

HERITAGE, TOURISM, AND URBANIZATION

THE LANDSCAPE AND DEVELOPMENT OF LALIBELA, ETHIOPIA



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THE LANDSCAPE AND DEVELOPMENT OF LALIBELA, ETHIOPIA

COLUMBIA
GSAPP



EiABC

Ethiopian Institute of Architecture,
Building Construction and City Development
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Addis Ababa University
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WORLD
MONUMENTS
FUND

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01

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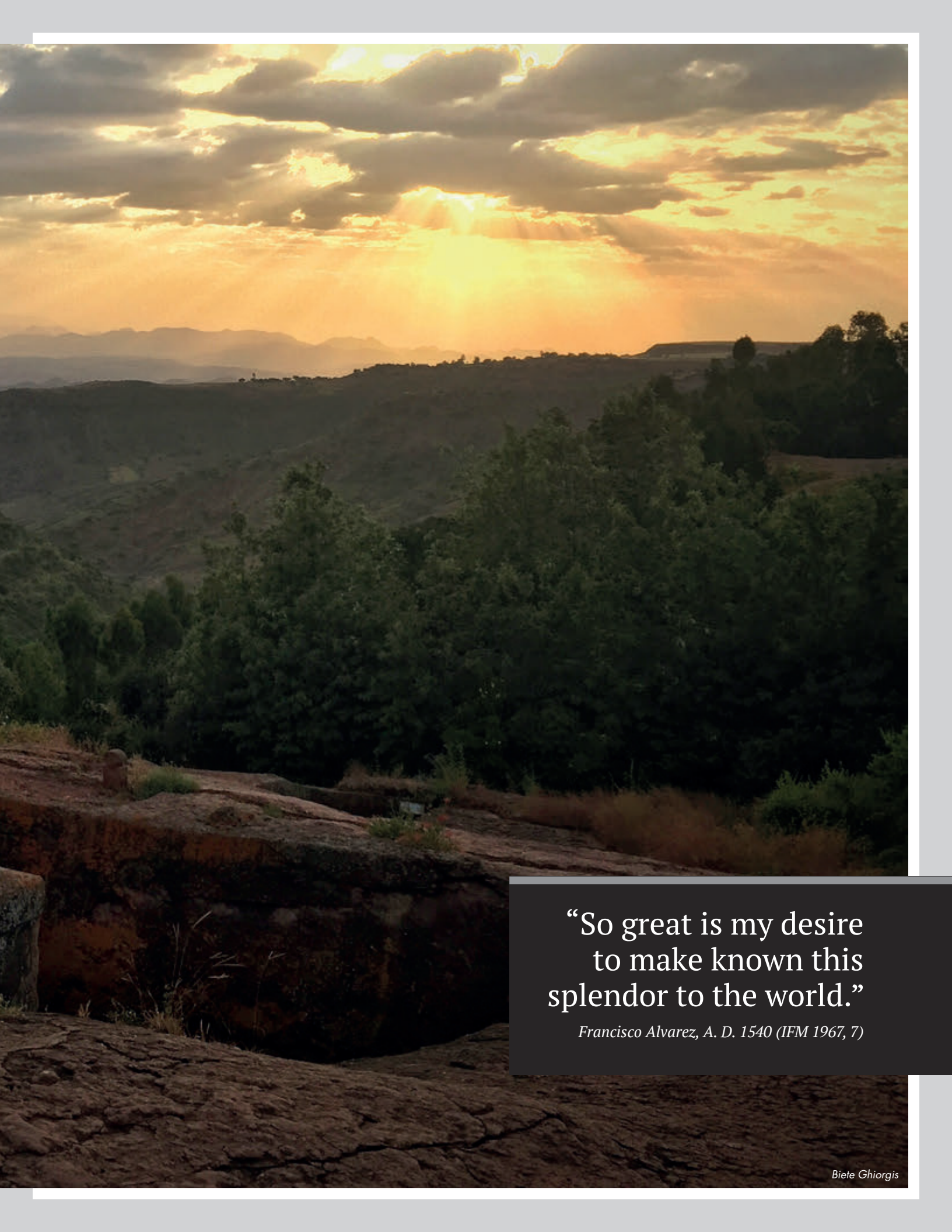
INTRODUCTION

02

The eleven Rock-hewn Churches of Lalibela have stood for more than eight hundred years. They are part of a sacred landscape that still welcomes tens of thousands of religious pilgrims during the holidays of the Ethiopian Orthodox Tewahedo Church. One of the first sites to be designated as UNESCO World Heritage, Lalibela has also long attracted visitors from abroad and is now one of the top tourism destinations in Ethiopia.

In 2007, a multi-year endeavor initiated by the World Bank and the Ethiopian Government sought to make tourism the “No.1 export earner in the Ethiopian economy through investing in improved product and market development that encourages more tourists to spend more and stay longer” (World Bank PID, no. AB358). As part of this multi-site program, which was completed in 2015, investment was made in the heritage site, infrastructure, and community of Lalibela.

This investment has sought to capitalize on the potential of the Lalibela World Heritage Site to serve as a driver of tourism revenue, which can in turn improve the economic conditions of local residents and the country at large. However, the success of this strategy is dependent upon preserving the value of Lalibela as a unique and authentic destination and as a place of living heritage, where the community, their churches, and the landscape in which they coexist comprise an integrated experience. The increased presence of visitors in Lalibela and the infrastructure and services they require pose significant challenges to the physical and social fabric of the town and the churches. It is important that tourism and its associated growth not erode the qualities and resources upon which it fundamentally relies.



“So great is my desire
to make known this
splendor to the world.”

Francisco Alvarez, A. D. 1540 (IFM 1967, 7)

As outlined in the 2013 Management Plan for the Rock-hewn Churches of Lalibela, Ethiopia, the Lalibela Town Administration includes five *kebeles* (an administrative union, similar to a neighborhood): two urban *kebeles* and three rural *kebeles*. According to the 2007 census, the overall population of Lalibela was 34,029, with 15,506 in the urban *kebeles* and 18,523 in the outlying rural *kebeles*. Per projections by the Central Statistical Authority, these population figures are expected to double by 2025. Authorities are pressed to accommodate this growth within and around Lalibela, while simultaneously protecting its heritage and landscape and providing for considerable tourism development, as they prepare a new Structural Use Plan for land use and development by 2019.

The landscape surrounding the churches is rugged, and level land suitable for building is in scarce supply. Most

of the recent growth of Lalibela has occurred simultaneously with the displacement of farmers from fields in the outer perimeter of the town. A major factor in this growth has been the increase in tourism in Lalibela. People living in outlying areas have moved to town in order to be closer to the stronger economic opportunities in Lalibela. Concurrently, residents from the core and buffer zones of the World Heritage Site have been resettled to new development areas in the outer perimeters of town. This has begun a pattern of urbanization that, if left unchecked, could dramatically change the landscape around the city.

More visitors are coming to Lalibela from abroad, but the majority of visitors to Lalibela are religious pilgrims. Per the Lalibela Bureau of Culture and Tourism, in 2007, there were 18,510 foreign tourists visiting Lalibela and 2,027



domestic tourists. In the period from 2011 to 2015, the number of foreign tourists averaged 35,203 per year, and domestic tourists averaged 15,369 per year. These figures do not include religious pilgrims who visit the site regularly; they are more difficult to count because they do not buy a ticket or present their national ID cards at the ticket office. At the 2015 Christmas or Genna celebration, there were an estimated 192,000 pilgrims staying in Lalibela and worshipping at the churches.

A sustainable future for Lalibela is contingent upon balancing issues of rapid urban growth, increasing tourism, natural and cultural resource protection, spiritual worship, and community quality of life. To explore these challenges and how they might be addressed, faculty from Columbia University's Graduate School of Architecture,



Plane from Addis Ababa to Lalibela

Planning, and Preservation (Columbia GSAPP) and from Addis Ababa University's Chair of Conservation of Urban and Architectural Heritage, Ethiopian Institute of Architecture, Building Construction, and City Development (AAU-EiABC) collaborated with World Monuments Fund to develop a student research project at Lalibela.

This project sought to examine the following:

- The values of Lalibela and how they are represented and spatialized beyond the physical fabric of the churches to the vernacular architecture, the landscape and townscape, and the visual and spiritual experience;
- The growth of Lalibela, as evidenced by land use and consumption, building patterns, and transportation;
- The user experience at Lalibela, including that of religious worshipers and clergy, local residents, and foreign and domestic tourists;
- The visitor infrastructure and services of Lalibela, including hotels, restaurants, transit, signage, etc.; and
- The overall management of Lalibela as a community, place of pilgrimage and worship, landscape, and network of stakeholders ranging from local to international.

By collecting and analyzing field and historical data to better understand the site and the town of Lalibela, as well as its users, this research identifies key findings and makes recommendations that can inform future research and planning. The long-term aim is to support the sustainable development of Lalibela—while also preserving its tangible and intangible values—by providing a more robust, evidence-based foundation for decision-making.



View from Lalibela

METHODOLOGY

03

This project involved faculty and students from Columbia GSAPP and from AAU-EiABC, as well as staff from World Monuments Fund. The project was deployed through two field workshops in Ethiopia, one in July 2016 and one in October 2016, and a semester-long urban planning and historic preservation studio at Columbia University. Three student teams were involved in the project: a July workshop team of Columbia GSAPP students, an October workshop/fall studio team of Columbia GSAPP students, and a team of AAU-EiABC students who participated in both field workshops and collaborated remotely throughout.



Columbia & AAU students during field work

In sum, the project involved qualitative, quantitative, and geo-spatial research methods.

Data collection and surveys during the field workshops relied heavily on the use of an app called KoBoCollect and its KoBoToolbox web interface, an open source software for data collection that allows for offline work by multiple users and readily combines results into a master tabular data set when uploaded. Students were able to customize data forms for the survey of physical features and structures, the mapping of resources (using GPS coordinates), as well as for interviews with visitors and users. In sum, the project involved qualitative, quantitative, and geo-spatial research methods.

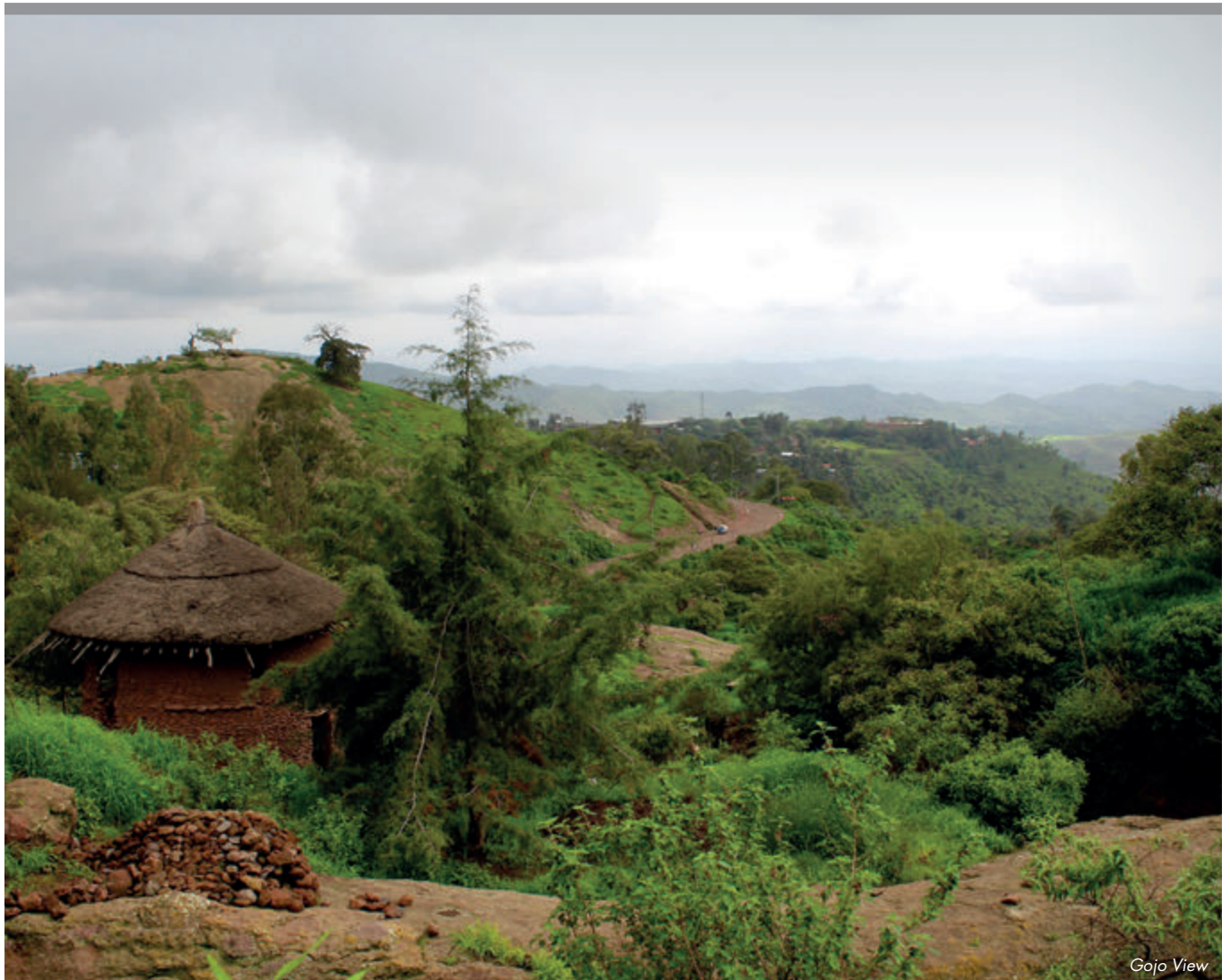
ANALYZING GROWTH AND DEVELOPMENT

Drawing upon GIS data compiled by the University of Capetown Zamani Project in 2009 and satellite imagery from 1994 to 2016, a base map was created in ArcMap by students to visualize and quantify the expanding urban footprint of Lalibela, to analyze its patterns of growth and densification, and to quantify the rate of change. Students also used field observations, field data collection (GIS), comparative photography, analysis of related maps and plans, and interviews with local authorities to roughly understand changes and visions for the future within the heritage site core and buffer zone, within the town, and within the broader landscape. This analysis helped to inform how the growth anticipated in the 2009–2019 Structural Use Plan has been realized, as well as the path on which Lalibela is headed in terms of potential new land use and development.

SPATIALIZING VALUES

The 2013 Management Plan provided a good foundation from which to further analyze the values of Lalibela. Students sought to understand how those values are physically represented, translated or spatialized through the context around the churches, namely how people use the spaces within and around the World Heritage site, how the churches and the surrounding landscape interact, and the character-defining features that are critical to these relationships. This understanding could then help to inform conservation and planning decisions so as to preserve this range of values. This analysis thereby used visual observation, condition surveys, GIS field data collection, comparative and historic photographs and satellite imagery, historical data and maps, and interviews with local stakeholders to investigate:

- The spiritual use of the site, temporally and spatially, to map and chart processional routes and areas where people congregate and worship,
- The natural landscape, specifically the historic and newly planted trees and the spiritual forest within and surrounding the core site,
- The view sheds that help to define the character and relationship of the churches to its broader geographic and community context,
- The traditional vernacular architecture in the areas surrounding the World Heritage core termed locally as *gojos* (also known in English as tukuls or tuculs), and
- The impact of the shelters that cover several of the churches.



Gojo View



Trees in Church Group Two



Local worshipers leaving Biele Mariam church service



Columbia & AAU students during field work



Local worshipers leaving Biete Mariam church service

UNDERSTANDING USER EXPERIENCES

Students conducted a user survey and interviewed more than 130 people at the site during the July and October workshops, to collect data about their experiences and impressions. Columbia GSAPP and AAU-EiABC students were generally paired to allow for communication in both English and Amharic, thereby allowing them to interview diverse groups including local Lalibelans, visitors from different regions of Ethiopia, and international tourists. The studio survey also interviewed a varied group of stakeholders, which included church officials, worshipers, priests, nuns, church compound guards, residents, and more. Results were then compiled to provide descriptive statistics and qualitative data about user experiences. It should be noted that student interviews with residents who had been resettled from the core and buffer zones to new areas of development to the south were canceled due to the national state of emergency enacted by the government at the time of the second field school.

ASSESSING VISITOR INFRASTRUCTURE AND SERVICES

Everyone visiting Lalibela requires adequate means to

get there, the ability to safely navigate to a desired part of the site, and facilities to accommodate waste and meet other basic needs. Some visitors require additional amenities such as lodging, restaurants, and souvenir shops. However, it is also clear that infrastructure for foreign tourists may not always meet the needs of religious pilgrims and vice versa. To ensure the sustainable development of the site and town, administrators in Lalibela must find creative solutions to meet the disparate needs of a range of users, from foreign and domestic tourists, to pilgrims, to regular local worshipers. Due to the level of importance that the Ethiopian government is placing on the tourism industry, students conducted a number of field surveys to log and document the existing visitor infrastructure in Lalibela, including hotels, restaurants, shops, signage, and other amenities. This data was supplemented with interviews and meetings with members of the Town Administration Office (Culture and Tourism as well as Planning authorities), and members of the Church leadership.

EXPLORING MANAGEMENT ISSUES

During both field workshops, students met with local officials from the Church and representatives from the Town Administration Office, to get a basic understanding of how land use and buildings are regulated, how cultural heritage and tourism are managed, and how community development is approached. Columbia GSAPP students, during the fall studio, also undertook research into the management structures and approaches at a range of sites (World Heritage Site, pilgrimage sites, natural/cultural sites, and more) through comparative case histories that help to elucidate possible practices from which Lalibela might benefit.

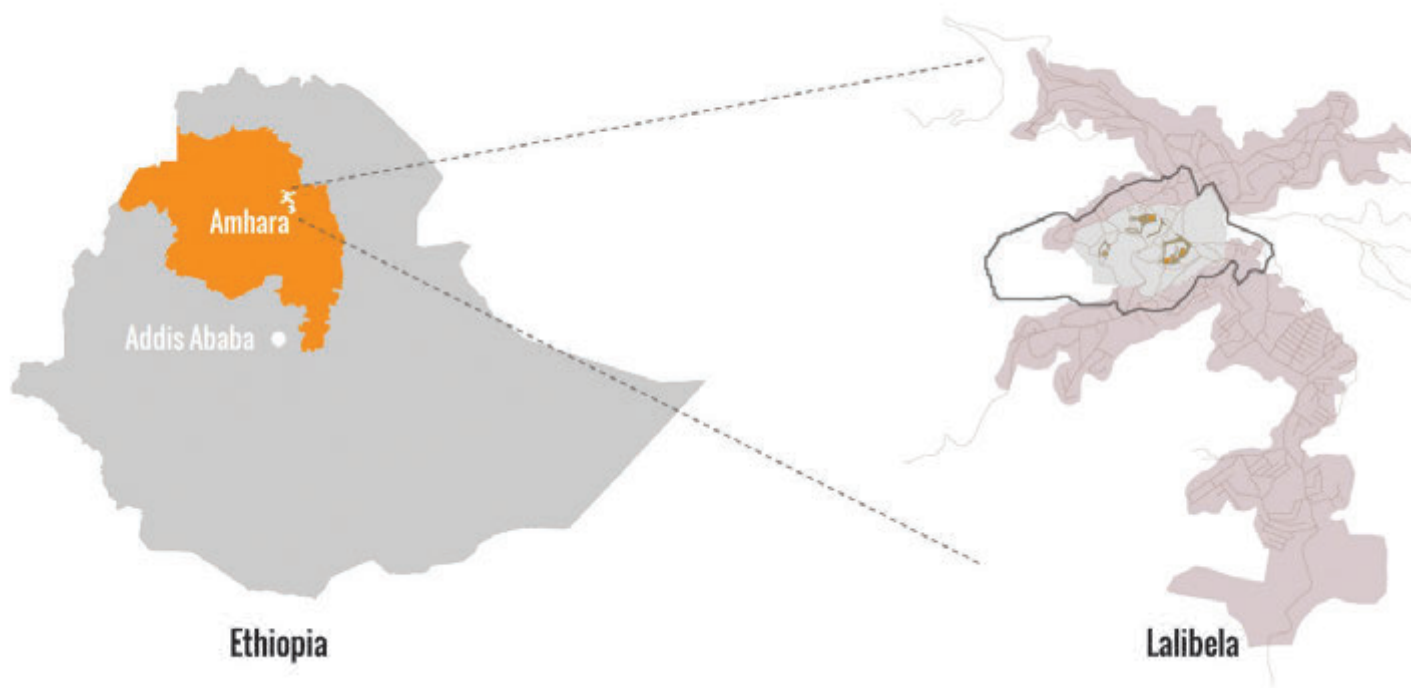
The summer workshop produced a report of preliminary findings, which was shared with local authorities and stakeholders. This illustrated report represents the cumulative findings of the workshops and fall studio, and thus incorporates and builds upon the preliminary report. The report presents the various analyses undertaken and their findings, along with recommendations and some discrete proposals for future action.

ORIENTATION

GEOGRAPHIC ORIENTATION

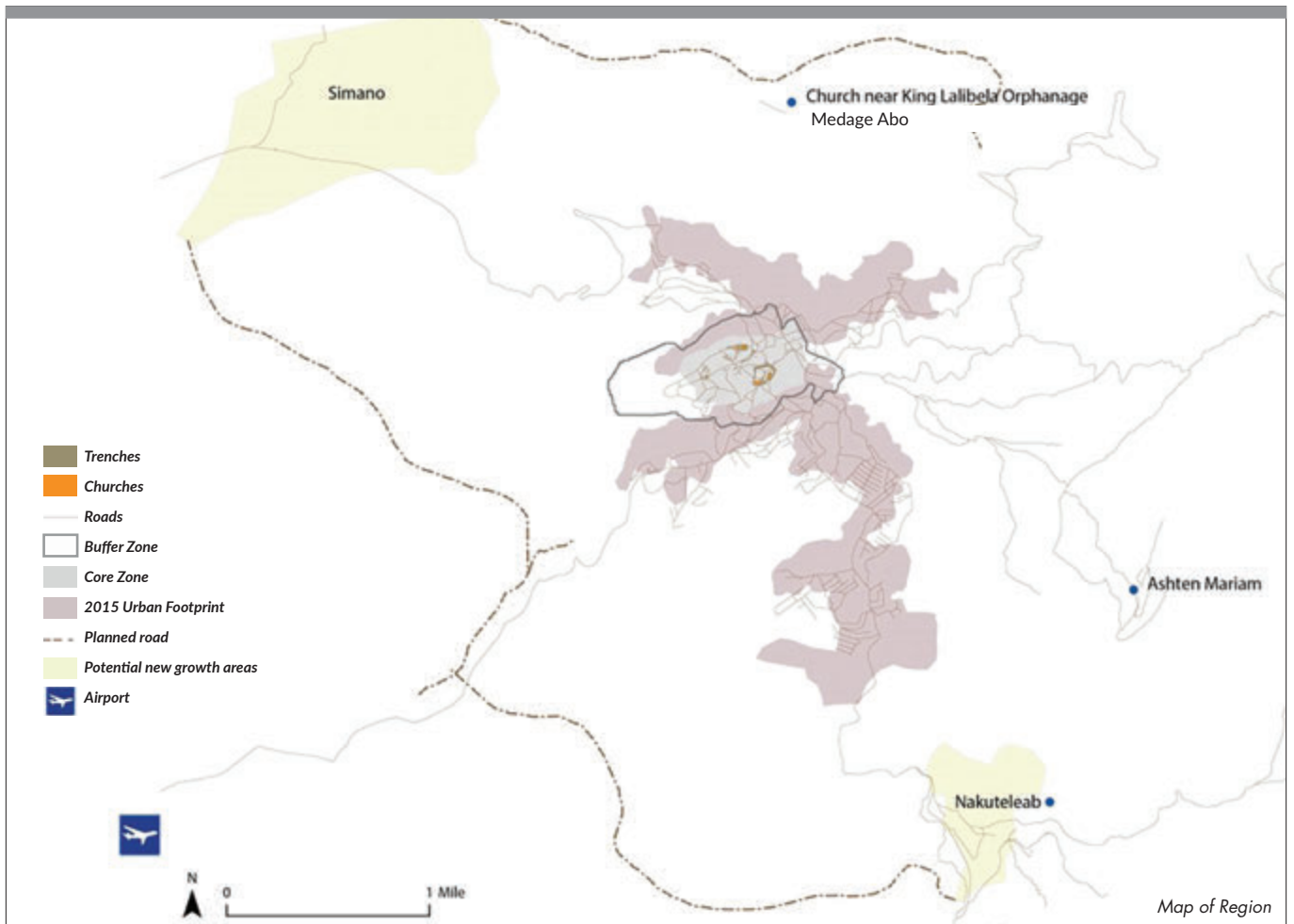
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Lalibela is located in the Amhara region of Ethiopia's northern highlands, about 645 kilometers from Addis Ababa. Within the center of Lalibela sit the famous rock-hewn churches. The site consists of a designated core zone that incorporates the eleven churches and a surrounding buffer zone, both with regulatory restrictions to protect the churches from encroachment. The preservation of these churches is one of the main priorities of the Lalibela community and such efforts have long been supported by the Ethiopian government and numerous international actors.



Map of Ethiopia highlighting Lalibela

The culture and heritage of Lalibela attract tourists and pilgrims from all over the world. However, the introduction of more visitors has served as a catalyst for development, which has impacted the community, economy, and city administration. The development of the tourism industry is also impacting other nearby areas like Nakuteleab located to the south of Lalibela and Simano located to the north.












Biete Medhani Alem

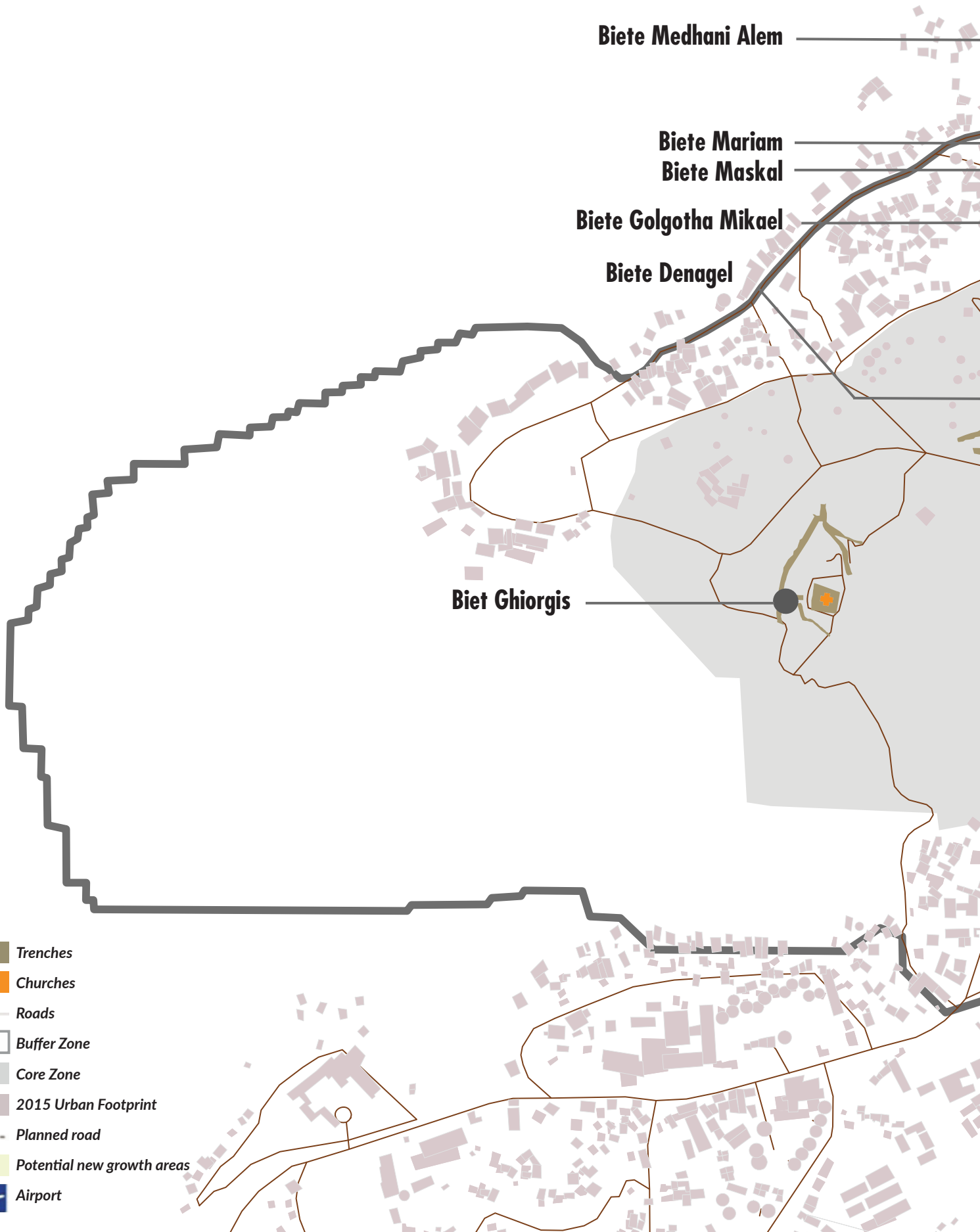
**Biete Mariam
Biete Maskal**

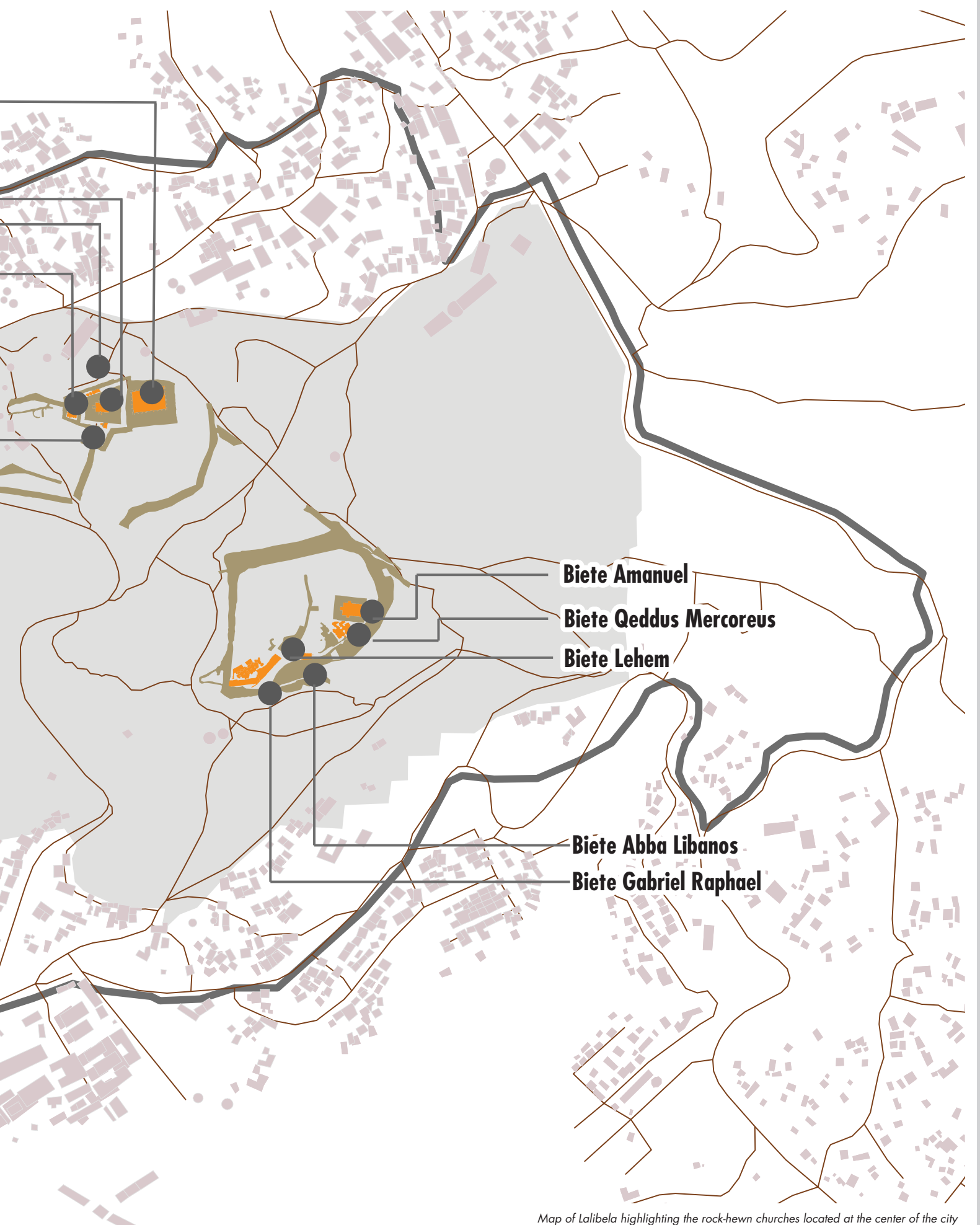
Biete Golgotha Mikael

Biete Denagel

Biet Ghiorgis

-  Trenches
-  Churches
-  Roads
-  Buffer Zone
-  Core Zone
-  2015 Urban Footprint
-  Planned road
-  Potential new growth areas
-  Airport





Map of Lalibela highlighting the rock-hewn churches located at the center of the city

REGULATORY ENVIRONMENT

Ethiopia is a federal state, divided into nine ethnic-based regional states (*kililoch*). Lalibela is in the Amhara division, which has its regional capital in Bahir Dar. The Amhara division consists of ten zones, and Lalibela is located in the North Wollo Zone administered through the zonal center of Weldiya. The North Wollo Zone is further divided into eleven *woredas*, and until recently, Lalibela belonged to the Lasta *woreda*. However, in recognition of the unusual considerations that it requires as a World Heritage site, members of the Lalibela Town Administration explained that, in 2008, Lalibela was granted a special administrative status that gives it more clout than a city of its small size would normally enjoy, making it roughly equivalent to a *woreda* in its own right. As previously mentioned, Lalibela itself is subdivided into five *kebeles*. The Lalibela Town Administration consists of several separate offices with different responsibilities, with the Planning Office and Office of Tourism and Culture most directly involved with the heritage site. An additional tourism council has been established to facilitate communication between the municipality and others involved with the site of Lalibela, including hotel owners, tour guides, and the Ethiopian Orthodox Church.

While the Lalibela Town Administration is the municipal authority charged with providing services for the town and its residents, decisions involving the heritage site of Lalibela frequently involve additional governmental authorities at the national level. The Ministry of Culture and Tourism works to establish protocols within the tourism industry, developing the national tourism campaign, "Ethiopia, Land of Origins." Major decisions are made on the federal level and local offices are responsible for implementation. This paradigm grants the local Lalibela Office of Culture and Tourism little flexibility in how to manage the rapidly growing industry. The Ministry of Culture and Tourism also works to conserve Ethiopian heritage through the Authority for Research and Conservation of Cultural Heritage (ARCCH). Based in Addis Ababa with a regional office in Bahir Dar, the ARCCH is responsible for all technical efforts to preserve the heritage within the core site of Lalibela.

During the regime of the Derg (1974–91), all land in Ethiopia, including the holdings of the Ethiopian Orthodox

Church, was nationalized. Under the 1995 Constitution of Ethiopia currently in effect, this national land policy remains unchanged, and is a source of conflict (Nega et al., 2003). In Ethiopia, the state controls all land use and regulates access to land through long-term leases. In the case of Lalibela and other church property, the Ethiopian Orthodox Church controls the sites, making ownership more ambiguous. The Ethiopian Orthodox Church exerts tremendous influence over the site and within the community. The church manages the site on a day-to-day basis, controls the revenue from ticket sales and donations, and is treated with deference by local, national, and international authorities.

International authorities including UNESCO and the World Bank have recently been involved with large-scale conservation or tourism development projects in Lalibela. During the course of these projects, these entities have been involved in key decisions affecting the future of the heritage site and the town. Once the budgets of these projects have been expended, however, these entities have had relatively little ability to influence the decisions made by other stakeholders concerned.

Frequently, there is some ambiguity in Lalibela about which entity holds the authority to make a particular choice or has the responsibility to address a particular concern, as there is no single entity with definitive control over the site. While this may lead to frustration or inaction as every party waits for another to act, this ambiguity also permits a considerable degree of autonomous action by the Ethiopian Orthodox Church, as well as by some of the authorities at varying levels of government.



Lalibela is in the Amhara division, which has its regional capital in Bahir Dar. The Amhara division consists of ten zones, and Lalibela is located in the North Wollo Zone administered through the zonal center of Weldiya.

Trenches surrounding Biete Denagel

HISTORY

A BRIEF HISTORY OF LALIBELA

05

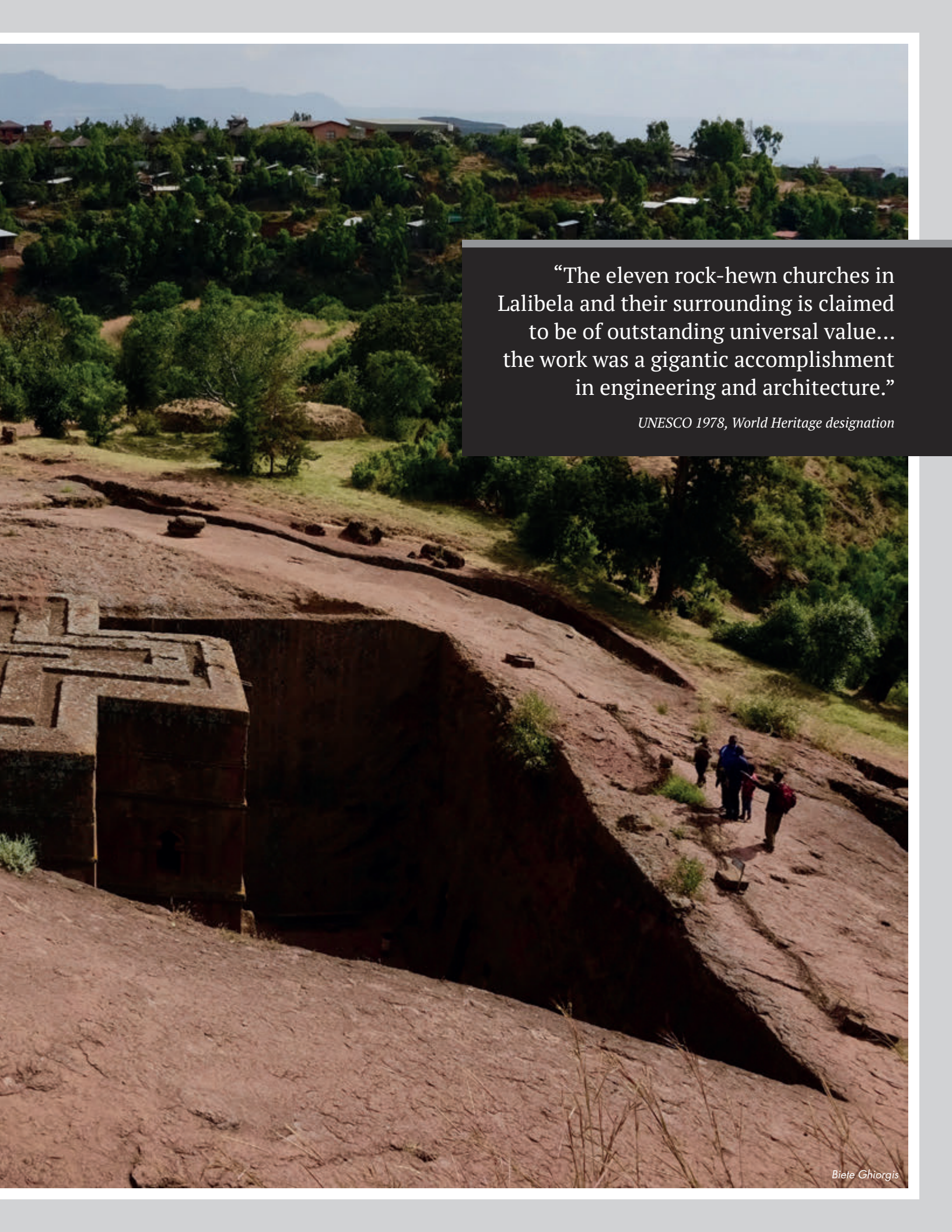
Lalibela is internationally recognized for its eleven monolithic rock-hewn churches. The origins of the churches are debated, but historical records suggest that the churches were constructed by successive regimes in response to Muslim conquests of Jerusalem in response to Muslim conquests of Jerusalem, with the hope of creating a “New Jerusalem” for Christian pilgrimages (IFM 1967, 7).

Meanwhile, Ethiopian legend asserts that the churches were constructed within twenty-three years by King Lalibela of the Zagwe Dynasty in the twelfth century A.D. There is also speculation that the churches were a direct result of Queen of Sheba's visit to Jerusalem around 1,000 B.C.

Since its inception, the rock-hewn churches have remained a popular Christian pilgrimage site. There has also been a long history of international involvement at the site. Francisco Álvares, a Portuguese missionary and explorer was the first to publish detailed descriptions and praised the grandeur of the churches at Lalibela (Mercier 2012, 14–15).

The first recorded international conservation interventions at the churches were in the early twentieth century under the reign of Empress Zwidue, when two of the churches were covered in a red plaster. The next notable event in Lalibela's timeline came in 1935 when Emperor Haile Selassie came to Lalibela for spiritual guidance while the country was resisting Italian invasion. In doing this, Haile Selassie brought Ethiopia and Lalibela to the international stage, raising awareness of the site.





“The eleven rock-hewn churches in Lalibela and their surrounding is claimed to be of outstanding universal value... the work was a gigantic accomplishment in engineering and architecture.”

UNESCO 1978, World Heritage designation

With greater international awareness, tourism in Ethiopia grew 12 percent a year in the early 1960s. Simultaneously the Pan-Africanism movement was underway with the first conference of the Organization of African Unity held in Addis Ababa in 1963. Ethiopia continued growing tourism with the publication of the Tourism Development Management Master Plan in 1966 and a year later the International Fund for Monuments (IFM)—later known as World Monuments Fund (WMF)—launched their first involvement in Lalibela, remediating the early restoration

efforts as well as raising awareness about Lalibela's cultural significance.

