOH, 2004

Figure 5-16: The informal areas in Luxor city (at the left). Source: MOH, 2004

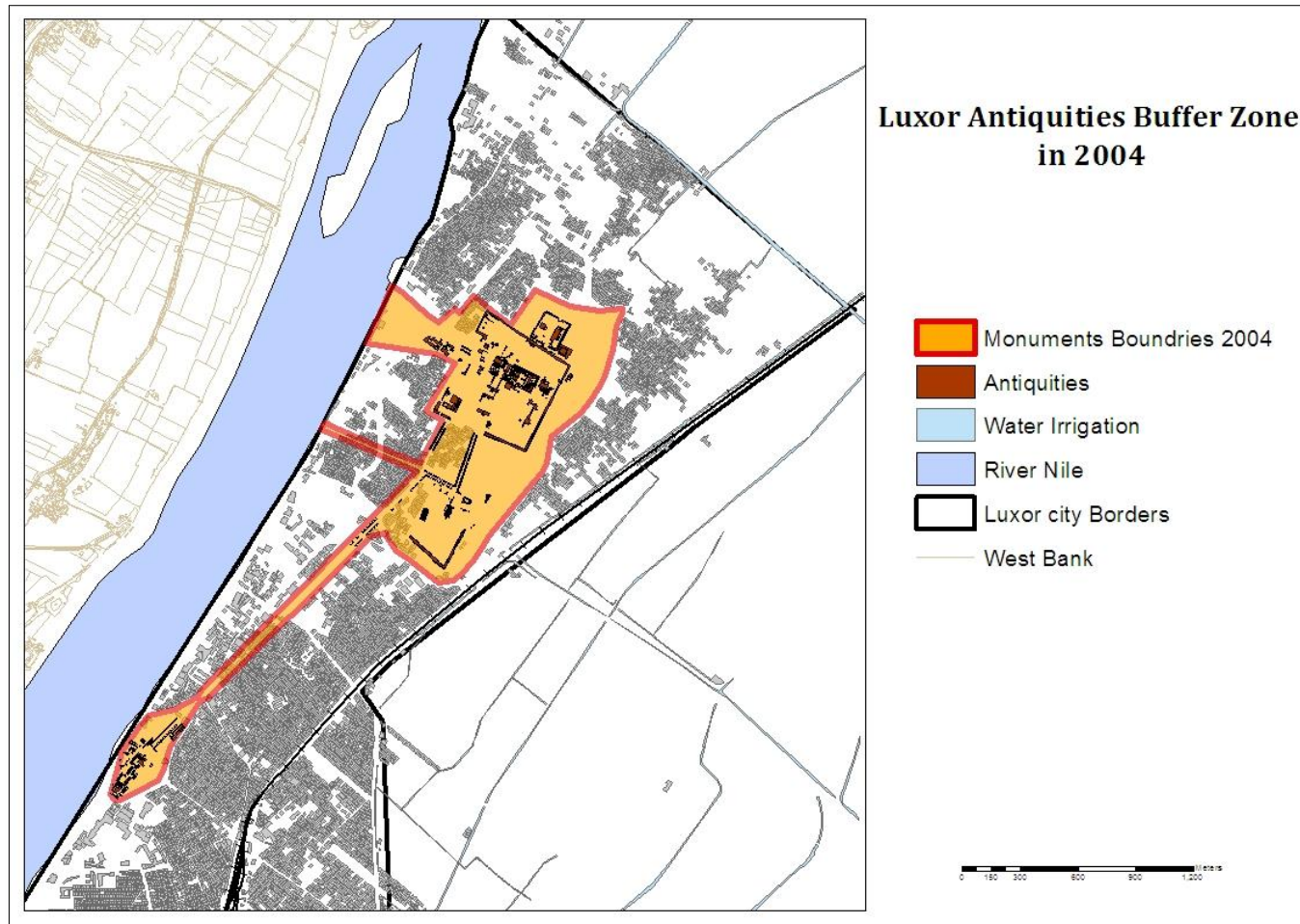


Figure 5-17: Luxor Antiquities Buffer zone in 2004. Source: MOH, 2004.



Figure 5-18: The altered areas within Open air museum borders.

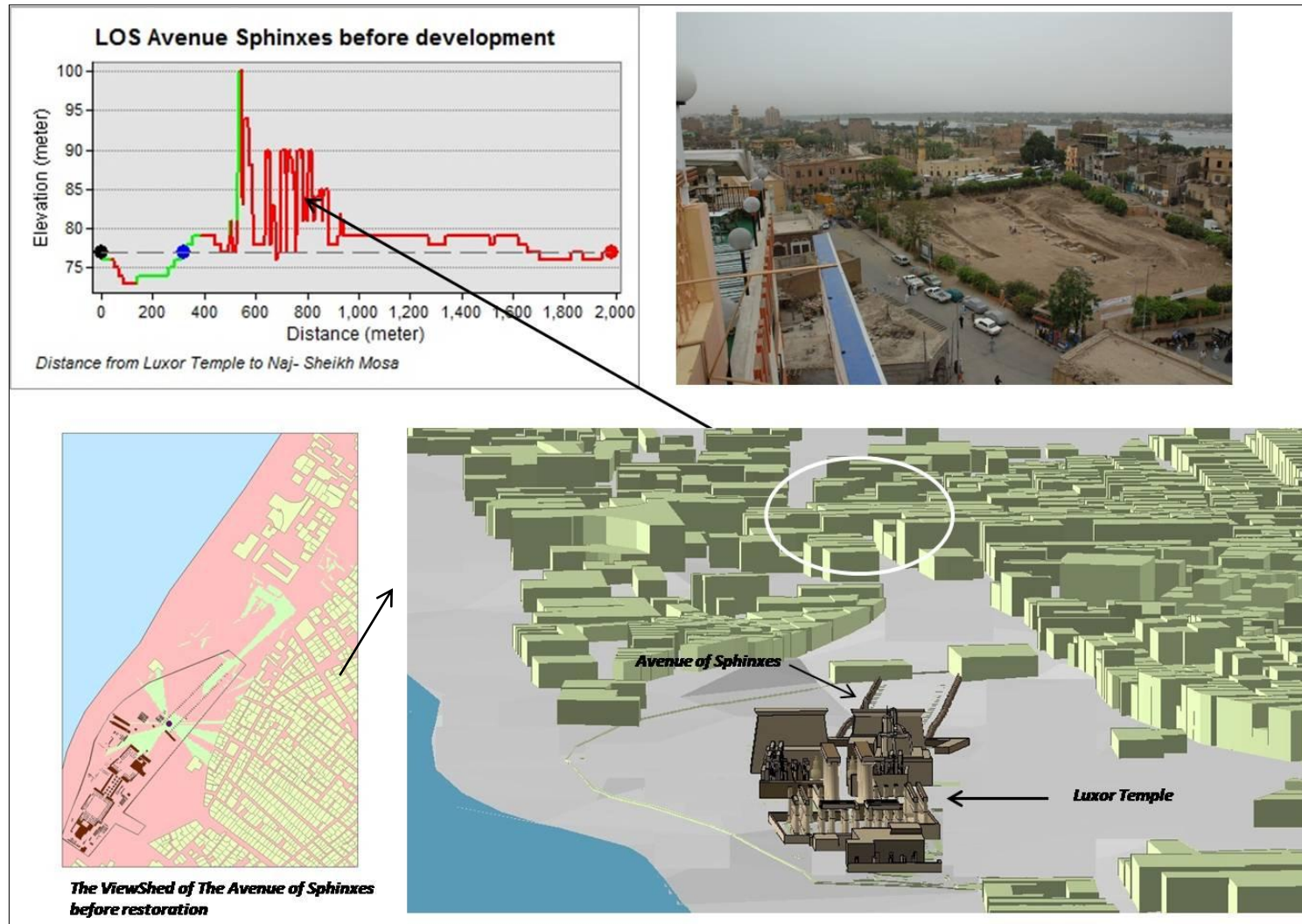


Figure 5-19: The Avenue of Sphinxes 3D model, Line of sight, and Viewshed before restoration

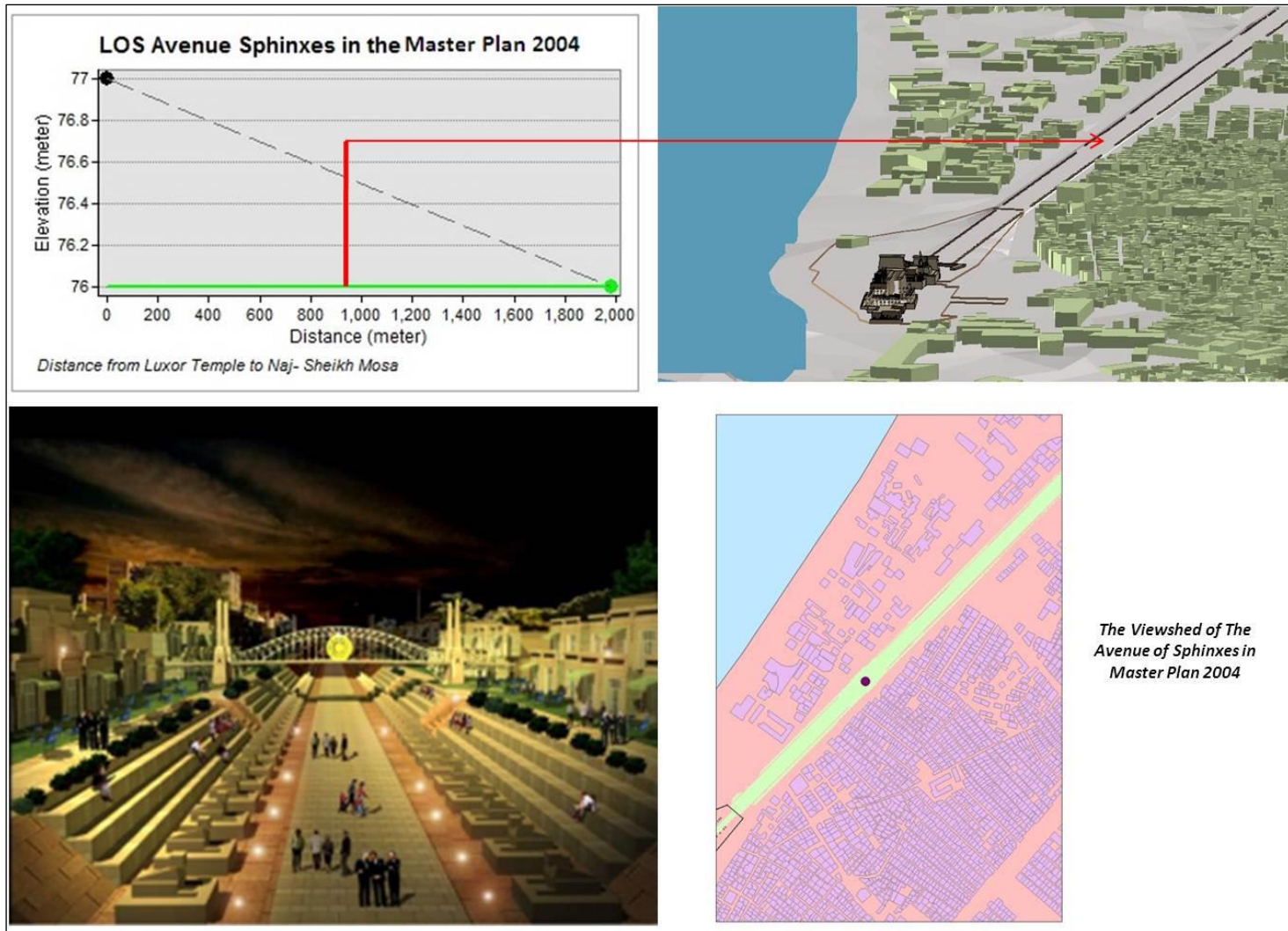


Figure 5-20: The visibility analysis (Viewshed and Line of sight) for the Avenue of Sphinxes at the Master plan in 2004

