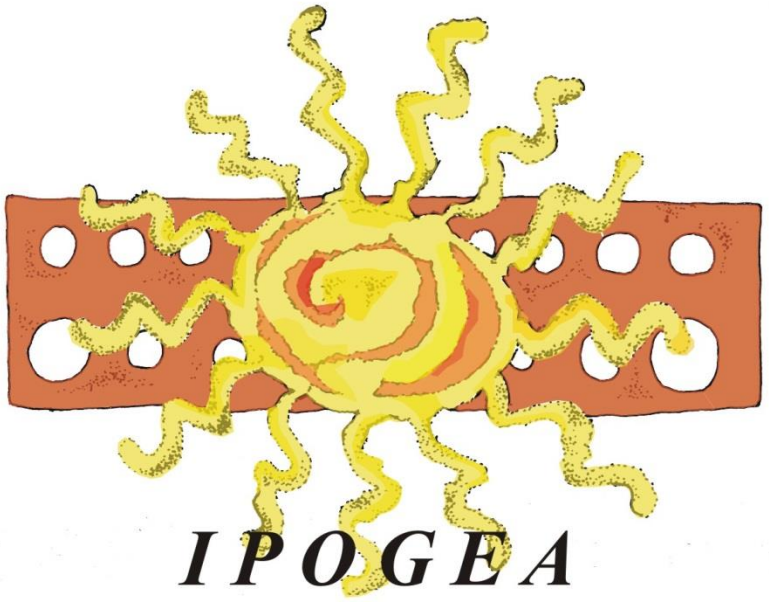
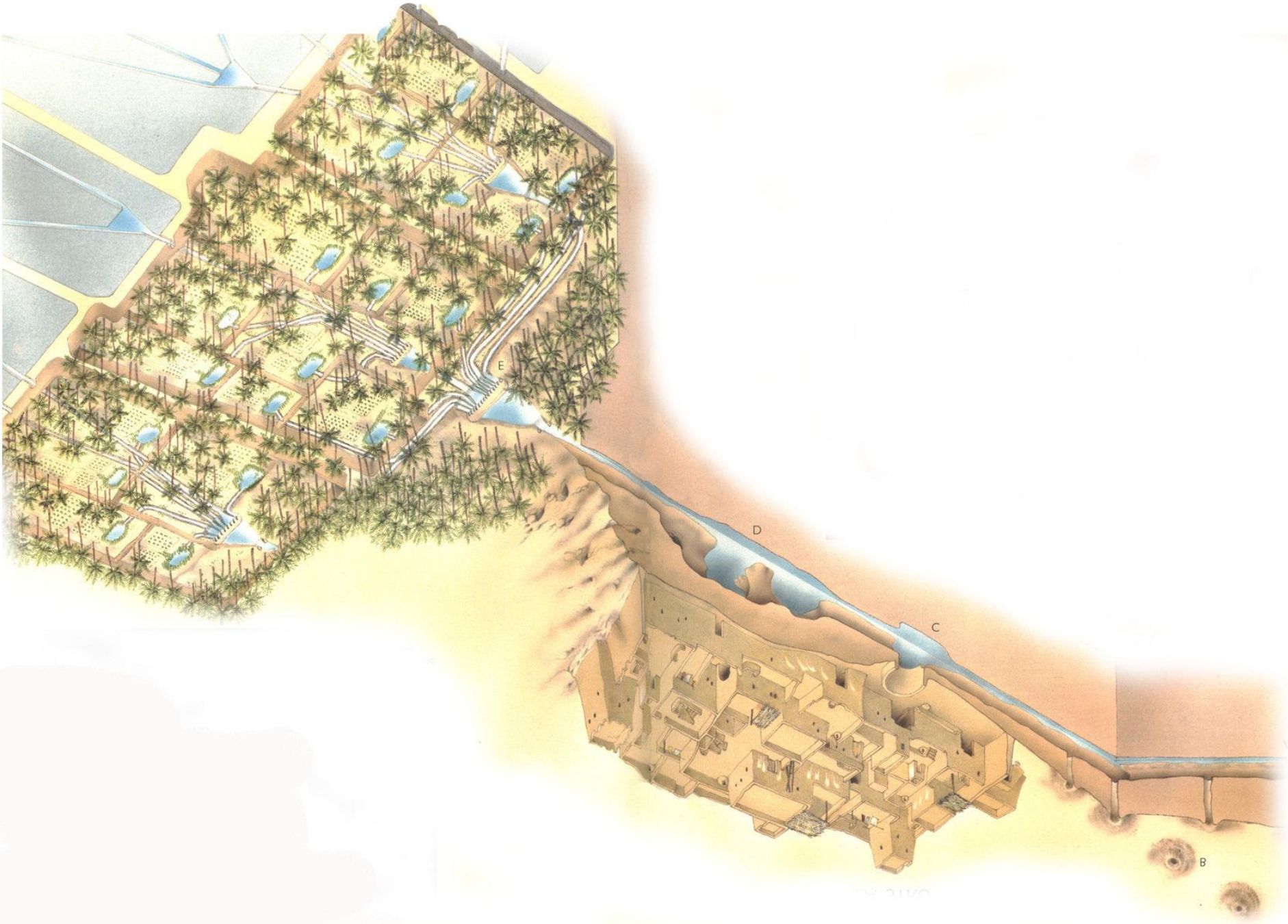