In 1978, Lalibela was designated among the very first UNESCO World Heritage Sites for its outstanding churches as well as the surrounding vernacular architecture. However in the years following, civil war, terrible famine, and the communist Derg regime halted international tourism in Ethiopia until the late 1980s. After the end of the regime, Ethiopia began to stabilize, allowing international tourism to resume.

Since their inception, the rock-hewn churches have remained a popular Christian pilgrimage site.



In the 1990s, renewed efforts to address conservation and environmental issues at Lalibela were initiated through the cooperative efforts of UNESCO and the Finnish government, under the umbrella of the Finnish International Development Agency (FINNIDA) and the European Union (EU), marking a new era of international engagement at the site that continues today.

In 2000, the World Bank funded the Plan for Accelerated and Sustained Development to End Poverty in Ethiopia with tourism as a major aspect, thus initiating the

World Bank's involvement in Lalibela's development over the next fifteen years. In 2007, the EU funded a UNESCO-led project to build protective, temporary shelters over some of the churches. Two years later, in 2009, the World Bank, in cooperation with the Ethiopian government, led a project in Lalibela to generate economic growth through tourism by shaping Lalibela as a major tourist destination for Ethiopia. Part of this project resulted in the resettlement of approximately 700 households from the core zone to areas north and south of Lalibela (World Bank, vol. 1, 2011).



Gathering of pilgrims at Bieta Gabriel Raphael

In 1978, Lalibela was designated among the very first UNESCO World Heritage Sites for its outstanding churches as well as the surrounding vernacular architecture.

This timeline provides some key dates and periods in Lalibela history in the national context including international involvement.

Years	Interests and Interventions in Lalibela	National History
Pre-20th century	Twelfth century —Lalibela churches constructed	Second century A.D. —Kingdom of Axum becomes a regional trading power
	Sixteenth century —Father Francisco Alvarez first publishes detailed descriptions of the Lalibela churches	Christianity arose in Ethiopia in the fourth century A.D., following the teaching of two clerics from Syria who gained the favor of King Ezana of Aksum, according to tradition (Batistoni 2012, 41).
		1529–43 —Muslim leader Ahmad Gragn invaded much of Ethiopia 1895 —Italy invaded Ethiopia 1896 —Italians defeated at the Battle of Adwa
1910s–1930	1916–1930 —Empress Zewditu commissioned a restoration treatment of Biete Amanuel, which involved a Greek architect and Indian conservation team	
1930s	1935 —Emperor Haile Selassie visits Lalibela seeking spiritual guidance during the Italian invasion	1935—Italy invades Ethiopia 1936–1941—Italian Occupation
1940s		1941 —Emperor Haile Selassie was restored to the throne with the aid of resistance fighters and the British military
1950s	1958 —Ethiopian preservation and conservation standards established with the passing of laws on ‘Antiquities Administration’, inspection, inventory and research of cultural heritage	
1960s	1967 —International Fund for Monuments (precursor of World Monuments Fund) establishes Committee for the Restoration and Preservation of the Churches of Lalibela 1967–1970 —Comprehensive restoration program: led by Dr. Sandro Angelini	Tourism flourishes, growing 12 percent a year 1963 —First conference of the Organisation of African Unity held in Addis Ababa 1966 —Tourism Development Master Plan
1970s	1978 —Designation of Lalibela as UNESCO World Heritage Site	1974 —Emperor Haile Selassie overthrown in military coup; beginning of the Communist Derg 1975 —Nationalization of urban land and extra houses 1977–79 —Thousands of government opponents die in “Red Terror”; collectivization of agriculture; Tigrayan People’s Liberation Front launches war for regional autonomy 1977 —Somalia invaded Ethiopia

Key International Intervention/Interest Dates

Key National History Dates

Key Lalibela Dates



Religious Ceremony at Biete Mariam

Years	Interests and Interventions in Lalibela	National History
1980s	<p>1982–1983—World Heritage Fund financed a survey for all 11 churches</p> <p>1984—Church compound was demarcated and fenced</p> <p>1984–87—Planning moratorium and developmental freeze imposed in core area around the churches</p> <p>1986—Temporary roof erected at Biete Mariam</p>	<p>1984–85—Famine</p> <p>1988—Ethiopia and Somalia signed a peace treaty</p>
1990s	<p>1993—Another temporary roof was erected at Biete Mariam</p> <p>Mid 1990s—FINNIDA/EU in Lalibela- Finnish International Development Agency (FINNIDA) partners with the EU and UNESCO on the environmental aspects of the project, such as the drainage and living conditions</p> <p>1994—EU provides 9.1 million euros for the construction of shelters over the churches in Lalibela</p> <p>1997—Conservation action plan was created between Ethiopian authorities and the EU for an International Competition to build shelters over churches</p> <p>1999—First master plan of Lalibela was prepared</p> <p>1999—Shelter Competition announced</p>	<p>1991—End of Communist Derg</p> <p>1994—New constitution divided Ethiopia into ethnically-based regions</p> <p>1999–2001—Ethiopian- Eritrean border clashes turn into a war</p>
2000s	<p>2000—World Bank funded Plan for PASDEP, Beginning of World Bank involvement: Integrated Framework Diagnostic World Bank funded Plan for Accelerated and Sustained Development to End Poverty (PASDEP).</p> <p>2006—WMF and UNESCO fund research into decay processes affecting Lalibela rocks to define long term strategy for conservation of churches.</p> <p>2007—Building of the four church shelters were completed</p> <p>2009—Structural Use Plan for 2009–2019 for Lalibela was released, prepared by WUB Consult for the Amhara National Regional State Urban Planning Institute</p> <p>2009—Mikael Gebbi began to be resettled by World Bank to Kurakur plots</p> <p>2009—WMF partners with the Zamani Initiative of the University of Cape Town and conducted 3D laser scanning of the entire site</p> <p>2009—WMF with UNESCO and the Authority for Research and Conservation of Cultural Heritage (ARCCH) launched a preservation project at the Biete Gabriel Raphael church that is located within the pilgrimage site</p> <p>2009—World Bank resettlement program to relocate approximately seven hundred families living within or near the core site began</p>	<p>2008—UN Security Council votes unanimously to end UN peacekeeping mission to monitor the disputed border between Ethiopia and Eritrea</p> <p>2009—Ethiopia formally withdraws forces from Somalia</p>
2010s	<p>2010—World Heritage Earthen Architecture Program Mission (WHEAP) (2010)</p> <p>2012—WMF received a grant from the US Ambassadors Fund for Cultural Preservation (AFCP) to test less intrusive alternative conservation strategies on Biete Gabriel Raphael</p> <p>2015—World Bank Resettlement completed</p> <p>2015—WMF Preservation work concluded at Biete Gabriel Raphael</p> <p>2016—National Tourism policy and a Five Year Strategic Plan for Tourism is being drafted currently</p>	<p>2012—Ethiopia accused of forcing thousands off their land for foreign investors</p> <p>2015—Ruling Ethiopian People's Revolutionary Democratic Front (EPRDF) won an overwhelming victory in general election</p> <p>2016—Government drops plans to expand Addis Ababa after months of protests by Oromo ethnic group fearing farmers could be displaced</p> <p>2016—Six-month state of emergency declared after months of violent anti-government protests</p>



Doorway at Church Group One

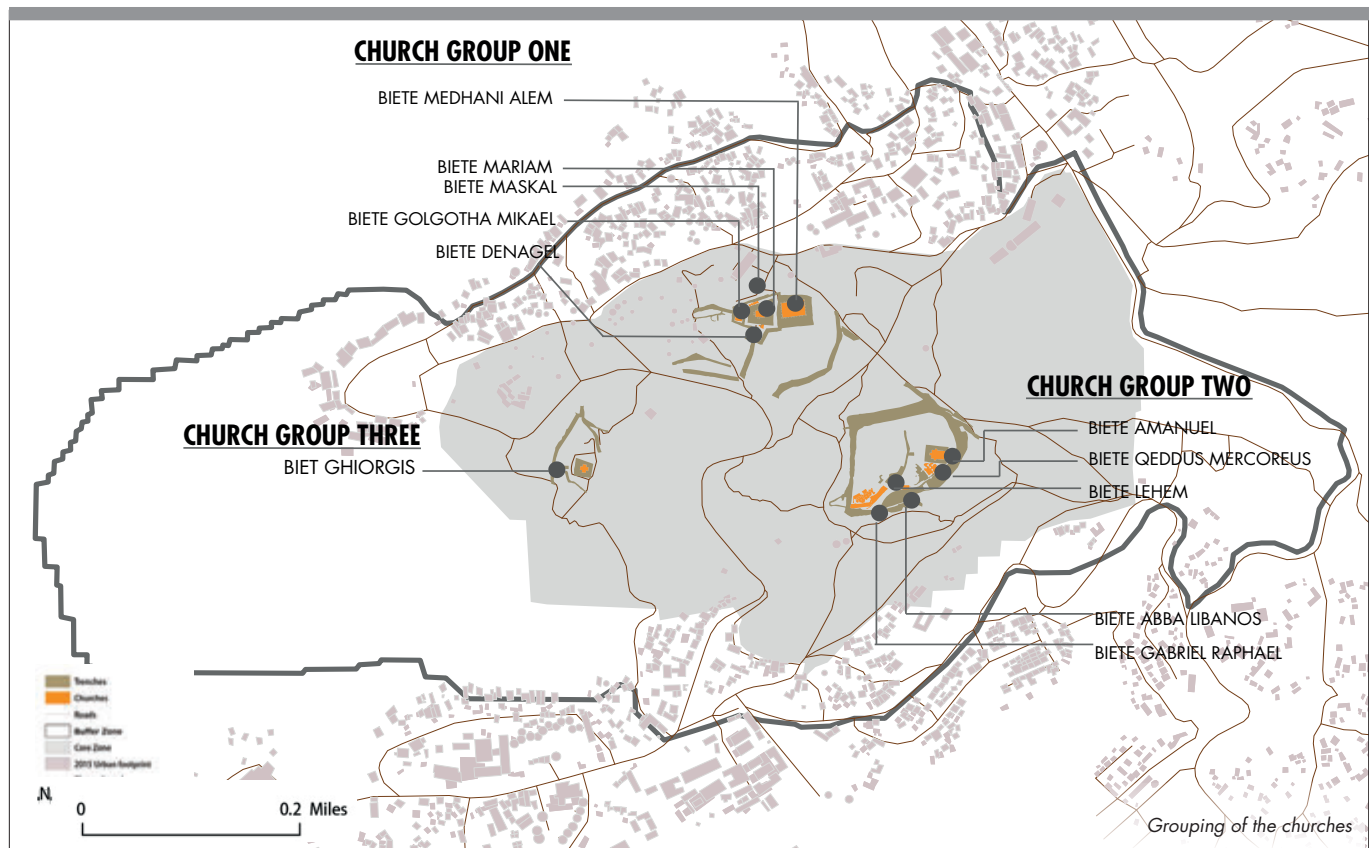


Religious Ceremony at Biete Mariam

THE CHURCHES: AN OVERVIEW

The churches of Lalibela are part of a complex landscape that symbolizes key elements of Jerusalem and of biblical narratives. There are three groups of churches; the first group represents Earthly Jerusalem and the second group represents Heavenly Jerusalem. These two groups are

separated by a shallow gorge representing the Jordan River, while the third group, which contains only one church, Biete Ghiorgis, is isolated from the others. Still, all the church groups are connected by a system of carved trenches, tunnels, and pathways.



CHURCH GROUP ONE: TO THE NORTH OF THE RIVER JORDAN

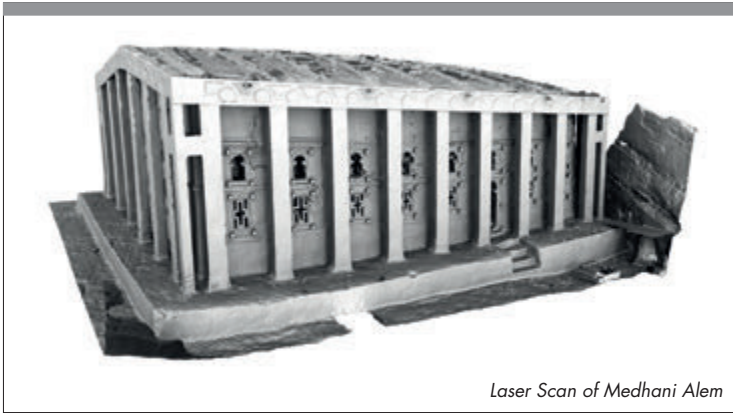
- Biete Medhani Alem (House of the Savior of the World)
- Biete Mariam (House of Mary)
- Biete Maskal (House of the Cross)
- Biete Denagel (House of Virgins)
- Biete Golgotha Mikael (House of Golgotha Mikael or Adam's Tomb)



Biete Denagel



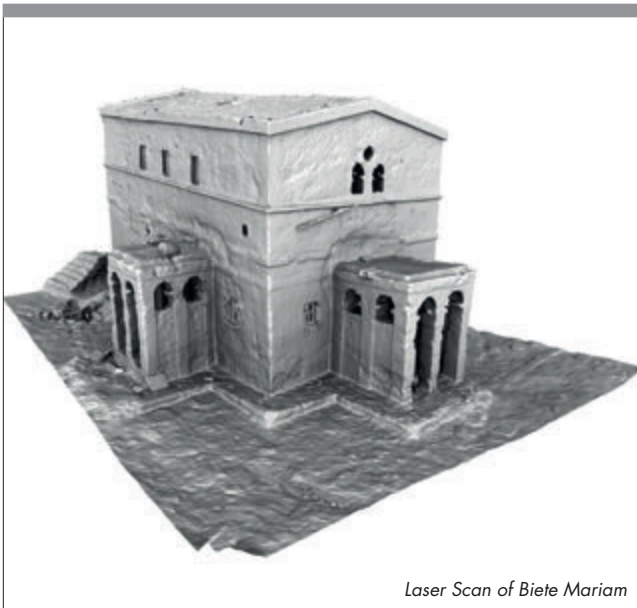
Biete Golgotha Mikael



Laser Scan of Medhani Alem



Biete Medhani Alem



Laser Scan of Biete Mariam



Biete Mariam



Biete Medhani Alem



Biete Maskal

CHURCH GROUP TWO: TO THE SOUTH OF THE RIVER

- Biete Amanuel (House of Emmanuel)
- Biete Qeddus Mercoreus (House of St. Mercurius)
- Biete Abba Libanos (House of Father Libanos)
- Biete Gabriel Raphael (House of Gabriel Raphael)
- Biete Lehem (House of Holy Bread)





CHURCH GROUP THREE:
TO THE WEST OF THE
FIRST TWO GROUPS

- Biete Ghiorgis (House of St. George)





The churches of Lalibela are part of a complex landscape that symbolizes key elements of Jerusalem and of biblical narratives.

There are three groups of churches: the first group represents Earthly Jerusalem, the second group represents Heavenly Jerusalem, and the third group consists of only one church and stands alone.

CHURCH DESIGN AND CONSTRUCTION

These churches, tombs, and catacombs carved out of volcanic tuff rock have been built in a variety of styles. Some of them were chiseled top-down into the face of the rock, and others stand as isolated blocks. A complex and extensive system of drainage trenches, tunnels, and subterranean passageways connects the underground structures, doubling as circulation routes.

The trenches and churches were hewn as monoliths from the native volcanic tuff. Each giant block was then further chiseled out, forming doors, windows, columns, various floors, and roofs (Mercier 2012, 50). Finally, the inner mass was sculpted as the exterior was refined and ornamented. To avoid flooding from underground rivers and water tables, the church builders excavated drainage canals and trenches. The roofs of the four freestanding monolithic churches slope at the same angle of

the rocks from which they were carved, further promoting drainage (Mercier 2012, 47–66).

The churches of Lalibela are square or rectangular in form, with basilical (five or three aisled) or cruciform plans. Steps and steep pedestals lead visitors upward into the churches, lifting them from the carved trenches and pathways. Except where geological formations forced alterations, the churches follow the Orthodox custom of placing a door at



Trench leading to Biete Amanuel



Entrance to Biete Mercoreus

The trenches and churches were hewn as monoliths from the native volcanic tuff. Each giant block was then further chiseled out, forming doors, windows, columns, various floors, and roofs (Mercier 2012, 50).

each of the western, northern, and southern sides with the exception of Biete Mariam, which features three porches on its north, west, and south sides (Mercier 2012, 47–66).

The floors of the churches are roughly hewn, varying in height to delineate different sacred zones. Bracketed pillars support flat ceilings, barrel vaults, and domes. Semi-circular arches dominate interior spaces, reflecting Ethiopian architecture and motifs common in manuscript illuminations. In Biete Mariam, a single central pillar, called the Pillar of Light, stands in the axis of the nave directly against the central platform and is completely veiled by a white cloth. This feature is unique among the rock carved churches of Ethiopia.

In Biete Mariam, a single central pillar, called the Pillar of Light, stands in the axis of the nave directly against the central platform and is completely veiled by a white cloth.



Pillar of Light

DESIGN DETAIL AND RELIGIOUS SYMBOLISM

Each of the churches is rich in details from ancient design, and these designs are steeped in religious symbolism. There are also instances where the design had few known precedents before its use in Lalibela.

Many of the churches include friezes or Aksumite-style windows in the upper choir area, and nearly all of the churches employ moldings and string courses to break their massive forms into smaller segments (Mercier 2012, 70). Believed to be one of the earlier churches built, Biete Mariam is thought to be a royal church given its lavishly decorated interior and exterior compared to the other churches on the site. Its exterior porches are exceptional as they are neither inherited from Aksumite architecture, nor are they borrowed from Christian or Islamic monuments of neighboring countries. Inside, there are colored geometric patterns and biblical scenes painted on shallowly carved walls, ceilings, and columns with forms and styles of diverse origins (Mercier 2012, 104–109).

There are also instances where the design had little to no known precedence before their use in Lalibela.

The geometric designs on the arches at Biete Mariam are believed to have come from liturgical objects, furniture and decoration brought from Egypt and Palestine to Aksum in Ethiopia. The sides of the capitals have been decorated with a motif derived from the Egyptian hieroglyphic meaning “life”. It is highly possible that the relationship between the Orthodox Church in Ethiopia and the Coptic Church in Egypt also influenced the motifs in Lalibela (Mercier 2012, 104–109).

Within the first church group, also referred to as



Original Ceiling Paintings in Biete Mariam

the funerary group, Biete Golgotha Mikael's west-end is a chamber that was believed to be King Lalibela's crypt; it contains the only sculpted representations of human form in all of ancient Ethiopian Christian art, with the exception of one similar carving at Qanqanit. These relief sculptures have a distinct style and include a haloed statue of Christ, with arms crossed on his chest. They appear similar to figures commonly found in tenth century Syrian and Coptic manuscripts (Mercier 2012, 111–113).

Biete Ghiorgis, noted for its remarkable cruciform plan and roof is the only church in the third group. It has ogee-arched windows, each topped with a low relief cross featuring “split palmettes,” a symbol of the “burgeoning cross” and the “cross of life” (Mercier 2012, 87–92).

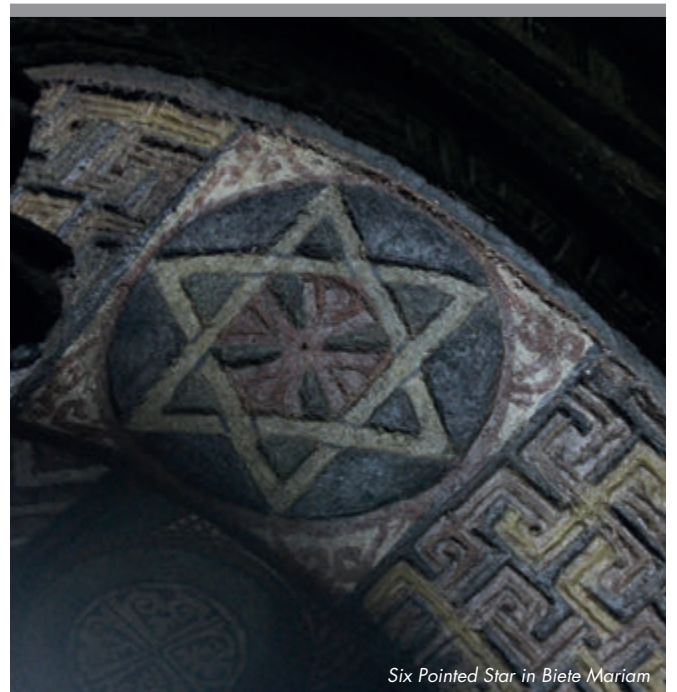
There is a great variety of ancient crosses in the Lalibela churches such as the ankh, the foliated cross and



Biete Ghiorgis's Cruciform Shape

the many cross window openings including the pattée, hooked and stepped crosses (Mercier 2012, 123–138). Inside the church, variations of crosses appear in new and ancient metalwork, and in wooden sculpture. The forms of these crosses are original and unique to Lalibela. The crosses sometimes represent the tree of life, while garlands symbolize the crucified Christ (Mercier 2012, 123–138).

There were also nine wooden arks dedicated by King Lalibela and thirteen others made not long after his reign. Their decoration is often identical to those of the churches and objects of the site, so it is believed that the arks were carved at the same time, around the thirteenth century. There are also mixed arches and ogee arches carved into the arks, and it is thus believed that the wood carvers were contemporary to the stone carvers who were creating the same motifs (Mercier 2012, 115–119).



Six Pointed Star in Biete Mariam



Biete Chiorgis's ogee-arched windows

There is a great variety of ancient crosses in the Lalibela churches such as the ankh, the foliated cross, and the many cross window openings including the pattée, hooked, and stepped crosses (Mercier 2012, 123–138).



Biete Mariam's Cross Window



Metal crosses

PLANNING AND CONSERVATION EFFORTS: A DIVERSE AND EXPANDING SCOPE

As previously indicated in the timeline, Lalibela has experienced a long history of international interest and engagement. Lalibela is known worldwide for its spiritual, historical, and architectural value, and continues to serve as an important pilgrimage site. For much of the last century, there have been efforts to conserve the churches themselves. More recently, the scope of conservation works expanded to include surrounding gojos, and the nature of international assistance projects extended to include infrastructure improvement for the broader town and community.

EARLY CONSERVATION EFFORTS

The deterioration of the churches has long been a concern. Undoubtedly, for much of Lalibela's history, any physical problems threatening the churches were addressed with what resources were immediately available, or were not addressed

at all. As connections between Ethiopia and the rest of the world became more common, the government frequently sought outside expertise and assistance to better protect the churches. During the reign of Empress Zewditu (1916-30), she commissioned a Greek architect to restore Biete Amanuel and Biete Abba Libanos. The restoration project involved the application of red plaster on the exterior of the church and may have covered a fresco of King Lalibela (Batistoni 2016, 120). Beyond this, little is known of this architect's work on the site, but his team is rumored to have also included Indian conservators who also covered Biete Abba Libanos with red plaster.

In 1958 the enactment of the Ethiopian law on "Antiquities Administration" provided for the inspection, inventory, and research of cultural heritage, thereby establishing the policy foundations for conservation in Ethiopia (UNESCO 1978).



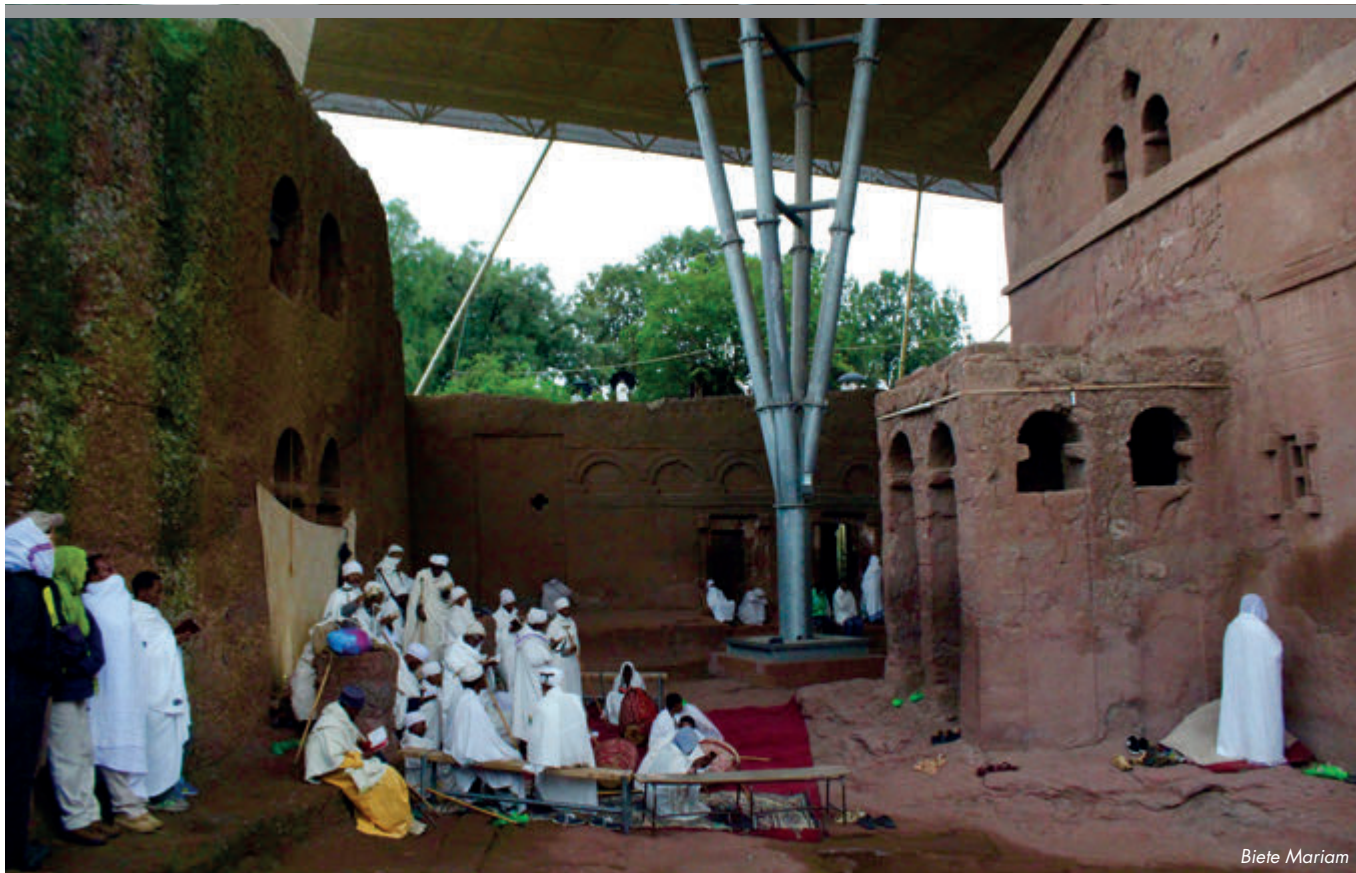
Photo comparison: Before and after IFM/WMF conservation work at Biete Amanuel



Section of Biete Medhani Alem left by IFM/WMF to document past restoration attempts



Nail marks left from early restoration on Biete Amanuel



Biete Mariam

WORLD MONUMENTS FUND IN LALIBELA

Starting in the mid-1960s, World Monuments Fund (WMF), then known as the International Fund for Monuments (IFM), initiated conservation work on the churches. In cooperation with the Ethiopian government, a Committee for the Restoration and Preservation of the Churches of Lalibela was established. Dr. Sandro Angelini, an expert on monument restoration and Director of the Archaeological Museum of Bergamo, Italy, was brought in by IFM to supervise efforts. Angelini and his team carried out two four-month-long campaigns from 1967 to 1970, which included the removal of the red plaster from Biete Amanuel (IFM 1967, 8).

World Monuments Fund remained involved in the conservation of the rock-hewn churches of Lalibela. For example, in 2009, WMF partnered with the Zamani Initiative of the University of Cape Town conducting 3D laser scanning of the entire site producing graphic documentation available for scholars and technicians. These scans provided

“conservators with baseline information for subsequent detailed assessments of the state of conservation of these elements, and, eventually, to use the digital data for education and presentation purposes” (Ruther & Palumbo 2012).

Also, in 2009, a collaboration with UNESCO and the Authority for Research and Conservation of Cultural Heritage (ARCCH) launched a preservation project at Biete Gabriel Raphael. In 2012, WMF was given a grant by the US Ambassadors Fund for Cultural Preservation (AFCP) enabling the organization to utilize alternative conservation strategies that were less intrusive, hoping to set a precedent for future conservation efforts of the other churches at the site. The WMF team worked alongside local trainees in the creation of guidelines for the future conservation of the churches and structures at the site. Following the successful completion of the Biete Gabriel Raphael project, WMF has embarked on a similar conservation project at Biete Golgotha Mikael.



Finished conservation work on Biete Gabriel Raphael



Members of the study team in front of Biete Gabriel Raphael

UNESCO IN LALIBELA

Despite the challenges in the post-revolutionary political environment, the United Nations Development Programme Center for Research and Conservation of Cultural Heritage (CRCCH), and UNESCO carried out a project between 1974 and 1982 with the goal of preserving and promoting historic sites in Ethiopia, which included the rock-hewn churches of Lalibela.

Their inclusion in this program led to Lalibela being recognized as a World Heritage site in 1978. Lalibela's church compound was among the first twelve sites inscribed on the UNESCO World Heritage List in October of 1978. It was designated as a cultural heritage property by the following criteria:

- "Criterion (i): All the eleven churches represent a unique artistic achievement, in their execution, size and the variety and boldness of their form.
- Criterion (ii): The King of Lalibela set out to build a symbol of the holy land, when pilgrimages to it were rendered impossible by the historical situation. In the Church of Biet Golgotha, are replicas of the tomb of Christ, and of Adam, and the crib of the Nativity. The holy city of Lalibela became a substitute for the holy places of Jerusalem and Bethlehem, and as such has had considerable influence on Ethiopian Christianity.



- Criterion (iii): The whole of Lalibela offers an exceptional testimony to the medieval and post-medieval civilization of Ethiopia, including, next to the eleven churches, the extensive remains of traditional, two story circular village houses with interior staircases and thatched roofs" (UNESCO 1978).

Notably, in the initial 1978 documentation supporting Lalibela's designation as UNESCO World Heritage, the significance of both the churches and the surrounding vernacular architecture was recognized, noting that the vernacular structures "should be conserved as a proper surrounding to the churches." Additionally, the existing trenches and tunnels connecting the churches were recognized for their unique aesthetic value.

After inclusion of Lalibela on the World Heritage List, UNESCO continued to play a role in protecting Lalibela's historic fabric and outstanding universal value, through monitoring missions to the site, coordinating with partner institutions to fund conservation efforts, and ensuring the historic site remained protected and maintained through regular State of Conservation Reports provided by the Ethiopian government.

Following a period of interruption during the harshest years of the Derg regime and a period of acute famine in Ethiopia, UNESCO's mandate in Lalibela gathered momentum again in 1993. A UNESCO mission, funded by the European Union (EU), went to Lalibela to determine the physical state of the site. In addition, FINNIDA partnered with the EU and UNESCO to assess the environmental aspects of the site, such as the drainage and living conditions. The purpose of the FINNIDA project was to formulate conservation and environmental management plans. It was executed in two stages; the first, to stabilize the churches, their movable heritage, and their paintings. The second phase of work was the restoration of the churches. During these stages, the team noted significant degradation of the monuments (UNESCO 1995).

Beginning in 1994, the EU assisted Lalibela on an action plan to conserve the historic churches. In 1997, they



Church shelters

In 1999, an international Architecture Competition was launched for the design of temporary shelters to protect Biete Medhani Alem, Biete Mariam, Biete Amanuel, Biete Abba Libanos, and Biete Ghiorgis.

provided €9.1MM for the construction of shelters over the churches (UNESCO 2007a, 9). The purpose of these shelters was to protect the churches from rain water, a contributing factor to their deterioration.

In 1999, they launched the International Architecture Competition for temporary shelters designs to protect Biete Medhani Alem, Biete Mariam, Biete Amanuel, Biete Abba Libanos, and Biete Ghiorgis. Later that year, a jury, including a UNESCO representative, selected a winning shelter design (UNESCO 2000). However, a UNESCO mission to the site found that the design would have environmental impacts and be problematic to remove in the future. Therefore, UNESCO modified the design of the shelters to minimize the risks and facilitate reversibility in the future.

The starkest difference between the original winning design and the modified version was the location of the support beam bases of the shelter roof (see design image on page 77). The original design had the bases on the ground above the churches, while the installation moved their placement to within the trenches. By 2007, the funds had been exhausted with only four of the five proposed shelters built. Therefore, Biete Gabriel Raphael was left unsheltered.

In July of 2010, UNESCO sent a mission to Lalibela under its World Heritage Earthen Architecture Program (WHEAP). WHEAP was created with the aim of advancing the conservation, sustainability, and management of earthen architecture. The purpose of the mission to Lalibela was thus to understand how its earthen architecture can enhance the general surroundings of the rock-hewn churches, and to study how this traditional architecture can be conserved and managed. These traditional gojos were an integral part of the World Heritage designation of Lalibela in 1978. It was therefore extremely important to UNESCO that they remain intact.

At the time of the mission, 76 percent of the housing units were made of earth and wood, while 16 percent were made of stone and earth. The houses with traditional thatch roofs decreased from 30 percent in 1994 to 13 percent in 1999. Moreover, these houses had a problem of overcrowding. The mission also noted that 75 percent of the traditional houses did not have toilets, which led to residents disposing of waste around the village, thereby diminishing the value of the World Heritage Site (Odiaua 2010, 12–13).

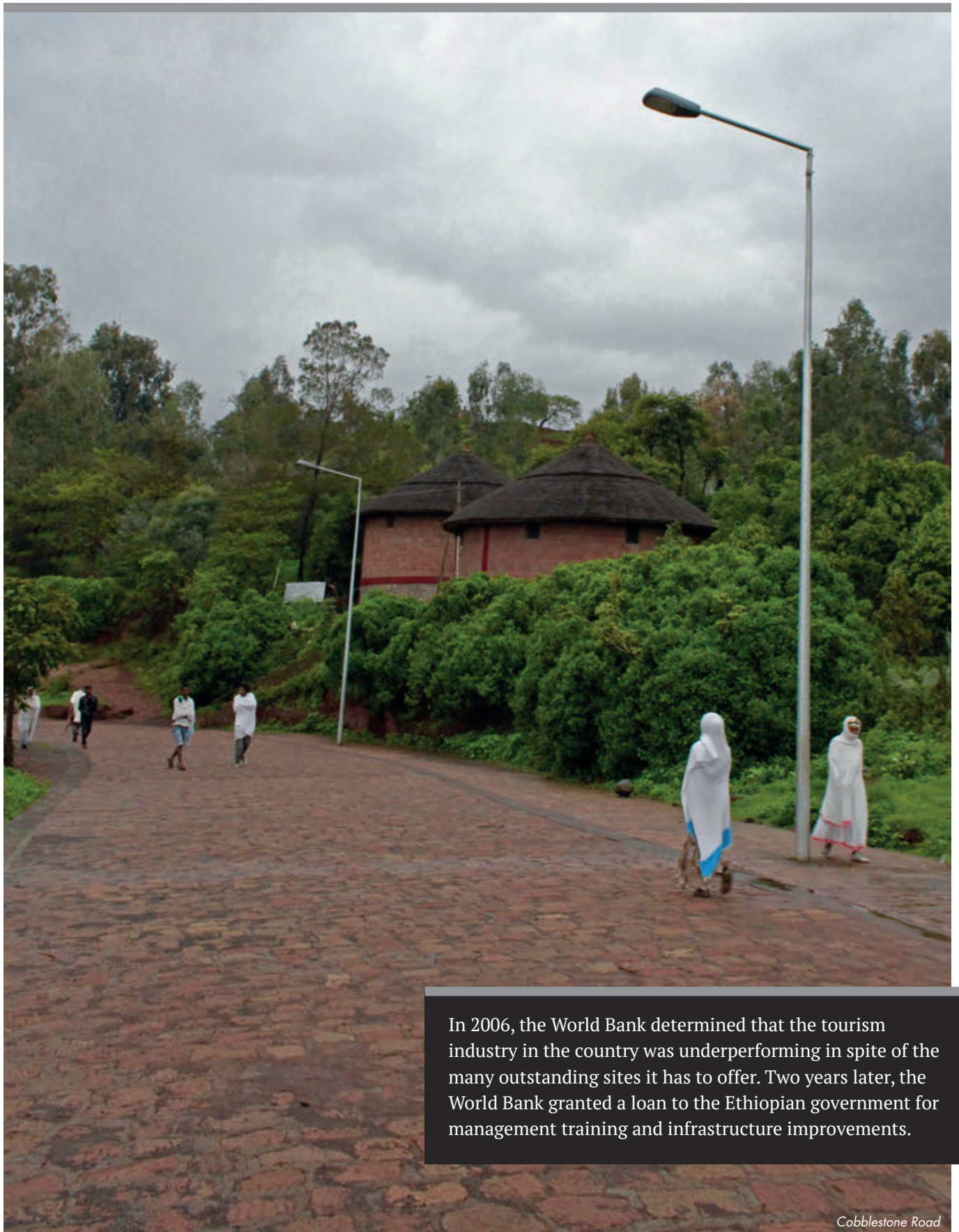
During this mission, the UNESCO World Heritage Centre held a workshop to meet with stakeholders aimed at establishing a committee to develop a site management plan. The team worked with the Mayor to promote the use of traditional structures, such as the gojos. UNESCO also created plans for on-site training, research work, and guidelines for conservation of the structures. It identified the need to have local professionals to assist with the conservation work, to begin work on the conservation of the earthen architecture as soon as possible, and to address the use of these structures (Odiaua 2010, 13–22).

WORLD BANK IN LALIBELA

Since the early 2000s, the Ethiopian government had focused on growing its tourism sector as a vehicle to reduce poverty, given its job creation and revenue potential. In 2006, the World Bank determined that the tourism industry in the country was underperforming despite the many outstanding sites it has to offer. Two years later, the World Bank granted a loan to the Ethiopian government to fund the Tourism Development Project, which consisted of four components: Destination Development, Market Development, Institutional Development and Capacity Building, and Implementation Support (World Bank 2015, 2).

The project was dedicated to the development of tourism within the country. It focused on growing the domestic talent base and expertise while enhancing and constructing necessary infrastructure, visitor services, and the development of tourism products—boosting national GDP. Some of these benefits are starting to manifest themselves. For example from 2000 to 2011, the population living under the national poverty line was reduced from 44 percent to 14 percent (World Bank 2014). The rich cultural and natural landscape of the country offers a distinct opportunity to continue developing the tourism sector and reinforce this trend of increased prosperity.

World Bank involvement has been extensive in Lalibela. The loan included funds to support compensation for households resettled from within the core area of the site to designated zones on the southern periphery of town. The funds were also allocated to tourism infrastructure improvements within the core and buffer area and the town as a whole. Within the core and buffer, visitor facilities such as restrooms and signs were installed while roads around the city were paved with cobblestones. The federal government supported this infrastructure improvement by contracting the China First Highway Engineering Co. Ltd. to pave the road connecting Lalibela to the airport and the nearby towns of Gashena and Sekota (Kassa 2015).



In 2006, the World Bank determined that the tourism industry in the country was underperforming in spite of the many outstanding sites it has to offer. Two years later, the World Bank granted a loan to the Ethiopian government for management training and infrastructure improvements.

Cobblestone Road

FINDINGS AND ANALYSIS

06

The rapid expansion of Lalibela is a pressing challenge for the Lalibela Town Administration. Influenced by organic population growth, recent resettlement programs for those previously living in the core site, and development associated with tourism infrastructure, this expansion has occurred more quickly than anticipated. The 2009 Structural Use Plan developed by WUB Consult offers broad land use guidelines intended to anticipate the growth and land use needs of Lalibela through 2019, but growth will soon exceed the limits of this plan. Given that the Lalibela Town Administration is currently working to update this plan for the decade of 2019 to 2029, it is worth reviewing the current nature of growth in the community.

POPULATION INCREASE AND LAND CONSUMPTION

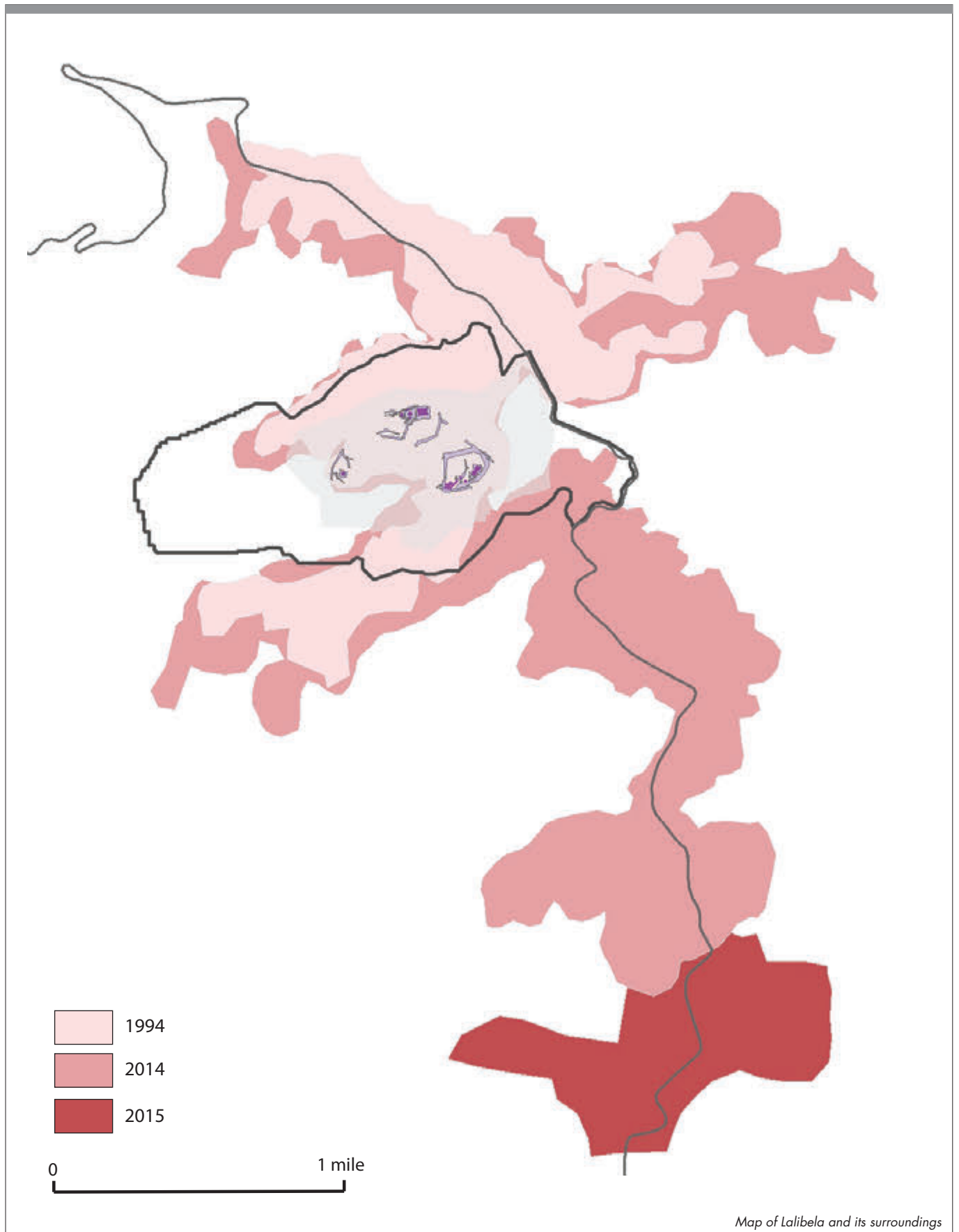
The population of Lalibela is growing faster than the population of Ethiopia as a whole. According to the 2007 census, the overall population of Lalibela was 34,029, with 15,506 in the urban kebeles and 18,523 in the outlying rural kebeles. Between then and now, the urban population was estimated to have grown at a rate of 5.7 percent per year (city population), over double the 2.5 percent average rate of Ethiopia (World Bank 2016), and about five times the world average of 1.13 percent per year. Per projections by the Central Statistical Authority, population is expected to increase to 41,897 (18,175 urban and 23,722 rural) by the next census in 2017.