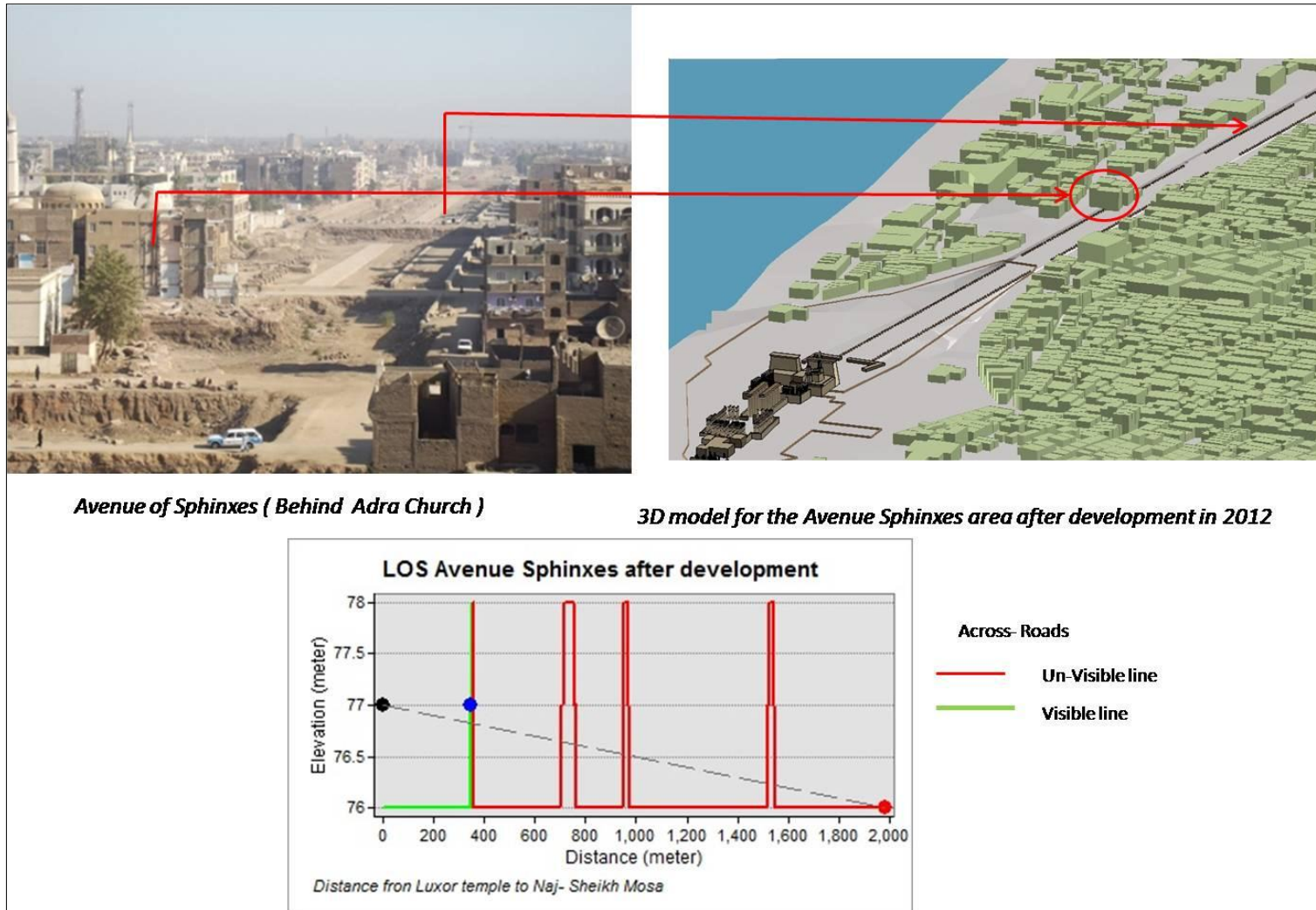


Figure 5-21: 3D model for the Avenue Sphinxes area after development in 2012



3D model for the Entrance of Karnak temple in 2003



3D model for Entrance of Karnak temple in the Master Plan 2004



3D model for Entrance of Karnak temple in 2012

Figure 5-22: Karnak temples entrance 3D models

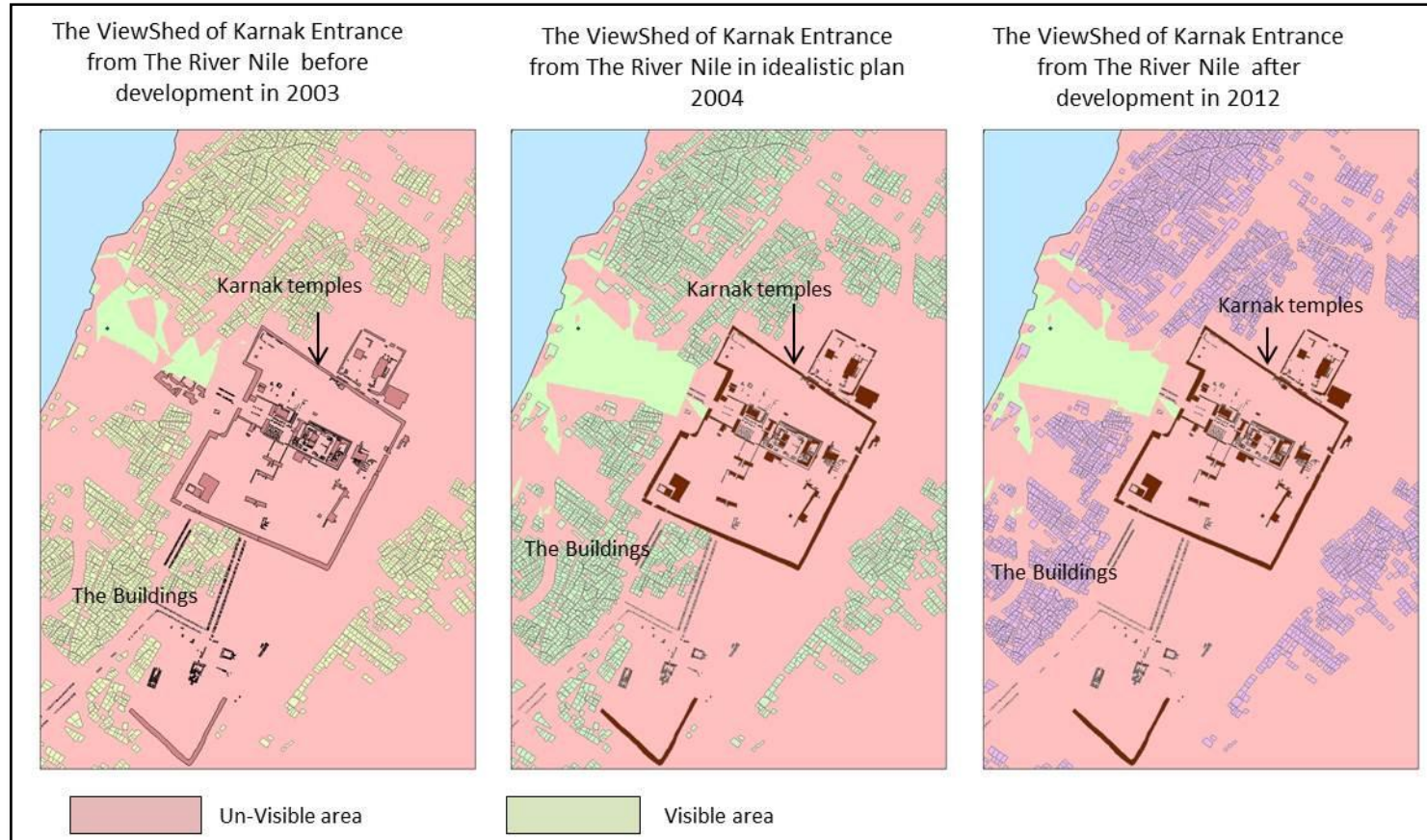
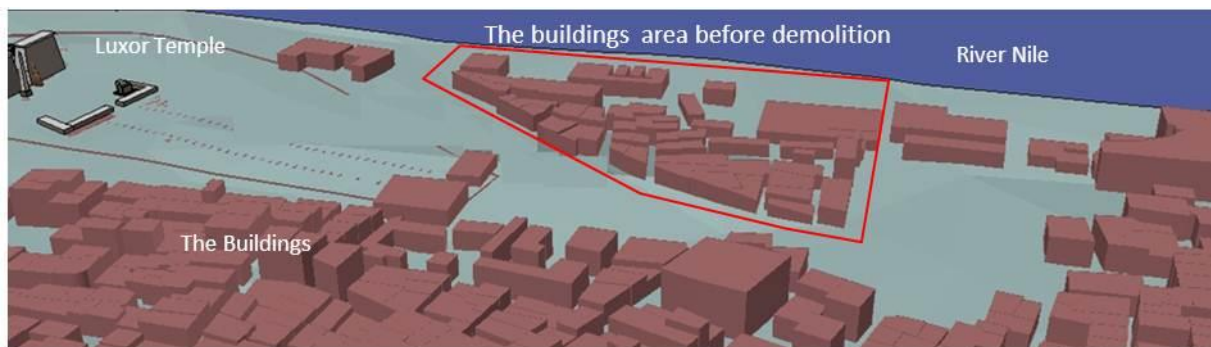
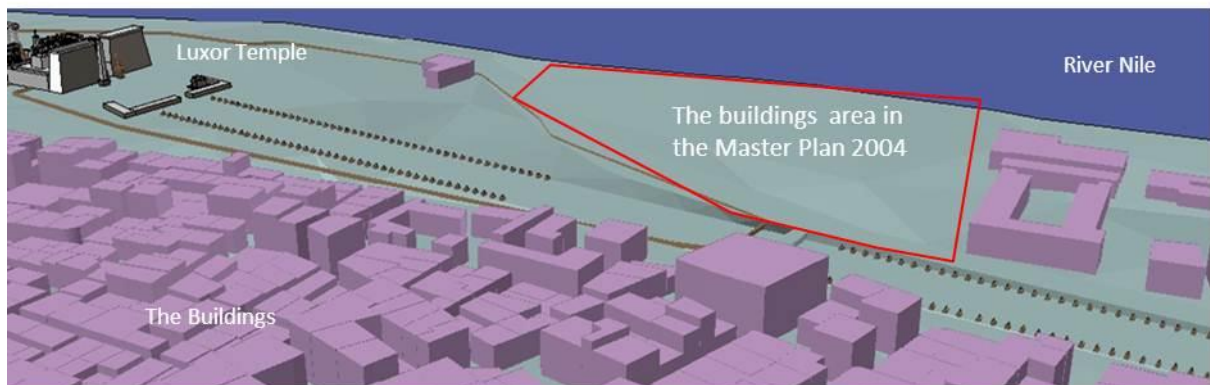