I P O G E A

Research Centre on
Local and Traditional Knowledge

www.ipogea.org *www.laureano.it*
ipogea@ipogea.org

Pietro Laureano architetto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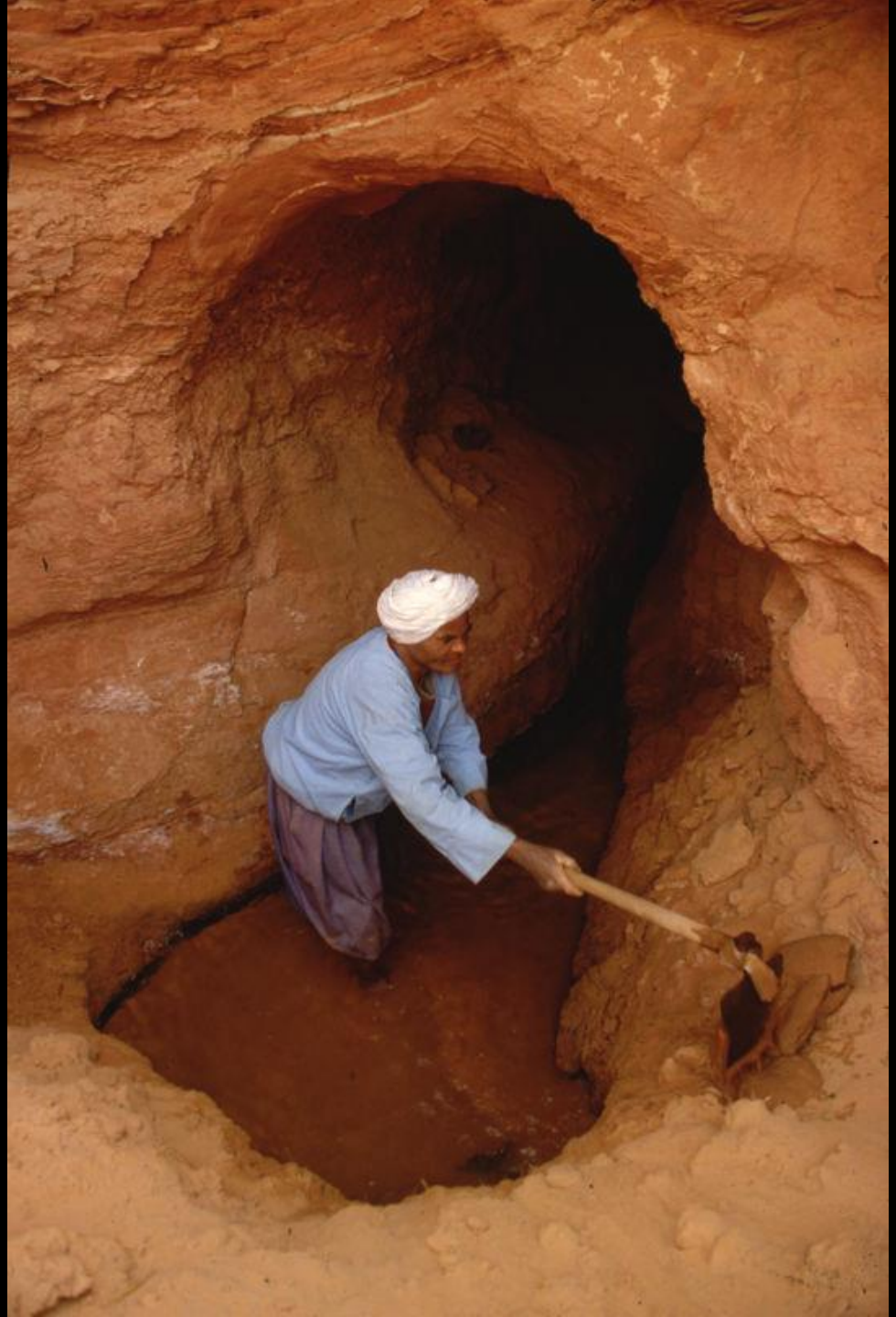