To better understand the patterns of growth over the last few years, the studio group created a basic urban footprint encompassing each of the GIS building footprint

layers of 1994, 2014, and 2015. These three footprints capture the rate of change and physical growth of Lalibela.

The urban footprint of Lalibela in 1994 was approximately 0.47 square miles. Between 1994 and 2014, Lalibela grew by 251 percent, encompassing a total of 1.18 square miles. This growth was concentrated in the north-south direction, along the main road, although there was also notable expansion to the east. Densification occurred north of the core, in the buffer area and in south-west areas.

Between 2014 and 2015, the urban footprint of Lalibela expanded by 0.21 square miles, a 17.7 percent increase, in the south along the main road. While structures were removed in the core area as part of the World Bank-supported resettlement, there has been an increase in building density in the area north of the core, the buffer zone and in the south-west region.



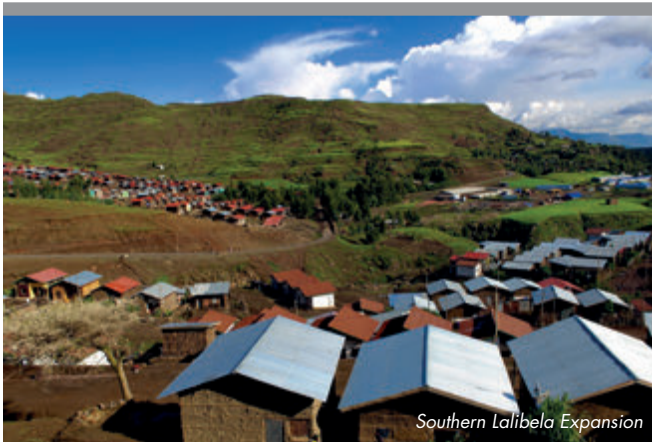


2010

Since 2010, Lalibela has continued to densify and there is now more tree cover. New buildings are particularly evident to the right at mid-distance.



2016



Per projections by the Central Statistical Authority, population is expected to increase to 41,897 (18,175 urban and 23,722 rural) by the next census in 2017.

The 2009 Structural Use Plan also included two new areas of growth along the north-south road: Simano in the north and Nakuteleab to the south. The two areas and the center of Lalibela are interlinked; anyone traveling to the rock-hewn churches must travel through Simano and Nakuteleab, as the three areas and the airport are connected by a single road that is under construction.

Simano is an area much larger than Nakuteleab and from the research conducted throughout the studio there is no evidence of Simano holding religious or cultural significance. Nakuteleab, on the other hand, is home to a church that shares the same name. The church is constructed under an overhanging cliff at the opening of a shallow cave and serves as a source of holy water; it is a sacred site frequented by locals and pilgrims.





Throughout Lalibela and surrounding areas, most of the recent growth has been in the form of low-rise, low-density structures, most of which serve as houses for individual families. According to representatives of the Town Administration, generic building plans developed during the FINNIDA project have continued to serve as templates for this new development. While these floor plans were designed to create additional higher quality housing, they have inadvertently resulted in inefficient land use and the mass construction of generic buildings. Given the scarcity of flat land, the spread of these low-rise buildings has led to unsustainable sprawl. The Planning Authorities may need to reconsider and revise zoning and height regulations in areas closer to the core to allow for taller buildings that can support higher densities. This change would not only relieve the building pressures on available flat land and fertile agricultural land, but also on the municipality to provide and support infrastructure. However, any modifications in the zoning and height restrictions would also have to minimize any potential damage to the view sheds.





Low rise, low density growth

RESETTLEMENT

The urban footprint of Lalibela has also expanded through recent efforts to resettle communities that previously lived within the core area of the site to outlying areas on the southern margin of the town.

The World Bank sponsored the development and implementation of much of this resettlement, part of the broader effort for tourist development under the umbrella of the Ethiopian Sustainable Tourism Development Project (ESTDP). WUB Consult, the same consultant that had developed the 2009–2019 Structural Use Plan for the Lalibela Town Administration, was contracted by World Bank to formulate the Resettlement Action Plan (RAP).

Prior to WUB involvement, the World Bank and the Church justified the resettlement plan for several reasons. First, according to church officials, the churches of Lalibela have been sacred places since their inception and were never intended to be surrounded by structures committed to

secular uses. Even King Lalibela took up residence on a nearby plateau instead of within the church complex. According to the Church, residential use and associated secular acts—like drinking and sexual activity—are not compatible with the sacred nature of the site (World Bank 2011, vol. 1, 18). Second, due to the long-standing moratorium on active construction projects near the churches, the existing housing stock within the core zone had not been renovated or allowed to install modern amenities such as plumbing. Untreated gray water and human waste in close proximity to the churches were additional points of concern.

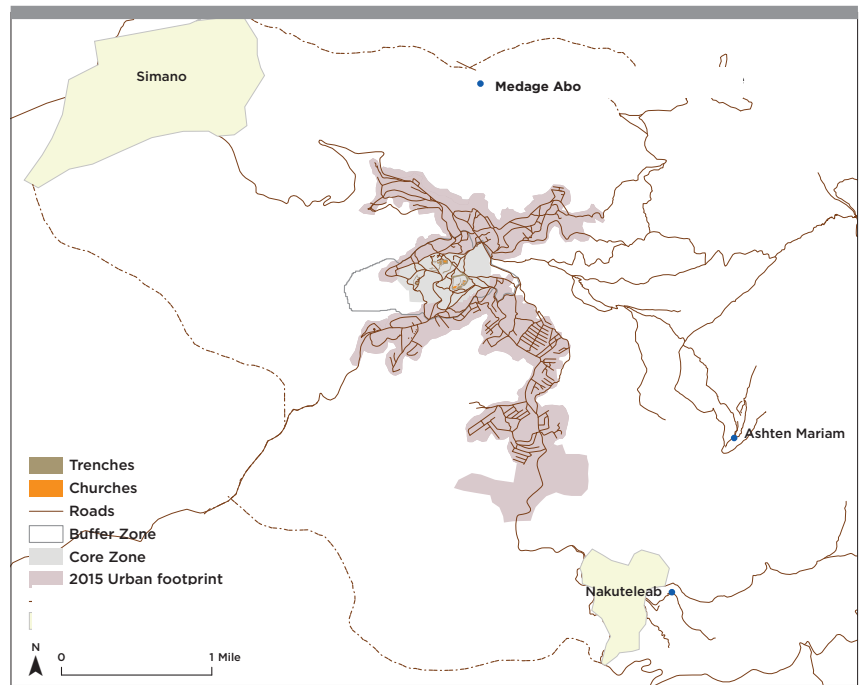
WUB included a grievances and compensation plan in the RAP to assist people with the move, as well as additional benefits like livelihood and income restoration support; “[with] homes [that] will be serviced by different infrastructures (piped water, electricity, access road, storm water drainage, etc.)” (World Bank 2011, vol. 1, 53). Nevertheless, many members of the



New housing area in southeast Lalibela

community were reluctant to make the move, since some families have been living in the gojos of the core site for generations. In addition, the plots where residents were being resettled were further away from the churches and market—central spiritual, economic, and social points of life in Lalibela. Ultimately, the resettlement proceeded and was completed in 2015, and 2,915 people from four neighborhoods (Mikael Gebbi, Gebriel Seffer, Chifrgoch, and Adishade), were relocated to areas further from the core—primarily to the neighborhood of Kurakur (World Bank 2016, 64).

According to the World Bank's internal Implementation Completion Audit, at the conclusion of the resettlement, they hosted a conversation with 13 heads of household to determine the overall satisfaction of residents with the resettlement process. This very limited sample suggested that: 1) those who were resettled have enjoyed a net benefit to their quality of life, 2) compensation for resettlement was not as high as it should have been, 3) infrastructure installed in the new settlement was of poor quality and has deteriorated rapidly, 4) livelihood restoration efforts were successful, but much of the equipment bought to support these efforts was of poor quality and has deteriorated rapidly, 5) lack of transparency during implementation was at fault, and 6) the project has definitely transformed the



The 2009 Structural Use Plan also included two new areas of growth along this the north–south road: Simano in the north and Nakuteleab to the south.

tourism landscape and should be continued. The resettlement was identified as a “key implementation challenge” in that Bank funds were suspended when the municipality began the resettlement process outside of the framework of the loan agreement, thereby delaying the completion of the project and diverting staff attention away from other aspects of the project (World Bank 2016, pg.66–7).

The creation and implementation of the RAP has also been criticized both by community members and independent

Ultimately, the resettlement proceeded and was completed in 2015, and 2,915 people from four neighborhoods (Mikael Gebbi, Gebriel Seffer, Chifrgoch, and Adishade), were relocated to areas further from the core—primarily to the neighborhood of Kurakur.

(World Bank 2016, 64)



Core zone in 2011 above and in 2016 below; once a vibrant residential community it is now largely abandoned.



scholars such as Marie Bridonneau, whose work has explored various aspects of forced resettlement undertaken for heritage and development interests, questioning the initial motives of the resettlement as well as the mechanisms by which it was deployed (Bridonneau 2014, 2). According to her, the long-standing intention to resettle the community living in the core site on the part of international actors was readily operationalized by Ethiopian authorities. In towns like Lalibela, the mechanisms of state control conspire with the inexorable forces of globalization (Bridonneau 2014, 16).

Following the implementation of the resettlement, the Church has proposed reusing the gojos that have now been vacated as housing for priests and nuns. This is not an unreasonable idea in itself, but should this come to pass, the Church must ensure that new sanitary infrastructure is installed and a strict moratorium on growth is imposed to avoid the problems that prompted the resettlement in the first place. Furthermore, given the concerns regarding transparency that community members expressed to the World Bank, the Church should be as transparent as possible about why certain individuals or families have been selected to return to live in gojos within the core area of the site.

TOURISM

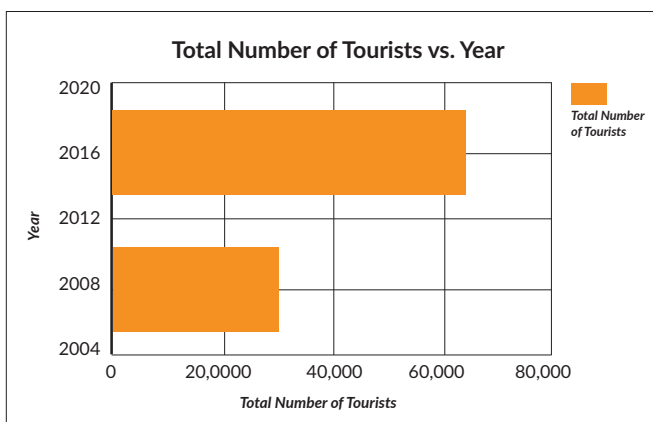
Tourism, the third largest industry in Ethiopia, is a significant part of Lalibela's economy and one of the prime drivers of its growth. As part of the ESTDP, both the World Bank and the government of Ethiopia set ambitious goals for tourism



Souvenirs sold on the way into Lalibela

development, anticipating visitor numbers in Lalibela to increase 33 percent annually (World Bank 2005) in order to fulfill Ethiopia's ambition to become one of the top five tourist destinations in Africa by 2020 (Culture and Tourism Authorities 2016).

In an effort to understand how tourism in Lalibela has changed since the 2008 World Bank project, the team analyzed the tourism data available from 2008 to 2016. The data shows that the number of annual tourists has more than doubled since 2008. The 122 percent total increase over that period is comprised of a 77 percent increase in foreign tourists and a 269 percent increase in domestic tourists. These numbers do not even include the close to 200,000 pilgrims that visit the churches for religious events. Along with the increase in the number of tourists, Lalibela's tourism revenue has also significantly increased (Culture and Tourism Authorities 2016). The large growth in tourism since 2008 illustrates the huge impact the World Bank's tourism efforts made in Lalibela and helps to illustrate how important tourism is for the city. It is a source of jobs as well as revenue. According to data provided by the municipal Office of Culture and Tourism, there are nearly 2,000 employees in the tourism industry in Lalibela, including those working in hotels, restaurants, grocery stores, guide services, mule rentals, and





tourism transportation. Between the World Bank project, government projects, and private enterprise, a significant quantity of new infrastructure has recently been installed to support a growing number of tourists and pilgrims.

One of the main concerns for the Lalibela planning authorities is the transportation infrastructure and network. With only two major entry points into the city, Lalibela's tourism industry is highly dependent on maintaining the Lalibela airport and bus station. These are the primary ways for tourists to enter and contribute to the local economy, and the federal government is currently working to upgrade the road between the airport and Lalibela.

Given the nearly 700 kilometers that separate Lalibela from Addis Ababa, many visitors arrive to the area through the airport located about 20 kilometers south of the city. There is an old road that leads directly to the core area from the Lalibela airport. In the future, both the Church and the municipality hope to reroute traffic away from the core. A new road would connect the airport, Lalibela, Simano, and Nakuteleab.

A bus station in town provides regular service to nearby cities such as Dese and Bahir Dar. During religious holidays, particularly Christmas and Epiphany, the local football fields of the city are converted into parking lots for the many buses carrying pilgrims.

Within Lalibela, there are no public or mass transit options for local service. For those wishing to travel from the edges of town to its center (approximately three kilometers), the only options are walking or hiring a *bajaj*. Three-wheel *bajaj* (*tuk-tuk*) motor carriages are available for hire and offer a convenient alternative to walking. They are privately owned and operated, have the capacity for three passengers, and often their fares are subject to negotiation. The *bajaj* are new additions to the city, having arrived as recently as two years ago, following the cobblestone paving of town roads. Despite their relatively recent arrival, many of them are in use, suggesting that they have quickly become an indispensable feature of the town. Nevertheless, given the large number of local pedestrians along the primary road, many carrying loads,

it may be that the typical 30 birr fare for a bajaj is too expensive for many to use it.

Traffic patterns have been modified to preserve the immediate area around the churches. The primary road serves through-traffic, including large trucks, while the cobblestone roads are intended for pedestrians and smaller vehicles, like the bajaj. Portions of the cobblestone road near the church site have metal scaffolding in place, limiting the size of the vehicle and regulating access. However, these metal barriers are not policed; the team found one such barrier overturned on the roadside, seemingly pushed aside to allow for a larger vehicle.

The majority of international tourists take minibuses from the airport to their hotels. Large tour groups (ten or larger) typically have their own minibus to shuttle them to different points of interest in and around Lalibela. However, as mentioned these minibuses can have limited access to roads which can make navigation difficult around the churches.

By comparison, the planning authorities have exerted less control over hotel development within the town. There is currently no limitation on the number of hotels allowed in the city. At the time of the fall studio visit, thirteen new hotels were under construction, 22 percent of total hotel stock in Lalibela. A hotel survey by the studio groups was conducted and will be discussed later in the report. To prevent a hotel supply bubble, the municipal planning office is attempting to control some of the hotel growth through the mandate requiring mixed use lots for hotel development. During a meeting in the fall field session, planning officials explained that they had yet to update the 2009–2019 Structural Use Plan, and were concerned that it had not adequately anticipated the growth in tourism infrastructure.

Given the multiple stakeholders and overlapping jurisdictions, there is ambiguity about the future of the area immediately surrounding the World Heritage Site. The municipal planning authorities wish to reduce the density in the area north of the core zone while preserving the survival of the living heritage of the churches and are contemplating a further phase of the resettlement effort. The Lalibela 2019–2029 Structural Use Plan is in nascent development, which presents a unique opportunity for the municipal planning office to reevaluate priorities set out in the previous plan, especially as tourism continues to increase.



Cobblestone Road leading into the core



Entrance to Lalibela Airport



Metal grating to limit vehicle size

USER SATISFACTION AND CONCERNS

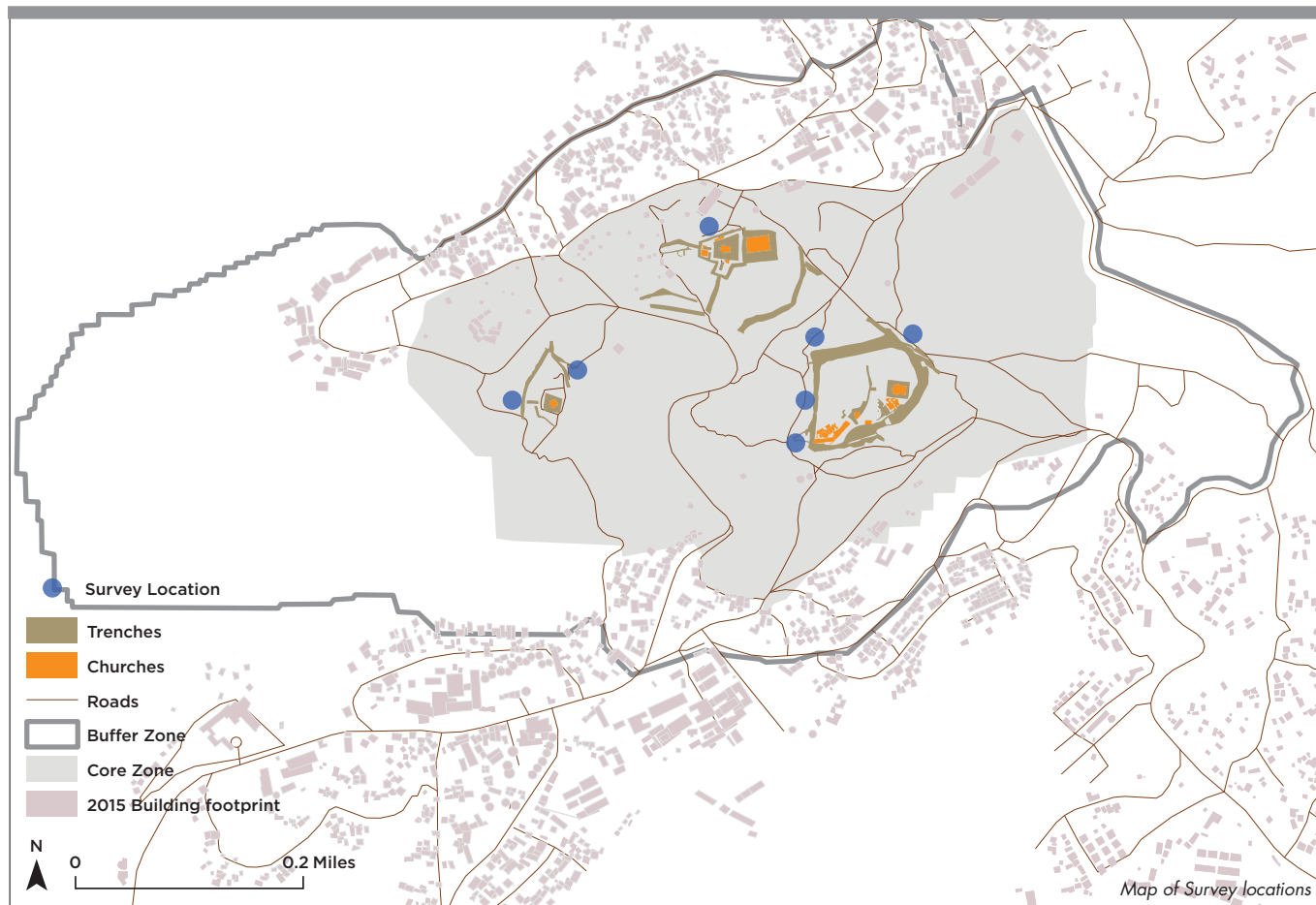
In order to better gauge the current attitudes of multiple user communities who have been affected by recent changes on site and throughout the town, both the summer and fall teams employed a digital survey and interviewed users on site. Over the course of the summer and fall visits, there were three distinct surveys deployed—a local user survey, a summer non-local survey, and a fall non-local survey. While all three versions of the survey included questions about user satisfaction and their purpose for visiting the site, each survey also had specific and conditional questions for each population. Local surveys were conducted in a much more conversational manner, and were generally in Amharic with the facilitation of the AAU-EiABC students. A full set of survey questions can be found in the Appendix.

The studio group framed the surveys based on two types of users: local and non-local.

- Local user: residents currently living in Lalibela including church officials and priests, church compound guards, and resettled residents
- Non-local user/visitor: anyone with a residence outside of Lalibela, from other Ethiopian cities/regions to international destination

The summer survey was completed on July 26, 2016, on the annual religious holiday of St. Gabriel. This brought a larger selection of local and non-local Ethiopian Orthodox visitors to the site, specifically since July is rainy season in Lalibela. Given the rainy season tourist patterns, it was difficult to interview groups of foreign tourists especially since they were only in Lalibela for a day or two therefore pressed for time. The total number of respondents from the summer session was ninety-nine, made up of fifty-seven local users and forty-two non-local users.

The fall studio group narrowed the scope of fall surveying, focusing on non-local users with more questions



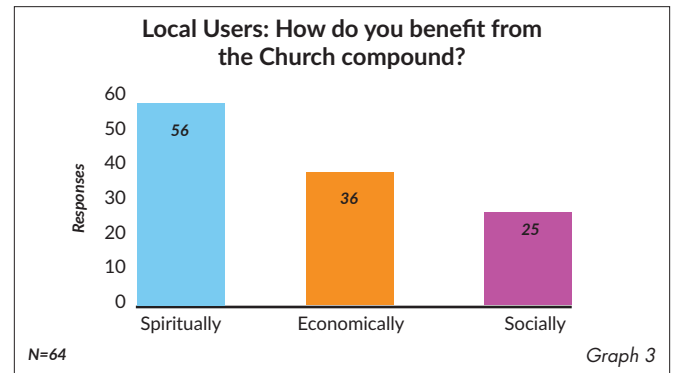
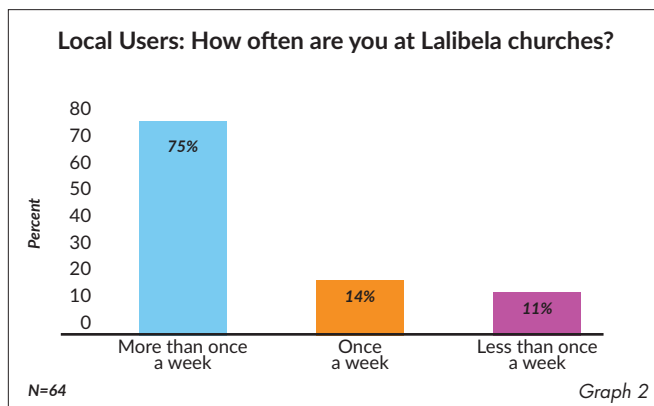
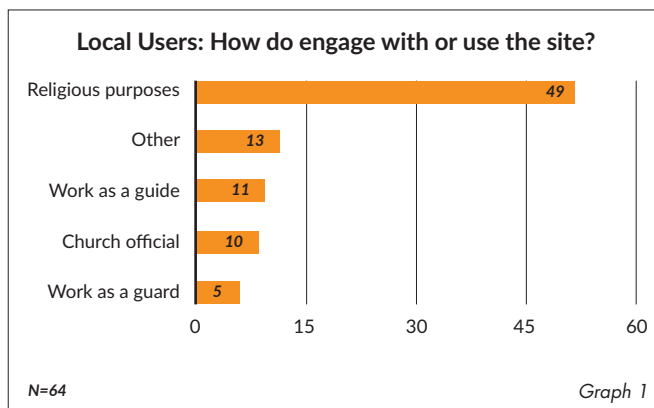
delving into their visitor experience. The fall surveys were conducted in the afternoon over the course of three days, October 12, 13, and 14 of 2016, with none being religious holidays. The new target sample population was serendipitous as October is the beginning of the dry season, coinciding with the beginning of the high tourist season. Over the course of the three days of survey data collection, the fall studio group was able to interview a total of fifty non-local international visitors along with seven local users.

LOCAL USERS

The summer local surveys yielded fifty-seven respondents, while the fall local survey garnered seven. There was a variety of users: tour guides, churchgoers, and guards. These interviews have provided a wealth of data to better understand the uses and experience of the rock-hewn church site.

Benefits from the Churches

The primary reason that local users frequented the site was for religious reasons—78 percent of the sixty-four respondents (Graph 1). Other listed reasons given by



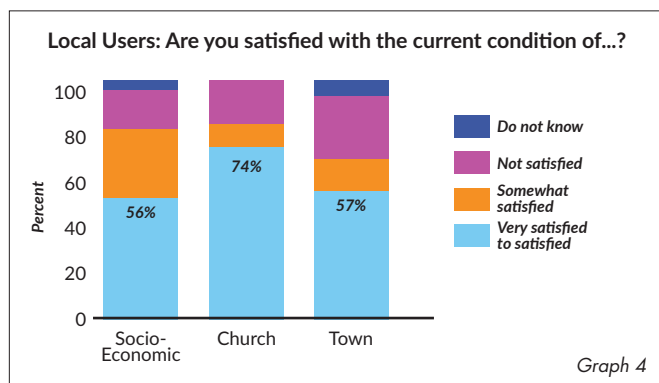
respondents were supporting Church functions, such as working as a guard or church official. The overwhelming majority (75 percent) of respondents visited the church more than once a week (Graph 2). It is evident that the spiritual aspect of the site is a main driver of local use. These results further emphasize the pivotal role the churches have in the community members' lives.

Almost all the survey respondents recognized an increase in local visitors and non-local visitors around Lalibela in recent years, 81 and 84 percent, respectively. This collective perception from the visitors was confirmed through census data and tourism growth research. While the overwhelming majority of respondents noted this increase in users, only about half of respondents felt this influx has affected their use of the churches.

With 25 percent of respondents working on the site as a guard or guide, the survey sought to bridge the connection between purpose and benefit of site visits, therefore the survey inquired whether local users received benefits from visiting the churches. Mirroring the purpose of site engagement, local users cited the spiritual benefit most frequently. Beyond the spiritual aspect, local users identified social and economic benefits from frequenting the churches (Graph 3). With thirty-six respondents noting the economic benefit and twenty-five citing social benefit, the survey revealed that the rock-hewn churches fulfilled multiple purposes, beyond religious. Within Lalibela, the Church provides means of income generation, and fosters a sense of community among the residents. This finding is extremely important when planning the future of Lalibela since livelihoods are dependent on the Church, spiritually and materially.

Satisfaction with the Churches

With the churches being a focal point among local users, understanding their opinions and satisfaction levels was important. In Graph 4, the survey results revealed a generally satisfied population. About 74 percent of the respondents were either satisfied or very satisfied with the current physical condition of the church compound. With regard to the town facilities and socio-economic condition of Lalibela, satisfaction levels dropped for both, with only 56 percent being either satisfied or very satisfied. The greatest dissatisfaction lay with the town facilities, 21 percent explicitly answering not satisfied. The answers shine light on the insufficient service the town facilities are providing, despite the need and demand the locals have.



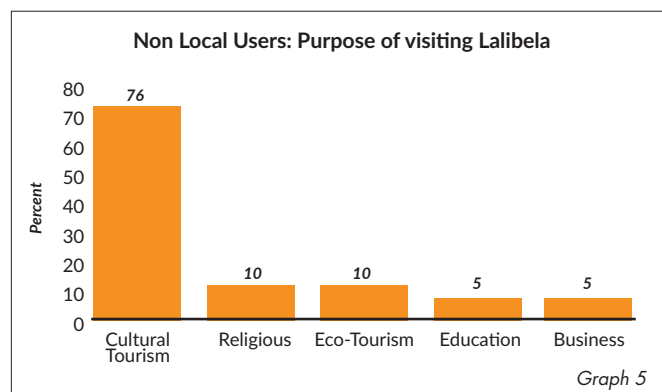
Furthermore, more local users were highly concerned with the social and economic implications brought on by the influx of tourists to the area. Much of life in Lalibela is centered around the churches, either directly or indirectly, therefore there are strong spiritual values tied to the site. Almost every respondent expressed concern regarding the maintenance and integrity of the church sites. There was consensus among local users that the churches must be preserved, with 18 percent making explicit comments about the intrusiveness of the shelters; and 44 percent voicing concerns regarding the physical maintenance and improvement of the churches and the grounds. While there is general agreement on the importance of the churches and their conservation, opinions on the best approaches diverge. Approximately 11 percent of respondents explicitly voiced concerns about the spiritual integrity of use of the heritage site given the rise of local and non-local users, while 9 percent wanted to improve the church compound's grounds to better the non-local experience.

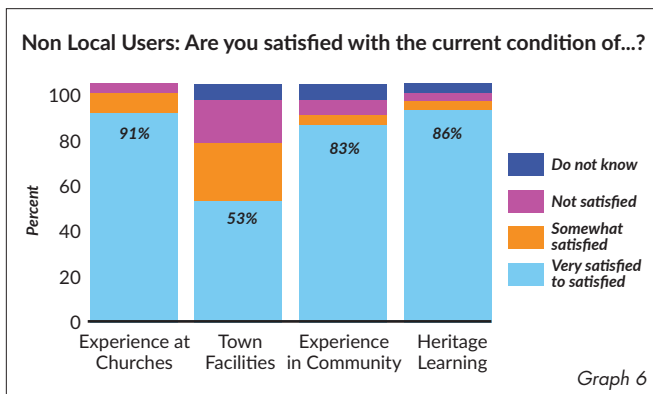
These two views are evident in the qualitative component of the survey where respondents noted concern for the increase in the price of commodities, the wealth of the churches, the religious integrity of the site, and the youth. There is also confusion among local users about the role of the church officials in tourism. Some respondents viewed the church as having increased its wealth, suggesting at times a degree of greed, while others believed the church has seen little benefit from the recent increase in visitors. This opaqueness of the church officials is a theme that the studio groups encountered throughout their fieldwork. Town planning and tourism officials are aware of these issues and are grappling with how to manage town and tourism growth.

NON-LOCAL USERS

Cultural tourism is the driving factor for people from all over the world who visit the rock-hewn churches of Lalibela (graph 5). Some respondents were also visiting the area for eco-tourism, education, religion and business. This range in interests could help expand the current activities offered, and encourage visitors to extend their stay beyond the current average of two nights.

Visitor experience satisfaction was high for both samples: over 90 percent were satisfied or very satisfied with the churches, and around 83 percent were satisfied or very satisfied with community and learning experience (Graph 6). However, town facilities received the lowest satisfaction level, with only about 53 percent satisfied or very satisfied, which is shown in the graph below. When further questioned, tourists often voiced concerns about the high entrance fee of \$50 USD, especially since there is no transparency in how the funds are allocated. Also, visitors expressed concern about the poor condition of the roads, especially coming in from the airport, and lack of





signage that affected visitors' ability to navigate around town. Lastly, in both fieldwork sessions, non-local visitors wished for more activities in Lalibela, which would extend their stay.

Seasonality

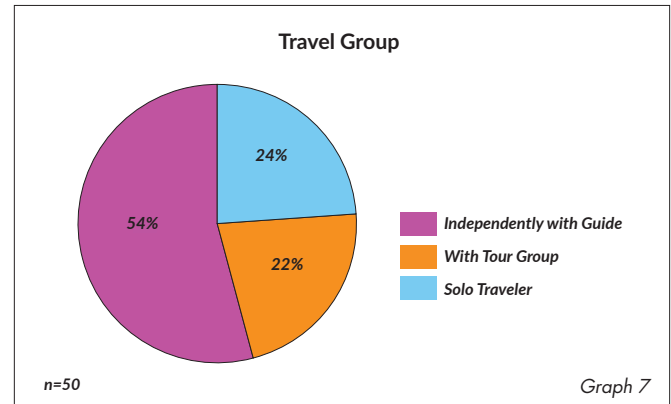
While the initial intent of the survey was to understand user experiences and perspectives, the results of the survey suggested seasonal differences among non-local visitors.

The summer, April to September, is the rainy season and considered the low tourism season. Based on the studio's summer survey, visitors within the 30-49 age group had the largest presence, being approximately 50 percent of the sample, followed by the 18-29 age group which made up 38 percent. Despite summer being considered the low tourism season, there was still a diverse range of countries visitors hailed from. Ethiopians from outside of Lalibela were the largest group of non-local users, followed by Americans at 17 percent. The remainder of the visitors were from China, the Netherlands, the UK, Germany, France, and Spain. While there wasn't a formal question in this version of the survey, the summer studio group noted that almost all visitors were either traveling alone or with small groups. Also, during the summer fieldwork period, the studio group only observed one large tour group that comprised of 10+ visitors.

The primary reason of visits among the sample was cultural tourism, though there was also a definitive portion whose visit had some religious motivation. Of twelve respondents that had religious reasons for visiting Lalibela, 60 percent were Ethiopian. While there isn't much quantitative data about the remaining 40 percent, it should be noted that several of the American visitors were of Ethiopian descent, which could attribute to the religious motivation for visiting Lalibela.

During the fall, there were several noticeable differences in visitor composition. With comparable surveying time—one full day in the summer and three half-days in the fall—both summer and fall surveys resulted in similar number of respondents—forty-two in the summer and fifty in the fall. In the fall sample, the majority of visitors (52 percent) fell within the 50 and older age group. The country of origin of the fall visitors was more concentrated—with a little less than a third of the sample each coming from Germany, Spain and Israel. Cultural tourism remained the leading reason of visit among this sample at 92 percent.

To gain insight on how people had heard about Lalibela, we inquired about the means through which they learned about the rock-hewn churches. Approximately 36 percent had heard about Lalibela from friends and family. Another 30 percent indicated "other," with their responses ranging from TV documentaries to travel magazines, childhood schooling, and common knowledge. This suggests that the fall visitors were aware of the cultural and historical significance



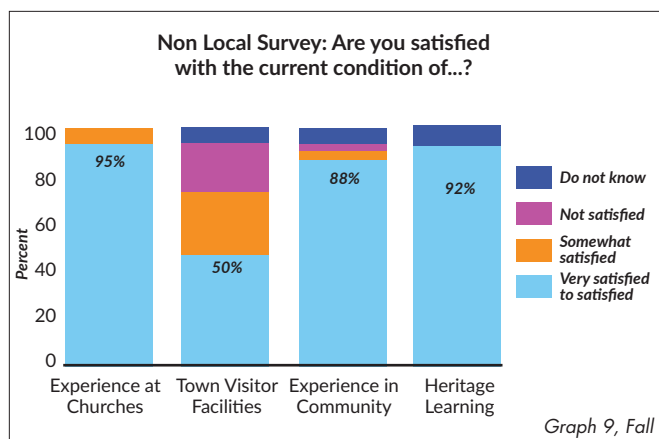
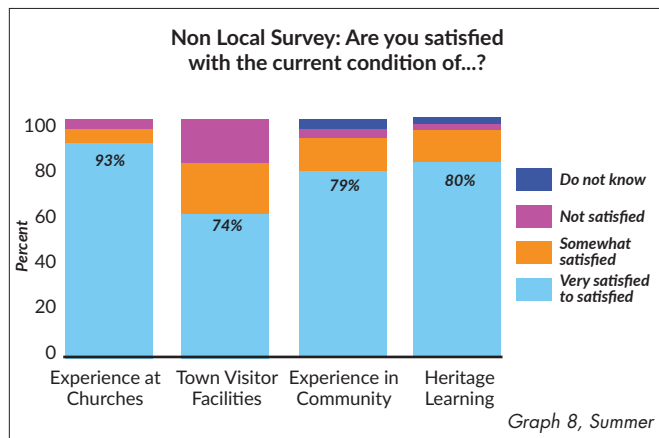
the site represents, not only in a national context but on the global stage as well.

Additionally, the team observed an increase in the quantity, as well as the size of groups traveling to the site during the fall (Graph 7). Although quantitative data concerning group size was not collected during the summer, as mentioned above, the surveyors only observed one group containing ten or more people. In-field observations concluded that most summer visitors were individuals or small groups. Visitors in the fall usually traveled in small groups or large tour groups of ten or more; about 22 percent were traveling with a tour group while another 54 percent were

small groups accompanied by a guide, with the remaining 24 percent traveling independently.

Along with personal travel plans, the fall studio gained insight on visitors' booking process to Lalibela. 78 percent of visitors bought packaged all-inclusive tours through a travel agent in their home country that covered transportation, food and accommodation while visiting the "highlights" of Ethiopia. The remaining 32 percent of visitors made their own travel arrangements with relative ease.

This information sheds some light on how interest in visiting Lalibela has developed along with the marketing efforts and mediums utilized to garner interest in the town. Data collected has helped to further understand how Lalibela is marketed and perceived as a destination around the world to potential visitors, such as the expected experience and amenities, the significance of the site, and their desire to visit. Moreover, these series of questions provided valuable information to help create sound recommendations to solidifying Lalibela as a top destination.



Experience Within and Around the Site

While visitor satisfaction was high across the board for both the summer and fall samples, there was a subtle difference between the two groups. The summer visitors had higher levels of responses stating that they were very satisfied with the church experience, town facilities, community, and learning experience (Graphs 8 and 9).

For church experience, both groups had positive satisfaction levels close to 90 percent. In response to town facilities, there was overall positive satisfaction in the summer group, with 64 percent of the sample reporting to have higher levels of satisfaction, and only 50 percent of the fall group reporting to be satisfied to very satisfied for the same category. Similarly, in the summer, 79 percent had positive satisfaction levels in the community, meanwhile 88 percent of fall visitors had positive experiences in the community however only 24 percent reported to be very satisfied. Finally the satisfaction levels of the overall cultural experience in the summer was 64 percent were satisfied to very satisfied whereas only 50 percent of the fall group answered with the same levels of satisfaction.

These variations in satisfaction among the two groups could be tied to the age group and the amount of prior knowledge that the two groups had about Lalibela. We can also assume that the group travelers had probably paid higher prices for their packages, and may have higher expectations as a result. A quick internet search produced a variety of packaged Ethiopian circuit trips, in a range of 1500 to 3000 Euros (dertour.de, n.d.). Considering this investment may explain the difference in expectations and satisfaction levels among the visitors. However, overall most visitors reported as being quite satisfied with their experience in Lalibela, therefore supporting the city's plans for Lalibela as a tourist destination.

Additional Activities

The only question about additional activities beyond visiting the churches in the summer survey was about shopping. In the fall survey, there was a dedicated question gauging visitor interest in additional activities: traditional crafts workshop, cooking lessons, market tour, honey workshop, coffee tasting, and other. Respondents were extremely responsive, all



Craft Market

opting for multiple activities and suggesting ones that would interest them. These questions provided the studio with great feedback to support the creation of recommendations directed toward this type of tourist development.

Further Travel

Overall, 62 percent of both survey samples had plans of further travel to sites surrounding Lalibela and other parts of Ethiopia. Of the summer group, 43 percent of summer respondents had intentions to continue traveling the country, while 78 percent of the fall group had further travel plans.



Coffee Cafe



Coffee Ceremony

QUALITATIVE RESPONSES

While conversing with survey respondents, there were recurring themes among local and non-local users regarding the rock-hewn churches and the state of the town. Both groups voiced the need to preserve the spiritual and physical values of the churches along with improvements of the road infrastructure in and around Lalibela. There was unanimous dissatisfaction with the shelters, with local users noting them as physical obstacles that hinder their spiritual use of the site while non-local users were concerned with the aesthetic and functionality. Both sample groups expressed concern about the town; locals believe the continued influx of tourism will change the physical fabric of the town along with the social values of Lalibela life; non-locals desired more visitor amenities such as toilet facilities and signage that were better maintained.

The following provides an outline of some of the concerns raised during the survey interviews:

Values identified by local and nonlocal users

- Churches and religious activities
- Landscape rich in historical value
- Tourism and economic development
- Living heritage, Living history/community
- Religious/cultural/historical connection
- Architecture of the churches
- Environment/landscape
- Affordability as a travel destination

Shelters, Churches, and Landscape

- The shelters are seen as having a negative impact on the aesthetics of the site (local and nonlocal)
- The shelters are perceived to be “unsafe” by the community and poorly maintained (local)
- Conservation is viewed as a better form of protection for the churches than the shelters, one that is also more
 - “authentic”
- The restoration work of the Biete Gabriel Church makes the community feel more safe and secure. The intervention has had a positive impact on their spiritual practices, stopped rain infiltration, and created more comfortable conditions.
- While conservation work has improved the ability to

practice religion at churches, it has interrupted religious services during periods of construction work

- Local users noted issues with the shelters of specific churches:
 - ◇ Shelter over Biete Mariam and Biete Maskel has an impact on the Selasae church (Trinity chapel), which is located underneath one of the post foundations.
 - ◇ Shelter over Bête Amanuel also assumed to put Biete Abba Libanos endanger because the structures are seen as unsafe
 - ◇ Shelter over Biete Abba Libanos does not provide adequate coverage and thus rain gets in the church, damaging the very old and precious paints on the interior wall.
- The landscape around the churches is highly valued but seen as under-maintained. Some indigenous trees have been introduced and it would be good if more could be introduced (local).