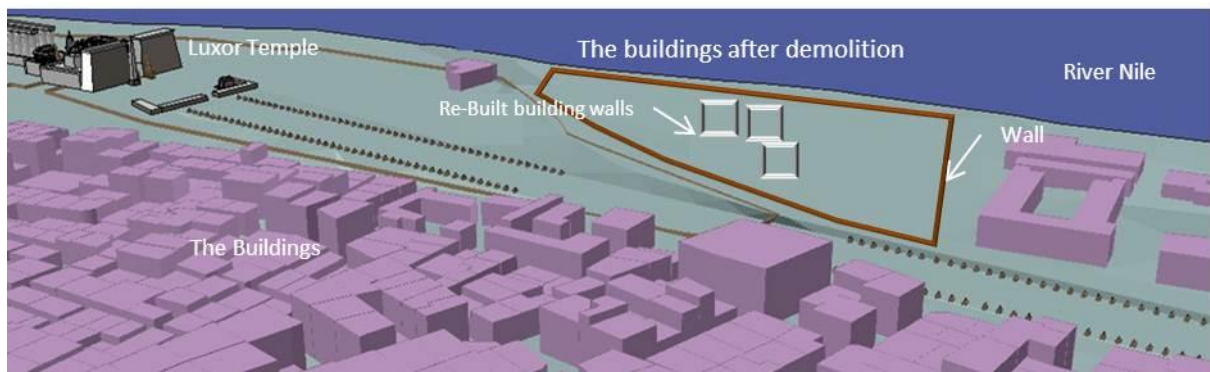
Figure 5-23: ViewShed for Karnak temple entrance from the River Nile before development, after development and in Master plan 2004.



3D model for north of Luxor temple before development in 2003



3D model for north Luxor temple in the Mater Plan in 2004



3D model for north of Luxor after development in 2012

Figure 5-24: Comparative between three models for the areas at North of Luxor Temple.



Figure 5-25: North Luxor temple area after local residents return back in 2011

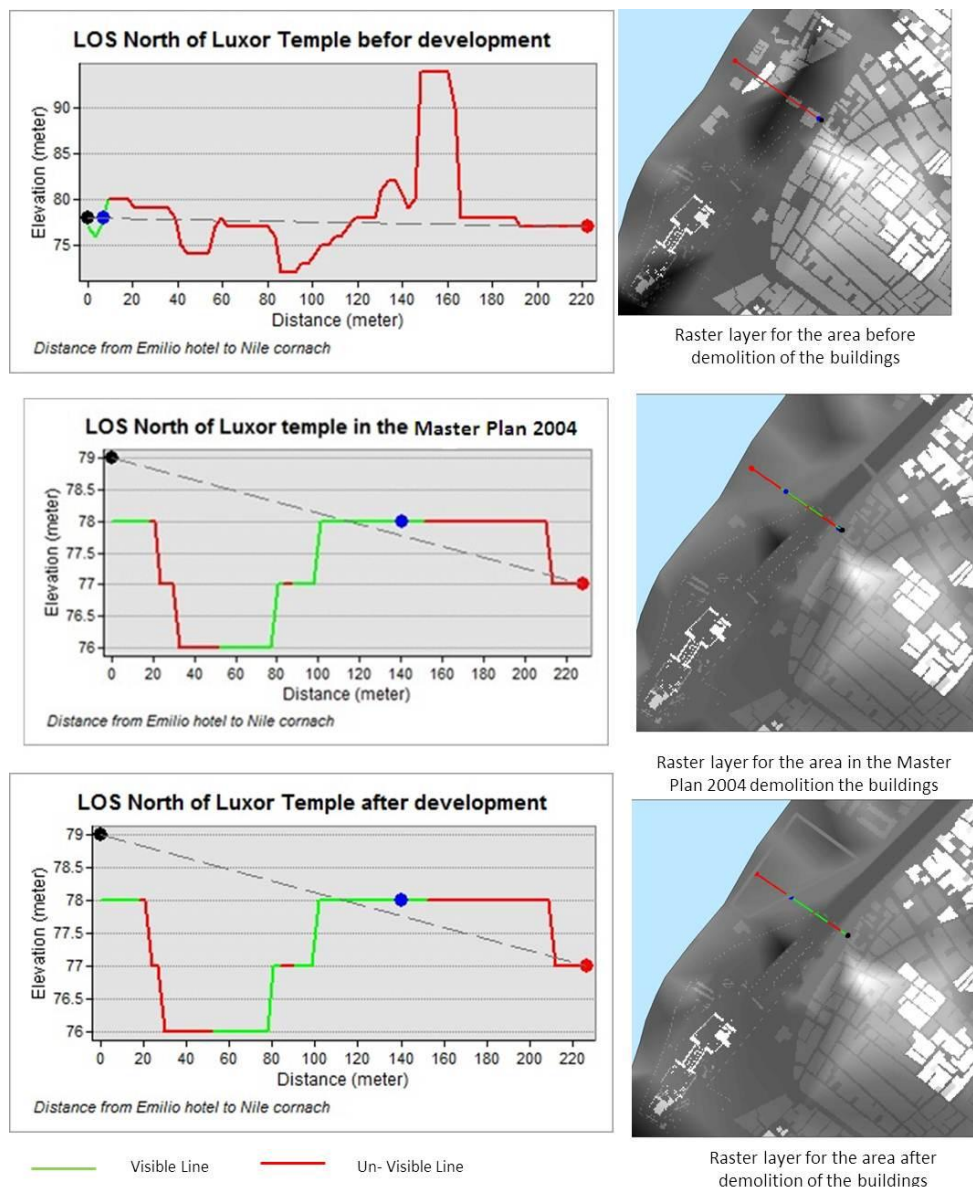


Figure 5-26: The visibility analysis (Line of sight) for the area at North of Luxor Temple.