Tourism Development and Impacts

- Holiness of the site and spiritual activities of the churches
 - ◇ Holiness of place seen as decreasing with more tourism (local)
 - ◇ Visitors need to respect religious aspects more (local)
- Economic
 - ◇ Tourism development has had a positive impact on the town's economy and created a diversity of economic opportunities (local)
 - ◇ The community is not fully aware of the local benefits supported by the entrance fees to the site collected by the Church. As population and visitation increase, there is a need for better communication and transparency regarding those funds (local)
 - ◇ Entrance fees for foreign visitors are high (nonlocal)
 - ◇ Tourists spend about two days at Lalibela on average. For the long term sustainable development of the site, it will be important to understand more about why they structure their stay this way and how they might be encouraged to spend even more time on site.
- Social
 - ◇ Tourists help to develop better language communication skills among the local population (local)

Capacity building

- Integrate local education with historical and religious teachings (local)

Resettlement

- The majority of community members who were resettled from the core zone (including church officials and other residents) see the distance to travel to the site as a negative impact.
- Resettlement has separated previous residents from the churches, market, and social circles (local)
- Non-resettled local communities (especially church officials) favored the resettlement as it allows for safer and greener space around churches and also frees the church compound from commercial and related unwanted activities. Resettlement has improved quality of site and ability to practice religion
- Other community members fear that resettlement has made the churches less safe, as relocated people were guardians of the objects in the churches
- Tukuls /Gojos are deteriorating rapidly and the surrounding landscape become overgrown. There are conflicting reports as to who the tukuls will be used (possibly as religious schools, possibly as residences for unmarried priests).

Infrastructure Improvements

- Restroom facilities for church community and non-local users
 - ◇ Toilet facilities for the priests and nuns are needed because they are serving spiritually and, according to the rules of the church, the nuns in the monastery are cloistered and not allowed to interact with local/regular society.
- Waste management and improved sanitation
- Roads and accessibility to the site
 - ◇ Signage needs improvement (nonlocal)
 - ◇ Entry points and guard points are under-manned and underutilized (local)
 - ◇ Road construction has been beneficial and allowed greater accessibility for elders, but is already deteriorating

- ◇ More security by securing perimeter and points of access—for the protection of the churches and its heritage
- New construction in the town
 - ◇ As more new construction is taking place in areas around the town, infrastructure development will need to keep pace
 - ◇ New construction is seen as a positive indicator for the town (local)
 - ◇ New construction and development needs to be well coordinated by town authorities (local)
- Camping areas are needed for pilgrims/ guests—especially from country sides and from rural areas
- Better medical services are needed
- Visitor information at Lalibela Airport, such as information center, maps, etc. needs improvement (nonlocal)



Both sample groups expressed concern about the town; locals believe the continued influx of tourism will change the physical fabric of the town along with the social values of Lalibela life; non-locals desired more visitor amenities such as toilet facilities and signage that were better maintained.

KEY ISSUES

While other recent surveys, such as those conducted by the World Bank, focused on assessing the opinion of the local community, this study asked questions of both locals and non-locals who use and/or visit the site. Generally, an overwhelming majority of the local and non-local users surveyed were satisfied or very satisfied with the churches themselves. If there was one area where both sets of users were less satisfied, it was with the quality of facilities in town.

Should these facilities be improved, both groups stand to benefit, though they stand to benefit in different ways depending on the nature of the proposed upgrade. Public subsidies for a new luxury hotel development might help fill a niche in the tourism market that is otherwise vacant,

however, it might not employ enough people or attract enough tourists to make a measurable difference in the satisfaction of local users. By contrast, public funds (or revenue from ticket sales) directed towards the improved maintenance and further upgrades for a public space such as Meskel Square could be enjoyed by local and non-local users alike.

The interests of these two groups cannot always be aligned. Some local users expressed their concern that the growth of the tourism sector would change their way of life, and not always in positive ways. The non-local users inevitably desire greater accessibility to the site and more access to other local attractions. Through this improved connectivity, the rate of change in Lalibela is likely to continue to increase.



Honey Research Institute and Museum under construction

CHALLENGES IN PROVIDING SUSTAINABLE TOURISM INFRASTRUCTURE

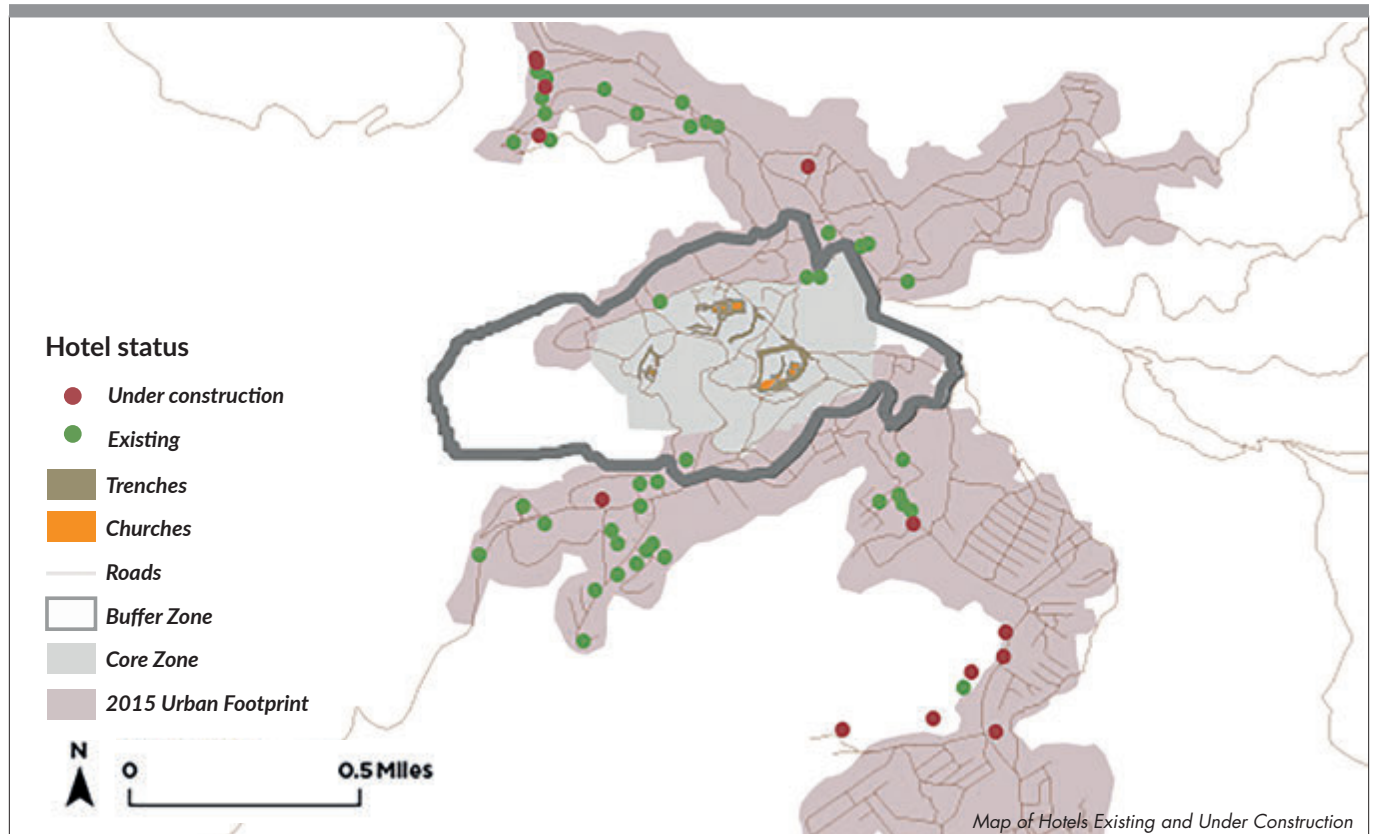
Most of the community's livelihood is connected to tourism, with many involved in the sector as church tour guides, hotel and restaurant workers, and shop owners. However, Lalibela is struggling to preserve the physical fabric and intangible heritage of the church sites while growing the infrastructure and modern amenities needed to support the increasing number of tourists. To assess the state of tourism development efforts, the student team surveyed and analyzed the tourism growth, hotels, shops, restaurants, wayfinding, and other tourism amenities. In all cases, there are significant disparities between the infrastructure in place and current demands.

HOTELS

In addition to investment in transportation infrastructure discussed earlier, hotels are a main focus of the authorities and are currently being built at a rapid pace in Lalibela. In a meeting with the Culture and Tourism authorities, the team learned that the municipality is incentivizing hotel



Cliff Edge Hotel in the north cluster



development by allowing hotel developers to import building materials tax-free based on the building plans. In addition, while cars and minibuses have a 200 percent tax, hotel owners are exempted from this tax. The rapid growth of hotels in the city exceeds the capacity of the authorities to manage this change. The municipality only has thirty-five hotels registered, however the team's on-the-ground survey found sixty hotels—forty-seven existing and thirteen currently under construction.

There are four prominent clusters of hotels already in existence: one in the north (including the Cliff Edge, the Lalibela Lodge, and the Mountain View), one in the southwest (including the Roha Hotel, the Bete Abraham, and Tukul Village), one in the core (including Seven Olives), and the newest cluster in the southeast (including the Sissay

Hotel, and Abay Hotel). The clusters in the core area and the southwest primarily attract international travelers whereas the cluster of hotels in the north have a higher percentage of Ethiopian visitors.

There are now thirteen hotels under construction. The development of hotels is following the land consumption pattern that is expanding the area's footprint in the north and south. This rapid increase in hotel development is a concern, as is the large scale of these new hotels.

Lalibela seems to have an "if you build it, they will come" mentality, but it seems that "they" have not yet arrived. Based on the Culture and Tourism authorities' data, the team found that outside of the pilgrimage season in January, only 22 percent of hotel beds are used on average. This figure



Tourist Shops

does not include the hotels currently under construction. This means that most of the year, 78 percent of the hotel beds are empty. This low occupancy rate is significantly less than the world average hotel occupancy of 67 percent ("Occupancy rate of the hotel industry worldwide from 2008 to 2015, by region," 2016).

While there is a need for a large number of hotel rooms with the influx of pilgrims and visitors—this need is only once a year. Meanwhile, for the remainder of the year, nearly 80 percent of all rooms are empty. Given the scarcity of flat land, the rapid growth of hotels, and resulting land consumption, Culture and Tourism and Planning authorities may need to revisit their policies incentivizing hotel development.

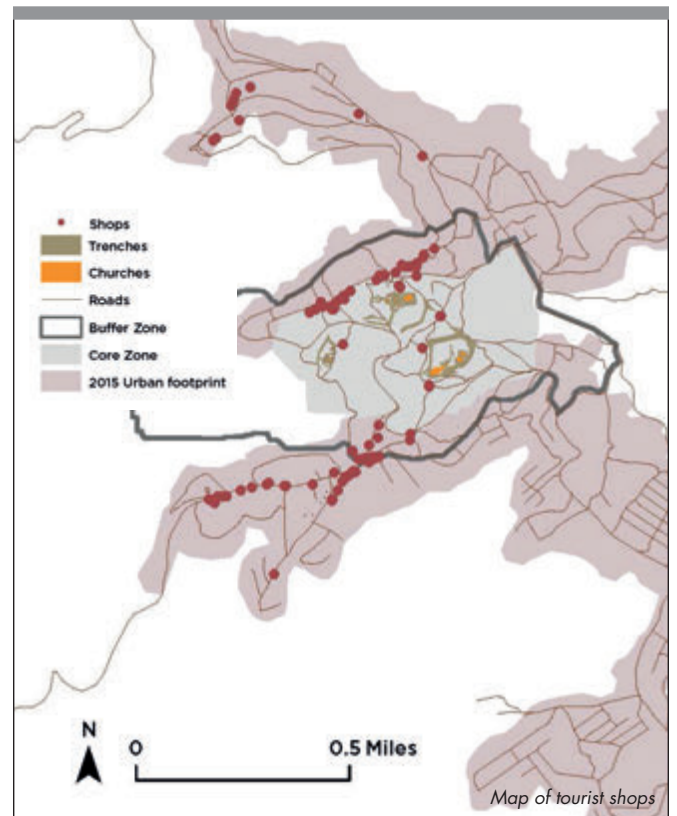
Hotel advertising to foreign tourists is also an issue. The team's survey found that while many of the hotels advertised in some way, much of it is done on the local level with business cards, advertisements at the airport, and relying on word of mouth. Some of the hotels have a website and many are featured on TripAdvisor, but few are listed on third party sites like Expedia.com. Without a comprehensive list of hotel offerings, it is difficult for international tourists to understand the full range and location of the hotels and to book them.

SHOPS

The studio team's shop survey identified over one hundred tourist shops, however the Tourism office lists only sixty-four souvenir shops (Culture and Tourism Authorities 2016). This discrepancy in the data suggests that growth is exceeding the capacity for the local authorities to document and manage these changing conditions.

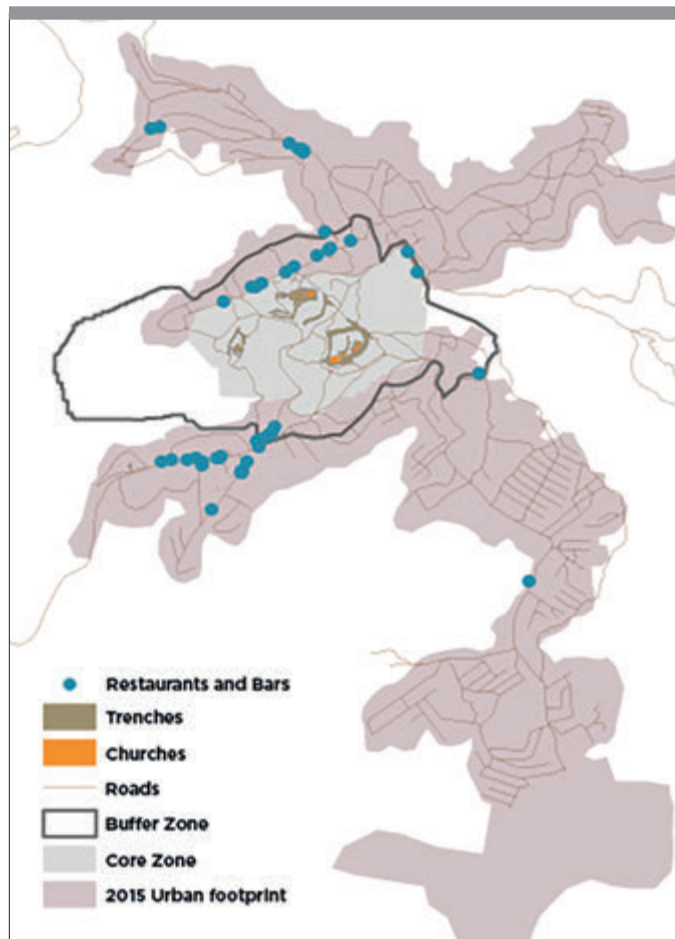
The shops geared toward non-local visitors are clustered in two primary areas; along the road leading to Meskel Square by the primary entrance to the Church compound, and the other along Honey Street leading to a number of hotels including the Cultural Center.

The demand for these shops is unclear; many of the shops were closed during the students' visits to Lalibela while others did not keep regular hours. The number of shops closed signifies that there may be an over-saturation of these tourist-focused souvenir shops without enough regular business to justify remaining open.



Aside from the religious goods crafted within the church schools and goods woven by the nuns, many of the tourist shops seemed to sell the same types of products. With high visitor interest in shopping activities, there is great potential to enhance the value chain of tourists goods as a means of local economic development.





RESTAURANTS

Forty-six independent restaurants and bars were identified by the team's survey. These establishments are geographically distributed in the same clusters as the stores, close to the core area and the heritage site.

There are discrepancies with the on-the-ground survey data and official data, as the Culture and Tourism authorities only have records for nine restaurants, twelve cafeterias, and six bars registered in 2016 (Culture and Tourism Authorities 2016). As with the hotels and shops, the number of restaurants is growing faster than the Culture and Tourism authority's capacity to collect this information.

WAYFINDING

Wayfinding is a significant challenge in Lalibela, as signage is limited. In addition, the signs that are in place have been poorly maintained since their recent installation during the World Bank project. This is an issue around the churches as well as the areas beyond the heritage site.



Because of the lack of signage, visitors often rely on tour guides. Tour guides provide a walk-through of the eleven churches and are typically booked at the ticket office or with hotels. As of 2016, there are 117 tour guide operators registered with the tourism office in 2016 (Culture and Tourism Authorities 2016).

The primary entrance and ticket office are located in Meskel Square, though there are a number of additional





Main entrance for tourists and ticket booth

entrances to the site that see frequent use. Members of the community and pilgrims pass freely into the site. Ethiopian visitors, who come at times and for reasons other than religious pilgrimage are required to take a ticket at the ticket office, but do not pay for admission. The admission tickets that foreigners buy for \$50 is valid for up to four days on site.

The site is open to visitors every day for six hours, from 9am to 12pm and from 2pm to 5pm. Church officials open and close the churches themselves, and guards also help enforce these time limits and sound a bell on the top of a hill located centrally on site, notifying everyone of the site's closing. Outside of these official visiting hours, the churches are frequently open for religious services and the site is in nearly continuous use by the local community.

The circulation routes in and around the churches create hazardous conditions for tourists, particularly during the rainy season when the rocks can get slippery and can be detrimental to the safety of all visitors. While safety is a concern, the infrastructure needed to enhance safety would negatively impact the spiritual and natural character of the site. There is a tension between the safety of outsiders, the spiritual experience of the locals, and the "authentic" visitor experience of the tourists.



Circulating through the church sites in the rain

OTHER ACTIVITIES

Aside from visiting the churches, shops, and restaurants, there are very few activities for tourists. The Honey Museum, currently under construction, will offer an additional destination. The Cultural Center offers a range of activities, but its offerings are not promoted among tourists and is rarely utilized beyond its restaurant. With increased visitor numbers and most staying only two days, there is a need to expand visitor activities offered to prevent crowding at the churches and provide opportunities for tourists to extend their stay.



Honey museum plan



Honey sold at the Saturday Market

KEY FINDINGS

The number of hotels, shops, and restaurants is increasing in anticipation of increased tourism, but a robust rise in visitors has not yet been realized. The rapid rate of new construction and business development is also taxing the capacity of local authorities to monitor growth and new development. While the added beds are addressing some accommodation needs during the Epiphany season of high pilgrimage, they are largely empty during the rest of the year. While other visitor amenities such as signage, paved roads, toilets, and more were developed as part of the recent World Bank-support Ethiopian Sustainable Tourism Development Project, many of these improvements are already falling into disrepair.

All of this new development comes at an environmental cost. It is consuming land around and expanding the urban footprint of Lalibela, but the economic and social benefits lag. There is a need to better balance tourism infrastructure investment to ensure that it is sustainable in the long-term and continues to create localized benefits. That means enhancing marketing to and facilities for tourists to help generate demand, and investing in the long-term maintenance of recent improvements. But it also means strategic planning to prevent an oversupply of development that negatively impacts the spiritual experience and appeal of Lalibela, thereby diminishing its economic potential.



New hotels under construction

All of this new development comes at an environmental cost. It is consuming land around and expanding the urban footprint of Lalibela, but the economic and social benefits lag.

NEGATIVE PERCEPTION OF SHELTERS

Today five shelters exist within the church complex. Four large shelters composed of steel frames and fabric coverings were funded by the European Union and were completed in 2007.

They were meant to be a temporary solution until alternative conservation methods were developed for the churches (Albert et al. 2012). There is also one older, smaller shelter that is left over from the FINNIDA project in the mid-1990s. It features a zinc roof and wooden frame and was also meant to be temporary (Hirsch 1996, 16).

These shelters were installed over Biete Amanuel, Biete Medhani Alem, Biete Mariam, Biete Abba Libanos, and Biete Lehem. Through these before and after photo comparisons it starts to become clear that these shelters have drastically impacted site experience.

USER OPINIONS

During the studio team's survey and interview work in Lalibela, locals, non-locals (domestic and international

visitors), and church officials were asked whether the shelters had affected their use of the church compound in recent years. An overwhelming 90 percent of the church officials, 68 percent of local church users, and 75 percent non-local interviewed felt that the shelters had impacted their use of the churches. Many of the respondents perceived the shelters to be unsafe and poorly maintained, harming the sanctity of the churches and negatively impacting their use of the site.

This emphatic feedback might result from a disconnect between the expectations and the reality of the shelters. The winning shelter design had the legs of the shelter outside of the trenches, however the design was ultimately altered and the shelter legs were moved within the trenches to be a more reversible and stable alternative.

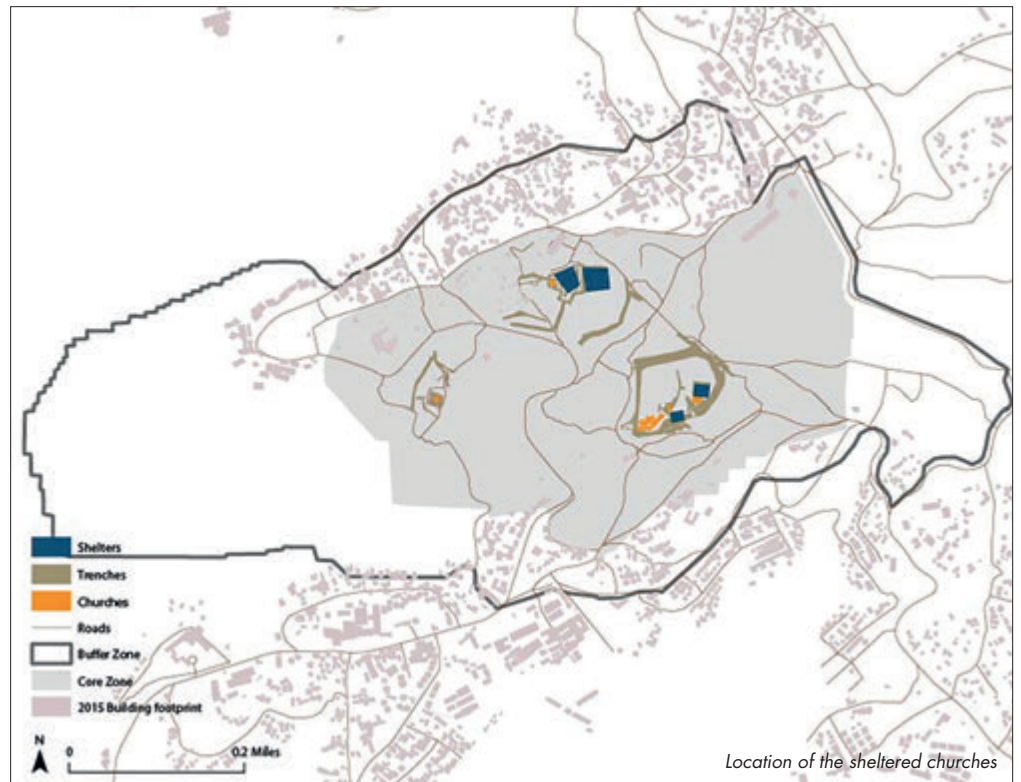


Group Two Shelters

The shelters do help remedy the erosion issues that plague these churches due to the long rainy season and keep the rain off visitors to the churches (WMF 2016). However, given the ardent criticism, the shelters are a contentious and noteworthy topic when it comes to assessing the site.

Aside from erosion issues due to rainfall, church officials expressed their concern with the potential negative impact of the shelters' structural integrity. There is some worry about the weight of the shelters around churches with underground tunnels and chapels, especially Biete Amanuel and Biete Mariam, because church officials believe that the structural nature of the underground areas were not fully explored by the shelter construction team. Their greatest concern is that, due to underground chambers near the shelters, there may not be adequate support for structural members in some areas, risking potential collapse.

The shelters are perceived by local respondents to be "unsafe" for the churches and churchgoers and are perceived by locals to be poorly maintained. There is fear that high winds or tremors could cause the shelters to damage the churches and harm the churchgoers. The structural soundness of the shelters is also an area of concern for local users, especially as the original estimated longevity of the shelters (somewhere between five to fifteen years) is almost up. There has been significant miscommunication about the intended duration of the shelters as church officials claim that they were told that the structures would only be in place for five to seven years. However, the materials and cost of the shelters suggest that they were intended to last closer to fifteen years, and possibly longer. Despite ambiguity, the shelters were always meant to be temporary.



The shelters are perceived by local respondents to be "unsafe" for the churches and churchgoers and are perceived by locals to be poorly maintained.

Below are the primary qualitative responses from local and non-local surveys concerning the shelters:

Cultural Concerns:

- Leg of the shelter over Biete Mariam lies in the path of an important religious ritual that circulates from Biete Mascal around Biete Mariam.

Aesthetic Concerns:

- The shelters are seen as having a negative impact on the aesthetics of the site by both local and non-locals.

Safety Concerns:

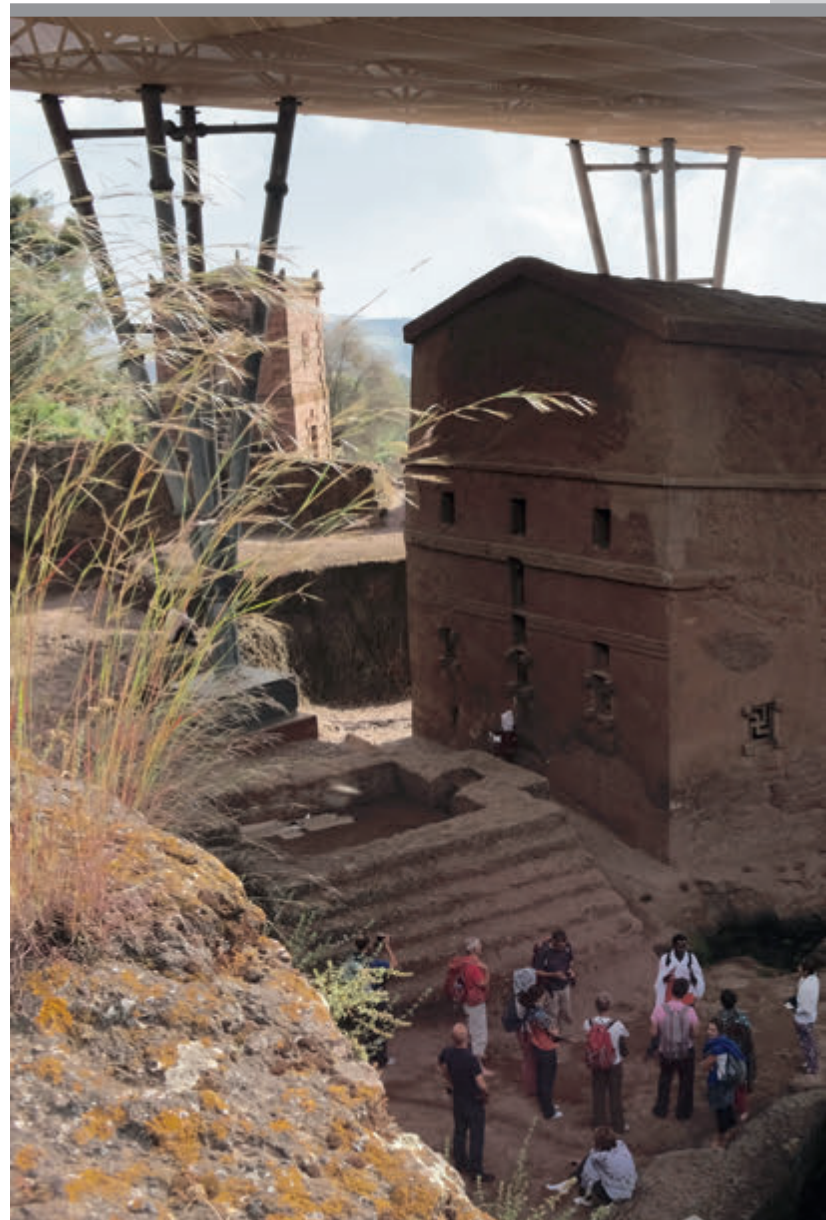
- The shelters are perceived by locals to be “unsafe” by the community and poorly maintained.
- The shelter over Biete Amanuel is perceived to be unsafe and a potential threat to Biete Abba Libanos.

Structural Concerns:

- The shelter over Biete Mariam is impacting the Selassie Chapel (Trinity chapel), located underneath one of the post foundations.
- The shelter over Biete Abba Libanos does not provide adequate coverage, allowing rain to enter the church, damaging the very old and precious paintings on the interior wall.

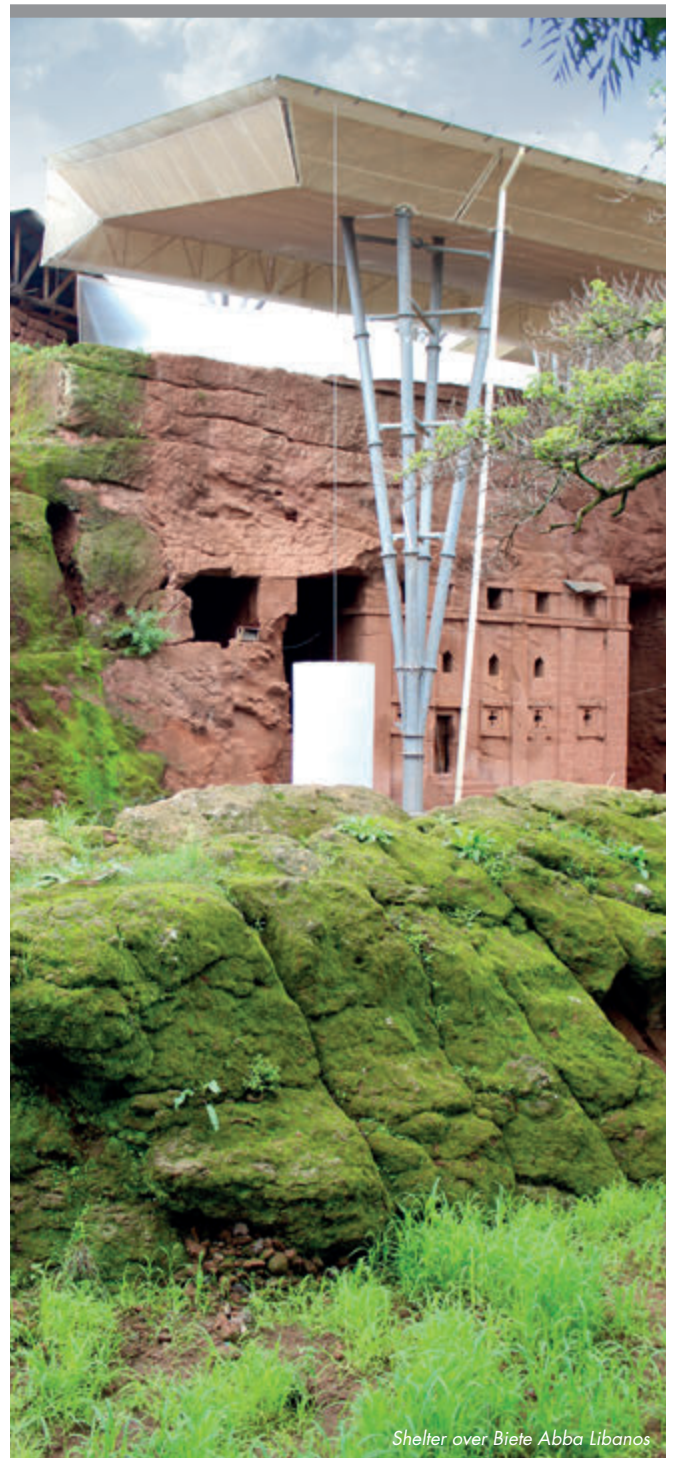
Recent Conservation Efforts:

- Conservation is viewed as a better form of protection for the churches than the shelters, one that is also more “authentic.”
- The conservation work done at Biete Gabriel Raphael, which does not involve a shelter, made the community feel more safe and secure. The intervention has had a positive impact on their spiritual practices, stopped rain infiltration, and created more comfortable conditions for local church users.





Biete Mariam before shelter



Shelter over Biete Abba Libanos



Biete Mariam after shelter



Winning design from the 1999 competition



Biete Amanuel Shelter



Churchgoers at Biete Mariam

The shelters are perceived by local respondents to be “unsafe” for the churches and churchgoers and are perceived to be poorly maintained.



View of shelters from Seven Olives Hill

MAINTENANCE CONCERNS

Church leaders and church users have noticed that the shelter over Biete Abba Libanos still allows rainwater to fall on the church and cause damage. There is further local concern that the shelters are not functioning effectively or no longer function effectively, as church officials have had to protect certain areas with plastic sheets, which tourists and locals alike see as negative. At the time of inception and installation, the intensity of rainfall was not a dire concern, however with the passing of more rainy seasons, these vulnerable parts of the churches and their exposure to the elements is a growing worry of local respondents.

It is also worth noting that around the churches, especially at Biete Amanuel, there are pipes that surround the outer drainage trench. While red in color to match the natural stone, the pipes' anachronistic presence is visually distracting from the organic and ancient drainage trenches and walkways.

While the maintenance routine of the shelters is beyond the scope of this studio, local authorities expressed frustration with the local inability to adequately address maintenance concerns related to the shelters (beyond providing stop-gap solutions like seasonal plastic tarps). For the time being, they require outside expertise to determine the current condition of the shelters and act according to need.



Plastic tarps covering parts of Biete Abba Libanos

AUTHENTICITY AND SITE EXPERIENCE

Aside from the shelters' relationship to the stone churches' physical condition, the shelters greatly interrupt the site experience for local and non-local users. The shelters create a sense of distance between the site and the surrounding environment, inhibiting light and the users' visibility of the sky—a crucial part of this extremely holy and massive pilgrimage site. They are seen to stick out from the landscape and distract from the sacred nature of the church and interrupt the cohesion of the winding, natural landscape with their large white platform-like roofs. They also interfere with certain religious rituals. These protective structures have fundamentally altered one's perception of the churches.

Through an aerial comparison on page 82, the site can be seen before shelter construction in 1978, and after. Before, the churches blended in with their environment, but now the white roofs of the shelters dominate the environment. It was evident upon arrival that the shelter's scale and form sharply contrast with Lalibela's natural landscape.



Shelters over Group One



Biete Mariam churchgoers



Plastic tarps in Group Two



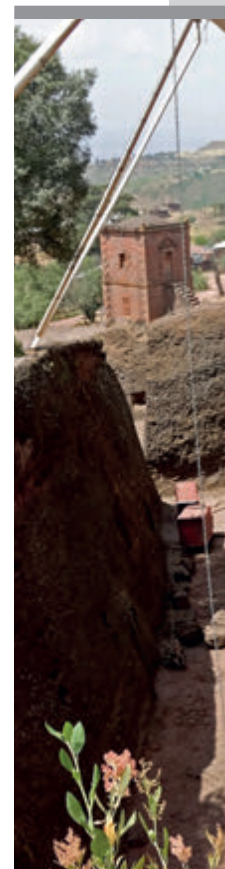
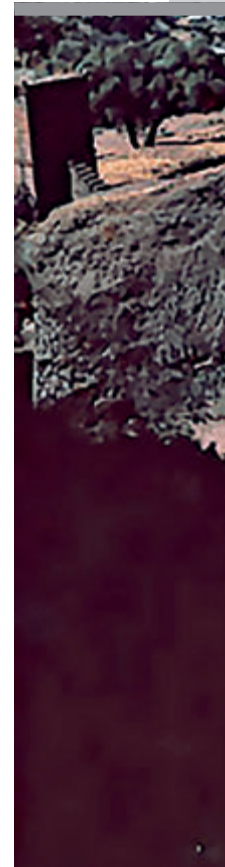
Shelter and drainage pipes over Biete Mariam



Drainage pipes in Group Two



An aerial comparison of the site before (above) and after (below) the construction of the shelters and resettlement.





Biete Medhani Alem before shelter and IFM conservation project c1970



Biete Medhani Alem after shelter

Furthermore, the long steel legs of the shelters reach into revered sacred space that double as circulation and drainage routes. Church officials have noted that a vertical support of the shelter over Biete Mariam directly interrupts the circulation of the processional ritual. This highlights the lack of collaboration with church leaders and the local community during the planning stages of the shelters and how, moving forward, they should be included in the process. Given the massive size of the shelters, they dwarf the churches, thereby diminishing some of the wonder they were originally meant to evoke. This especially happens at Biete Medhani Alem, believed to be the largest rock-hewn church in the world. The form, color, and domineering industrial aesthetics of the shelters contrast greatly with these medieval, red rock-hewn churches, distracting again from the intended cohesion of the site.

The shelters were intended to preserve the spiritual value of churches by protecting the spiritual fabric. Unfortunately, the spiritual use is in fact negatively impacted by the shelters because they impinge on the religious experience in numerous ways.

POTENTIAL SHELTER ALTERNATIVES

World Monuments Fund, working with the Authority for Research and Conservation of Cultural Heritage (ARCCCH) and UNESCO, launched a program in 2009 to find alternative conservation methods for the preservation of Biete Gabriel Raphael. The project sought to carry out comprehensive conservation at the church, test solutions that are appropriate but not visually intrusive, develop techniques that could be replicated across the site, and train a core group of craftspeople who could maintain these conservation techniques in the future (WMF 2016).

The project was completed in December 2015, and the alternative approach for protecting the roof of the church using layers of geotextile and a specialized lime-based mortar has been met with approval and satisfaction by local users of the church. This conservation work done at Biete Gabriel Raphael by WMF is perceived by locals and non-locals as more true to the authentic experience of the church. According to the survey responses, the intervention has had a positive impact on their spiritual practices, stopped rain infiltration so

far, and created more comfortable conditions for local church users. One of the goals of this project was to set a precedent for future church conservation. If this project continues to prove successful, it is a promising method that might be deployed at other rock cut churches on site, though may not be appropriate for some with carved roofs, such as Biete Medhani Alem and Biete Mariam.

VERNACULAR ARCHITECTURE PROTECTED BUT IN DISREPAIR

Gojos, sometimes referred to as tukuls, are the traditional, vernacular building forms native to Lalibela. Gojos are an early traditional form of housing, particularly in Lalibela, and have become a symbol of the area. Gojos are an important element to the integrity of the site and are included in the criteria for designation on the World Heritage List, “The whole of Lalibela



Biete Gabriel Rapheal after WMF conservation project in 2016

offers an exceptional testimony to the medieval and post-medieval civilization of Ethiopia, including, next to the eleven churches, the extensive remains of traditional, two story circular village houses with interior staircases and thatched roofs" (UNESCO 1978).

After the resettlement of the people living in the core zone, many gojos were left empty. Without an active community, local authorities struggled to maintain and repurpose the vacated gojos. This is a concern for many stakeholders, since gojos are an integral part of the Lalibela World Heritage Site's criteria for designation. Therefore, ownership and maintenance of these gojos are critical to ensuring these forms of vernacular architecture are safeguarded for future generations.

To better understand the traditional architecture and its current issues, the gojos were documented by the Columbia GSAPP and AAU student teams. The survey identified 110 gojos and collected data on each gojo's location, foundation shape, roofing material, wall material, condition, and current use.

TRADITIONAL VERNACULAR ARCHITECTURE FORMS

The typical gojos in Lalibela are one or two-stories and an average area of 30 square meters. A traditional gojo has a circular plan and a conical thatched roof, although square or rectangular structures and metal roofing covering the thatch were also common. The roof is supported by a pole in the center and some wooden posts in the wall. The two-storied gojos feature an external staircases to access the second floor.

There are also two main types of gojo building materials. The first have walls constructed of stone laid in mud mortar, with their interior wall surfaces plastered in a mix of earth, straw, and differing proportions of cow dung (Odiaua, 2010, 10). The second type of building is referred to as "chika" by the locals and consists of earth over a eucalyptus wood frame. This method of interwoven sticks covered in mud or clay is also called wattle and daub. Lalibela's wattle and daub gojos are made with clay soil and teff straw that is then mixed with water before applying to the frame. The traditional construction of gojos is a communal affair with



the owner's relatives and neighbors assisting. The wattle and daub construction method has persisted in gojo construction because it is much cheaper and easier than stone and mortar construction (Stockholm Institute 1976, 112).

The roof truss was originally tied with ropes to the center pole and the peripheral posts. Today, local people also use nails. The roof was thatched with several layers and requires ongoing maintenance; thatched roofs typically need to be re-thatched every two to four years. The radius of the roof varies from 2 to 3.6 meters. The pitch of the roof is about 40 degrees. The average width of a building floor plan is 2.7 meters (Stockholm Institute 1976, 112).

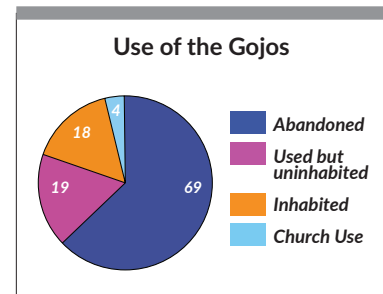
In addition to the traditional rounded gojos, there are a number of square or rectangle-shaped gojos in Lalibela. In 1970, Angelini speculated that the rectangular buildings emerged from the government's "New Economic Rules Policy" in the 1950s. This new gojo shape was the beginning of the shift to more modern style vernacular building.

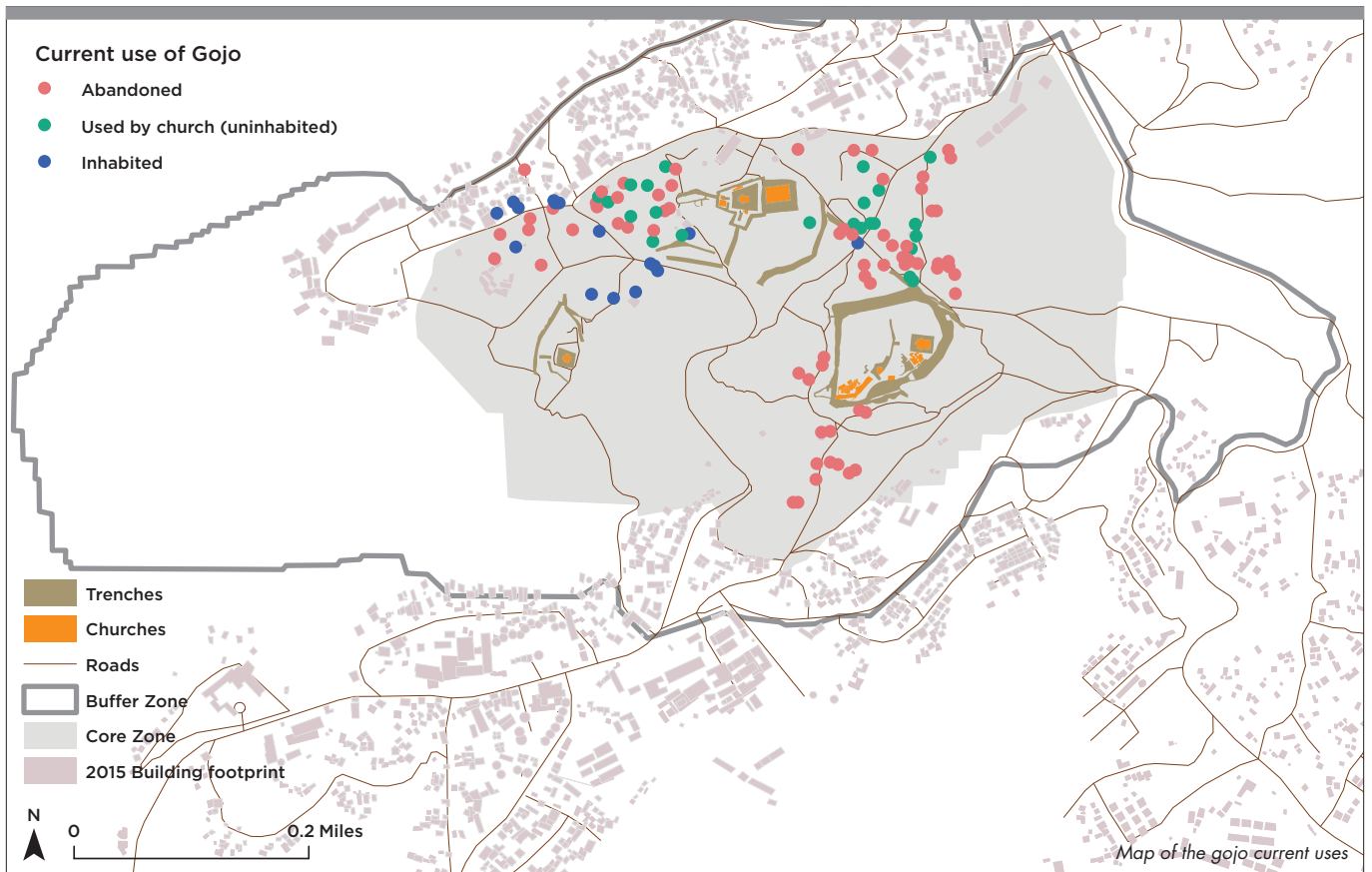


EVOLUTION OF CONSTRUCTION TECHNOLOGY

A more recent type of housing has emerged in Lalibela, called the “American Style” by the local people. AAU team members noted that it was introduced during the FINNIDA project in the early 1990s. The FINNIDA team created housing templates that could be built quickly and easily by the community using their new form and plans. It has an L-shaped plan with a covered porch entrance, for residents to welcome visitors before entering the house. The roof is no longer made of thatch; the typical roof is now made of galvanized corrugated iron sheets. However, due to the cost effectiveness of wattle and daub construction, the walls of this new housing typology still utilize this method from traditional gojo construction. These new versions of the gojo are especially prevalent outside the buffer zone and along the main road to the airport. This form evolved from the housing developed during the FINNIDA project, which mainly serves as a template for much of this development (Final Report Volume 1, UNESCO, 1995, 44).

It is interesting to note that the circular gojo's vernacular form is starting to be used for tourism infrastructure in Lalibela. Most notable are newly constructed toilet facilities in the core. In addition, there is a tourist resort called the Tukul Village Hotel, and a similar one currently under construction. These new constructions employ the traditional gojo shape; they mimic the single story round form with a thatched roof.





CURRENT USE

According to the team's survey of the 110 gojos in the core area of the site, 63 percent of them are unused, 16 percent of them are inhabited, while the remainder are used but uninhabited for purposes like church schools, artist display areas, storage, or toilet Groups.

From the maps it is evident that use and condition are very closely linked, with all the abandoned gojos being in much worse shape. All gojos with just a remaining foundation or those that are in poor condition are unoccupied. Of the thirty gojos in good condition, 11, or one third, of them are unoccupied.

Of the 47 gojos in fair condition, 27 of them are unoccupied without barred entrances. This ease of access has facilitated their use as informal toilets.

Also, the absence of toilet facilities in general on the site has led to the use the open areas of Adi Shadey for such purposes, much to the detriment of the gojos and their appeal (ARRCH 2013, 13). This is also prevalent in the western Sabat Woyira area of the core site, close to the market. The empty gojos in the area are also used as toilets.





Without clear delineations of responsibilities, the structures are deteriorating and the surrounding landscape has become overgrown.

Since many of the gojos are no longer inhabited, maintenance has become more pressing. While the structures are deteriorating, the surrounding landscape has become overgrown. In the summer interviews, the church officials expressed concern for the gojos yet felt powerless to maintain them under the impression that UNESCO would not condone their interference within the core zone. Without clear delineations of responsibilities and jurisdiction, the maintenance of the gojos has fallen through the cracks. Meanwhile, the gojos outside of the core zone, in the buffer and beyond, are not protected and can be demolished and replaced by hotel or infrastructure with the rapid development of tourism.

THE EFFECTS OF THE RESETTLEMENT ON THE GOJOS

Many of the existing gojos were nestled in the middle of much larger settlements in the core of the site. In its most prominent intervention at Lalibela, the World Bank resettlement project removed a number of houses that had stood around the gojos

and facilitated the relocation of the former residents in Gabriel Safar, Adi Shadey, and Sabat Woyira.

It was asserted that overcrowding, especially in Adi Shadey, made it difficult to appreciate the beauty of the gojos (Odiaua, 2010). One of the intentions behind the resettlement was, “to enhance the conservation of the site and to provide additional protective measures for the property” (ARCCH 2013, 23). The relocation project created new concerns for the gojos, including the need to manage their use and maintenance. Once the resettlement was well underway, most of the less traditional informal buildings surrounding the gojos were torn down between 2014 and 2015. Some of the more traditional gojos were retained, though several of them have since collapsed.

It is said that in the days of King Lalibela the church compound was solely for religious activity with no residential use. The resettlement was intended to restore those conditions. However, the churches and their vernacular environs have been an integral part of community life in modern memory; this interaction added to the richness of the



Dilapidated gojo with only foundation remaining

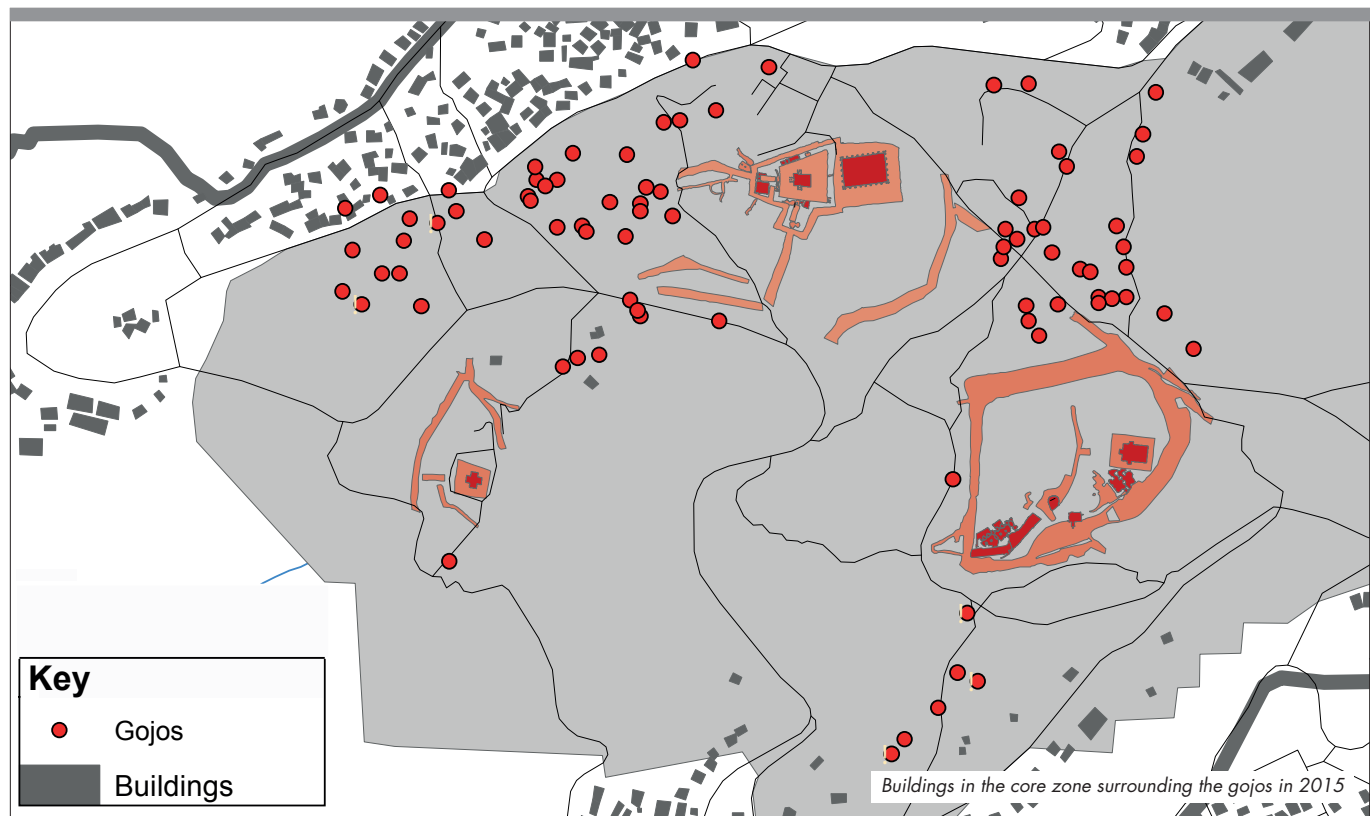
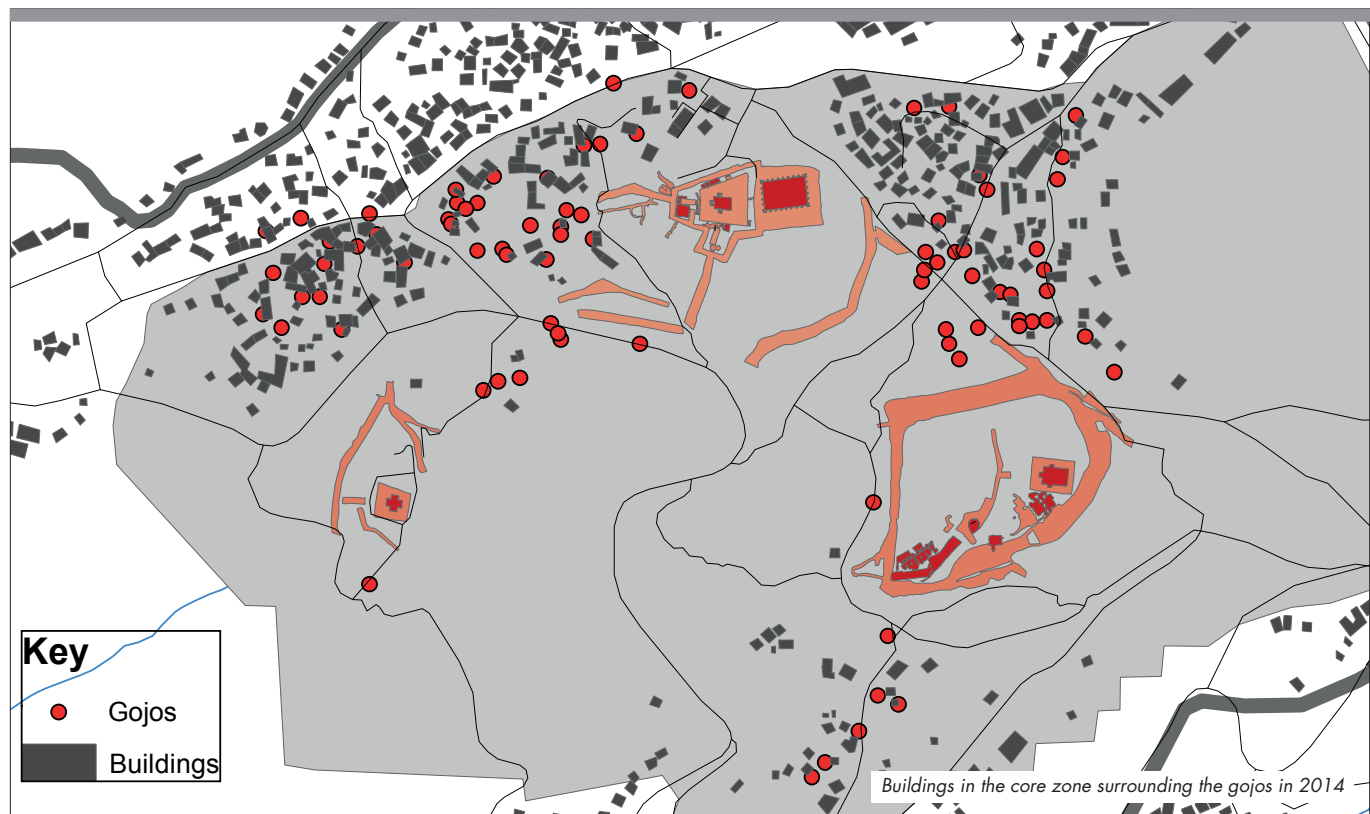
Since many of the gojos are no longer inhabited, maintenance has become a more pressing issue.

heritage of the site and the visitor experience. The now nearly abandoned gojo village has changed how people interact with the site. The gojos are a part of a much larger landscape and clearing of the area has profoundly altered how visitors and the local community experience and use the site.

In the aftermath of this intervention, local authorities including the Ethiopian Orthodox Church, ARCCH, and the Culture and Tourism Authorities have struggled to repurpose the gojos. While the church currently uses some for church schools, temporary classrooms, or other church-related activities, most of the gojos remain empty.



Gojo used by the Church School



In the maps above of the area in 2014 and 2015, the thinning of buildings between the gojos in the core zone is evident.

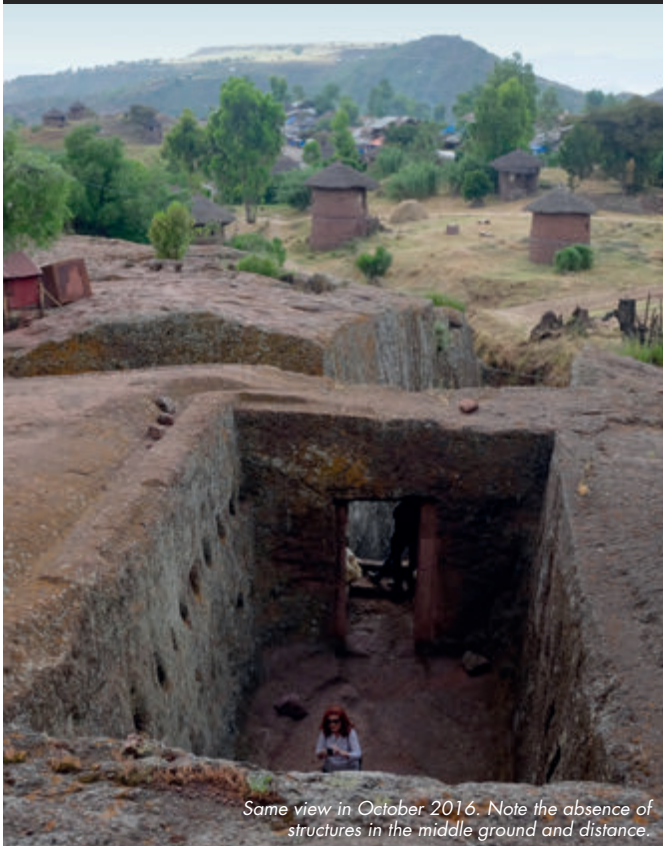


View from the roof of Golgotha Mikael looking west, March 2011



View from the hilltop of Seven Olives looking southwest, July 2010

In addition to the maps, this shift can be seen by looking at photos from 2011 compared to photos from 2016.



Same view in October 2016. Note the absence of structures in the middle ground and distance.



Same view in July 2016. Note the absence of structures in the foreground.



A typical gojo in "good" condition



A typical gojo in "fair" condition

CURRENT CONDITIONS AND CORRELATIONS

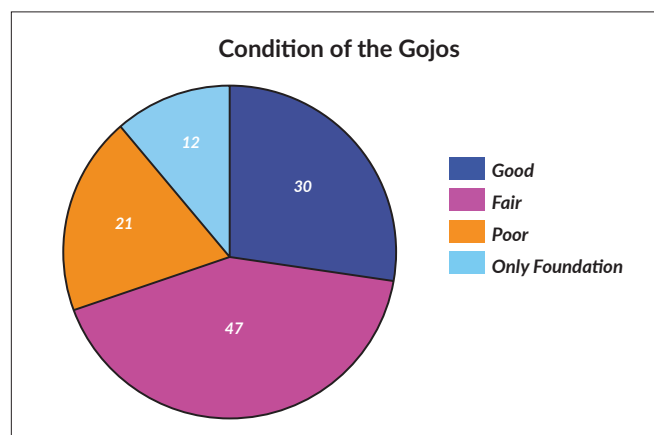
According to the team's gojo surveys, the round stone gojos are the most prevalent gojo style in the core zone. While wattle and daub construction is prevalent outside the core, stone gojos are the norm within the area.

The student team categorized the gojos condition into good (those gojos that are habitable without any refurbishment), fair (those that can be habitable with minor repairs and upkeep) and poor (those that are not habitable or require extensive repairs) during the surveying process. The data found that gojos on the west side of the core zone were mostly in good or fair condition. However, the ones on the south, where the earliest resettlement took place, are mostly in poor condition with many of them now only a ruined foundation. A map showing these conditions by location suggest that the more time a gojo is left empty, and therefore unmaintained, the condition of the gojo deteriorates.

Of the 110 gojos surveyed, only about 27 percent of them are in good condition, meaning they can be inhabited or used for other activities; about 43 percent, are in fair

condition, which means that with minor repairs or upkeep, they can be inhabited and 12 percent of the gojos are totally in ruins and may be cleared to improve the overall experience of the site.

The gojos in the earliest resettlement zone are more dilapidated, and most of them have only their foundation left. This suggests that the oldest gojos are the most vulnerable and serve as symbol of the potential danger for the rest of the gojos if they are not maintained. Currently, there is a lack of maintenance and undetermined ownership of these gojos, making it unclear who is responsible.

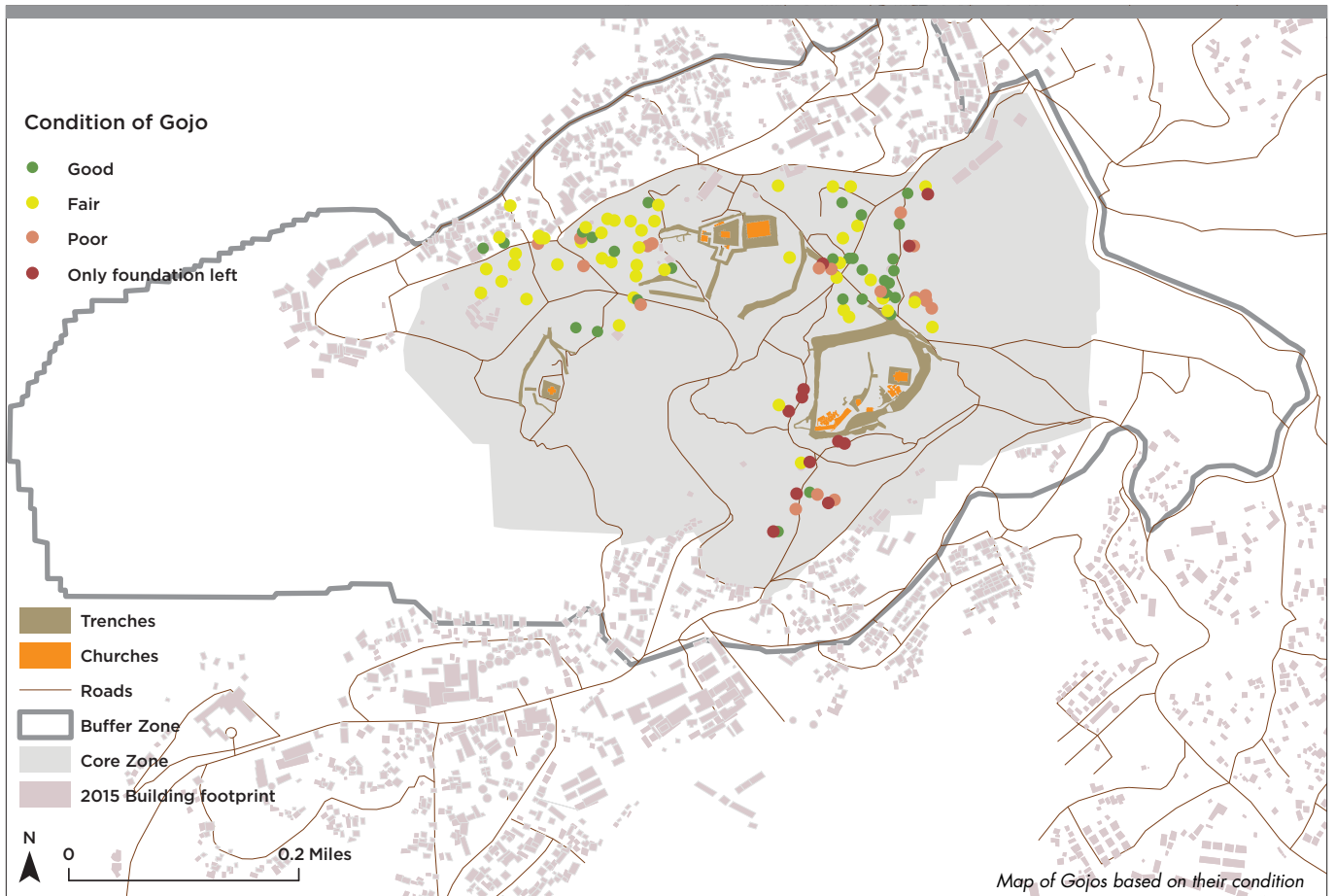


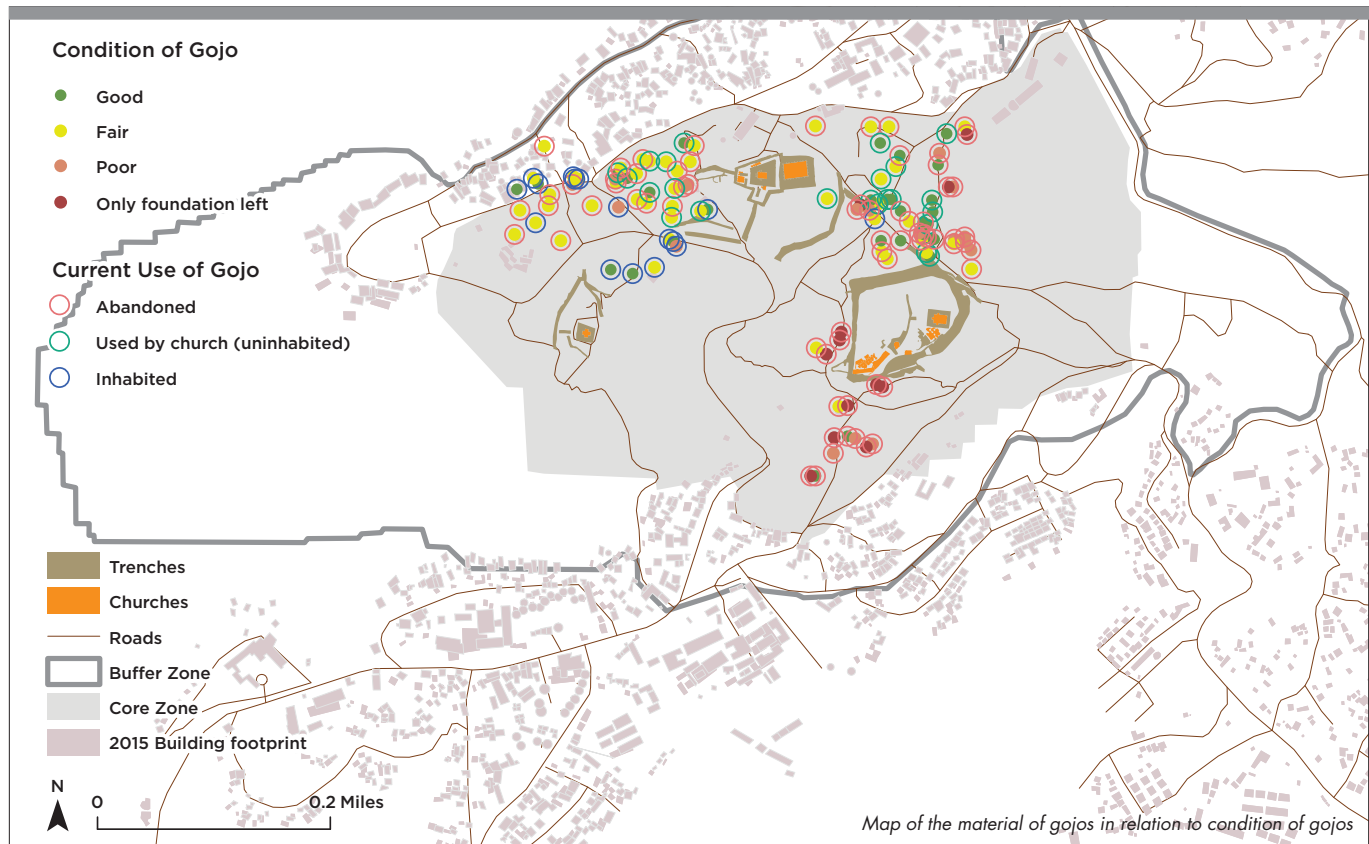


A typical gojo in “poor” condition



A gojo recorded as “only foundation” remaining



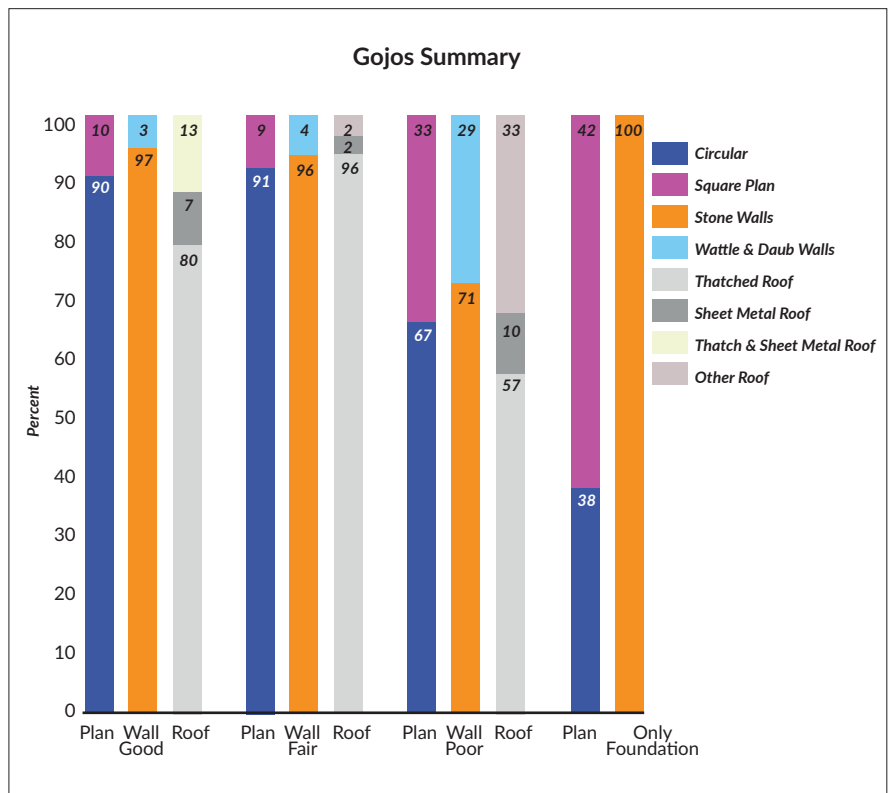
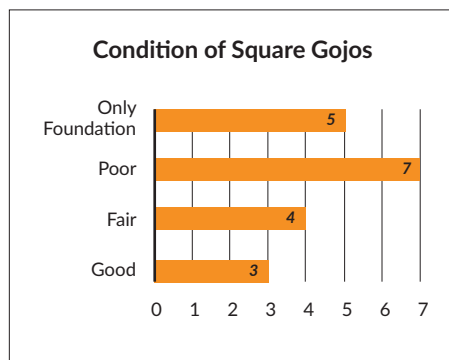


The gojos in the earliest resettlement zone are more dilapidated, and most of them have only their foundation left.



Gojos constructed from similar materials exhibited starkly different conditions

Of the 19 gojos that are square in shape, seven are in poor condition, five have only foundations with only three in good condition. This may support a theory that square gojos are of lesser value from a preservation and maintenance perspective, as this shape may not be considered as traditional as the circular ones.



Square gojos in ruins within the core area

SPATIAL AND TEMPORAL USE WITHIN AND BEYOND THE CORE SITE

A primary goal of this study was spatializing values, or understanding how the spiritual significance of the site is represented not only in its physical elements, but in how it is used by the local community and how it connects to the broader landscape. Therefore, the team explored how the locals and pilgrims interact with the heritage site, in both space and time.

Lalibela's churches are used by locals on a daily basis. The spiritual and religious festivals and processions throughout the year are long-standing traditions of community engagement with the churches. However, with the large number of visitors and pilgrims particularly in January, two issues of concern arise: maintaining the intangible heritage of the spiritual circulation throughout the sites and preserving significant gathering places for religious use.

RELIGION IN LALIBELA

Christianity came to Ethiopia in the fourth century after King Ezana of Aksum was influenced by two clerics from Syria (Batistoni 2008, 41). The Aksumite Kingdom, situated in Ethiopia's northern border, was a powerful kingdom at the crossroads of Africa, Arabia and the Greco-Roman World (UNESCO, n.d.).



One of King Ezana's successors, King Kaleb, expanded Christianity and founded a mountainous town called Roha in the sixth century, current day Lalibela. King Kaleb is said to have built the church, Kedemit Mikael, based on the form of old Aksum Tsion Church, which established the town (this church was later destroyed by invaders). In the twelfth century, King Lalibela built a much more ambitious series of churches intended to be a center for pilgrimage, the rock-hewn churches of Lalibela (ARCCH 2013, 10).

The Ethiopian Church was historically influenced by the Egyptian Coptic Church, and like Egyptian and Syrian Christians, Ethiopians were Monophysites who believed, "that the double nature of Jesus Christ has its synthesis in the divine nature," a belief that remained at the core of Ethiopian religion and correlates to the symbolic natural landscape of Lalibela (Batistoni 2008, 41). Ethiopians pray to both the saints in the Catholic Church from before the 451 schism at the Council of Chalcedon, as well as the later saints from the Coptic Orthodox Church of Alexandria.

Today the Ethiopian Orthodox Tewahido Church is still a central element in the daily lives of the Lalibela community. Both the Church and government exert influence in decisions made in the town, which also includes the management the rock-hewn churches World Heritage Site (ARCCH 2013, 20).

SPIRITUAL CIRCULATION ROUTES

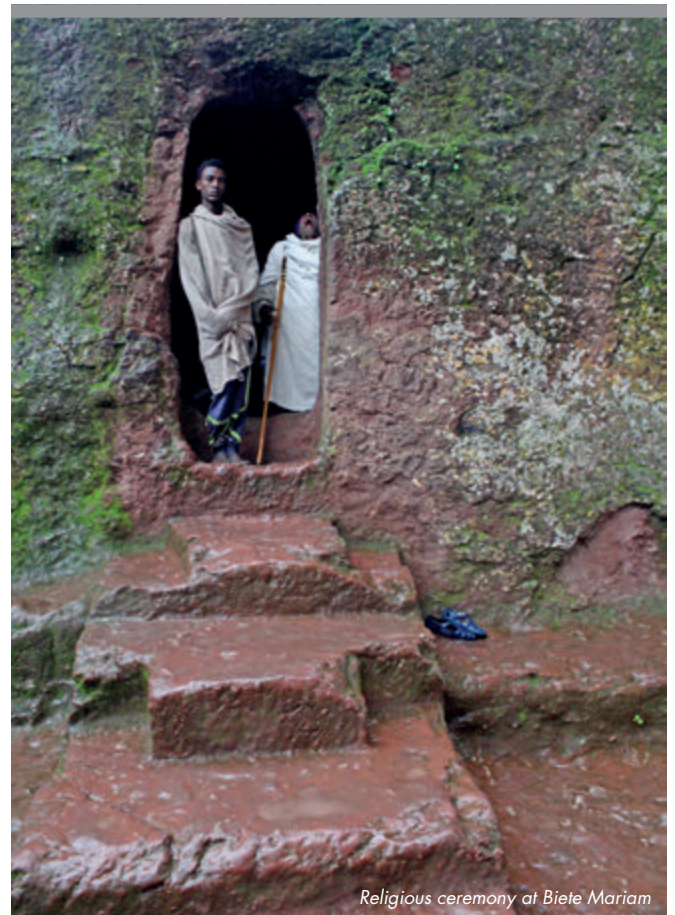
The spiritual interpretation of the heritage site is often represented through the three church groups. However, it is not a static site; these individual church structures and spaces are not the only important elements. The spiritual and physical process of moving through the churches, trenches, and pathways in and around the heritage site is significant. There are multiple circulation and processional routes that are woven into the natural geography of surroundings with numerous entry points to the core site, used in varying degrees by tourists and locals.

The tradition circulation route throughout the church groups takes a visitor through a "Biblical Historical Timeline," recalling the Holy Land of Jerusalem. Outside of the churches, the River Jordan, whose natural direction was diverted to mirror that of the River Jordan in Jerusalem, divides the first and

second church Groups. During the dry season, a rock-cut cross can be observed in the basin, representing where Jesus was baptized. This river is the location of baptismal ceremonies during the Epiphany procession (Batistoni 2008, 69).



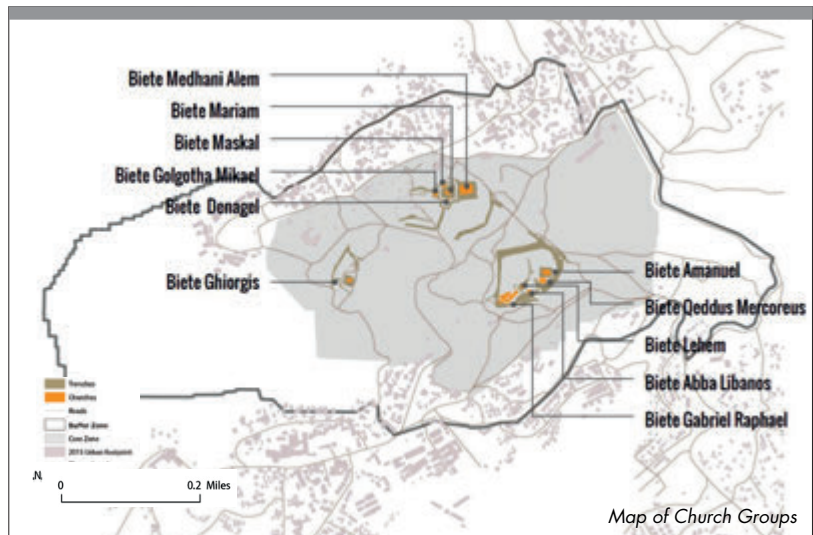
Religious ceremony at Biete Mariam



Religious ceremony at Biete Mariam

Today the Ethiopian Orthodox Tewahido Church is still a central element in the daily lives of the Lalibela community.

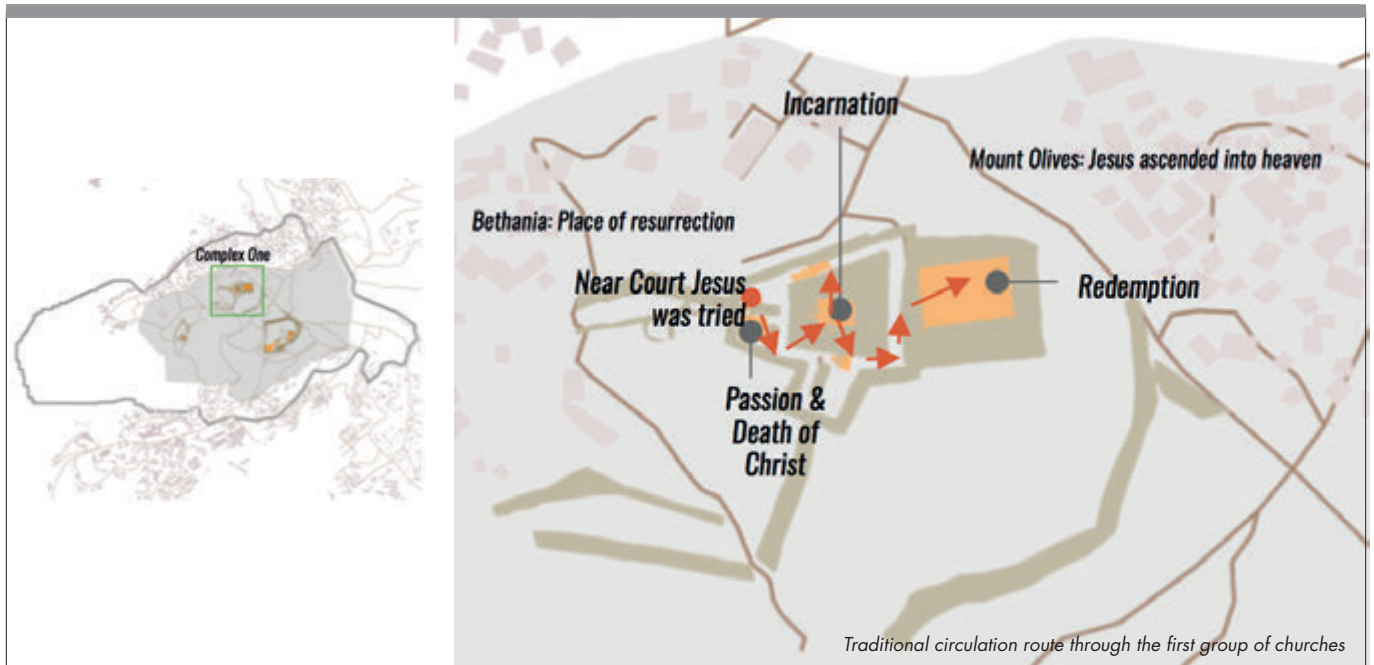
The first church group is believed to represent the Incarnation and the Redemption (Batistoni 2008, 75). This set of churches as well as each individual church is oriented east-west. The circulation through the first group follows the theological narrative of Jesus; past the Tomb of Adam, which is near where Jesus was judged in court, through the trenches is Biete Golgotha Mikael, which represents Passion and Death of Christ. Beyond Biete Golgotha Mikael, eastward is a staircase that leads to the courtyard of Biete Mariam which is said to represent the Incarnation. Passing through Biete Mariam's interior, through the courtyard towards the northern trench is Biete Maskal which means the House of the Cross. Returning to the courtyard, to the right of Biete Mariam is the entrance to Biete Denagel, meaning House of the Virgins. Proceeding



The traditional circulation route throughout the church groups takes a visitor through a “Biblical Historical Timeline,” recalling the Holy Land of Jerusalem. Outside of the churches, the River Jordan, whose natural direction was diverted to mirror that of the River Jordan in Jerusalem, divides the first and second church Groups.



The River Jordan (in the valley at foreground) and the first group of churches beyond



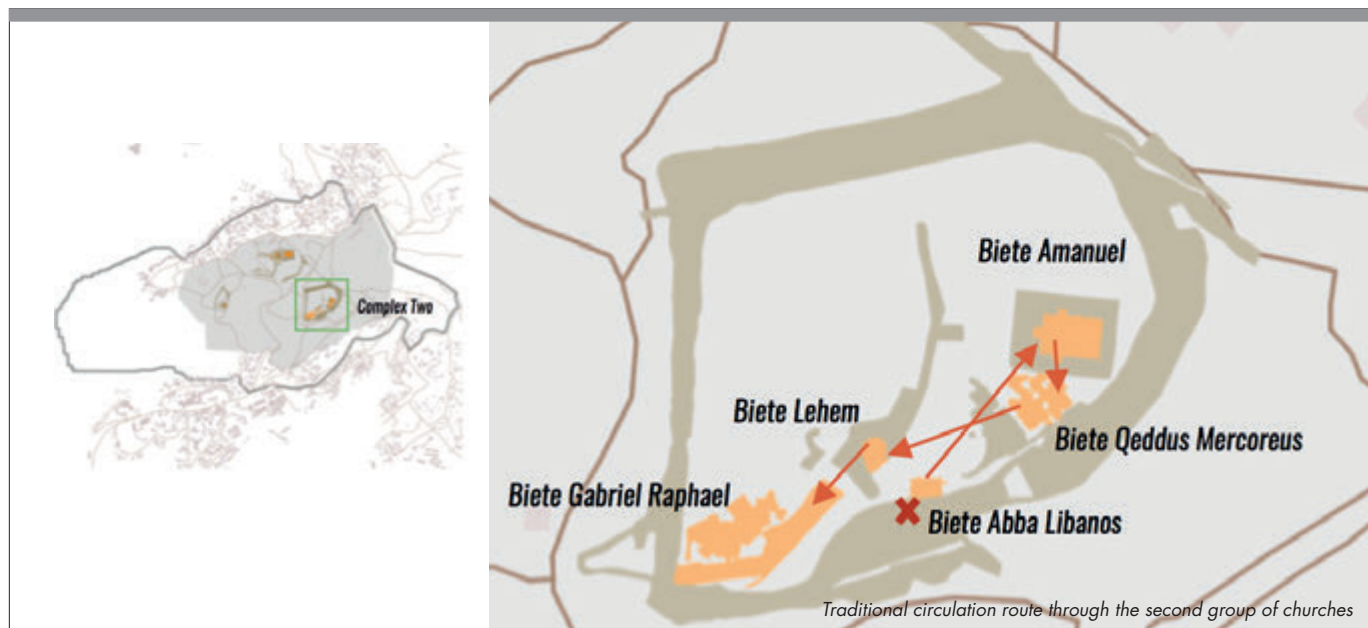
beyond the east gallery to the largest church in the group, Biete Medhani Alem, which represents Savior of the World. Near this church is an area called the Mount of Olives, which was the site in Jerusalem from whence Jesus ascended into heaven. Nearby the church entrance is an area that represents Jesus's first apparition after the Resurrection; it therefore has been named Bethania to correlate with the original location. Because of its orientation and symbolism of the story of Jesus, some believe this first group was originally planned to be the only church group built (Batistoni 2008, 75–105).