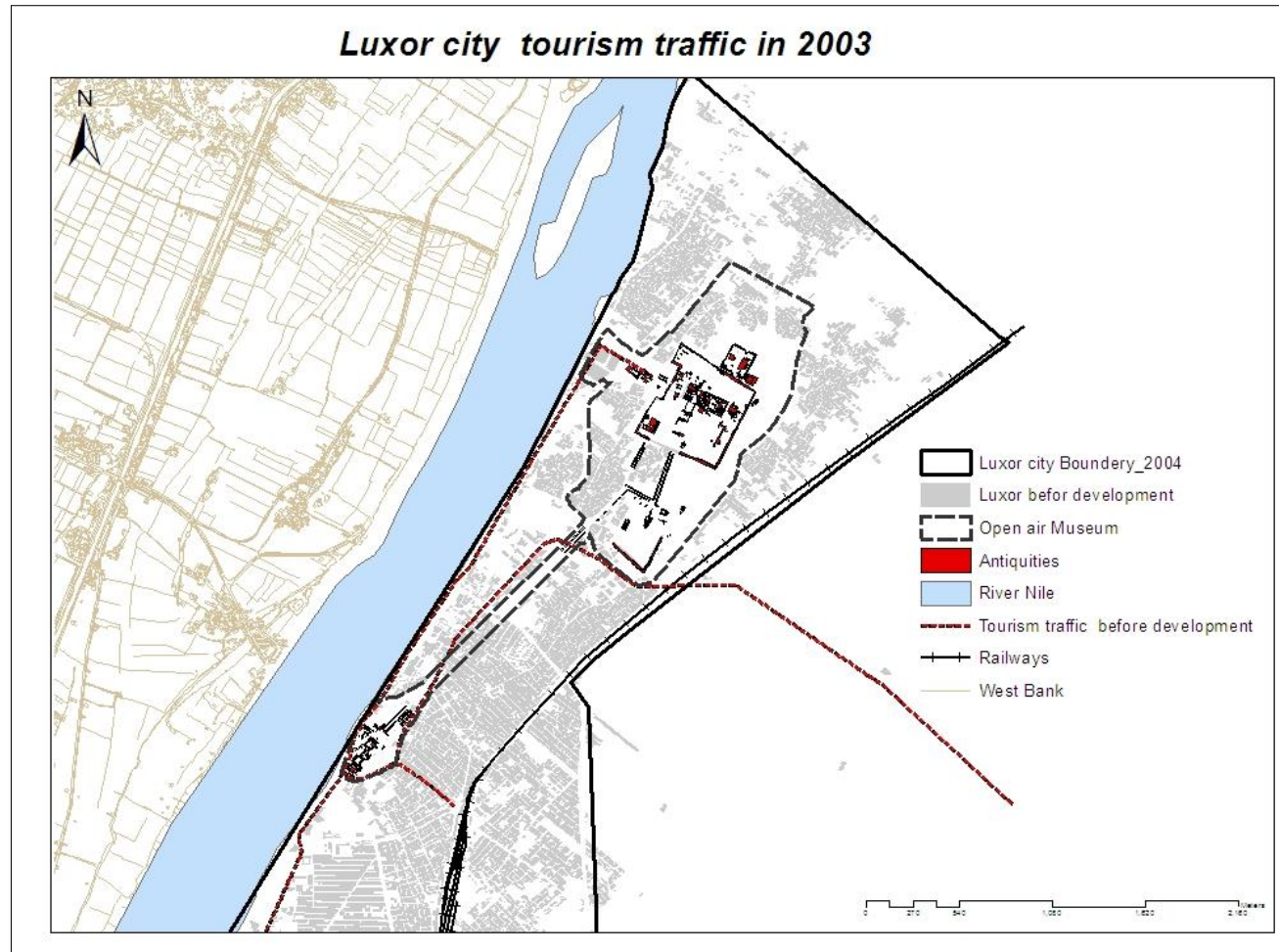


Figure 5-27: Tourism traffic before development in 2003. Source: MOH, 2004

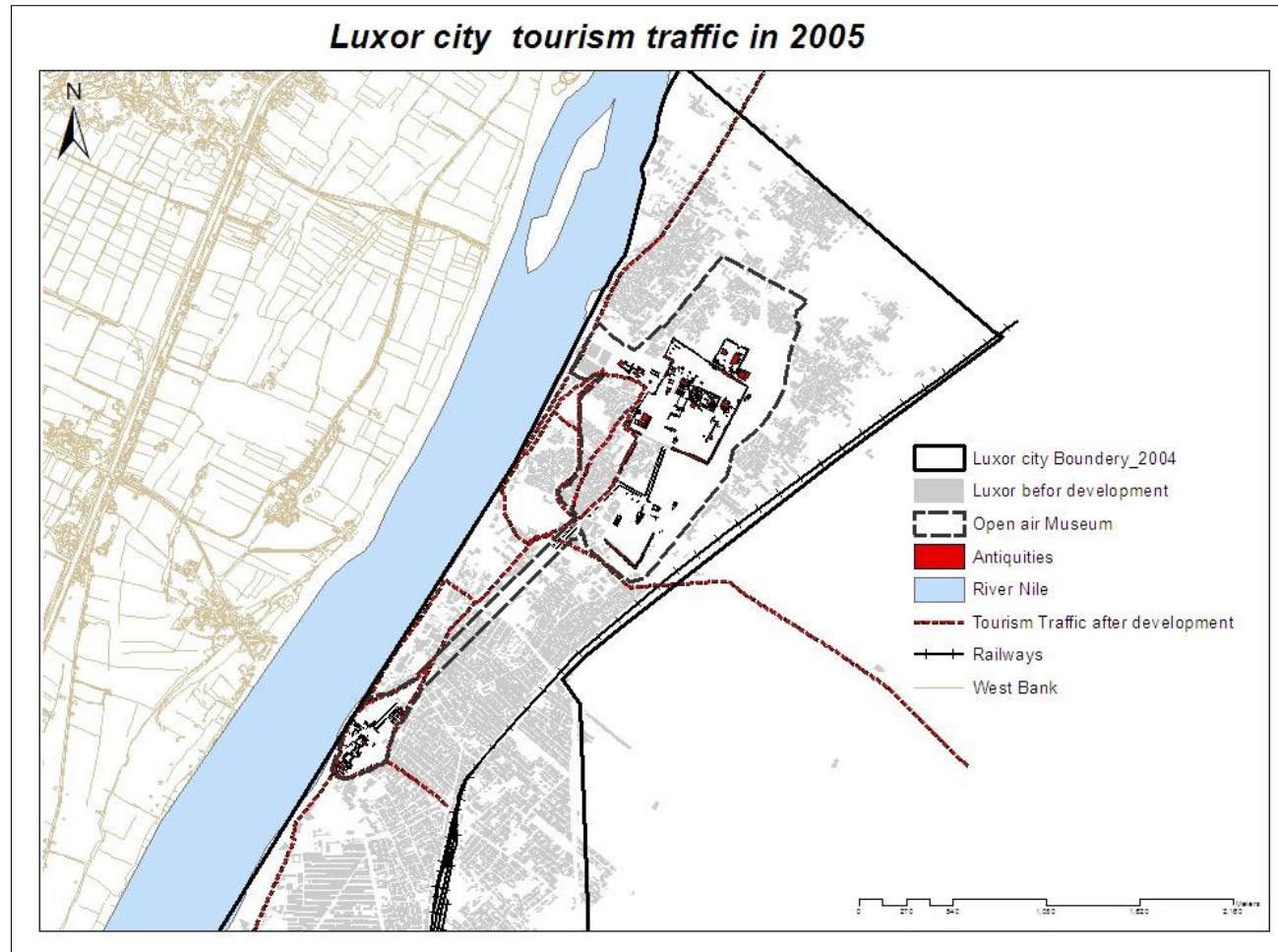


Figure 5-28: Tourism traffic after development in 2004. Source: MOH, 2004



Figure 5-29: The visitors' observation routes at Karnak temples in 2012. Source: Google Earth, 2010



Figure 5-30: The two views are taken at eye level by Sketch-Up 3D model to visualise the visitors' routes from the entrance to the First pylon. Source: Kamar, 2013

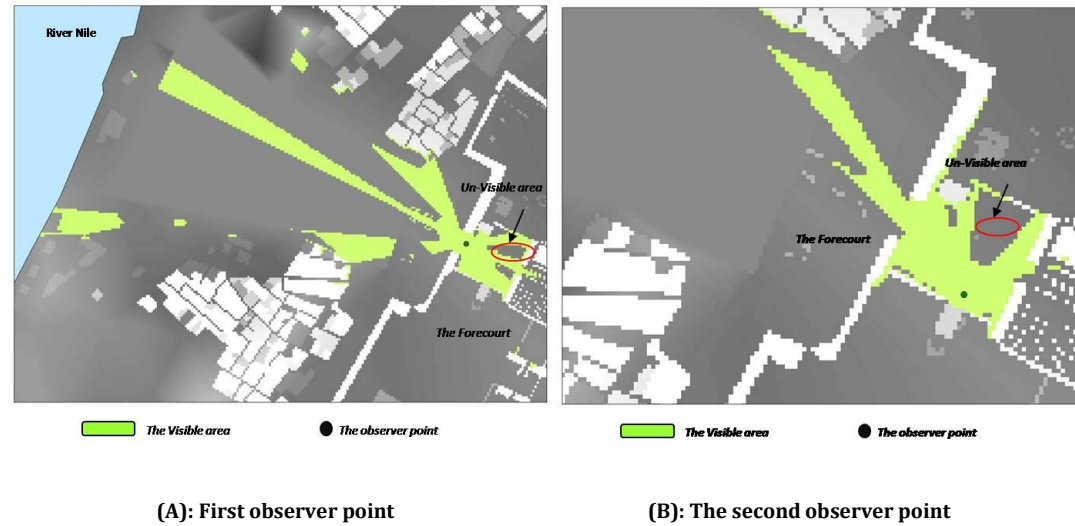


Figure 5-31: (A & B) The raster Layer for the Forecourt at Karnak Temple illustrate the visible and in-visible area from two different observer points. Source: Kamar, 2013

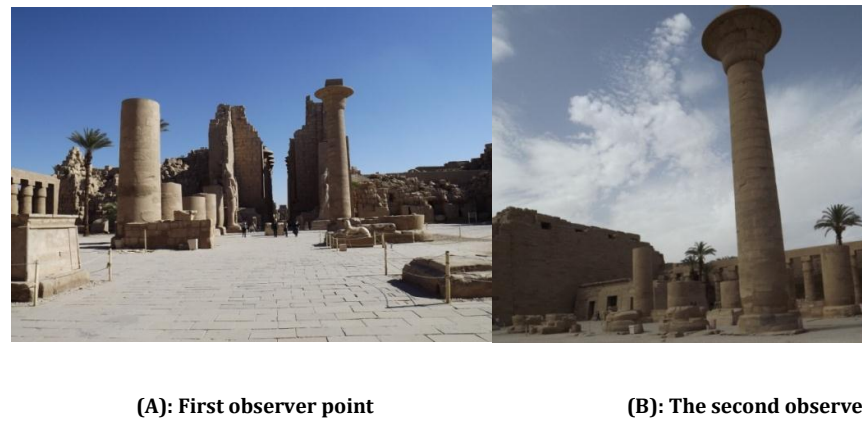


Figure 5-32: (A & B) The two photographs for the Forecourt at Karnak Temple from the two observer points illustrate the columns prevent the vision for particular areas at the court: Kamar, 2013

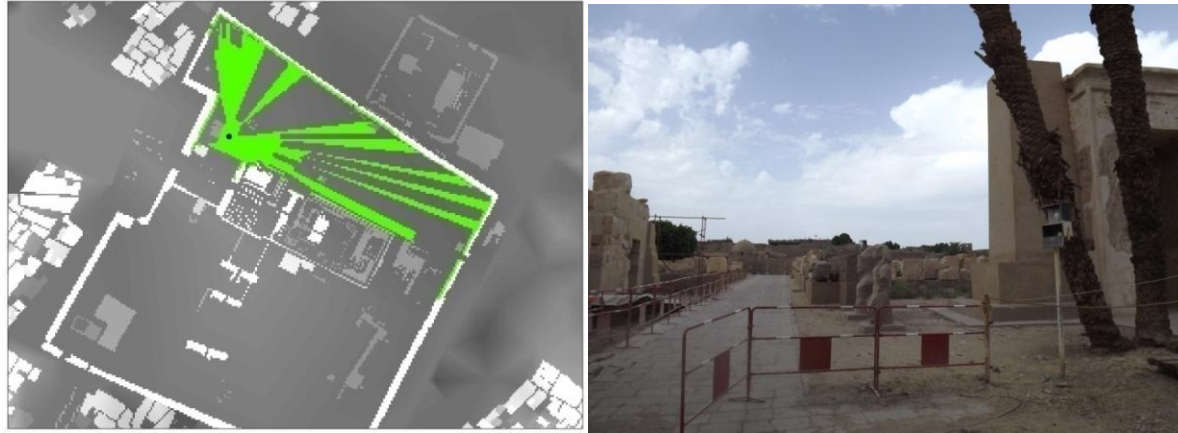


Figure 5-33: The ViewShed analysis at the open air museum in Karnak Temples and the visibility area with a Photograph

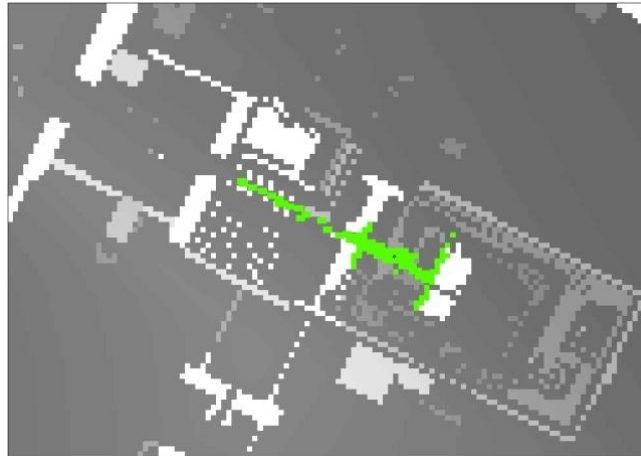


Figure 5-34: The raster Layer for 3rd, 4th, 5th, 6th pylons and the sanctuary at Karnak Temple illustrate the visible and un-visible area from two different observer points. Source:Kamar,2013



Figure 5-35:The two photographs for the observer point at 3rd pylon towards the sanctuary in Karnak Temple illustrate the vision at the area. Source: Kamar, 2013

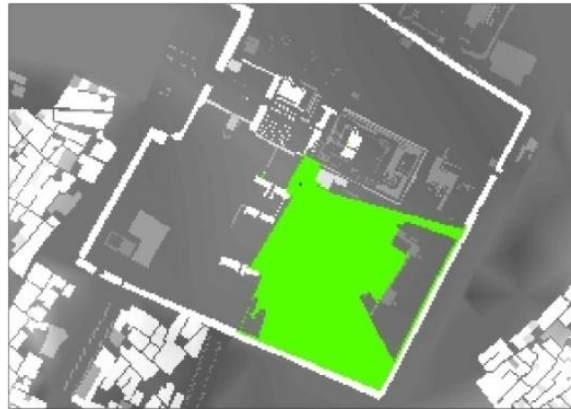


Figure 5-36: Karnak Sacred Lake and visitors place for Sound & Light Show

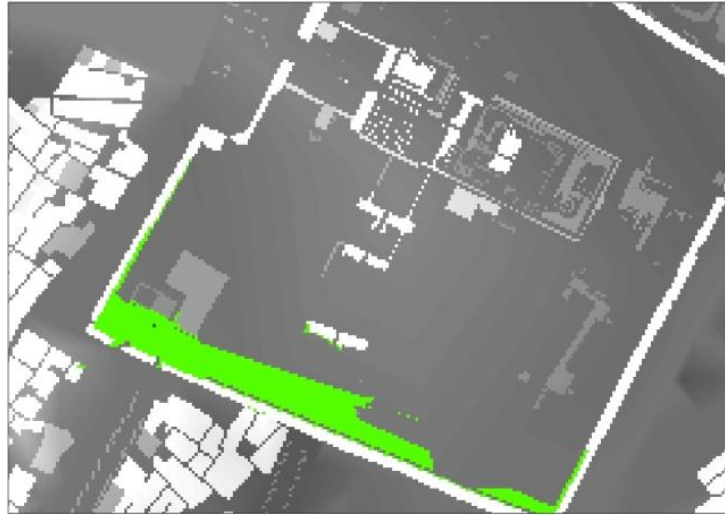


Figure 5-37: The Viewshed analysis for the Opt Temple at Karnak Temples illustrates the visible and un-visible area from the observer points. Source: Kamar, 2013



Figure 5-38: A view for the visitors' at Opet Temple in Karnak Temples by Sketch-Up 3D model presents the visitors' rout and their movement.



Figure 5-39: Sketch-Up 3D model presents the visitors' observation points at Karnak temples plaza after they finished their journey inside the Temple. Source: Kamar, 2013

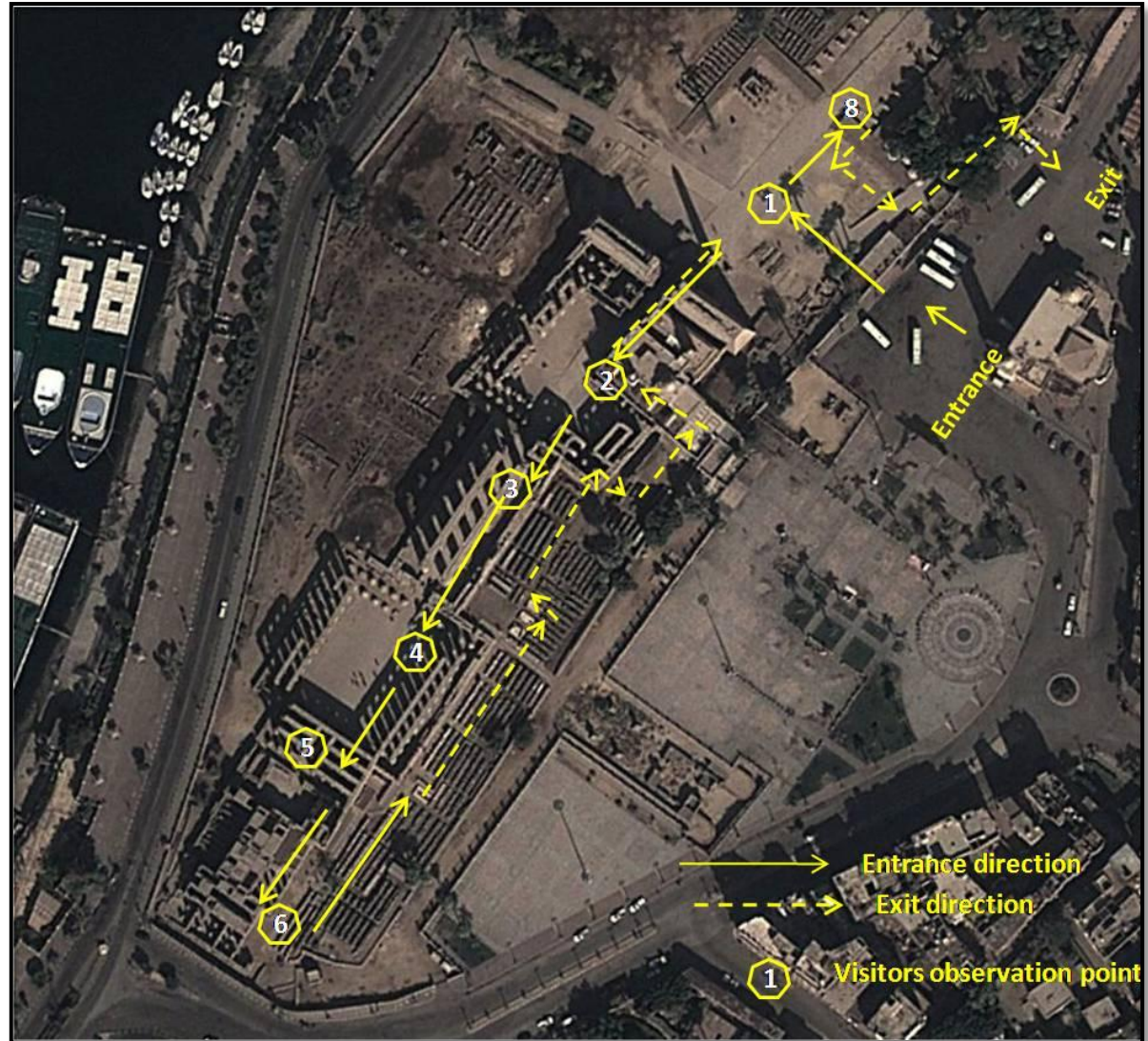


Figure 5-40: The visitors' observation routes in Luxor temple. Source: Google Earth 2010

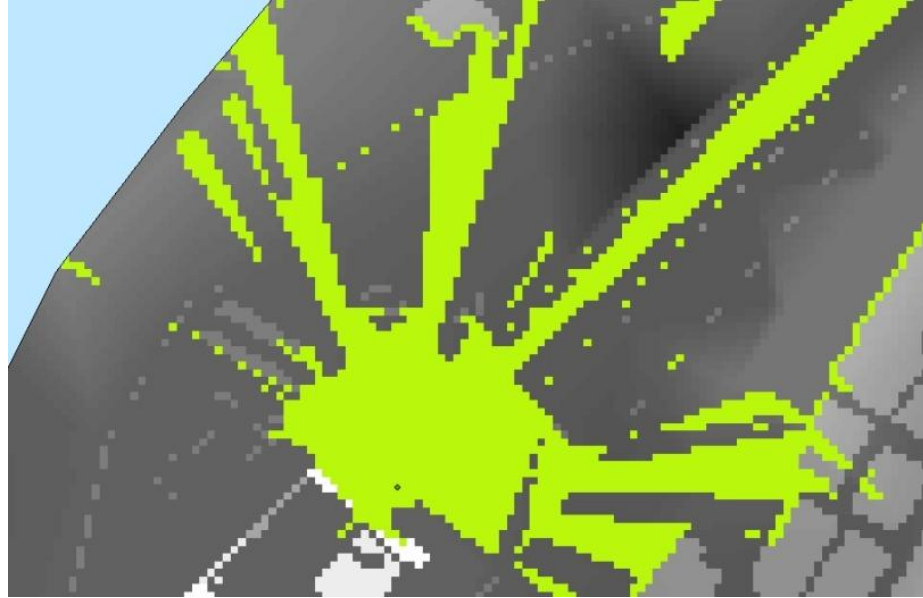


Figure 5-41: The raster Layer first pylon at Luxor Temple illustrate the visible and un-visible area from the observer point. Source: Kamar, 2013



Figure 5-42: A view for the visitors at first pylon in Luxor Temple by Sketch-Up 3D model with illustrates the availability to see the entrance of Luxor temple

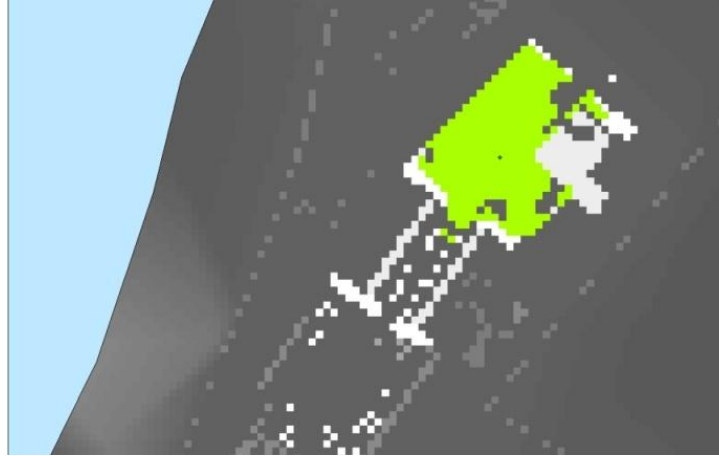


Figure 5-43: The visible area for peristyle courtyard at Luxor Temple from the observer point. Source: Kamar, 2013

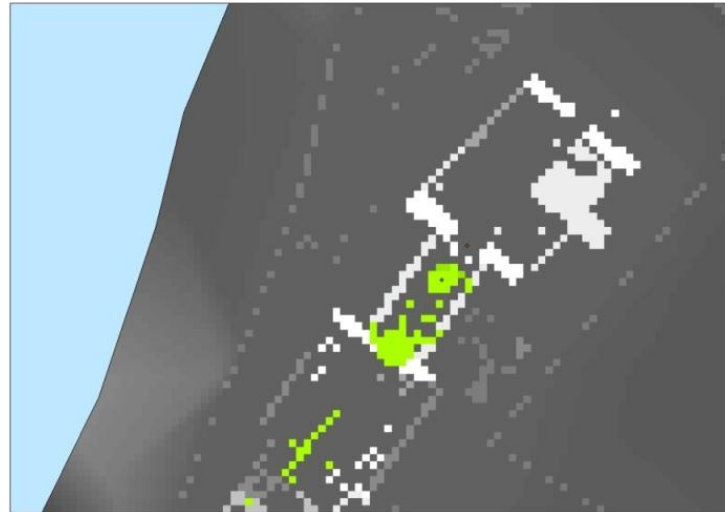


Figure 5-44: A view for the visitors at processional colonnade courtyard in Luxor Temple at the visitors' observation for the court. Source: Kamar, 2013