After a visitor exits the first group, they cross the Jordan River to a south-east path to the second church group, representing Hell, Purgatory and Heaven. However, others

believe this group represents a Heavenly Jesus and the first group represents an Earthly Jesus. This church group circulation route is also important—it is said to take visitors from the “womb of the earth” to the “roof of Heaven”. There are five churches in this group: Biete Amanuel, Church of God; Biete Gabriel Raphael, church of St. Gabriel and St. Raphael; Biete Lehem, Church of Bethlehem (meaning House of Bread, where bread for Holy Communion may have been baked); Biete Abba Libanos, Church of St. Libanos; and Biete Qeddus Mercoreus, Church of St. Mercurius. This church group is hilly and surrounded by a deep trench with multiple tunnels, routes, and passageways between them, which can take the visitor underground in “hell” to arrive at the churches on the hills in “heaven.”

**Because of its orientation and symbolism
of the story of Jesus, some believe this
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only church group built.**

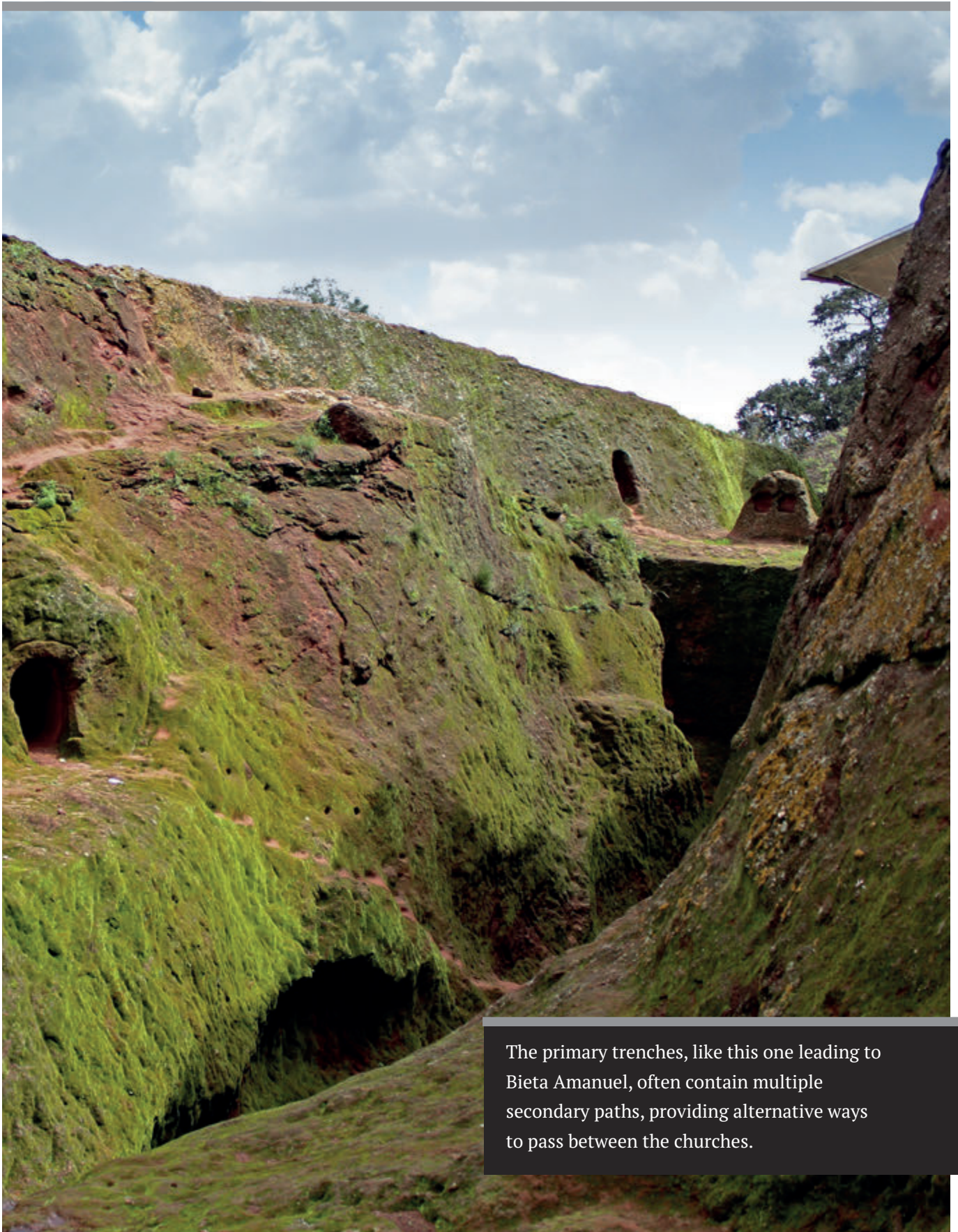
(Batistoni 2008, 75–105)



While there are four entrances, the traditional pathway starts at Biete Abba Libanos then descends into a trench, which leads to a high gallery to Biete Amanuel. From here a visitor goes up a staircase and through a doorway and gallery to Biete Qeddus Mercoreus. Strangely, this church is not east-west oriented like the others are. From this church one can access a subterranean tunnel that connects Biete Amanuel, Biete Qeddus Mercoreus, and Biete Lehem. After reaching Biete Lehem, a visitor can reach Biete Gabriel Raphael by a series of galleries or continue walking on top of the surface rock. The visitor then walks down the main road to get to the third and final church group (Batistoni 2008, 109–135).

The final church group contains only one church: Biete Ghiorgis, translating into Church of St. George. This church, which is a cross-shape surrounded by a deep trench, is accessed through a tunnel from the west side. Legend has it that this was the last church to be built after St. George appeared to King Lalibela in a dream, upset that none of the churches were named after him. King Lalibela quickly built Biete Ghiorgis, which St. George visited on his horse leaving footprints in the corridor in the south, which can be seen today.





The primary trenches, like this one leading to Bieta Amanuel, often contain multiple secondary paths, providing alternative ways to pass between the churches.

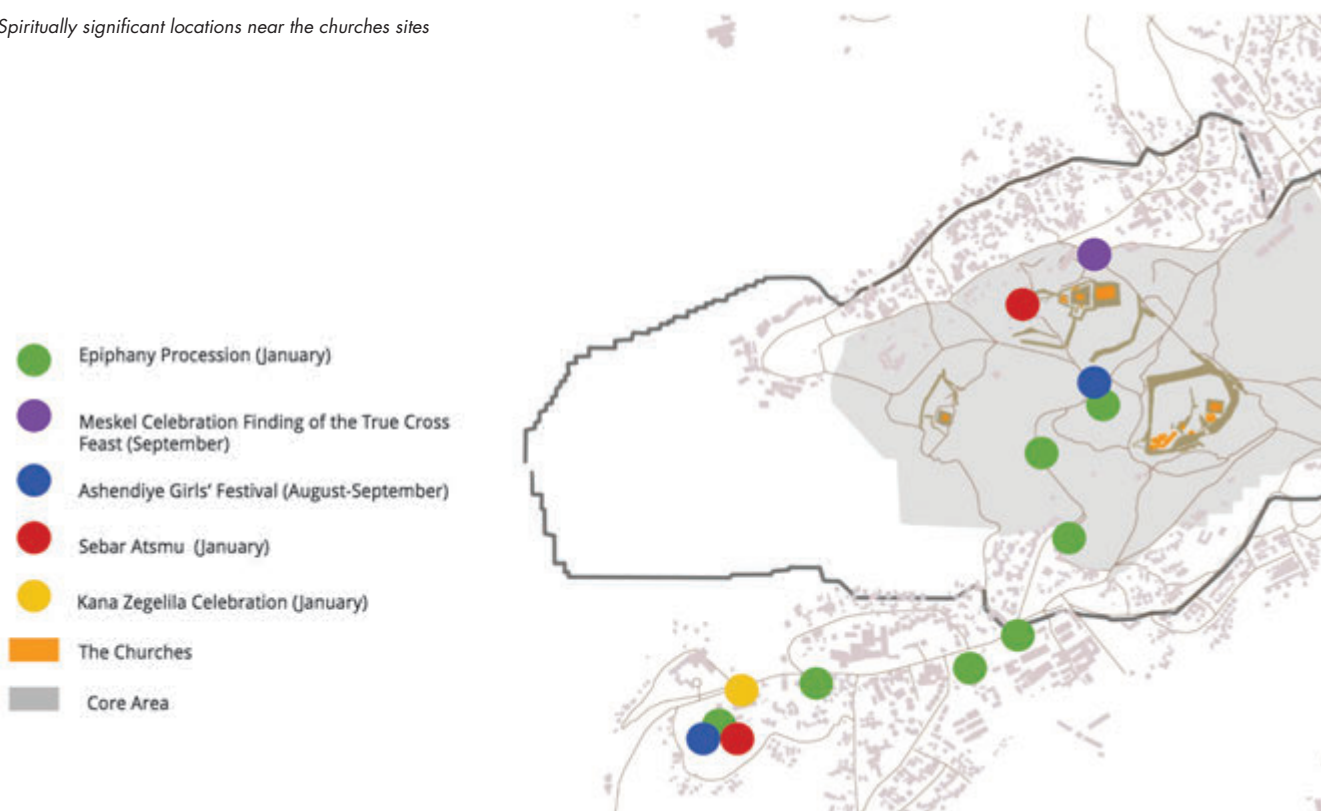
RELIGIOUS EVENTS AND SPIRITUAL GATHERING PLACES

Religion is a significant part of people's daily lives in Lalibela. Each day, there are morning prayers, masses, and evening preaching programs in all of the churches, with a break at midday (except on Wednesdays and Fridays, when there is a mass at that time). The daily church schedule shifts slightly during fasting weeks near Easter and Christmas (Regassa 2016).

In addition to daily and weekly church attendance, particular church compounds are used as gathering points for church ceremonies and for the special religious days monthly and annually. The church at which a given ceremony takes place varies depending on the holiday or event. Some of the ceremonies attract small numbers of local residents, while others can attract huge numbers of local, domestic, and international visitors. The difference in numbers can be significant—in January for Christmas and the Epiphany procession, there are over 100,000 pilgrims while other months only 500–1,000 locals attend monthly ceremonies (Regassa 2016).

The process of moving within the heritage sites and other spiritual locations throughout the urban landscape are manifested through formal processions and ceremonies. Gathering spaces beyond the church groups are vital to the spiritual landscape of Lalibela, used for different social events, festivals, and services. These spaces throughout the city connect the urban landscape and the community with the heritage site. These spiritual experiences expand well beyond the churches and core area, and some of these important spaces are now next to shops, restaurants, and hotels.

Spiritually significant locations near the churches sites



The daily, weekly, monthly, and annual religious events are a crucial part of Lalibela's community. The intangible heritage and cultural values of these religious masses, festivals, pilgrimages, and processions along with traditional songs, crafts, and activities need to be safeguarded and preserved. With new tourism facilities getting built, such as the new ticket office, changes have already been made to the spiritual circulation routes throughout the churches. There is fear among the community leaders that these intangible values could slowly disappear as the city gets more urbanized (ARCCCH 2013, 34).

There is also a daily interaction between tourists and local users within the churches and around the city, with no clear guidelines or boundaries. The municipality and locals are struggling to balance the need to safeguard its living heritage and its spiritual values while promoting the heritage site as a tourism destination and economic driver.



Tourists and locals at Biete Ghiorgis



Core Boundary



Religious Ritual at Biete Mariam

The intangible heritage and cultural values of these religious masses, festivals, pilgrimages and processions along with traditional songs, crafts and activities need to be safeguarded and preserved.

SELECT ANNUAL FESTIVALS

FASIKA (Easter): This is the Easter celebration, the most important holiday for the Ethiopian Orthodox Church. In April, the community celebrates the Resurrection of Jesus with family feasts ("A Management Plan for the Rock-Hewn Churches of Lalibela World Heritage Site Ethiopia" 2013, 34). In addition to the feasts, around 25,000 local pilgrims attend mass at Biete Medhani Alem (Regassa 2016).

FESTIVAL OF THE TRUE CROSS: While a public gathering space on a daily basis, Meskel Square serves a religious purpose during the annual feast of finding the True Cross. This event remembers the discovery of the True Cross, the cross on which Jesus was crucified. Celebrated September 26 (Gregorian calendar), the community feast is held with an outdoor fire. Here priests hold a mass followed by a bonfire light and the people exchange gifts while singing and dancing ("A Management Plan for the Rock-Hewn Churches of Lalibela World Heritage Site Ethiopia" 2013, 37).

DEBRE TABOR (The Mount of Tabor): This festival celebrates the revelation of Jesus' divine power at the Mount of Tabor. Celebrated on August 20, this event also celebrates the Ethiopian New Year, the end of the rainy season. Children receive gifts from their families and gather to sign ("A Management Plan for the Rock-Hewn Churches of Lalibela World Heritage Site Ethiopia" 2013, 36).

GENNA (Christmas): This festival, which happens every January 7 (Gregorian calendar), celebrates Jesus's birthday. This takes place in Biete Mariam where over 100,000 pilgrims (local, domestic, and international) come to the special Christmas mass. Here priests sing hymns and dance ("A Management Plan for the Rock-Hewn Churches of Lalibela World Heritage Site Ethiopia" 2013, 35).

ASHENDEYE: This is a cultural celebration of the local community that is related to the celebration of Ashenda in the Tegray area of northern Ethiopia. The celebration takes place



Saturday Market



Sunday Market

all around the town and is mainly celebrated by girls. For this reason, it is considered to be a girls' holy festival extending from August 10 to September 30.

MARKET

The marketplace follows traditional patterns and is adjacent to the core area in the direction of Bieta Ghiorgis. The major commercial activity takes place on Saturdays and a minor market is on Tuesdays. The buying and selling continues the whole day except during the rainy season, as the market may be cut short due to weather (Regassa 2016).

PROCESSIONALS

Processionals are an integral part of the religious practices of Lalibela, and extend to areas well beyond the core of the World Heritage Site. Most of the religious processionals are blended with the topography of the site and town, highlighting important views and contexts for worshipers while the priests chant in celebration.



Meskel Square



Timkat processional stops outside of core

The Timkat (Epiphany) processional is the largest in Lalibela, attracting over 100,000 visitors from all over the world. It celebrates the baptism of Jesus in the River Jordan by John the Baptist. The Epiphany occurs every year from January 19 to 22 (Gregorian) with seven processional stops, although festivities starts the night of the 18th. At this time, the Tablets of the Covenant Law are brought to a public gathering place where priests and school choirs dress in costume. During the processional, pilgrims stop at the River Jordan, where a ceremony is held and continue to the rest of the stops along the route. As illustrated in these maps, the processional actually extends beyond the core and buffer zone of the World Heritage Site into a zone that the team documented as being particularly dense with tourism infrastructure. Should this infrastructure continue to develop without regard for the needs of this significant processional, an important aspect of the living heritage of Lalibela may be lost.

OUTSIDE LALIBELA

There are several churches on the outskirts of Lalibela, but are important relational locales for both spiritual and touristic purposes. They, too, have important dates of celebration, as follow:

- Asheten Mariam—October 1, November 30, January 7, January 19, January 29, July 6
- Nakuteleab—December 13
- Yemerhane Kerestos—December 28, July 26
- Belebala Giorgis and Belebala Qirqose—January 26
- Arbaetu Ensesa—January 2, July 31
- Meseqe Kerestos—September 27
- Qenqenit Michael—November 21, June 19
- Emekina Medhaniale—November 6, April 4
- Mesqel Kebra—August 3



Visitors at Nakuteleab

INTANGIBLE HERITAGE AND THE EFFECTS OF TOURISM

Lalibela is significant not only for its physical fabric but for its spiritual and religious festivals and processions. The tangible fabric of the church group is used for religious events and its circulation routes including its trenches, courtyards, and tunnels are a critical part of how church officials, pilgrims, and tourists move throughout the church sites. In addition, there are areas around the city, outside of the church compound, that are important spiritual gathering places for pilgrims. Many of these areas are not within the protected core zone, making them vulnerable to encroaching development. In fact, some are located in the areas just north and south of the churches where there are growing clusters of hotels, shops, and

restaurants. There is a need to preserve the intangible heritage represented by these locations and circulation routes.

The team is concerned that new entrances to support visitors and the redirection of visitors to safer pathways will change the way visitors experience the spiritual landscape of the church sites. As described earlier, there is symbolism in the way one moves around the churches as well as the symbolism of specific spaces along the way, which would be missed if visitors do not follow the traditional routes.

The intangible heritage of the processions, festivals, and religious traditions are also important to preserve. In the face of further commercialization and urbanization of Lalibela, losing the traditional spaces and routes of these events as well as their view sheds, would be



a terrible loss. In addition to ensuring policies safeguarding these spaces, the community will need to find ways to do the same for their spiritual traditions.

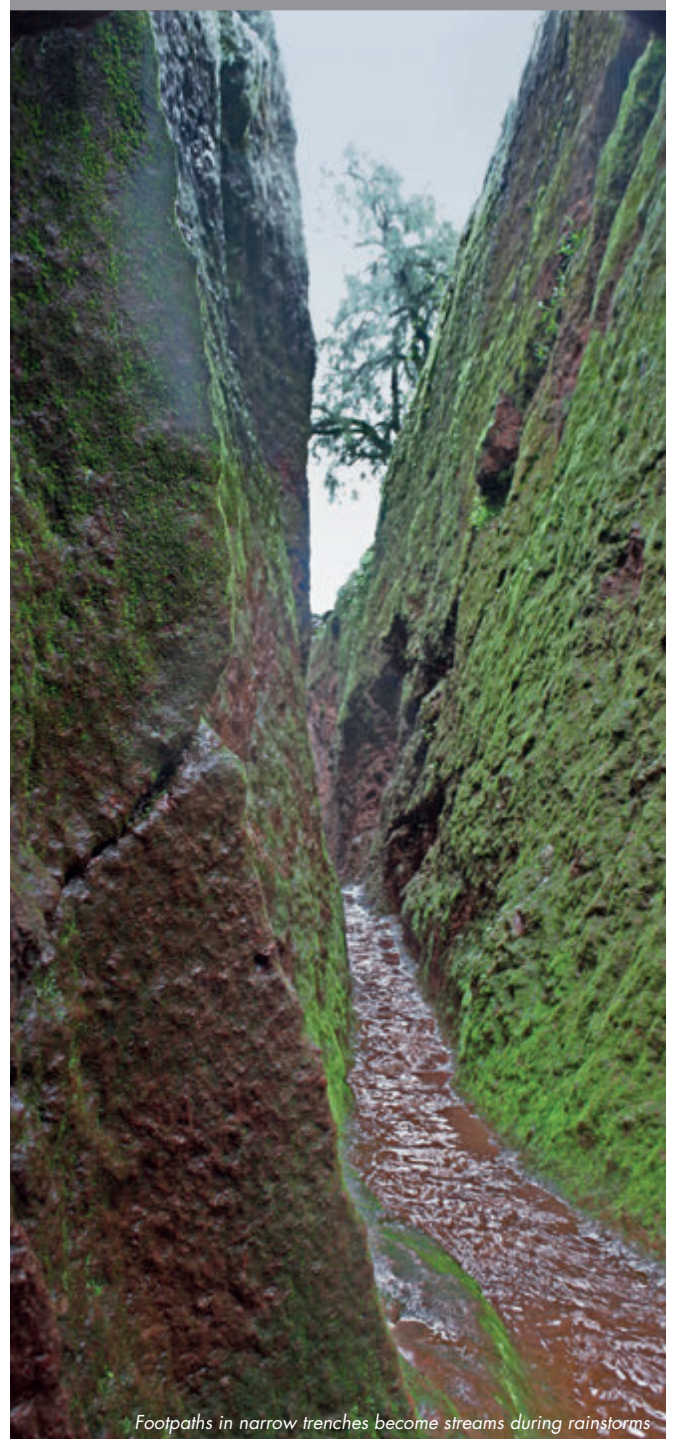
The high number of visitors is causing deterioration to the site, for example the heavy use of the footpaths. Other areas of the site may see similar damage as the number of tourists increases. Due to the monolithic style of building, removing or replacing a stone for repair is not an option.

Managing the number of visitors at the churches is also important for circulation. The interiors of many of the churches are not very large and the spiritual pathways of the site are important to maintain. Therefore, controlling circulation of visitors at the sites is a necessity if tourism continues to grow.

Also, safety of visitors is worrisome as some of the paths are steep, becoming slippery during the rainy season, and some churches have cliff edges with no railings. While this study does not suggest adding railings or changing the natural landscapes of the paths, managing the traffic and circulations of large number of visitors is even more important when it comes to risk-management of the church groups.



Difficult footpaths in the trenches



Footpaths in narrow trenches become streams during rainstorms

RECENT REFORESTATION TRANSFORMING THE LANDSCAPE

When categorizing various aspects of change around the site and the town, the studio recognized a dramatic difference in the vegetation coverage in and around the church site. Through satellite images and comparing photographs of the city between 2011 and 2016, and further discussion with locals and review of the town's landscape history, the team was better able to describe the current wave of reforestation efforts.

CURRENT CONDITIONS

Presently, the landscape immediately surrounding the churches is defined principally by tufts of barren red scoria rock, periodically interrupted by massive, hand-cut trenches serving as circulation and drainage routes throughout the church group. Today, the large, light-colored protective shelters are also defining features of the landscape, especially when seen at ground level or from the town or circulation routes below.

In the resettlement areas, such as in Adi Shadey, Sabat Woyira, and Gabriel Safar, the character of the

landscape is quite different—the red scoria rock fades into a lush (at least in the rainy season), overgrown landscape punctuated by a few indigenous trees, a number of new plantings, and unoccupied gojos.

The wider landscape around Lalibela also contributes to the town's architectural and topographical significance. According to the Lalibela Town Administration Office, the topography of Lalibela consists of 33.3 percent mountains, 53 percent plains, and the remaining percentage to river valleys. However, the continuous resettlement, deforestation for



The hillsides around Lalibela are getting greener



Overgrown landscape around gojos

firewood, and agricultural activities have resulted in significant environmental degradation over time (ARCCH 2013).

SIGNIFICANCE OF VEGETATION AROUND THE CHURCHES

Throughout Ethiopia there are often pockets of lush forests surrounding churches. These forests are extensions of the physical churches themselves, protected as sanctuaries for plants, animals, and humans (Lowan 2014). These forests evoke a sense of nostalgia, reminiscent of the way of life centuries ago carrying sacred undertones given the religiosity of the nation. However, churches across the country have been struggling to maintain their surrounding forests given local need for timber and firewood, and expanding agriculture and grazing patterns (Lowan 2014).

In the fall, the studio dedicated time to better understand the importance and assess the changing state of the Spiritual Forest around the rock-hewn church sites. In the past, oral tradition recalls the churches historically obscured by vegetation, consisting mostly of indigenous juniper and



Stumps from large trees are evident on site

olive trees—the “Spiritual Forest.” In addition to the religious connotations of the lush landscape, several trees carry significant cultural and religious value. Palm trees that were planted along the Jordan River, to resemble the banks of the river in Israel. At the river’s source is the Mount of Olives, just north of the first group of churches. According to tradition, this is where Jesus ascended into Heaven, the site now represented by seven ancient olive trees.

Today, many of the older trees that surrounded the churches have been cut down, and only stumps remain, serving as vestiges of a site more in line with the traditional Ethiopian Orthodox “Spiritual Forest” image. It is evident that the few remaining trees are at risk, as their bases have been surrounded with piles of rocks to reduce erosive effects. Sifting through historical photographs of site taken over the last sixty years, the immediate area surrounding the churches has been void of the traditional forest. The deteriorating status of these old trees and long absence of greenery at the site could threaten the resilience of cultural values especially in the changing economy of Lalibela.

DEFORESTATION AND REFORESTATION

Deforestation has been an issue that Ethiopia has been grappling with for centuries. It is estimated that within the last century, the country's forested areas have declined from 40 percent to less than three percent today (Lowman 2010). The consequences of deforestation are devastating; soil erosion, diminished agricultural production, lack of biodiversity, and decreased underwater and surface water ultimately impacts the environment upon which their livelihoods depend. Multiple efforts have been launched in Lalibela to counter its effects.

Historically, Lalibelans' response was driven by survival due to firewood shortages, prompting mass plantings of the fast-growing eucalyptus tree that was introduced to Ethiopia in the nineteenth century (Dessie and Erkossa 2011, 4). However, the plant is notorious for being a thirsty plant that requires much more water than local trees, stripping the soil of nutrients and preventing adjacent vegetation (Lowman 2010). Used as a source of fuel and a building material, the continued cultivation of eucalyptus persists in Lalibela and throughout Ethiopia because of the trees' strength and rapid growth. Specifically in Lalibela, there is active cultivation of



Sapling planted by the church

the eucalyptus tree to support the surge of development happening in town, as it is used both as scaffolding and building material.

The United Nations dedicated the year of 2011 as the Year of Forests, raising awareness and developing stronger sustainable management and conservation methods to preserve local biodiversity, human and nature balance, and lessen impacts on World Heritage sites. The World Bank's plans for Lalibela incorporated these ideas with the inclusion of a landscape architecture plan for the town. Additionally, they created a proposal for a reforestation education program for local residents.

With more resources and knowledge available, there has been a revitalized local and international effort in reforesting Lalibela, preserving the spiritual and cultural values of the church forest image. Trees for Lalibela is an NGO founded in 2014 dedicated to reforesting the town, restoring the degraded soils, preventing further erosion, and supporting local biodiversity for long-term sustainability. In addition, other institutions have been supporting the reforestation efforts within and around Lalibela in the last few years: Organic without Borders, Architects without Borders, Peter Bachmann Foundation, Bugna Development Association, People Together, just to name a few. Since Trees for Lalibela's inception, the organization has already planted over 6,000 trees that are compatible with the natural ecologic conditions of the town with a plan to plant three to four million seedlings within the next five years (Trees for Lalibela 2015). The Church has also been a huge local influence in the reforestation efforts—planting trees within the core area of the site, throughout town, and along the roads. In some cases, cobblestones along the newly paved road have been displaced to plant trees within the road and sidewalk surfaces. These reforestation efforts are evident in the last few years. Even between the summer and fall fieldwork sessions to Lalibela, the research teams noted the increased presence of vegetation.

Through photo comparisons, the studio analyzed the efforts that had been made thus far, to see if the work had come to fruition. Images from the summer of 2010 show mainly barren land, lacking green plants. However, by the fall of 2012, the landscape is fuller, with more green tones spread throughout.



Lalibela and surroundings, Jan. 2006



Oct. 2010



Sept. 2012, growth after the rainy season



April 2013



Feb. 2014

While the reforestation efforts have been successful, issues still linger. Currently, there does not seem to be an oversight committee or coordination among planning or tourism officials, as multiple organizations are spearheading independent reforestation initiatives. Furthermore, the responsibility of the maintenance of these planted landscapes has yet to be established, resulting in overgrowth obscuring view sheds and restricting access around the site. Oral tradition recalls a spiritual forest, however its presence has been absent in recent history.

Further discussion with the church officials about the traditional imagery and the surge in replanting would be beneficial in exploring the re-establishment of the spiritual forest, strengthening spiritual symbolism of the site especially with the older trees and indigenous plants that have been largely neglected. With the expanding tourism sector in Lalibela, the impact of vegetation must be accounted for, especially in regards to the impact on the churches and the physical landscape. Local values must be preserved and the potential of eco-tourism must be explored in the area.

Furthermore, there was no visitor education about the various reforestation efforts in Lalibela or the spiritual significance of a lush landscape. The responsibility of maintaining the newly planted trees is not delineated either. Therefore, continued development of the reforestation efforts and collaboration among all involved parties needs to take place. Yet, preserving cultural and spiritual values of the Spiritual Forest, along with strengthening the conservation of biodiversity is imperative.



While comparing on-site photos between March 2011 and October 2016, the studio found that the trees planted in 2011, originally intended to mask the barren patches and remnants of the demolished residences from the resettlement, have grown in scale. At certain vantage points, the trees have grown to block some view sheds, including vistas of the vernacular gojo architecture, the churches, and the mountain landscapes.

VIEW SHEDS MERIT FURTHER RECOGNITION AND PROTECTION

The landscapes and contours of Lalibela are crucial in contextualizing the heritage of the church Groups. However, the rapid growth of the city has the potential to compromise views, natural areas, and landscapes that are crucial to explaining and understanding Lalibela.

ZONING AND URBANIZATION EFFECTS ON VIEW SHEDS

Previous planning efforts in Lalibela such as the 2009–2019 Structural Use Plan have not recognized or protected any of the dramatic view sheds that are among the most striking aspects of Lalibela. Nevertheless, the Structural Use Plan did offer guidelines about height restrictions in Lalibela town, especially within and adjacent to the core site. Per the Town Administration planning officials, the plan currently forbids any new construction in the core zone, limits construction in the buffer zone to Ground+2, and designates all other areas of the city as Ground+4. The guidelines set by the Structural Use Plan likely sought to maintain a certain low-scale quality to Lalibela, so as to protect its heritage values and to preserve it within its historic cum natural context. Part of the significance of the churches is understanding and experiencing them as an integral part of the dramatic mountainous landscape of Lalibela writ large, which itself is rife with historic symbolism and connections to King Lalibela. However, during fieldwork the students found that this experience has changed drastically with the encroachment of the surrounding townscape. Visual connections have been negatively impacted

and ruptured. As a result of this finding, the team gathered data on thirty-two view sheds in the city to assess these connections and how they represent and impact the values of Lalibela.

The team used spatial analysis to understand the density of residential buildings. With the use of satellite images, the team found that residential buildings are encroaching on areas near the buffer zone, affecting some of the identified view sheds.

Additional data was collected, including latitude and longitude coordinates, photographs, and corresponding notes highlighting important features of each of the view sheds. The team then created the following criteria to identify priorities for preservation:

- The view shed highlights criteria outlined by UNESCO in its classification of Lalibela as a World Heritage Site (i.e. churches, trenches, gojos);
- The view shed highlights a unique natural, architectural, or religious feature not readily available in another part of the city;
- The view shed holds religious significance to individuals of the local community or pilgrims on journeys to the rock-hewn church site;
- The view shed contributes to the experience of visiting the city of Lalibela or the Rock Hewn Churches; and/or,
- The view shed highlights a characteristic of the Lalibela community

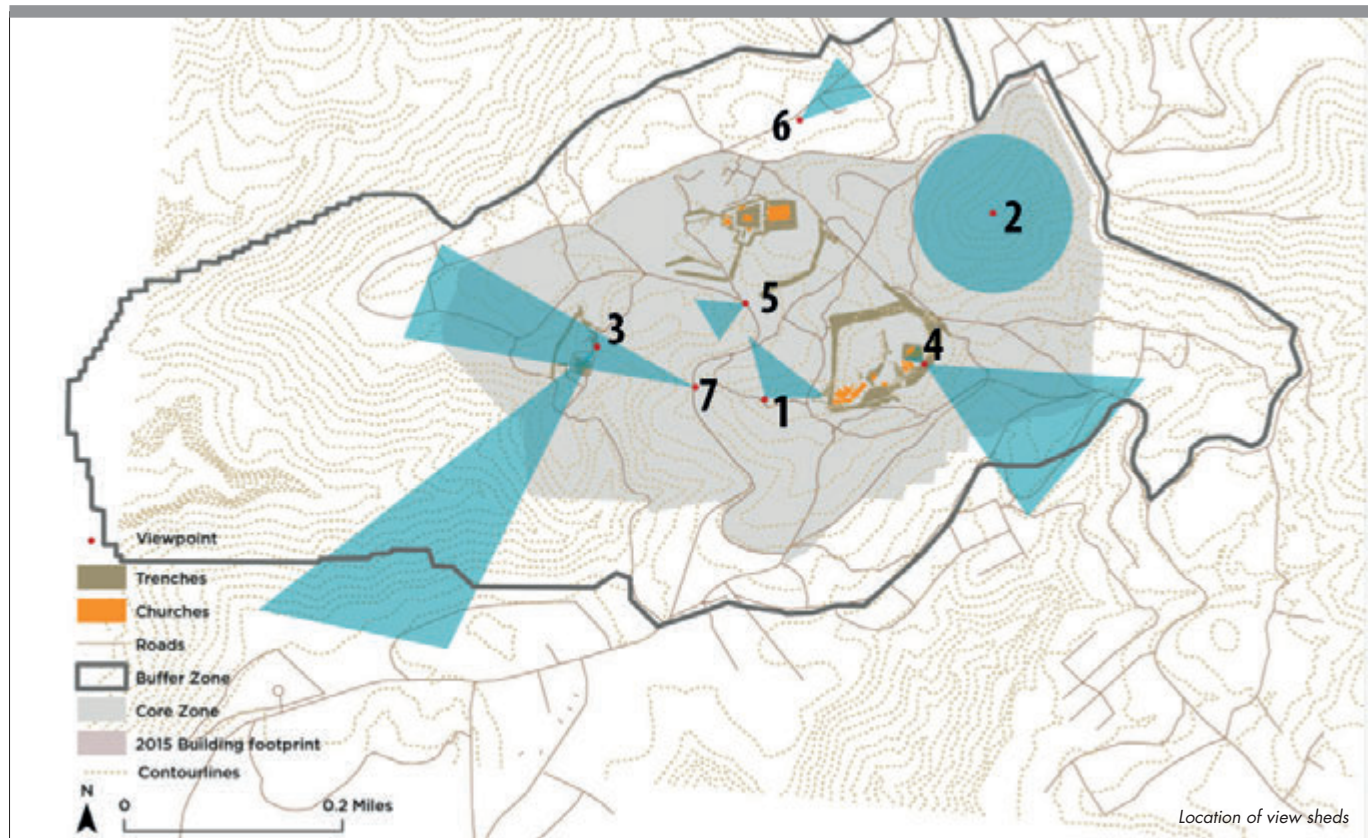


View from the top of the Seven Olives hill in 2016

PRIORITY VIEW SHEDS

Utilizing the quantitative and qualitative data collected, and the criteria outlined, seven of the thirty-two view sheds were determined to hold significance to the preservation of the

churches' tangible and intangible heritage, to the local and religious community, and potentially to the tourism industry. The location of the seven priority view sheds and their corresponding direction can be seen here:



VIEW SHED 1

Located at the top of a hill, this lookout point provides an elevated view of a horizontal vista that spans from the left bank to the right bank of the River of Jordan. Visitors can see two churches, Bieta Mariam and Bieta Medhani Alem, which represent Earthly Jerusalem; and Bieta Amanuel, which is a representation of Heavenly Jerusalem. The view also provides views in of multiple gojos, both in close proximity to the churches and the outer areas of the core zone.

**VIEW SHED 2**

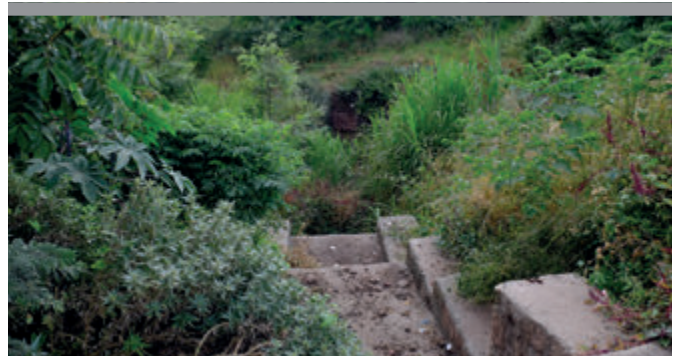
Located at the top of Debra Zeit ("Mount of Olives"), this lookout point offers a 360-degree view of the region with encircling mountains, valleys and flatlands below. This view shed is also the highest point in Lalibela.

**VIEW SHED 3**

One of the most photographed views of Lalibela is the rooftop view of Biete Ghiorgis. Overlooking the church from above, visitors and pilgrims can appreciate the unique shape and size of Biete Ghiorgis, as well as observe the sequence of Greek crosses in relief on the roof. This view of the rooftop is especially desirable, due to the fact that several of the churches are currently under temporary shelters, blocking the view of their rooftops.

**VIEW SHED 4**

Located on top of a trench, visitors are able to look down at the route traversed to reach one of the three church groups. Additionally, those who take in the view can observe the drainage ditches, defensive trenches and ceremonial passages that are taken regularly. These trenches are seen as an integral part of an authentic Lalibela site experience; the initial nomination report of Lalibela addresses the trenches as a unique aesthetic value.

**VIEW SHED 5**

This view shed is located along a downward staircase leading to the mouth of the small artificial river named "The Jordan." The view shed ties back to the site's history as a colossal undertaking by King Lalibela to visualize a "New Jerusalem." This view shed not only helps visitors contextualize the layout of the site, but also points to the seasonality of the site. During summer time, the graded trench guides water from the churches down to the rivers below, while during dry season, the stream is reduced to a mere trickle.

**VIEW SHED 6**

The view shed provides a snapshot into the cluster of vernacular buildings on a small hill near the Maskal Square. Mixing old and new techniques, the cluster of earthen buildings resembles gojos in terms of color and scale, but is differentiated in terms of shape and material. This vantage point is unique and provides viewers with a different perspective of Lalibela; here viewers can watch the busy daily lives of the local community.

**VIEW SHED 7**

Standing at this location, one can overlook the Saturday Market and a local settlement from a distance. The Saturday Market is the traditional commercial center for Lalibela. Visitors can view and visually partake in the locals trade of products and goods, such as livestock, hand-sewn garments, coffee beans, honey, etc..

The majority of these seven important view sheds are located within the core zone, and therefore are afforded some degree of protection through restrictions on new construction. However, one of the view sheds has been threatened by unregulated growth of vegetation, residential and hotel buildings, and densification. The team has provided a set of recommendations and amendments to the 2009–2019 Structural Use Plan to address some of the concerns in preserving the view sheds specifically as the number of tourist and pilgrims visiting the site continues to increase. These recommendations will be discussed later in the report.



ADDITIONAL MANAGEMENT CHALLENGES

STAKEHOLDER RESPONSIBILITIES AND COMMUNICATION

As outlined in the 2013 Management Plan for the UNESCO World Heritage site, there is a wide range of stakeholders involved in the management and use of the churches, the surrounding landscape, and the entire town of Lalibela. They have varying degrees of power and responsibility, but all have a direct interest in the long-term stewardship and sustainable development of Lalibela.

- International development organizations, including the World Bank
- International conservation organizations, including UNESCO and World Monuments Fund
- Ethiopian National and Regional government, including the Authority for Research and Conservation of Cultural Heritage (ARCCCH), the Amhara National Regional State Planning Institute, the Amhara National Regional State Bureau of Culture and Tourism
- Ethiopian Orthodox Tewahido Church and Lalibela Church Administration
- Lalibela Municipal government, including the Lalibela City Mayor's Office, Culture and Tourism Office, Lalibela
- Town Administration Office, Lalibela Planning Department
- Tourism Council members
- Local communities
- Investors
- Local church users and pilgrims
- Tour guides, hotel staff, and other tourism-related workers
- Domestic and international visitors
- Scholars, researchers, and students

Through document research, interviews, and fieldwork, the studio identified the need for additional coordination among the stakeholders. While the Church has significant authority over the site, so too do varying government agencies. The tourism council within Lalibela, which currently meets only four times a year, could serve as a natural forum to facilitate this coordination if it were to meet more frequently and encourage

stakeholders from outside of the community to attend. It is chaired by the mayor and includes church officials, government representatives, tour operators, business owners, and others.

The multitude of stakeholders has made accountability less clear. Discerning local organization and coordination vis à vis the management of the site proved confusing and difficult for the team, complicated further by the involvement of larger scale entities such as the federal government, UNESCO, and the World Bank. This is compounded by issues of unclear ownership and reduced “responsibility of the federal government with regard to the maintenance of the monuments and buildings” (ARCCH 2013, 68). A major issue is the lack of clarity regarding respective stakeholder responsibilities, a direct consequence of limited communication among relevant entities (tourism council, church officials and planning authorities). More robust communication and decision-making channels, as well as increased technical capacity, will be crucial in developing and implementing the updated 2019–2029 Structural Use Plan for Lalibela.

Financial resources, or lack thereof, present challenges as well, and there is a need for more transparency regarding revenues generated by the site. Some visitors consider the \$50 USD church entrance fee a high price (even though it allows entry over the course of four days). Due to the poor onsite infrastructure, domestic and international visitors question how this money is being used. Through interviews with Church officials, the team learned that these revenues generate funding for a large number community-based initiatives within Lalibela. Proceeds from the tickets entrances, as well as from the three hotels owned by the church, have helped to fund the construction of school facilities, provided loans of ETB 7 million to micro and small enterprises for community business development, and the established healthcare facilities for the elderly and the needy. Additionally the church owned hotels provide jobs for local residents. Communicating these community benefits is important for justifying the entry price, and could help to shift visitor perceptions.

COMMUNITY BENEFITS AND CONCERNS

A primary aim of the 2013 Management Plan was increasing community involvement. The plan stated that, “community partnership in the tourism activities and in a wider stakeholder

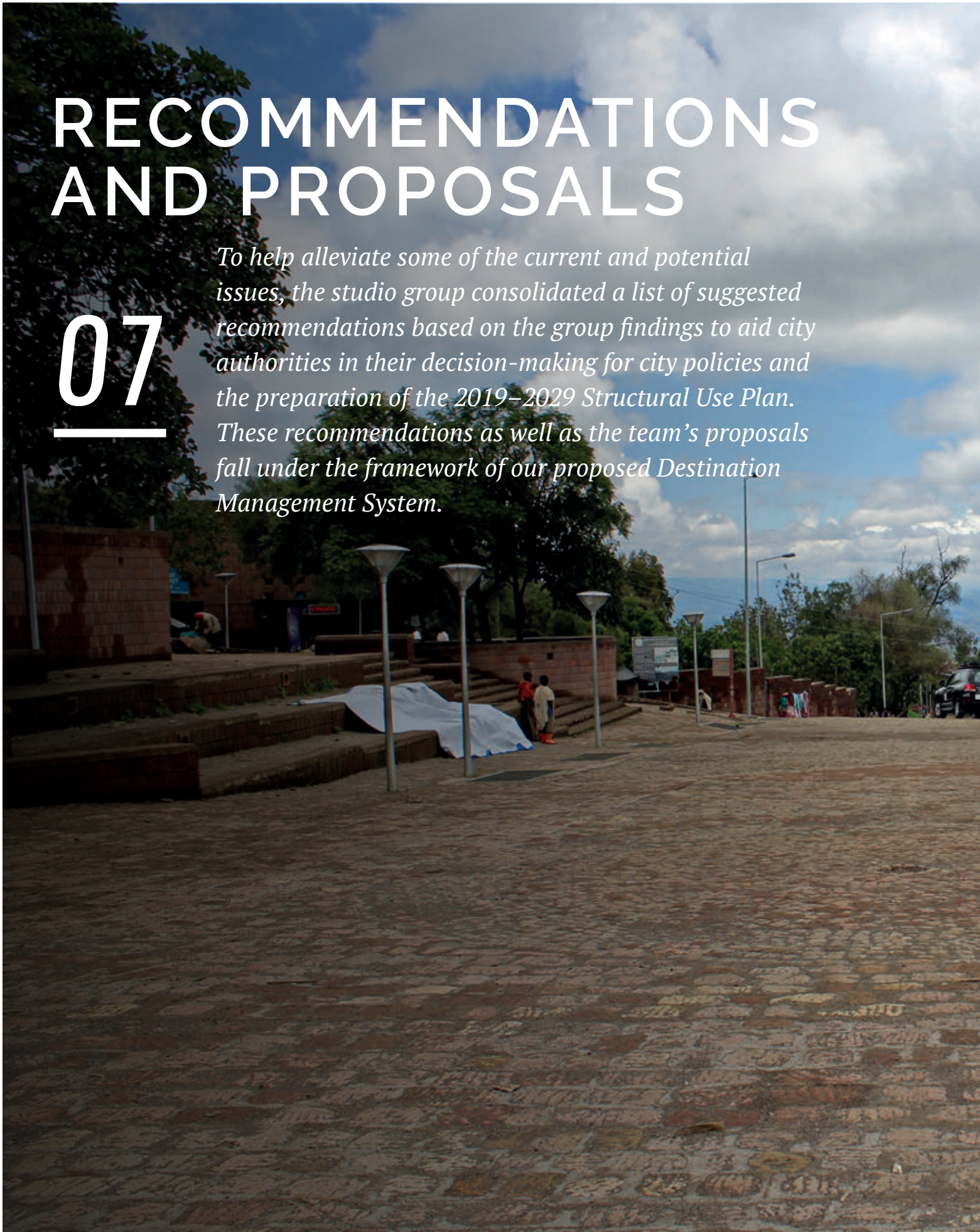
network alongside a streamlined revenue sharing program focused on community projects and development; benefit distribution, capacity building, as well as implementation strategies and fundraising programs” (ARCCH 2013). The need for tourism-related professionals and institutions to provide education and certification has increased with the rise in visitors. Tour guides, who are essential for leading tourists through the church sites, typically receive training and certification from the Culture and Tourism Authorities in collaboration with ESTDP. Contributing to tourism-based education is the Lalibela regional technical vocational school. This institution grants individuals competency certificates from levels 1 to 4 in different technical capacities and positions, such as a hotel worker (Culture and Tourism Authorities 2016). Still, more opportunities are needed, especially to ensure gender equality in the access to tourism-related economic development.

While there are a number of jobs and training available for the community in the tourism sector, an increase of tourism has led to new community-related issues. An important concern raised by more than one government official is the impact tourists have had on the community and local culture. As a result of the increased presence of tourists, youth in the Lalibela community have sought to benefit through begging, or by offering services as guides. As one official mentioned, these children can often make more money than their teachers and parents, and they no longer respect their elders. Furthermore, authorities commented on the effect tourism has had on the education system. With the attractiveness of making “easy” money, teens prefer to hang around tourists instead of going to school. In addition, tourists have brought in unfavorable activities, such as drugs and drinking. In some cases, money earned through tourism is spent on these activities, further fissuring the family and community structure. The Culture and Tourism authorities and city elders are extremely concerned with these issues. There is a need to address the interactions between visitors and locals. Often visitors, in an attempt to help, give the local children money as a form of donation. This has upset the social balance of the local society. Strategies to better educate both sides to limit begging and preserve harmony are desperately required.

RECOMMENDATIONS AND PROPOSALS

07

To help alleviate some of the current and potential issues, the studio group consolidated a list of suggested recommendations based on the group findings to aid city authorities in their decision-making for city policies and the preparation of the 2019–2029 Structural Use Plan. These recommendations as well as the team’s proposals fall under the framework of our proposed Destination Management System.





“Threats include encroachment on the environment of the churches by new public and private construction, housing associated with the traditional village adjacent to the property, and from the infrastructure of tourism.”

UNESCO

DESTINATION MANAGEMENT SYSTEM AND EVALUATION PROTOCOL

The studio proposes a Destination Management System due to the numerous stakeholders and moving parts involved in setting priorities for the city and its future. We felt that there is a need to have a system that serves as the connective tissue between the Structural Use Plan, the UNESCO World Heritage Management Plan, the Church, city administration, and community. Some of these stakeholders meet only four times a year to discuss urgent issues, but there is no structure or tools in place to guide decisions as they are made. A Destination Management System would assist in determining responsibility for specific challenges and create a set of overarching priorities when making decisions for Lalibela. The Destination Management System consists of the following six sections:

- Visitor Facilities
- Heritage and Culture
- Landscape and Countryside
- Built Environment
- Access and Transport
- Communication, Interpretation, and Marketing

Incorporated into our Destination Management Plan, the team proposes that the local and national governments, including the Culture and Tourism Authorities and Planning Authorities, use an evaluation protocol when considering changes and plans for Lalibela. Not only are protecting the heritage site and gaining revenue from tourism important; other community needs and values are important as well. The negative effects of tourism and related development should be taken in consideration. By analyzing potential impacts and how they are both successful as well as the challenges they may incur, Lalibela can become a more sustainable city.

To ensure that the following recommendations are communicated to all involved stakeholders, and that adequate implementation is achieved, a monitoring pact is proposed. In the beginning phases of each new action or change, all key stakeholders in the system will be responsible for monitoring processes and outcomes, whether the new action or change is being implemented by another stakeholder or by an outside/private party. Compliance guidelines and regular meetings should be instituted, along with clear penalties or repercussions for non-compliance. Through this sort of collaborative monitoring, better clarity in task management and communication can occur among the many interested in Lalibela.

		NEXT STEPS	RESPONSIBILITY
Visitor Facilities	Accommodation, restaurants/bars, attractions, activities, events, retail relevant to tourists, other facilities.	<ol style="list-style-type: none"> 1. Certification process for hotels, restaurants and bars. This will help with the upkeep and maintenance of these services. 2. Work on developing other attractions other than the heritage site (i.e. honey Museum, eco trek). 3. Make sure there is maintenance personnel on site taking care of facilities. 4. Store owners required to go through some type of training or certification program related to tourism hospitality. 5. Annual survey for restaurants, hotels and shops. 	<ol style="list-style-type: none"> 1. Tourism Council, Planning Authorities, and City Administration Office 2. Tourism Council and City Administration Office 3. Church and Tourism Council 4. Tourism Department and City Administration Office
Heritage and Culture	Historical connections, traditions, specific heritage, sites, arts, crafts, cuisine, other aspects of living culture	<ol style="list-style-type: none"> 1. Implementation of deacon training program. 2. Community driven participation highlighting the cultural importance of specific Ethiopian traditions, cuisine, and activities. 3. Develop a pamphlet listing heritage and cultural events/activities in Lalibela. 	<ol style="list-style-type: none"> 1. Church 2. City Administration Office and Tourism Council 3. City Administration Office and Tourism Council
Landscape and Countryside	Routes and Trails for wildlife, landscape, and foliage features. Conservation of natural sites.	<ol style="list-style-type: none"> 1. Trail Map highlighting foliage, wildlife, and viewsheds seen on walk. <ol style="list-style-type: none"> a. Promotion campaign to raise both awareness for local community and interest of cultural tourism. 2. Inclusion of conservation of natural areas/landscapes within 2019 master plan. 3. Body that oversees, guides and maintains the reforestation efforts in Lalibela. <ol style="list-style-type: none"> a. Illustrated handbook with introduction of flora and fauna species important and indigenous to the site. 	<ol style="list-style-type: none"> 1. City Administration Office-New Parks and Recreation Department 2. City Administration Office-New Parks and Recreation Department and Planning Department
Built environment	Towns and villages- appearance and upkeep. Specific features, distinctive architecture, and public spaces.	<ol style="list-style-type: none"> A) Structural Plan of 2019 to include: <ol style="list-style-type: none"> a. Additional public spaces, such as squares and small parks. b. Any building built starting January 1, 2019 is required to use certain materials as a way to promote sustainability. c. Maintenance guidelines for the core/buffer zone. B) Maintain Vernacular Architecture recommendations include <ol style="list-style-type: none"> a. Church Staff to Inhabit/Maintain gojos. b. Find day uses for some of the gojos (art gallery, house museum, cuisine, pop-up souvenir shop). c. Repurpose deteriorated gojos for public space uses. 	<ol style="list-style-type: none"> A) Planning Authorities and City Administration Office B) Church and Tourism Council

NEXT STEPS			RESPONSIBILITY
Access and Transport	Road and air transportation to and within the destination. Transport providers (private).	1. Bajaj fare is managed based off of how far someone is traveling (zones) [within certain sections and for tourists only/fixed?] 2. Centralized tourism assistance/information desk at the airport (van/hotel/hiking, etc. information)	1. City Administration Office 2. Regional Airport Authority, Tourism Council
Communication, Interpretation, and Marketing	Marketing media and tourism guidelines. Signposting, van-parking availability, toilets, and other services. Accessibility of tourism products and services. Measures for interpreting the success and failures of the tourism industry.	1. Tourism Guidelines. 2. A small unit dedicated to services in the core and buffer zone working with Planning Department and Tourism Office. 3. Value System: With indicators for measuring successes and failures. 4. Wayfinding: maintenance of signage, additional direction and information signage that includes the symbolism of circulation routes as well as markers for routes that note their level of difficulty.	1. Studio and implemented by Tourism Council and Church. 2. City Administration Office

INDICATORS OF SUCCESS		INDICATORS OF FAILURE
Tourism	<ul style="list-style-type: none"> -Steady flow of tourism throughout the year -Tourism assisting in driving economy -Tourism creating jobs for community -Tourism creating attention surrounding heritage site - Use of tourism revenue to conserve heritage site -Limiting number of tourists at a heritage site at once 	<ul style="list-style-type: none"> -Uncontrolled number of tourists at heritage site -Deterioration of fabric of heritage site due to tourists -Tourism as only driver of economy -Loss of spiritual importance of heritage site as it becomes seen as revenue driver -Lack of safety and risk plans at heritage sites when overcrowded
Development	<ul style="list-style-type: none"> -Development of tourism infrastructure to support tourists, but respecting heritage site in its location, materials and heights -Restricted and controlled development, with any new development justified in its need -Approval by UNESCO on any new development in the core or affecting the OUV of heritage site -Using development to create jobs -Intangible heritage (such as processional locales, traditional gathering places, and view sheds) considered in land use and zoning 	<ul style="list-style-type: none"> -Uncontrolled development in its location, heights, materials, built without justifying need -Urbanization and over commercialization of town of Lalibela to support tourists -Using materials not local to the area -Loss of vernacular heritage, especially gojos, for new development -Outsourcing workers from other countries to work on development projects -Development for tourism causing destruction to existing shops and restaurants community depends on -Development that unnecessarily uses green space rather than reusing brownfields -Intangible heritage not considered when planning new development
Community	<ul style="list-style-type: none"> -Community benefitting from tourism with jobs and revenue from tourism at heritage sites -Community inclusion in discussions of new developments that affect the heritage site, their homes and businesses. Discussions include with local authorities as well as discussions with international authorities such as UNESCO -Workshops and classes offered to community to learn new trades as well as maintain knowledge of existing traditional trades 	<ul style="list-style-type: none"> -Tourism revenue not benefitting local community -Jobs outsourced and not given to community members -Community not involved as a main stakeholder in discussions surrounding heritage site and developments -Heritage tops community needs -Community dynamics, traditions and building techniques lost or changed due to increased tourism -Traditional crafts stopped to sell cheap tourist souvenirs -Community's jobs forced to change to support tourism (ex. Farmers outside Lalibela)

LAND USE PLANNING ANTICIPATING FURTHER GROWTH

As Lalibela's growth is faster than the national average, this growth rate needs to be addressed and considered while formulating new plans. The team recommends creation of temporary technical support posts to help with the development of the Lalibela 2019–2029 Structural Use Plan.

Some specific considerations include the following:

The current expansion of the town's low rise, linear, low density sprawl is unsustainable and uneconomical, and increases the footprint of the town in an area with relatively limited supply of flat, developable land. Coupled with this is



Southern low density development

the current need for viable agricultural land nearby, to avoid possible food insecurity, a result of the increase in touristic demand. To confront this issue, our studio recommends allowing for (zoning for) taller and denser buildings in areas that would minimally impact the viewsheds, preserve the existing farmlands, and minimize exponential pressures on infrastructure systems. Current land uses must be reexamined, informing the development of a comprehensive land use plan as part of the 2019–2029 Structural Use Plan, regulating use and bulk to prevent further sprawl, support density in designated areas, preserve natural areas and heritage sites.

New and existing areas of controlled expansion and/or densification must be identified, to avoid increasing pressure on heritage areas such as those associated with Nakuteleab. Potential new areas could be the camping sites that have already been identified (one of these is planned to be developed into a camping site and city park). Simano is a large area and can accommodate the growing needs of the town if it can be developed densely. Another possibility could be the bottom of the valley at the north, Medage. Development of Simano, Medage, and Nakuteleab together can almost double the town's size, and if they are developed densely, they can accommodate the needs of the town for the foreseeable future while minimizing negative environmental

impacts. Other outlying plateaus may be explored, but these may impact the landscape values and the agricultural output. Thus, upzoning areas of the existing town that do not negatively affect its heritage values can also be explored.

Looking at future accessibility and mobility, the new proposed road could alter development patterns. The potential impacts of increased transit must also be studied carefully before its construction (i.e. vibration monitoring and impact assessment). Other potential regional transit solutions, such as the cable car proposed by WUB Consult in 2009, must be reconsidered and evaluated on the basis of current and projected demand as well as their impact on the heritage site.

Densification in the buffer area should be examined and could inform potential repurposing of the gojos in the core, and reinhabitation of the abandoned structures in the core and buffer. This could also have regulatory implications if these have been illegal conversions. If they are infill structures, they could set the precedent for rehabilitation within core and buffer areas. The existing buffer zone around the core could be extended to preserve the view sheds and construction in this zone could be limited to G+2, while outside the new buffer the limit would be G+4. The inhabitants of Lalibela will be encouraged to build up to this potential to minimize the urban footprint and slow the rate of land consumption.

TOURISM AND VISITOR MANAGEMENT

As more tourists come to see the World Heritage Site, the increasing number of people could harm the church fabric. Many of the churches have small interiors and can only accommodate so many people. Therefore, the team suggests a study to understand the carrying capacity (i.e. number of tourists) of the churches. While capacity is not an immediate concern, as tourism grows, this information will be critical.

With a larger number of visitors, circulation may become a problem, and should be considered given the older demographic of international visitors. Many of the pathways and routes are narrow and do not allow for many people at once or groups going in different directions. In addition, some of these pathways can be treacherous, and may need to be avoided if there are large groups passing through at once. Safety measures may be warranted.

A third visitor management recommendation is respecting local traditions. The heritage site as well as many other spaces around the city have significance not only for

their fabric, but for the intangible heritage of its spiritual landscape, festivals, celebrations, traditions and other religious activities. While tourism is vital to Lalibela's local economy, balancing tourism and its living heritage is important. The team recommends including the intangible heritage and its associated locations in future management plans to ensure these values are safeguarded.

The majority of visitors stay in Lalibela for only two nights. This is partially attributed to the lack of activities available beyond visiting the churches. The rainy season especially needs indoor activity options for tourists. The future honey museum will be a great option once it opens. Another option is to utilize the Cultural Center as place to host workshops, galleries, plays, and evening activities, such as traditional dances, bonfires, concerts, and possibly night walks through historical areas of the town.

A variety of activities would spread the tourists around the town, avoiding congestion in the churches. By diversifying tourist activities, visitors are also more likely to stay longer in the city and increase occupancy rates in the hotels. Nevertheless, the team found that close to 80 percent of the hotel beds in Lalibela are on average empty.



Struggling to find footing while exiting Biete Mariam



Tourist shops near hotels

By diversifying tourist activities, visitors are also more likely to stay longer in the city and increase occupancy rates in the hotels.

Therefore, we highly recommend removing the incentives to build new hotels, along with the tax exemptions for importing hotel building material. Not only is there currently a surplus of hotel beds, but there are thirteen large-scale hotels currently being built, for which there is limited demand at present, outside of the January pilgrimage season.

In addition, the team recommends facilitating transportation options. Most tourists walk as their primary method of transportation while in city, while larger groups rent minibuses. Providing additional transportation options for tourists specifically, both the local community and tourists can benefit. This may include finding a way to make the bajaj cars more accessible and regulated for tourists.

The team believes that educational workshops for locals could provide training in value-chain processes including design, production, and marketing of products, especially with the global trend towards hand-crafted local products. The team found that the souvenir market is oversaturated with shops selling the same things. Diversifying and improving the products the stores are making and selling could help drive tourists to shop more.

Without consistent user feedback, it is difficult to have a comprehensive understanding of the tourism sector in Lalibela. Regular local and non-local surveys should be administered, especially with the rapid developments happening in town. These surveys can also be updated to gauge feedback on new policies or physical/socio-economic changes allowing for a feedback loop and enabling timely adjustments. This data should be shared with all relevant parties to guide planning, tourism and destination management plan decisions. In addition, with the focus on growing tourism and encouraging higher non-local visitors, questions about how visitors learned about the site and their booking process can track the success of marketing campaigns in raising international awareness and interest in Lalibela as a destination.

With a standardized data collection method the municipality can better understand the number of visitors and development occurring each year. This would involve the municipality creating specific criteria and collecting data specific to hotels, restaurants, and shops, in addition to collecting data regarding pilgrims, foreign visitors, and

domestic tourists. The team recommend collecting this data on a monthly basis instead of annually, since the number of visitors fluctuates greatly each month depending on the season and events. One of the key challenges for Lalibela in gathering data is the lack of wifi accessibility. We recommend using free programs, like KoBo, which allow an individual or entity to design surveys that can collect data offline and readily compile the information. Sample survey questions follow:

HOTEL SURVEY:

- Hotel name
- Latitude coordinates
- Longitude coordinates
- Is the hotel registered with Culture and Tourism Authorities?
- Does the hotel have a restaurant?
- Hotel website (if have one)
- Is the restaurant featured on Trip Advisor?
- Is the hotel under construction?
- Number of stories (of tallest building)
- Number of rooms
- Number of beds
- Year established
- Average price per night (in birr) for tourists
- Percent of international visitors (estimate)
- Number of full time employees
- Number of temporary or seasonal employees
- Number of employees with tourism certification
- Does the hotel work with specific guides
- How does the hotel advertise?

RESTAURANT SURVEY

- Restaurant name
- Latitude coordinates
- Longitude coordinates
- Is the restaurant registered with Culture and Tourism Authorities?
- Website (if have one)
- Is the restaurant featured on TripAdvisor?
- Is the restaurant under construction?
- Number of seats

- Type of food served
- Year established
- Average price per meal (in birr) for tourists
- Percent of international visitors (estimate)
- Number of full time employees
- Number of temporary or seasonal employees
- How does the restaurant advertise?

SHOP SURVEY

- Shop name
- Latitude coordinates
- Longitude coordinates
- Is the shop registered with Culture and Tourism Authorities?
- Website (if have one)
- Type of products or goods sold
- Is the shop under construction?
- Year established
- Percent of international visitors (estimate)
- Number of full time employees
- Number of temporary or seasonal employees
- How does the shop advertise?

VISITOR SURVEY

- Number of foreign visitors by month
- Number of Ethiopian visitors by month
- Tourism revenue from Foreign visitors per month (church visits, hotels, shops, restaurants, transportation)
- Tourism revenue from Ethiopian visitors per month (church visits, hotels, shops, restaurants, transportation)
- Column for monthly and annual percent increases to quickly see changes

WAYFINDING

While there is signage throughout the core of Lalibela, signage and communication are critical for tourists getting around the town. We suggest additional signage to better direct tourists to key activities and locations, especially near the four hotel clusters where tourists will be staying.

The team also suggests creating a schedule and point person for the maintenance of signage. An ongoing

maintenance schedule will ensure that not only is the signage available for tourists, but that it is taken care of. This includes the cleaning of signage as well as making sure all signage is pointing in the correct directions.

A final wayfinding recommendation is maps. While some hotels have maps hanging in the lobby, it is helpful for tourists to have a map with them as they move through the town. We therefore recommend that hotels provide printed maps for tourists with key locations of activities and churches and the churches provide a map of the church sites at the ticket office.

Such a map could be combined with a brochure with guidelines for tourists on how to dress or act respectfully at the church sites. Our team has created a sample brochure for tourists that includes what to wear, places to visit, how to interact with the community, and a map (see appendix). This simple document can be easily printed. The team proposes that hotels print these out and give them out to tourists who check in. This provides a cheap, quick, and easy solution to solve two issues.



Ticket office signage

SHELTERS

Through surveys and interviews it is clear that there is a need to improve communication among stakeholders about the local concerns over shelters, especially involving their longevity. There also is need for a monitoring system for the existing conservation alternative at Biete Gabriel Raphael and potential conservation alternatives that are planned at Biete Golgotha. Hopefully these methods will be further developed and eventually applied at the sheltered churches of Biete Emanuel, Biete Abba Libanos, and Biete Lehem (wood shelter).

Further options should be explored for replacing the shelters over Biete Medhani Alem and Biete Mariam, as similar waterproofing and conservation measures may not be feasible for these carved-roof churches. This also applies for Biete Ghiorgis, as its carved roof is currently lacking any protection from the elements. An alternative to the existing shelters for these churches might be to develop a shelter that is more sensitive to the local user's religious needs and concerns, in keeping with the natural environment and cohesive with the authenticity of the churches. Finally, WMF's efforts to train local workers to monitor and maintain the churches should be continued, and reinforced in order to maintain the churches after international organizations have finished work in Lalibela.

GOJOS

The gojos have been identified as part of the physical fabric of the World Heritage. Therefore, there should be more efforts to assess and preserve them. The team recommends that a thorough study be carried out by professionals to survey the current gojos for further adaptive reuse.

To minimize heritage and character loss on the site, toilet facilities should not be prominent features located in close proximity to gojos in good condition. They should not visually detract from the landscape of the heritage site. Furthermore, gojos in the core and buffer zone should emulate the traditional gojo form as much as possible i.e. by replacing or covering the galvanized metal roof with thatching.

There should also be a clearly stated entity that will be responsible for the maintenance and management of the gojos. This entity would be responsible for categorizing the existing vernacular buildings into traditional and modernized; setting up regulations on materials and renovation based on the category (including fireproofing); and refurbishing the habitable gojos and repurposing them for use by pilgrims, church officials and schools, and/or others. Some examples would be: retrofitting some of the gojos to be opened up for visitor tours; artist studios; murals reflecting the history of Lalibela; and some can be taken over to advertise and sell the products made by the nuns and others.

Lack of use and lack of maintenance is accelerating the decay of the gojos. This studio proposes that the gojos be repurposed both during the low and high tourism seasons, as well as be integrated with the surrounding landscape and view sheds.

After the resettlement, a number of houses that stood around the gojos were removed. This created open space in-between the gojos. Some of them are included the view shed areas. Reprogramming these open spaces would contribute to improve the environment of the gojos, landscape and view sheds. It will enhance the experience of both the local community and the tourists. The open space shall accommodate daily public life and different activities happening on the site. The spaces then could generate indoor functions in the gojos. These could be temporary functions meeting the needs of certain public activities, which may help maintenance in low season.

The first location would be the main entrance to the site near the seven historic olive trees. The second one would be at the church school that is enclosed by the stones under the tree along the road to the northeast of Biete Medhani Alem.



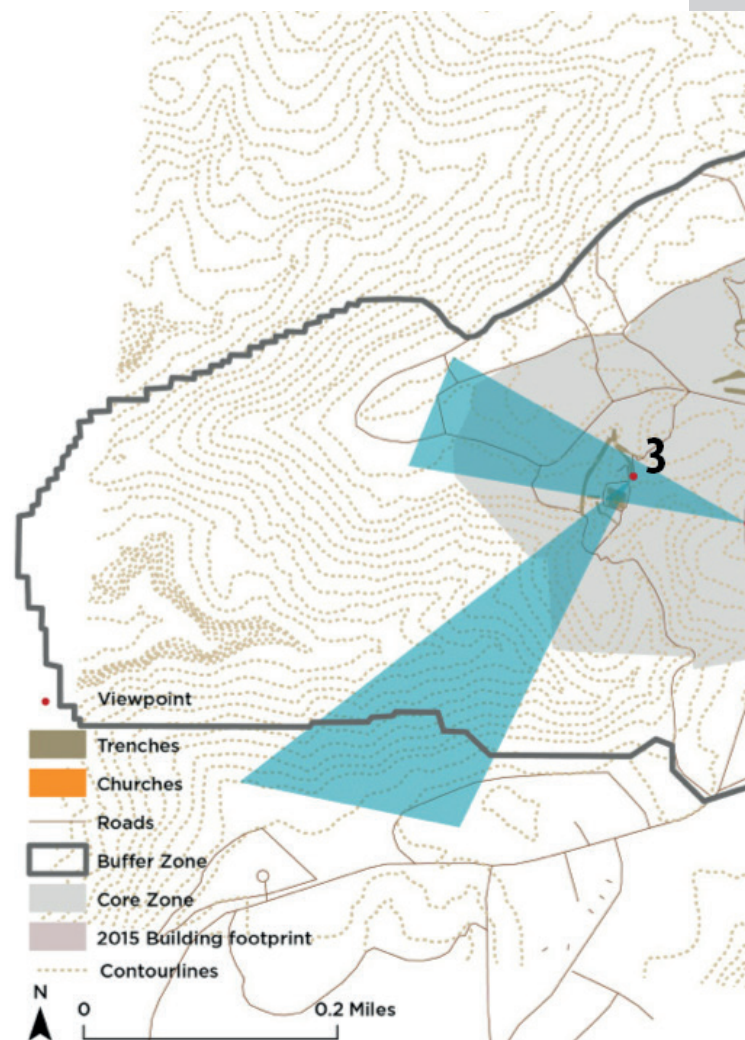
Potential options for reprogramming the open spaces around the gojas and activating dilapidated gojas.

VIEW SHEDS

To protect the heritage core and buffer zones, measures have included a total restriction on building within the core zone, the institution of G+2 zoning in the site's buffer zone, and G+4 elsewhere in Lalibela. These regulations have certainly reduced the amount of modern buildings around the churches and within important view sheds, but more detailed

regulations are needed for the previously outlined priority view sheds:

For view shed number 1, the zoning should target the foreground of the view shed, since the World Bank has cleared all the encroachments near the gojos in the background of the view. Currently, a handful of storage huts built with modern techniques (e.g. corrugated metal roof) can be found in the immediate area of the bell. In order to maintain the primitive feeling of the view shed, those structures should be relocated

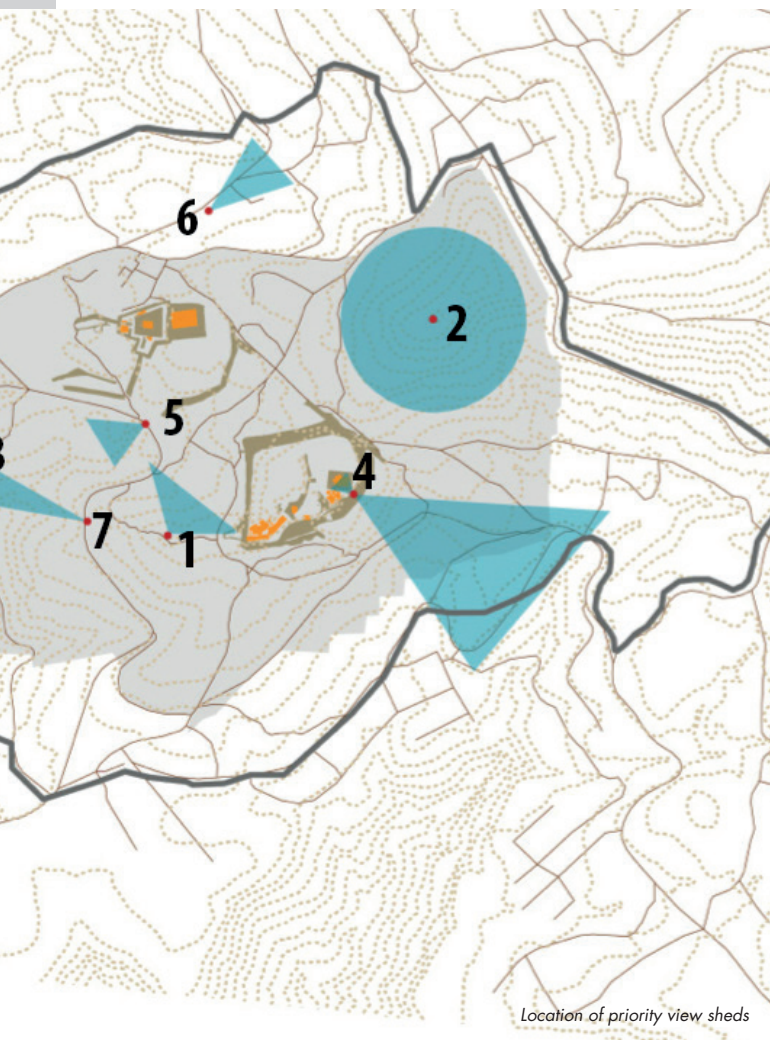


to nearby areas that are not visible from the point. The height of the vegetation near the bell should be limited to three meters so they do not block the gojo view behind them.

For the second view shed, given the relatively high elevation of this vantage point and the greater distance between it and its surroundings, a G+2 regulation within the existing settlement is recommended but not necessary.

Even though the cruciform shape of Biete Ghiorgis is the focal point of viewer attention, the third view shed

is not complete without the mountains in the background, located northwest of the church. Since the main subject is very close to ground level, any protrusion at the back would interrupt the overall composition of the view. Therefore, for any new construction on the hilltops to the northwest of Biete Ghiorgis, only one story should be allowed. Plus, in order to maintain the current context of Biete Ghiorgis, any overgrown trees within 70 meters to the northwest of the Church should be pruned on a regular basis.



For the fourth view shed, any additional drainage or visitor safety infrastructure installed in the trenches should be painted a red-brown color to help them blend into the surrounding rock.

Regulating the encroachment of vegetation is key to protecting the fifth view shed. The bushes and climbing vines on the two sides and at the front of the staircase have completely blocked the view of the Jordan River and baptismal pool. In order to restore the view, the area must be aggressively pruned.

For view shed number six, the settlement in questions is located outside of the core zone but within the buffer zone, and a G+3 height limitation is suggested so that new construction would be of a similar scale (unlike the newly built telecom tower).

View shed number seven should be protected by pruning trees to the west to maintain a visual corridor connecting the road to the marketplace on the other side of the small valley.

To help these viewsheds achieve greater recognition, the studio proposes including them in a promotion campaign. This would require more directional and informational signage throughout Lalibela, along with the distribution of printed maps that identify the view sheds and other spiritual locations. These additions would aid visitors in understanding the significance of the spiritual landscape and the living heritage outside of the churches. Learning from prior signage projects, a maintenance team and schedule should be established to ensure that signage throughout the city is properly maintained.

LANDSCAPE

Given the multiple organizations and driving goals, there should be a body that oversees, guides, and maintains the reforestation efforts in Lalibela, reconciling all the different town interests. This will create jobs, facilitate communication with other agencies, enable consistent record keeping, plant surveying, and consolidate biodiversity knowledge. There should be further collaboration with the Church exploring the significance of the Spiritual Forest along with the cultivation of indigenous plants, which presents an opportunity for the Church to collaborate with expert botanists and planting organizations. This consolidation will also enable greater education efforts on local vegetation. The eventual production of an illustrated handbook that includes indigenous flora and



fauna species local to the Lalibela area would continue the expansion of local biodiversity education among locals and non-locals, the management of the physical landscape, and the preservation of spiritual and cultural values of the greenscape.

The studio recommends that the Tourism Council collaborate with existing NGOs and the Church to integrate their tree-planting plans into a larger picture that address issues including church forests, sustainable agriculture, foreign species cleansing, and overgrown plantings. Meanwhile, there should be further research on understanding the Spiritual Forest to develop reforestation programs with specific goals. More generally, the Planning and Tourism offices should also explore other tourism and employment opportunities and visitor education efforts related to the tree-planting plans.

With an organization such as the Tourism Council guiding the reforestation efforts, a comprehensive survey

of trees and vegetation should be conducted to develop a maintenance schedule to ensure healthy tree growth. Collaborating with city planning and tourism officials, vegetation should be cleared or pruned to maintain access and views of points of interests. The organization will designate areas and suitable trees for planting efforts, enabling strategic reforestation which could also facilitate further international and local collaboration. There should also be ongoing research collection about local vegetation and planting conditions that would eventually be published and made available to local residents. There is also an opportunity to incorporate the landscape management into the tourism sector, as an alternative activity—visitors can help plant/maintain trees in Lalibela while learning about the physical and cultural significance of the landscape along with the option to purchase the book on local vegetation.



The churches and landscape of Lalibela must be managed together

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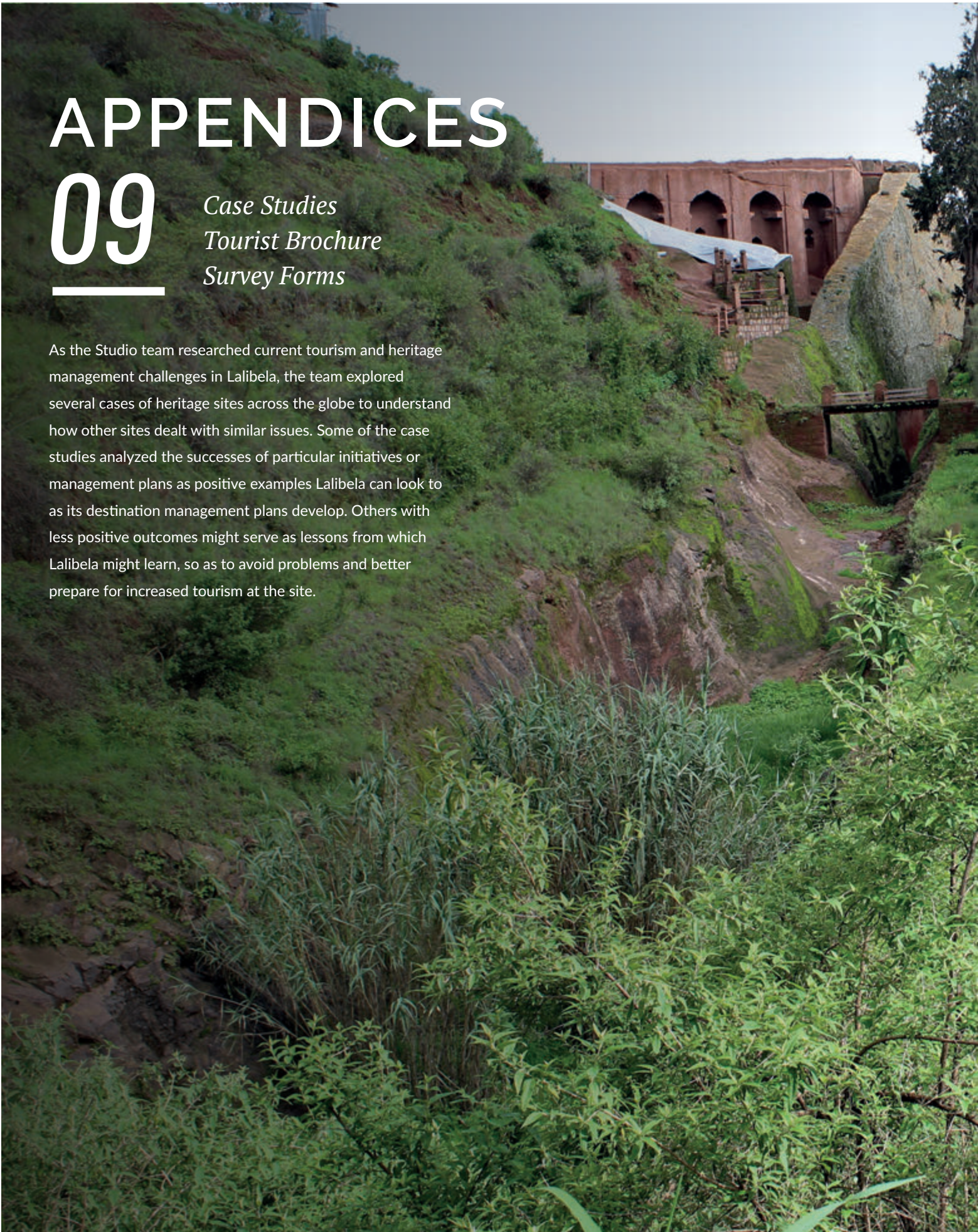
Tomb of Adam and entrance to first group of churches

APPENDICES

09

Case Studies
Tourist Brochure
Survey Forms

As the Studio team researched current tourism and heritage management challenges in Lalibela, the team explored several cases of heritage sites across the globe to understand how other sites dealt with similar issues. Some of the case studies analyzed the successes of particular initiatives or management plans as positive examples Lalibela can look to as its destination management plans develop. Others with less positive outcomes might serve as lessons from which Lalibela might learn, so as to avoid problems and better prepare for increased tourism at the site.





Lalibela landscape and church

TEMPLE OF THE SACRED TOOTH RELIC

Location: Kandy, Sri Lanka

Dating back to the sixteenth century, the Temple of the Sacred Tooth was designated as a World Heritage Site as part of the Sacred City of Kandy in Sri Lanka. Housing a relic that is said to be the tooth of the Lord Buddha, the temple is an active site for religious pilgrimage as well as a popular cultural tourism destination.

Mid-to-late August is the peak season of this site, when the annual procession, known as Esala Perahara, is celebrated to invoke the blessings of the Buddha to give farmers rain to cultivate their crops. For ten days, over a million domestic and international visitors come to see dressed elephants carrying the sacred tooth relic through the city streets.

Aware of the different expectations and potential conflict of interests between the pilgrims and secular (or non-Buddhist) tourists, the Sri Lankan government adopted the Sacred Area Planning schemes to inform and instruct the on-site management. As Lalibela is an important pilgrimage destination, lessons can be learned from this case study.

Similar to Lalibela, all visitors of the Temple of the Sacred Tooth Relic are required to cover their shoulders, wear garments below the knees, and walk bare foot. To assist visitors to show respect for the local culture, the temple administration provides donation-based shoe drop services just before the doorway of the temple. Formal and informal shawl borrowing services are also easily accessible at the entrance for a modest payment.

The administration also built separate ticket offices for local and international travelers. With the abundance of foreign currency exchange vendors, international travelers can conveniently exchange money into the local currency to meet the entrance fee (costing around \$6.70 US dollars). Even though the entrance fee is free for Sri Lankans, the distribution of the tickets ensures the accurate accounting of

domestic visitors for statistical purposes. Meanwhile, since pilgrimage to Kandy, Sigiriya, Anuradhapura, Polonnaruwa, and Dambulla is a trip that almost every Sri Lankan has taken at least once in his/her life, the tickets become a meaningful souvenir to remind local pilgrims of their visit.

Due to the site's dual objective of being both a religious site and a tourist attraction, the administration implemented a site plan to accommodate the needs of both the religious pilgrims and the tourists. For example, sections of the temple are cordoned off by preexisting railings to create a space for pilgrims to worship and meditate. Additionally, along the periphery of the temple's interior, space is dedicated along the walls for worshipers to sit and pray. At the same time, ropes were installed as barriers to separate the incoming tourist from these dedicated worship areas. The ropes also create a queuing line for the tourists to follow, as the line snakes around the temple. Finally, respecting the religious significance of the relic itself, the administration instituted a no-photo policy in the immediate area of the relic. However, at a distance of 20 meters away, tourists are allowed to take pictures of the relic. For those tourists who desire to have an up close picture of the relic or at least a view, they are furnished with a complimentary English brochure and DVD upon payment of the entrance fee to the temple.

The Temple of the Sacred Tooth Relic can be an example of how to manage tourism and pilgrims with ropes and barriers to separate spaces for tourists and religious users. In Lalibela, this could help alleviate some of the concerns of tourists' respect of the sacred spaces while still balancing tourism, a huge economic driver of the city, with its living heritage at the churches.



Due to the site's dual objective of being both a religious site and a tourist attraction, the administration implemented a site plan to accommodate the needs of both the religious pilgrims and the tourists.

SLOVENIA BEEKEEPING ASSOCIATION

Location: Slovenia

Beekeeping in Slovenia is one of the country's oldest traditional crafts and a contributing component of the economy. Every four people in 1000 are living on beekeeping related employment. Slovenia is the only European Union Member State to have protected its native bee, the Carniolan species. The honey is not only used for eating, but it is also widely used for medical and cosmetic purposes. In addition, beeswax is also used to make candles (Slovenia.si 2016).

In 1959, several highly reputed honey farmers founded an apicultural museum in Radovljica. Here, tourists learn about the history of beekeeping in the region. In addition, the museum also acts as a spa where visitors can enjoy the benefits of apitherapy. Beekeepers place beds within chambers connected via bee-proof ducts to adjacent beehives, allowing guests inhale the healing warm beehive air. This technique of regularly inhaling the exhaust of a beehive is believed to reduce pollen allergies. Also, in the bee house, visitors can enjoy an organic honey massage or thermotherapy while listening to bee buzz (Radlovica Tourism 2016).