Figure 5-45: A visible area at hypostyle court in Luxor Temple at the visitors' observation for the court. Source: Kamar, 2013

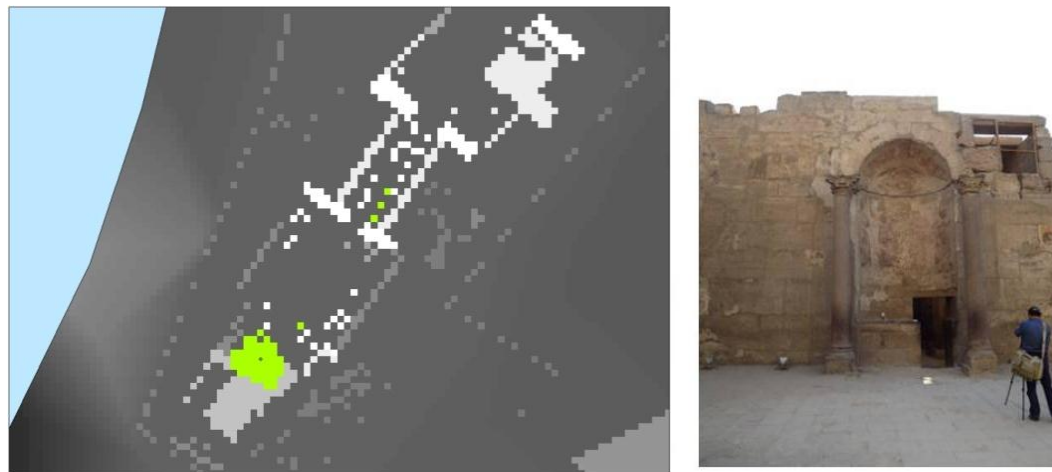


Figure 5-46: A visible area at the portico in Luxor Temple at the visitors' observation for the court. Source: Kamar, 2013



Figure 5-47: A visible area at the Amun Chappell in Luxor temple at the left side and the open air museum at the right side. Source: Kamar, 2013



Figure 5-48: A view for the visitors at Amun Chappell in Luxor Temple by Sketch-Up 3D model with A view for the visitors at open air museum in Luxor Temple. Source: Kamar, 2013



Figure 5-49: Sketch-Up 3D model for Visitors observation points at Luxor Temple Source: Kamar, 2012

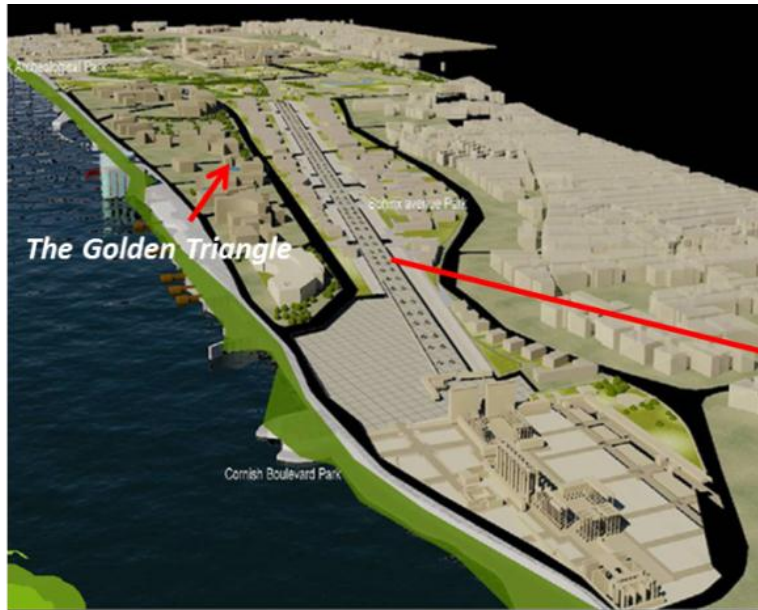


Figure 5-50



Figure 5-51

Figure 5-50: The Avenue of Sphinxes plan in Luxor master plan in 2004. Source: Cube, 2010

Figure 5-51: The visitors' observation roots within The Avenue of Sphinxes in Luxor Master plan in 2004. Source: Ashour, 2009



Figure 5-52: The Visitors observation routes for Avenue of Sphinxes. Source: Google Earth, 2010

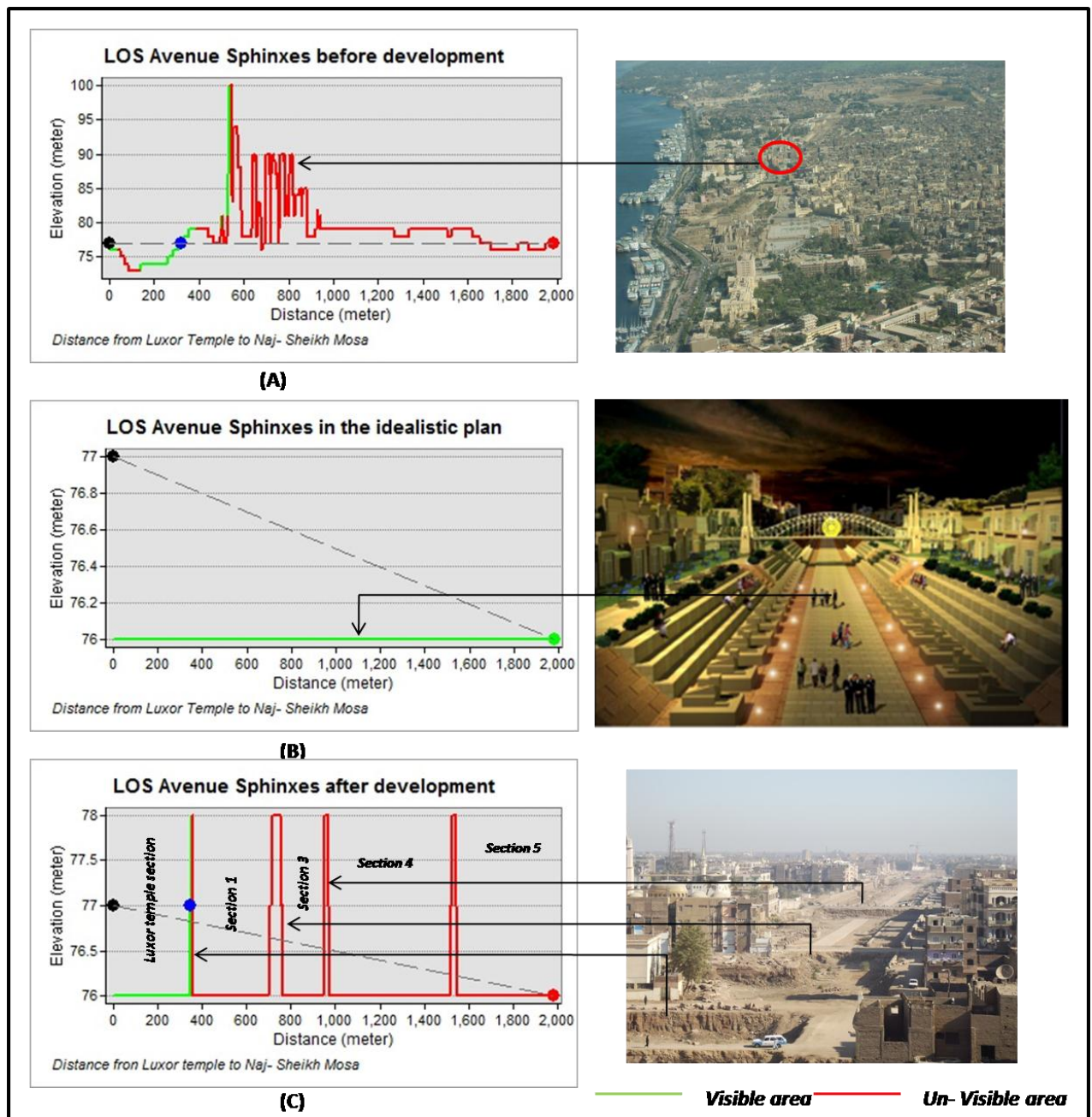


Figure 5-53: The visibility analysis (Line of sight) for the Avenue of Sphinxes before, after development and in plan 2004

Chapter 6. The planning and design of the open-air museum in Luxor



Figure 6-1: Karnak temple entrance before development. Source: Luxor governorate 1999