Api tours combine the country's distinctive heritage and rich beekeeping tradition. Slovenia is the only country to certify its apitourism service providers with an Apitourism Certificate of Excellence. In addition, apitourism also embraces artisans, queen bee breeders, beekeeping ethnography collections, open-air museums and beekeeping education routes, apitherapists, beehive front panel painters, honey confectioners, beeswax candle-makers, honey-bread and honey-pastry bakers, honey beverage producers, natural api-cosmetic and care product makers, and specialist gift makers.

Beeconomy is a new economic activity on the rise and apitourism is part of the broader green economy that Slovenia has strived to establish. Apimondia, International Federation of Beekeepers' Associations, and ApiRoutes, who provides bee-related travel experiences, are taking a leading

role in promoting and encouraging the development of apitourism worldwide (Apimondia 2016) (ApiRoutes 2016).

Lalibela can learn from Slovenia's apitourism and its apicultural museum. Lalibela is currently building a honey museum to showcase the role of honey both as an important product in the city used in food, drink, and for medical purposes, as well as a significant aspect of the area's history. Slovenia's diverse activities surrounding honey and bees for locals and tourists are positive examples of ways to attract tourists to the new honey museum.



Slovenia's diverse activities surrounding honey and bees for locals and tourists are positive examples of ways to attract tourists to the new honey museum.

THE VEGA ARCHIPELAGO

Location: Norway

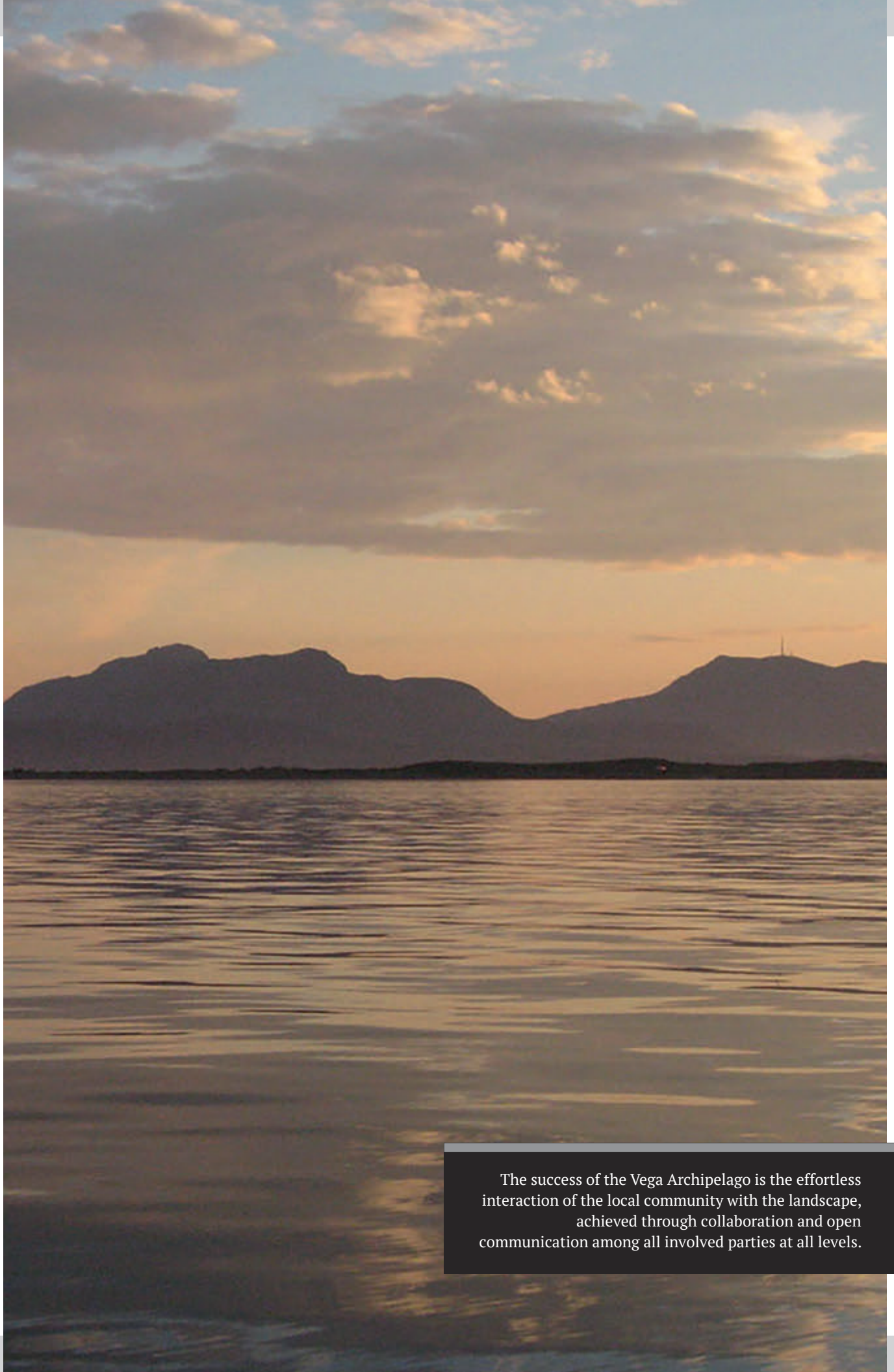
The Vega Archipelago is made up of dozens of islands in the Norwegian Sea. The local fishermen and farmers have lived harmoniously with the environment since the Stone Age, maintaining a traditional, simple, and sustainable way of living. In 2004, it was listed as a World Heritage Site (UNESCO World Heritage 2016c).

A defining feature of the site is the level of community interaction with the natural environment—striking a delicate balance between dependence and preservation. Since the ninth century, livelihoods of inhabitants have centered around fishing, farming, and the harvesting of eider duck down feathers. The local people build and maintain shelters and nests for the wild eider ducks every spring and protect them from any unnecessary disturbances throughout the breeding season. Once the eider ducks migrate for the winter, locals collect the eiderdown left behind in the nests to make down coats and other down products. The down collection and production industry is a major component of the local economy. This sustainable approach to the environment has preserved the biodiversity and natural landscape for over a 1,500 years. The collection of islands is also home to almost 228 other species of birds.

A major takeaway from the Vega Archipelago is integrated management that preserves the local way of life while protecting the local biodiversity. The heritage site is comprised of 103,710 hectares of cultural landscape, of which 6,930 hectares is open space. About 22 percent of the land surface is safeguarded by the Nature Diversity Act of 2009. In addition, five nature reserves, four bird sanctuaries and one protected landscape have been designated by Royal decrees, further protecting the natural landscape and wildlife. The Municipal Plan for Vega integrates the protection of the heritage site with the designation of a core and buffer zone with land use regulations, extensive documentation of ancient

practices, and continued mapping of local biodiversity. In addition, landowners, authorized users, the Vega Borough Council, the County Council, and national government authorities work together to preserve the cultural landscape of the heritage site. Great effort is put into promoting the compatibility and integration of the World Heritage site and the community's values. The government prioritizes and helps to fund management, dissemination, restoration, and local value creation efforts within the Vega Archipelago, which includes the continued passing of information and values to future generations and visitors through “hands-on” projects, research, guided excursion, and information distributed through the internet.

Currently Lalibela is at the crossroads in developing its tourism industry. A well developed destination management strategy with clear delineations of responsibility regarding the heritage site is necessary. Regarding Lalibela, the federal, regional, and local governments have some degree of authority, however, protocols and guidelines are still lacking given the fairly recent establishment of the Ethiopian Ministry of Culture and Tourism. The success of the Vega Archipelago is the effortless interaction of the local community with the landscape, achieved through collaboration and open communication among all involved parties at all levels. That cohesive approach has yet to manifest in Lalibela despite all the local and international involvement in the city. There needs to be communication and consolidation of the stakeholders in Lalibela to work together in preserving the physical and intangible values of the heritage site.



The success of the Vega Archipelago is the effortless interaction of the local community with the landscape, achieved through collaboration and open communication among all involved parties at all levels.

MACHU PICCHU

Location: Peru

The Historic Sanctuary of Machu Picchu in Peru is a cultural and natural heritage site that contains the archaeological remains of the fifteenth century Inca civilization. The site is integrated within its mountainous landscape and is situated between the Peruvian Andes and the Amazon Basin. It is most well-known for its archeological monument “La Ciudadela,” or the Citadel, and the entire site includes approximately 200 stone structures with various purposes, such as religious, ceremonial, agricultural, or astronomical. In addition to broadening the knowledge of the Inca’s religious practices, the site’s complex plan of roads and irrigation systems is significant for its urban planning and agricultural technologies. The site was abandoned in the sixteenth century when the Spanish conquered the Inca Empire and was rediscovered in 1911. Machu Picchu was designated a World Heritage Site in 1983 (UNESCO World Heritage 2016d).

The main lesson from Machu Picchu in connection to Lalibela is the effects of tourism on the site, the surrounding city, and the community. Visitation is now at over a million people a year at Machu Picchu, and it stands to be a victim of its own success. Increased tourism has damaged the fabric of the site, affected the way visitors move through the site, and caused the expansion of the town surrounding the site in order to support visitors.

For cities where tourism makes up a huge part of the economy, it can be tempting to promote the sites and allow for increased numbers of tourists each year. However, large increases in tourism can result in deleterious changes as well. The actual fabric of the Lalibela churches could be damaged if more tourists come, as has already happened at Machu Picchu. In addition, Lalibela’s churches are small and some of the pathways are precarious, which could cause circulation and safety issues. The urbanization and development that derives from this increase needs to be managed properly, or

there will be issues of uncontrolled development as seen in Machu Picchu.

Increased development can also affect the Outstanding Universal Value of a site. For example, the Peruvian authorities sought to install cable cars at Machu Picchu to help accommodate tourists. However, the proposal would have negatively impacted the heritage values of the site and was not supported by the World Heritage Committee. Cable cars have also been proposed for consideration at Lalibela, which could lead to similar problems. Therefore, Lalibela can learn from the issues and challenges at Machu Picchu in order to balance tourism with maintenance of the city and the site, in order to sustainably develop while also preserving its heritage.

An additional way in which Lalibela can learn from Machu Picchu is through its management. Machu Picchu has had issues implementing its management plans for over 30 years since it became a World Heritage Site. Even after UNESCO assisted in the development of these plans through workshops, facilitating the process of governmental approval, the subsequent implementation by the government has failed to operationalize many aspects of these plans. A key lesson for Lalibela is to invest in planning through to implementation that includes sufficient appropriation of both the human and the financial resources required.



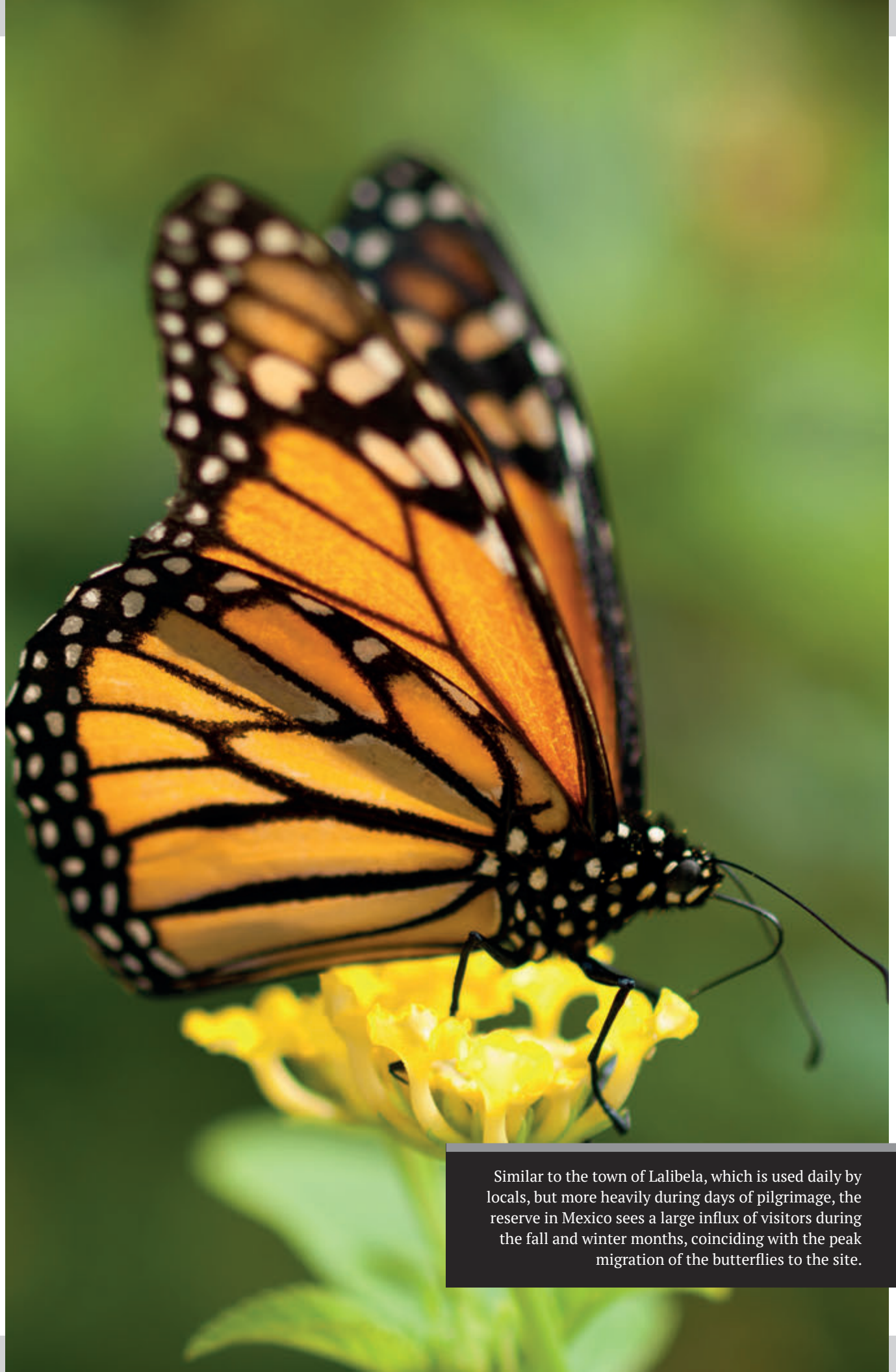
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MONARCH BUTTERFLY BIOSPHERE RESERVE

Location: Mexico

The reserve was placed on the World Heritage List in 2008. The Monarch Butterfly Biosphere Reserve (MBBR) is a seasonal area. Similar to the town of Lalibela, which is used daily by locals, but more heavily during days of pilgrimage, the reserve in Mexico sees a large influx of visitors during the fall and winter months, coinciding with the peak migration of the butterflies to the site. From mid-to-late November until the end of February, approximately 70 percent of the eastern population of monarch butterflies travels and spends their winters hibernating in the Sierra Madre Mountains. However, due to human interference—logging and a large influx of seasonal visitors—the monarch population has become threatened. Therefore, a management plan was published in 2001 by the MBBR to situate more guards on the premises to keep an eye out for illegal logging, as well as to support a variety of ongoing and proposed uses that are ecologically and culturally sustainable (UNESCO World Heritage 2016e). MBBR and additional organizations, such as the Monarch Butterfly Trust Fund and the World Wildlife Fund-Mexico, are working with federal and state institutions and programs, as well as NGO's and academic institutions.

The Monarch Butterflies sanctuary has additionally become a place for opportunity in the ecotourism sector. Organizations, such as the RBMB and CONANP have placed a lot of investment into visitors facilities and the surrounding villages of the reserve to promote the area as a place for year round use. The MBBR and many others have started providing locals with education and training in conservation efforts and monitoring skills, to help them realize the economic benefits of the monarchs, as well as the area in general, deterring them from logging the trees for profit. The promotion of ecotourism in the region has helped to promote conservation, and encourage active involvement in ecosystem and community improvement by locals and visitors alike. Lalibela, which is only beginning to explore the potential as a base for ecotourism in the Ethiopian highlands, stands to benefit from many of these lessons.



Similar to the town of Lalibela, which is used daily by locals, but more heavily during days of pilgrimage, the reserve in Mexico sees a large influx of visitors during the fall and winter months, coinciding with the peak migration of the butterflies to the site.

TIKAL

Location: Guatemala

Tikal is located in the Northern Region of Guatemala, in the Department of Peten. Tikal was designated a World Heritage Site in 1979 for both natural and cultural criteria. The site of Tikal is located within the Amazon forest extending into Mexico and Belize. Historically the site contained 400 hectares of monumental architecture including palaces, temples, ceremonial platforms, and small- and medium-sized residences. Tikal's proximity and relation to other urban centers also contributes to its significance specifically in relation to Teotihuacan, Calakmul, Copan, and Caracol (UNESCO World Heritage 2016f).

Currently the site generates 200 million US dollars per year and thousands of jobs. The site itself is managed by government entities and NGOs focused on developing resource-based, sustainable ecotourism. In 1990, Guatemala's government established the Maya Biosphere Reserve. The biosphere is divided into protected areas, buffer, and multi-use zone. As part of its ecotourism efforts it has implemented the Rainforest Alliance's SmartWood Program in an effort to preserve natural resources but allow local people livelihoods; the program uses a process of business certification. Some of the biggest issues confronting Tikal today are the growing population, the lack of staff and resources to reinforce sustainable practices and protected zones, and the limited access to the site.

Lalibela can learn from the case of Tikal's incorporation of buffer zones to protect the site while still allowing use by the local community. In addition, its SmartWood Program to certify sustainable products, protect natural resources, and train businesses provides a good model that could be effective in Lalibela as the community works to manage the recovery of the forest both on site and in the surrounding hill country. In addition, this collaboration between government and NGOs to create sustainable practices is an effective way to implement and fund programs.



Some of the biggest issues confronting Tikal today are the growing population, the lack of staff and resources to reinforce sustainable practices and protected zones, and the limited access to the site.

PETRA

Location: Jordan

Famous for its rock-carved architecture and water conduit system, Petra is an historic and archaeological city in southern Jordan. Two-thousand years ago, Petra stood at the crossroads of the ancient Near East; the city flourished, benefiting from the growing trade network. Petra has been a UNESCO World Heritage Site since 1985. And in 1993, Jordan set aside 264 square kilometers containing the ancient city of Petra and its monuments.

Petra suffers from a host of threats including the collapse of some of the structures, flooding, inadequate rainwater drainage, erosion, improper restoration efforts, and unsustainable tourism. To mitigate these threats, the Petra National Trust (PNT) was established in 1989 to promote the preservation, protection, and conservation of the UNESCO World Heritage site of Petra (Petra Development and Tourism Region Authority, 2016). In addition, the Petra Archaeological Park (PAP) was established in 2001, encompassing the archaeological sites and the natural terrain; they were also granted administrative and financial autonomy in 2007.

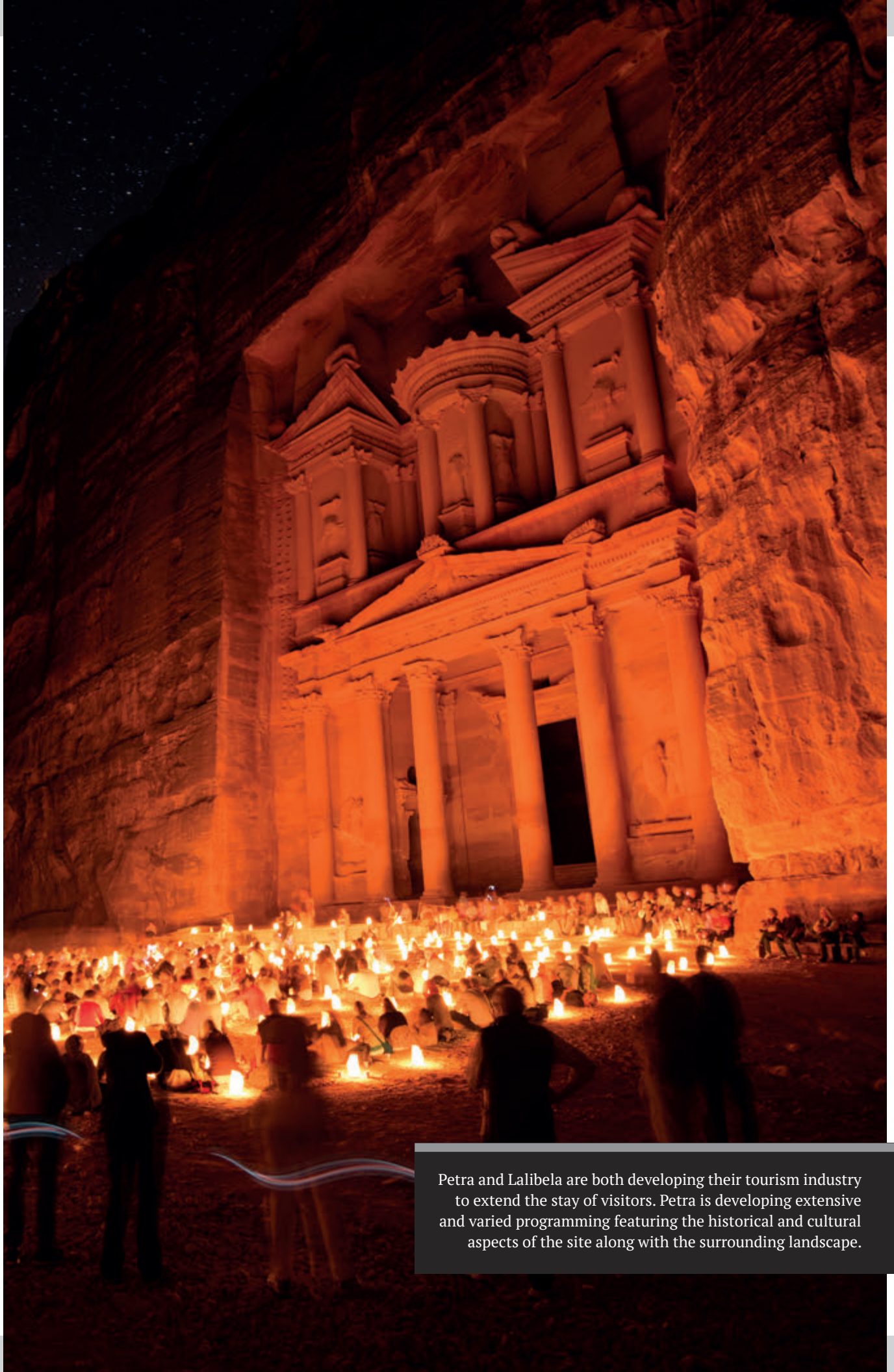
In 2007, tourism substantially increased when Petra was included in the “New Seven Wonders of the World” campaign, raising international awareness and interest in the heritage site (Xinhuanet 2007). This influx of tourism has led to many improvements in the visitor experience. PAP has updated their website to raise awareness about the site, providing necessary information, visit planning, potential activities, and the surroundings—preparing potential tourists for their stay. Orientation and access is crucial, so a visitor center by the main entrance and signs throughout the site were installed, providing information and maps, how to explore the area, points of interests, and rules and guidelines.

The main goals of PNT and PAP are retaining visitors for an extended length of stay and leveraging its global appeal. Ultimately, PNT and PAP aim to establish Petra as a

“do-it” destination, offering the opportunity to learn more, interact and experience the ancient and living history of the heritage site with planned activities, including the opening of a local museum along with the promotion of local handicrafts, walking trails, and hot air balloon tours (USAid n.d).

There are many parallels between Petra and Lalibela. Starting in the mid-1980s, the Jordanian government embarked on the resettlement of those living within the site, a controversial measure of protection that was similar to the choices made much more recently in Lalibela. Currently, the protection and preservation of the architecture and water network in Petra is primarily the responsibility of PNT and PAP, which avoids much of the inter-organizational ambiguity of site preservation that is seen in Lalibela. Petra and Lalibela are both developing their tourism industry to extend the stay of visitors. Petra is developing programming featuring the historical and cultural aspects of the site and surrounding landscape. Lalibela is also developing programming centered around the history of the city and the churches, primarily with the honey museum. Learning from the example in Petra, Lalibela can develop its tourism activities to attract visitors.

Another parallel is the societal impacts of growing tourism in both communities. There doesn't appear to be equity in the tourism industry: in Petra the tribal network remains a dominant force—from which women are often excluded; in Lalibela, much of the benefits of tourism are directed to the Church and the hotels and restaurants. In addition, some Petra residents without other means of employment are engaging in illegal activities linked to tourism (e.g. deceiving tourists, selling fake or forbidden objects), which should be a warning to Lalibela about the distribution of the benefits of tourism. Given the similarities between the heritage sites and their communities, Lalibela can benefit from understanding how Petra manages and grows tourism.



Petra and Lalibela are both developing their tourism industry to extend the stay of visitors. Petra is developing extensive and varied programming featuring the historical and cultural aspects of the site along with the surrounding landscape.

OLD CITY OF HAVANA

Location: Cuba

Old Havana was established in 1519 by the Spanish and became an important city for shipbuilding in the seventeenth century. Today, the city retains much of its original urban layout and continuity of architectural forms (UNESCO World Heritage 2016g). The city was designated as a World Heritage Site in 1982, which included the entire area within the original walled city.

The Office of the Historian, an autonomous organization founded by the government, continued to restore Old Havana after the collapse of the Soviet Union in 1991 and focused on the rehabilitation of the inhabitants of the Old Havana and the City as a whole (Rodríguez 1999, 31). Although, some residents of Old Havana were relocated in order to preserve the heritage, in 1999 the Office of the Historian was ardent about keeping the resident population in Old Havana and maintaining their quality of life to prevent gentrification and displacement.

Havana is facing additional problems with its intense dichotomy between the luxuriously restored architecture in tourist areas in Old Havana and surrounding residential neighborhoods (Hill 2007, 78). Current and pressing issues include how to handle possible increased social exclusion as people cannot afford to upkeep houses that can now be sold at market value, how to cope with a rapid influx of tourism, and how to preserve Havana as a distinctly Cuban city. This could be an important concern for Lalibela, which is also facing growth and rapid development and might start to see similar issues of exclusion.

The Planning Authority of Havana is now concerned with Havana's future due to the recent political changes. This concern is referred to as "the tsunami," which has the potential to bring sea-changes in the city on all fronts: the influx of American tourism, capitalistic pressure, and cultural influence that Cuban's have been expecting as the relations between

the US and Cuba improve. Lalibela has also dealt with this increased growth of tourists and urbanization, and is projected to continue dealing with this similar kind of "tsunami" of tourists, so the experiences of the Office of the Historian provide a valuable lesson.

Lalibela might benefit from an organization like the Office of the Historian in Old Havana. This organization could also be self-funded through tourism, a distinct entity that would collaborate with Church and Tourism authorities to focus on the sustainability and preservation of the heritage site. Such an office might serve as a body that specifically manages the protection of Lalibela's tangible and intangible heritage, reducing the confusion of responsibility among the Church and government entities. This would also make Lalibela less reliant on international organizations when there are issues with the conservation of the sites. This office could also be funded by the tourism industry by controlling transportation, setting up events and activities for tourists, and receiving tourist fees that would be used to help Church officials run and upkeep the site, provide more community outreach and training, and also be used for the preservation of the churches. Old Havana could be a possible model for Lalibela, having an entity in place that would allow for more transparency of tourist generated funds, more community development and outreach, and more localized control over the tourism industry.



Lalibela might benefit from an organization like the Office of the Historian in Old Havana. This organization could also be self-funded through tourism, a distinct entity that would collaborate with Church and Tourism authorities to focus on the sustainability and preservation of the heritage site.

OLD TOWNS OF DJENNÉ

Location: Mali

Located in Mali, the Old Towns of Djenné are home to renowned architecture that has garnered international attention, such as the Great Mosque of Djenné, one of Africa's most revered mosques. Apart from its status as a pilgrimage destination, Djenné is also largely celebrated for being a living heritage site where locals reside in vernacular housing of earthen construction. As validation of its architectural significance, Djenné was designated as a World Heritage Site in 1988, and since then, it has attracted multinational attention to help preserve its historic resources, which date back to 250 B.C.

Throughout the town of Djenné, the vernacular earthen architecture is an integral part of the site, and its significance is recognized in the World Heritage's designation reports. Unfortunately, due to seasonal flooding, the traditional earthen houses are threatened by water damage and deterioration. Throughout the years, the earthen houses underwent numerous alterations, both to accommodate the daily needs of its inhabitants and to repair the water damage and deterioration. To alleviate the damage, the Dutch government funded and led a conservation campaign in 2006 to identify the important structures and restore them based on the pre-alteration historic photos. However, this campaign was not well received by the local residents, who sought a restoration project to improve their living conditions by installing modern amenities, such as improved plumbing and electricity, instead of preserving the aesthetic and historic character of the structures.

Lalibela confronts a similar challenge. Lalibela's vernacular architecture is in the form of thatched, circular gojos, which are an integral part of the site. When the World Bank-sponsored Ethiopian Sustainable Tourism Development Program sought to improve infrastructure at Lalibela, it had to confront similar issues of a nearby local population. A study

was undertaken in the areas of Gabriel Safar, Adi Shadey, and Sabat Woyira, where a majority of the gojos are located and where more modern, informal housing had also been constructed. Consequently, these areas were deemed too overcrowded due to encroachment by the newer residential houses and buildings. Arguably, this overcrowding made it difficult for tourists to appreciate the beauty of the traditional architecture. As a result, families in the encroaching houses and buildings were relocated and the newer structures were demolished. Eventually, because of the lack of maintenance, many of the older gojos that were left in situ because of their significance have since collapsed. Questions have risen as to the future of the abandoned gojos, and whether to upgrade them to accommodate modern use.

Apart from the restoration dilemma of the vernacular buildings, Djenné faces larger threats from regional turmoil. Because of its strategic location, Djenné has been the target of Islamist militants, as well as volatile separatist politics in the north since 2014. Notably, in 2004, the Mali government invested large amounts of money in Djenné to improve the satisfaction of international tourists with the hope of gaining benefits from the tourism economy in the future. However, the revenue was never realized due to the drastic decrease of the number of foreign visitors after the civil unrest. Ethiopia has also experienced nation-wide political unrest. Even though the country is still relatively safe for foreign travelers, a prolonged period of civil unrest is likely to disrupt these connections established between Ethiopia and the wider world.



Throughout the town of Djenné, the vernacular earthen architecture is an integral part of the site, and its significance is recognized in the World Heritage's designation reports.

TOURIST BROCHURE

Tips for attire, interacting with the community and other activities on site. Remember to be respectful of the local customs and traditions.

ATTIRE:

- **Footwear:**
 - When exploring the site, keep in mind the terrain! Hiking boots or sneakers are recommended, however be aware that you are required to remove your shoes to enter the churches
- **Rain gear:**
 - Waterproof shoes and raincoats are highly recommended during the rainy season (April-September).
- **Clothing:**
 - Cover shoulders, upper arms and legs while visiting the site. Knees should not be showing!!
- **Inside Churches:**
 - Upon entering the churches, women **must cover their heads with a scarf.**
 - Remove your hat and footwear upon entering the church (guys, you too!)



INTERACTIONS WITH LOCALS:

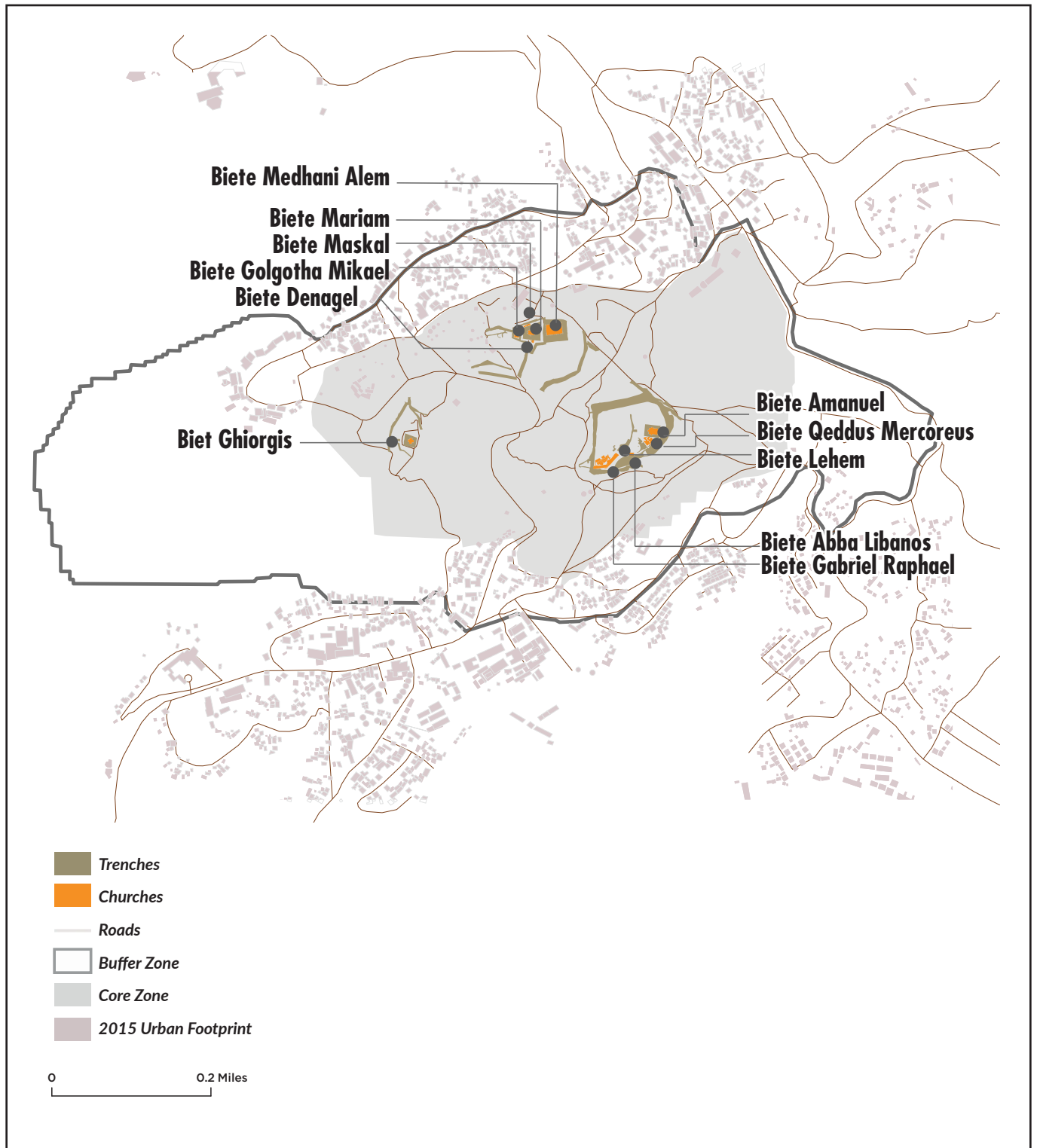
- Remember these are active churches, frequented by pilgrims. Please be respectful of their space and activities on site.
- Eating is a communal activity throughout Ethiopia. Keep this in mind when reaching for a snack around Lalibela.
- Please refrain from giving money to the locals. Contributions to the church, as well as supporting local businesses (shops, restaurants, coffee houses, etc) will better serve the community.
- Bajaj are a very convenient mean of transportation, however regulation is lax. We caution you to negotiate fares prior to getting in the bajaj, and be mindful the maximum capacity is three passengers, **THIS IS FOR YOUR SAFETY!**
- TIP is NOT included in your bill. Tipping ranges between 10 and 15 percent.

CAUTIONARY ADVICE

- Most establishments DO NOT accept credit and debit cards; MAKE SURE you have enough CASH (in Birr). ATMs are not regularly stocked.
- Make sure to stay hydrated -- bring a bottle of water with you at all times outside of the hotel.

OTHER ACTIVITIES

- Saturday Market, Don't forget to try Lalibela's Local Honey!
- Visit nearby church of Naktulab (monastery and museum)
- Hike to Asheten Mariam
- Coming Soon: Honey Museum!
- Cultural Center
- Taste Tej (Honey wine)
- Enjoy a night of Eskista (Traditional Ethiopian Dance)
- Experience the Coffee Ceremony
- Check out the locally woven products.



SURVEY FORMS

Resident User Survey

Gender

- ☐ Male
- ☐ Female
- ☐ Other

What is your age?

- ☐ 18-29
- ☐ 30-49
- ☐ 50 or older

How often are you at the Lalibela churches?

- ☐ Less than 1 time per week
- ☐ About 1 time per week
- ☐ More than 1 time per week

How do you engage with or use the site?

- ☐ Religious purposes
- ☐ Work as a guide
- ☐ Work as a guard
- ☐ Church official
- ☐ other

How do you get back home from the churches?

- ☐ Bajaj
- ☐ Walked
- ☐ Other

If other form of transportation, explain:

Is this transportation in Lalibela affordable for you?

- ☐ Yes
- ☐ No

Where have you/will you eat or drink when you are visiting the churches?

- ☐ Hotel
- ☐ Restaurant/Cafe
- ☐ Bring food that doesn't need to be cooked
- ☐ Bring food to cook
- ☐ Not eating/drinking

Were you resettled?

- ☐ Yes
- ☐ No
- ☐ no response provided

Have the number of local users to the churches increased or decreased in recent years?

- ☐ increased
- ☐ decreased
- ☐ stayed the same
- ☐ do not know

Have the number of visitors/ tourists to the churches increased or decreased in recent years?

- ☐ increased
- ☐ decreased
- ☐ stayed the same
- ☐ do not know

Have there been any changes that have affected your use of the site in recent years?

- ☐ yes
- ☐ no

Are you satisfied with the current physical condition of the church compound?

- ☐ yes
- ☐ no

How do you benefit from the church compound?

- ☐ spiritually
- ☐ socially/social interaction
- ☐ economically

Are you satisfied with the current physical condition of the town?

- ☐ very satisfied
☐ satisfied
☐ somewhat satisfied
☐ not satisfied
☐ do not know

Are you satisfied with the current socio-economic condition of the town?

- ☐ very satisfied
☐ satisfied
☐ somewhat satisfied
☐ not satisfied
☐ do not know

Are you satisfied with the facilities for locals at/around the churches?

- ☐ very satisfied
☐ satisfied
☐ somewhat satisfied
☐ not satisfied
☐ do not know

How long does it take for you to get to the churches from home?

How long do you stay at the churches on a regular day?

How long do you stay at the churches on a regular day?

What was your favorite aspect of your visit to/experience of the church compound?

What could be improved about your visit to/experience of the church compound?

Notes:

SURVEY FORMS

Visitor User Survey

What country are you from?

Gender

- ☐ Male
- ☐ Female
- ☐ Other

What is your age?

- ☐ 18-29
- ☐ 30-49
- ☐ 50 or older

How did you learn about Lalibela?

- ☐ UNESCO World Heritage Site
- ☐ Friends/Family
- ☐ Online advertising
- ☐ Travel guide/ travel agent
- ☐ Other

If other, explain:

What is your purpose for visiting the site?

- ☐ Religious
- ☐ Eco-tourism
- ☐ Cultural Tourism
- ☐ Education/School related
- ☐ Business
- ☐ Other

Are you traveling independently, independently with a guide, or with a tour group?

- ☐ Independently
- ☐ Independently, but with a guide
- ☐ With a tour group

Is this your first visit to Lalibela?

- ☐ Yes
☐ No

How often to you visit Lalibela?

- ☐ More than 1 time per year
☐ Less than 1 time per year

Where are you staying in Lalibela?

- ☐ Hotel
☐ someone's home
☐ tent/camping
☐ n/a - day trip

How many nights are you staying in Lalibela?

- ☐ 0
☐ 1
☐ 2
☐ 3
☐ 4+

Did you book your own travel and accommodations for your visit to Lalibela?

- ☐ Yes
☐ No

If yes, how easy/difficult was it to make arrangements?

- ☐ 1 easy
☐ 2 some difficulty
☐ 3 difficult

If no, who booked your arrangements?

- ☐ Travel Agent
☐ Other

If other, explain

How did you get from where you are staying to the church site?

- ☐ Private van, bus, or minibus
- ☐ 3-Wheeled bajaj (Tuk-tuk) motor service
- ☐ Walked
- ☐ other

If other, explain:

Where have you/will you eat or drink in Lalibela?

- ☐ Hotel
- ☐ Restaurant/cafe
- ☐ somebody's home
- ☐ brought food
- ☐ Not eating/drinking

Have you done/will you do any shopping in Lalibela?

- ☐ yes
- ☐ no

Are you going to any religious/cultural/natural sites other than the Churches during your visit in Lalibela?

- ☐ yes
- ☐ no
- ☐ do not know

If yes, explain:

Are you satisfied with your experience at the churches?

- ☐ Very satisfied
- ☐ Satisfied
- ☐ Somewhat satisfied
- ☐ Not satisfied
- ☐ do not know

Are you satisfied with the facilities for visitors in town?

- ☐ Very satisfied
☐ Satisfied
☐ Somewhat satisfied
☐ Not satisfied
☐ do not know

Are you satisfied with your experience in the community?

- ☐ Very satisfied
☐ Satisfied
☐ Somewhat satisfied
☐ Not satisfied
☐ do not know

Are you satisfied with what you learned about the religious/cultural practices and heritage of Lalibela?

- ☐ Very satisfied
☐ Satisfied
☐ Somewhat satisfied
☐ Not satisfied
☐ do not know

What was your favorite aspect of your visit to/experience of the church compound?

What could be improved about your visit to/experience of the church compound?

What other activities or interests might you want to explore in Lalibela? (check all that apply)

- ☐ Traditional Ethiopian crafts
☐ Food or cuisine related activities
☐ Weekend market experience
☐ Activities related to local honey production
☐ Activities related to local coffee production
☐ Other

If other, explain:

Where will you be going after Lalibela?

- ☐ Home
- ☐ Traveling elsewhere in Ethiopia
- ☐ Other

If other, where?

Notes:

10 IMAGE CREDITS

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Page 35: Stacy Tomczyk (left and right)

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Page 39: WMF Lalibela 1965 (left)

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Page 54-55: Cheng Liao (top right)

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Page 63: Cheng Liao (top); Stacy Tomczyk (bottom right)

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Page 71: Cheng Liao (top right); Stacy Tomczyk (bottom right)

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