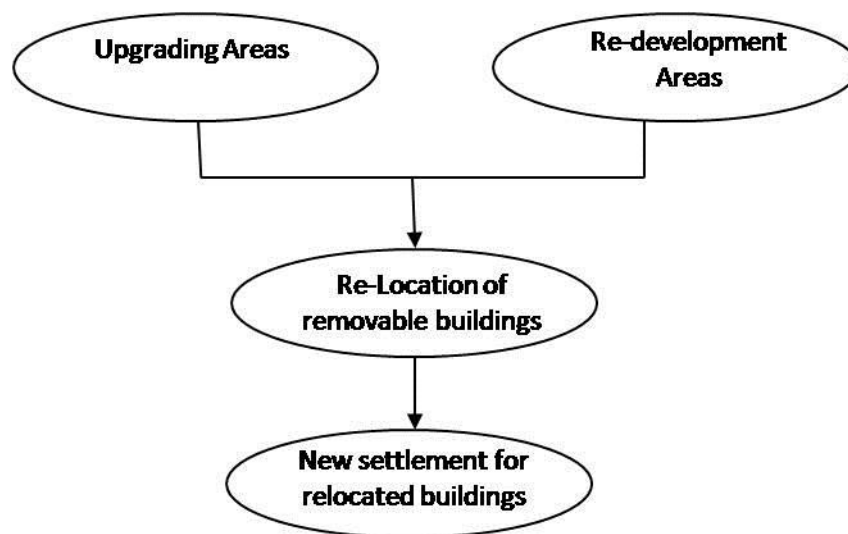


Figure 6-2: The Open air museum urban strategies for surrounding areas

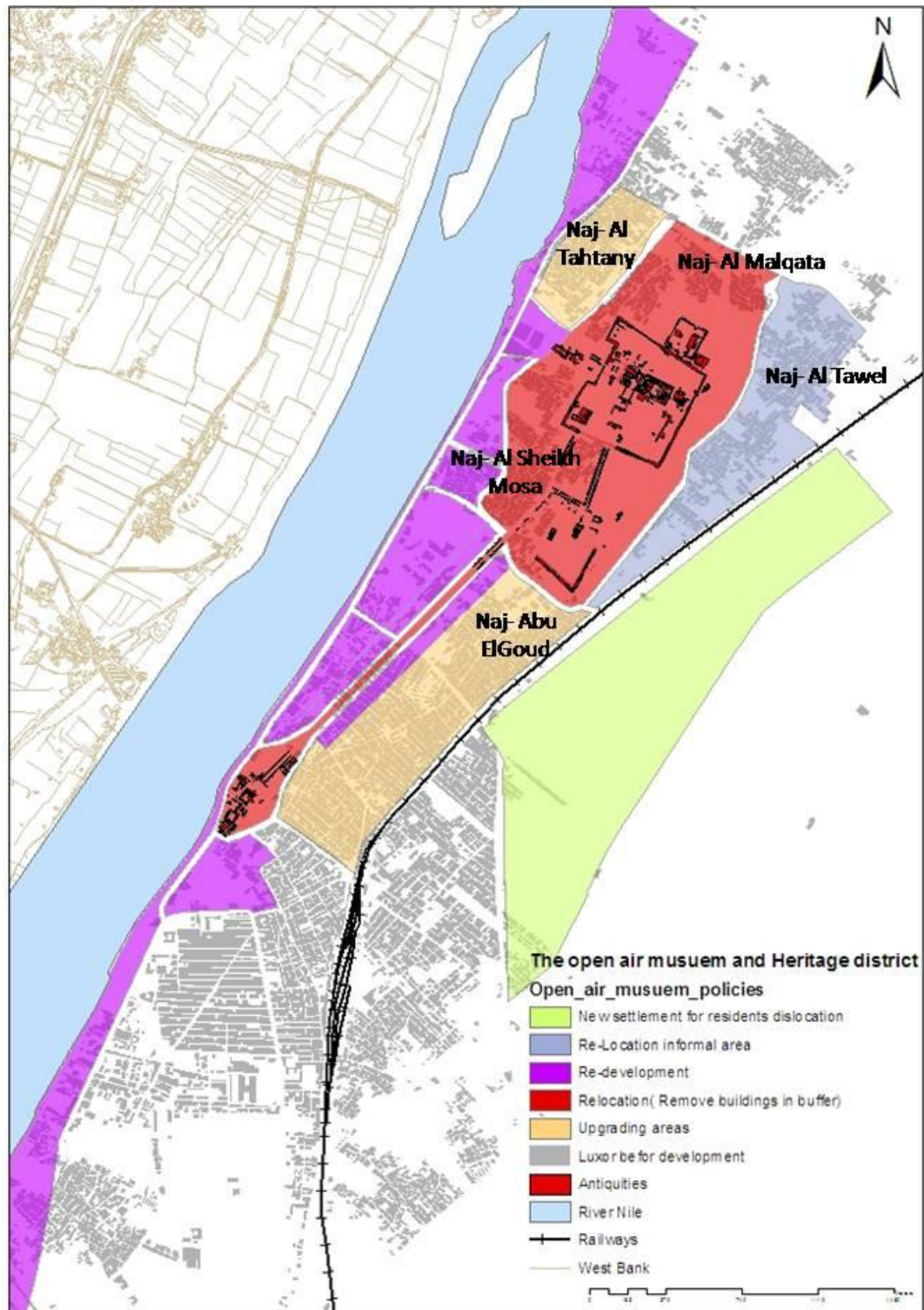


Figure 6-3: Luxor Open air museum strategies in 2004. Source: (MOH, 2004)

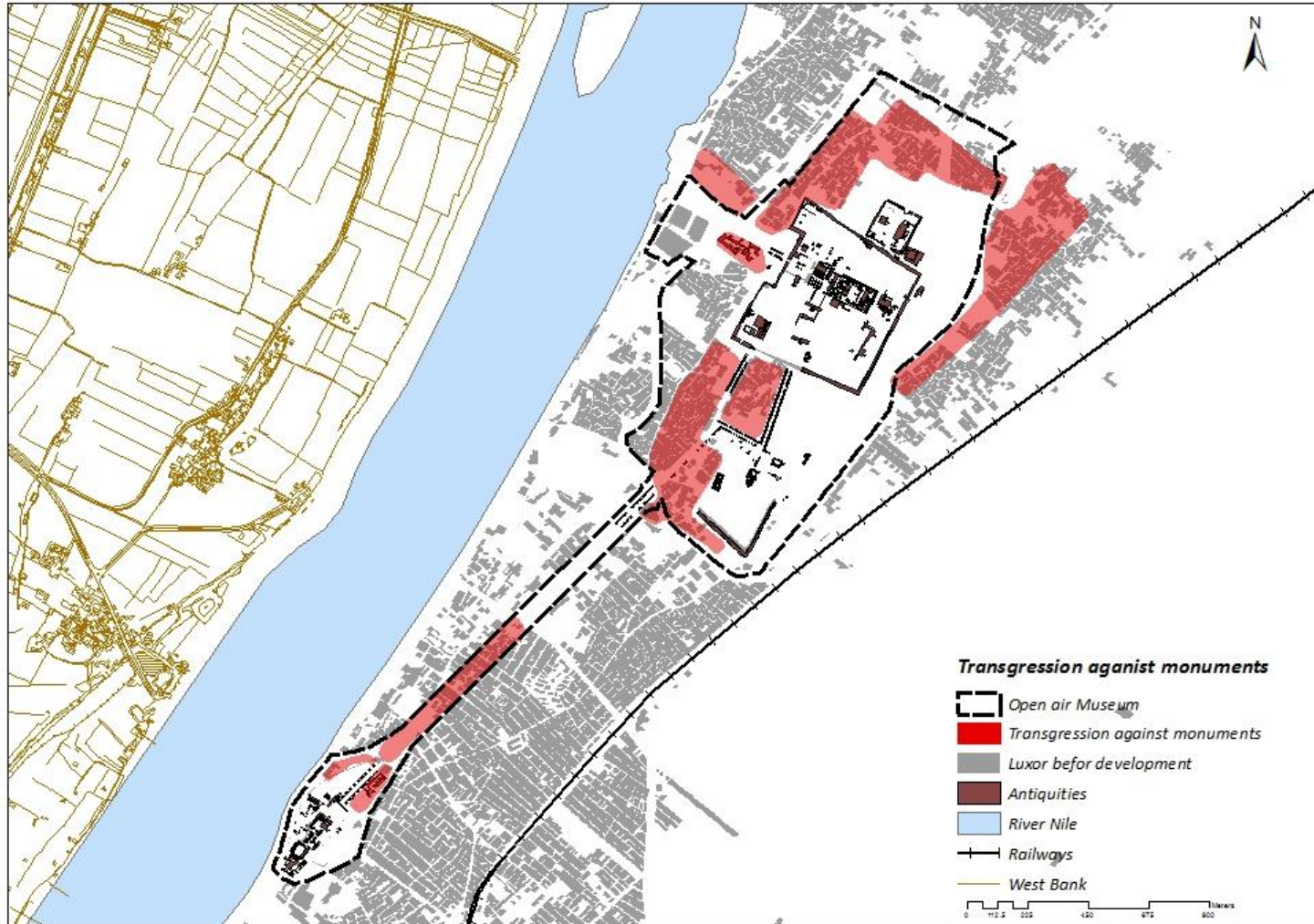


Figure 6-4: Transgression against monuments in Luxor (Source: MOH, 2004)

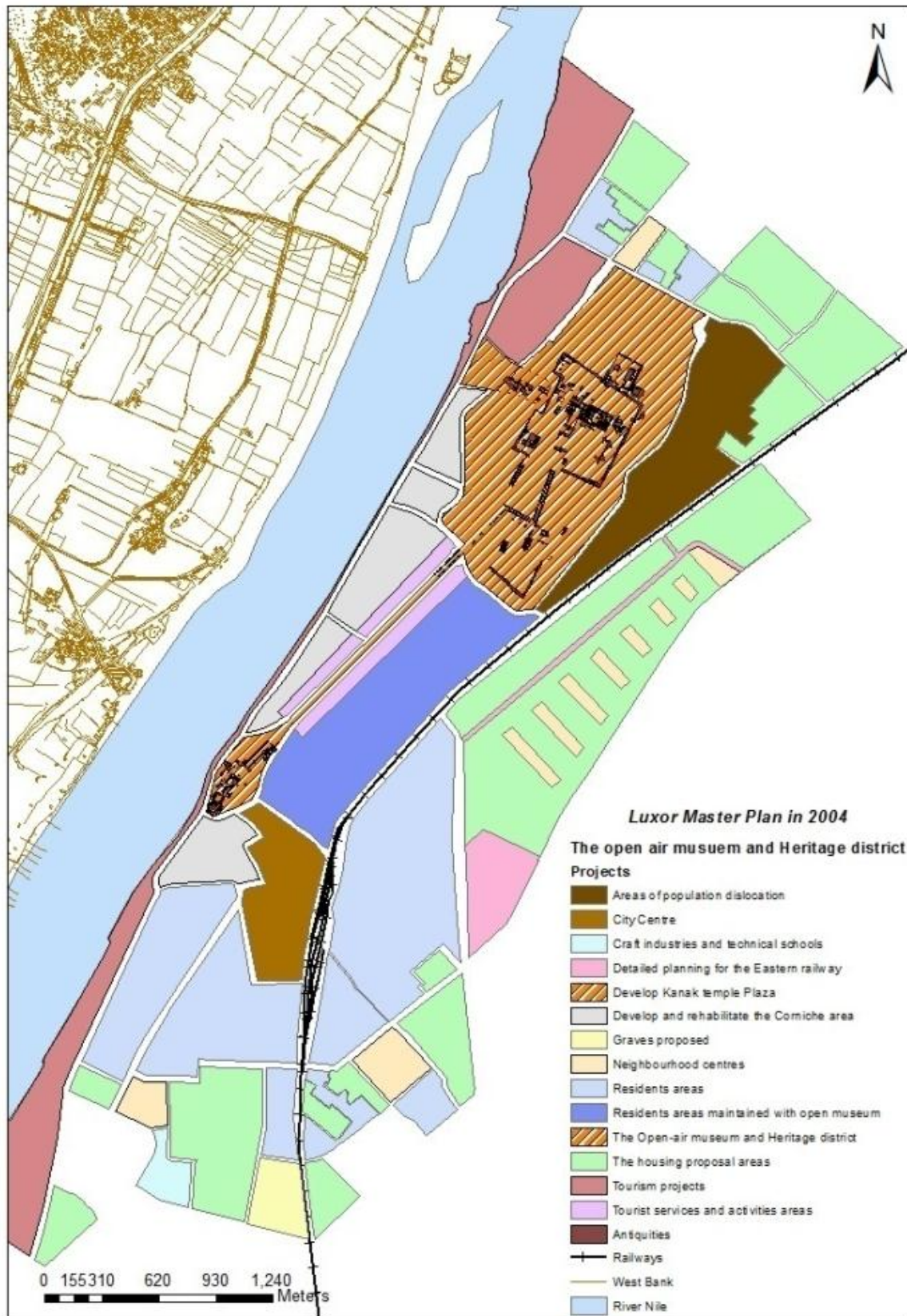


Figure 6-5: The structure plan for the surrounding areas of the open air museum in Luxor 2004. Source: MOH, 2004



Figure 6-6: Station Street before development. Source: Ashour 2009



Figure 6-7: Market Street before and after development. Source: Ashour, 2009



Figure 6-8: Demolition of the houses (completely or partly) in Nag -Sheikh Mosa and Nag Abu- Asbah for the restoration Avenue of Sphinxes and its Buffer zone in 2012



Figure 6-9: Aerial Photography for Karnak entrance before redevelopment in 2001, Source: CEFFTK, 2001



Figure 6-10: The Golden Triangle area at Luxor city. Source: Google earth, 2007



Figure 6-11: The built up area at Luxor Golden Triangle plan. Source: MOH, 2004



Figure 6-12: The Architectural style for Luxor Golden Triangle. Source: MOH, 2004



Figure 6-13: The Nile Corniche in Luxor museum area in 2010, Source: Cube consultant, 2010

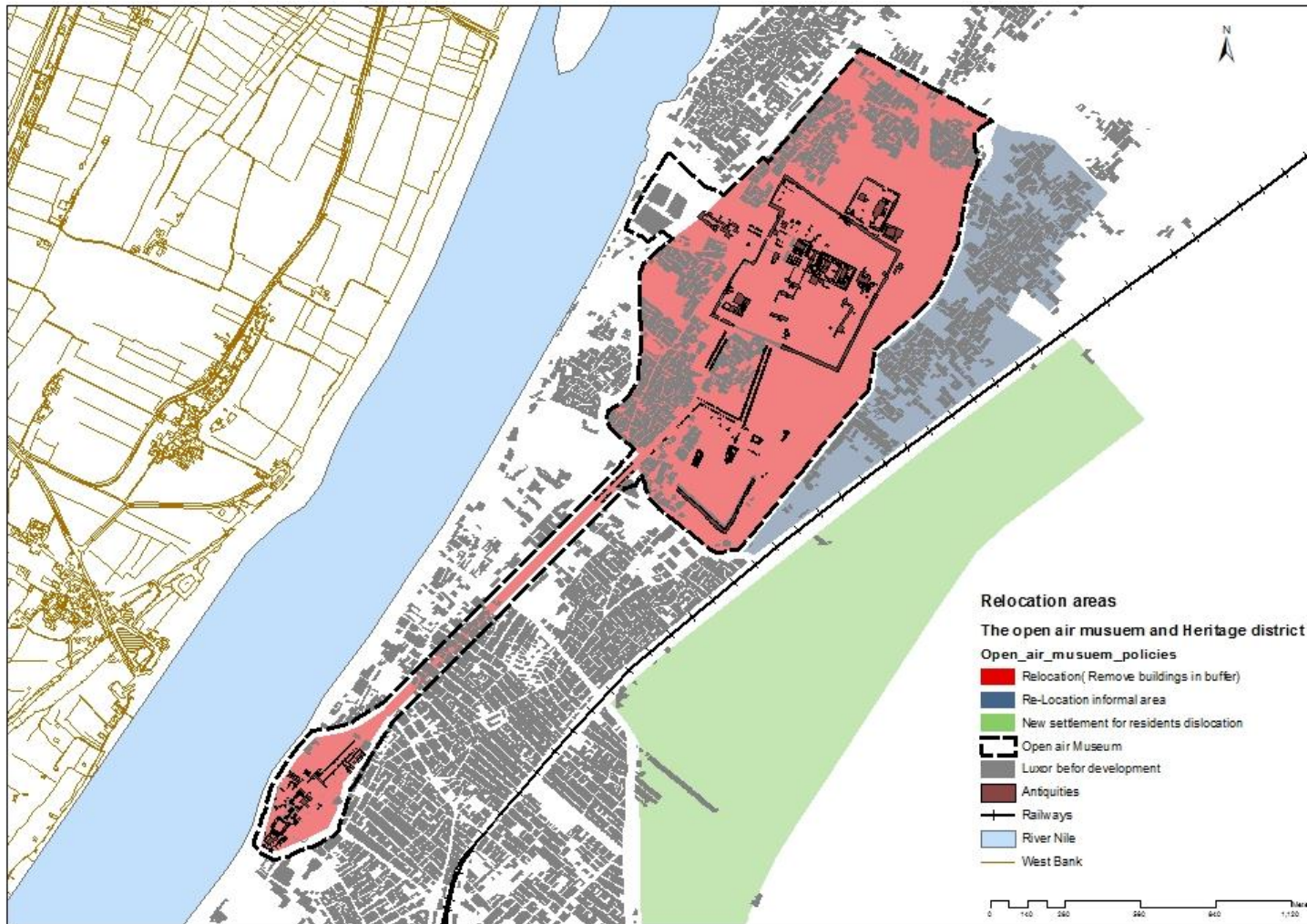


Figure 6-14: Relocation areas at Luxor open air museum. Source: MOH, 2004

Chapter 7. The social impacts of the implementation policies at the Open-Air Museum



Figure 7-1: The public participation meetings in Luxor with the planner Dr. Ashour and the inhabitants of Luxor. Source: Ashour, 2009

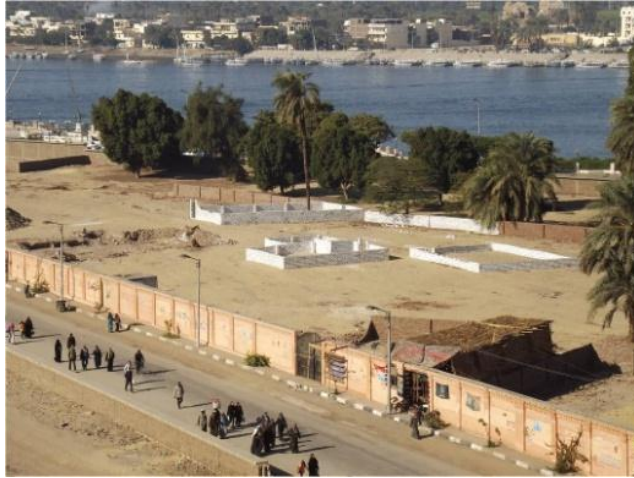


Figure 7-2: The residents built walls around their land in The Golden triangle in 2011 after demolishing their houses



Figure 7-3: The Churches on Avenue of Sphinxes 2011



Figure 7-4: New shops instated within the houses which were partly demolished



Figure 7-5: The informal creep on agricultural land pockets at North of Karnak villages after open air museum constructions in 2013, Source: Google images

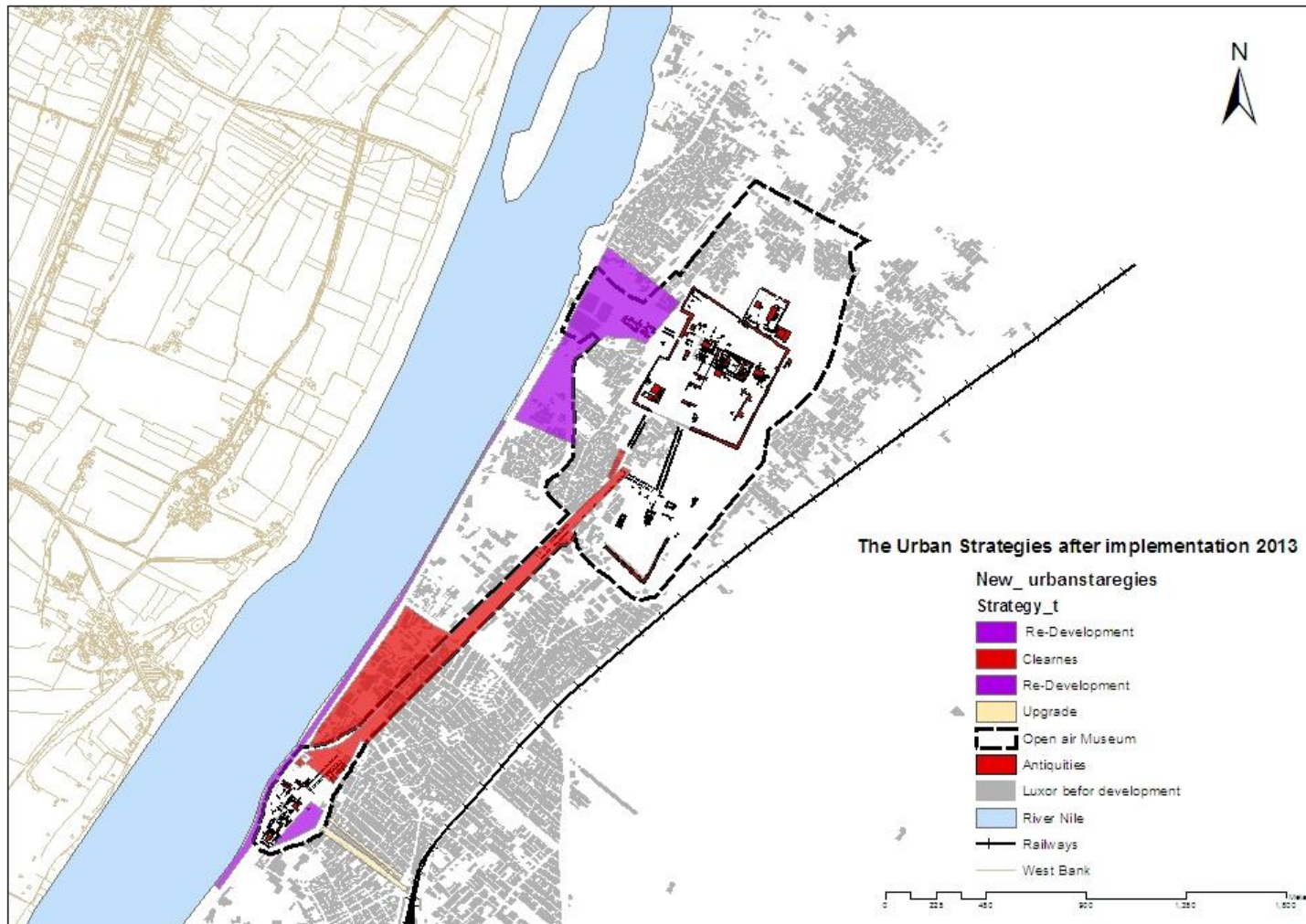


Figure 7-6: The Urban strategies in Luxor after the Open air museum implementation 2012