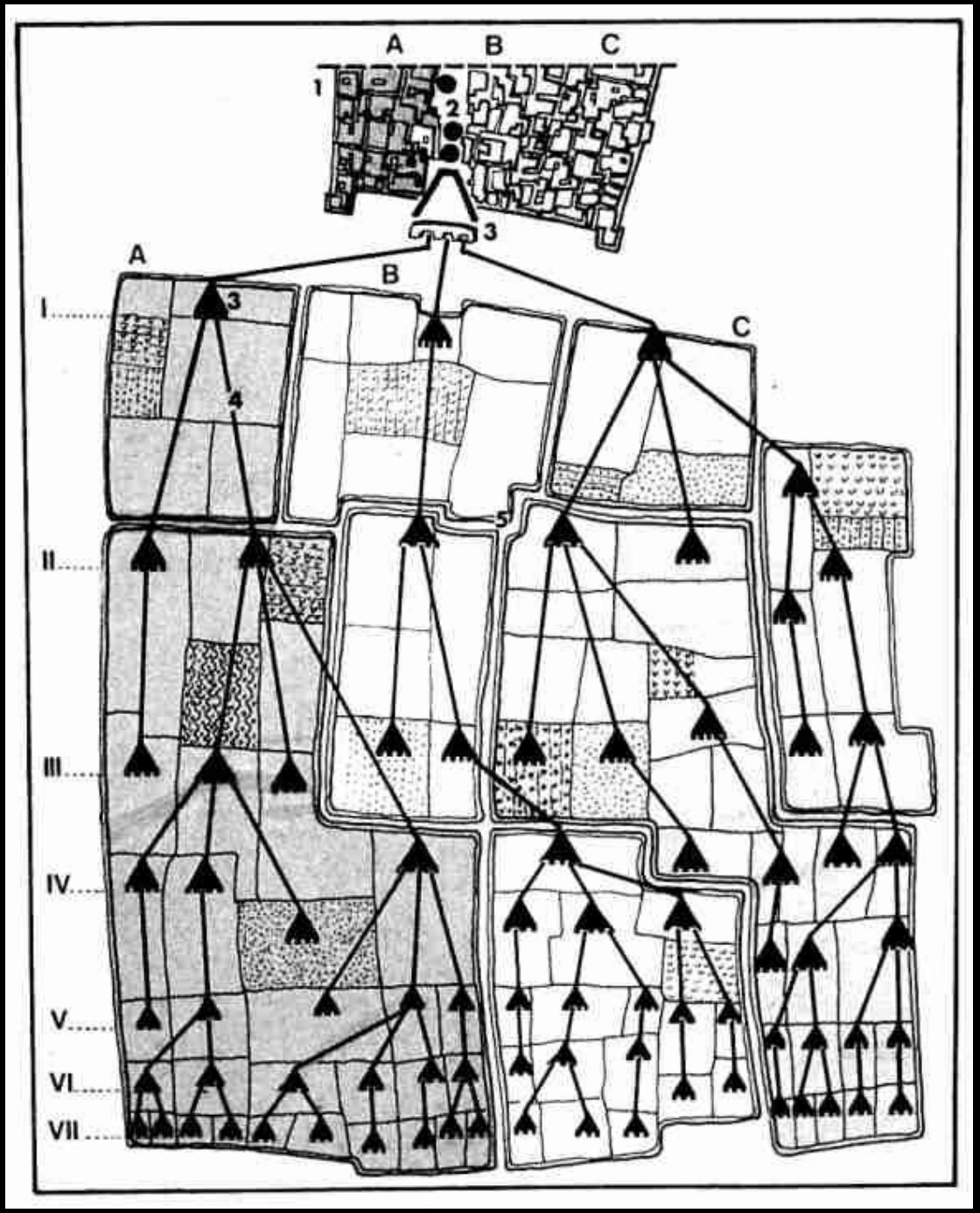
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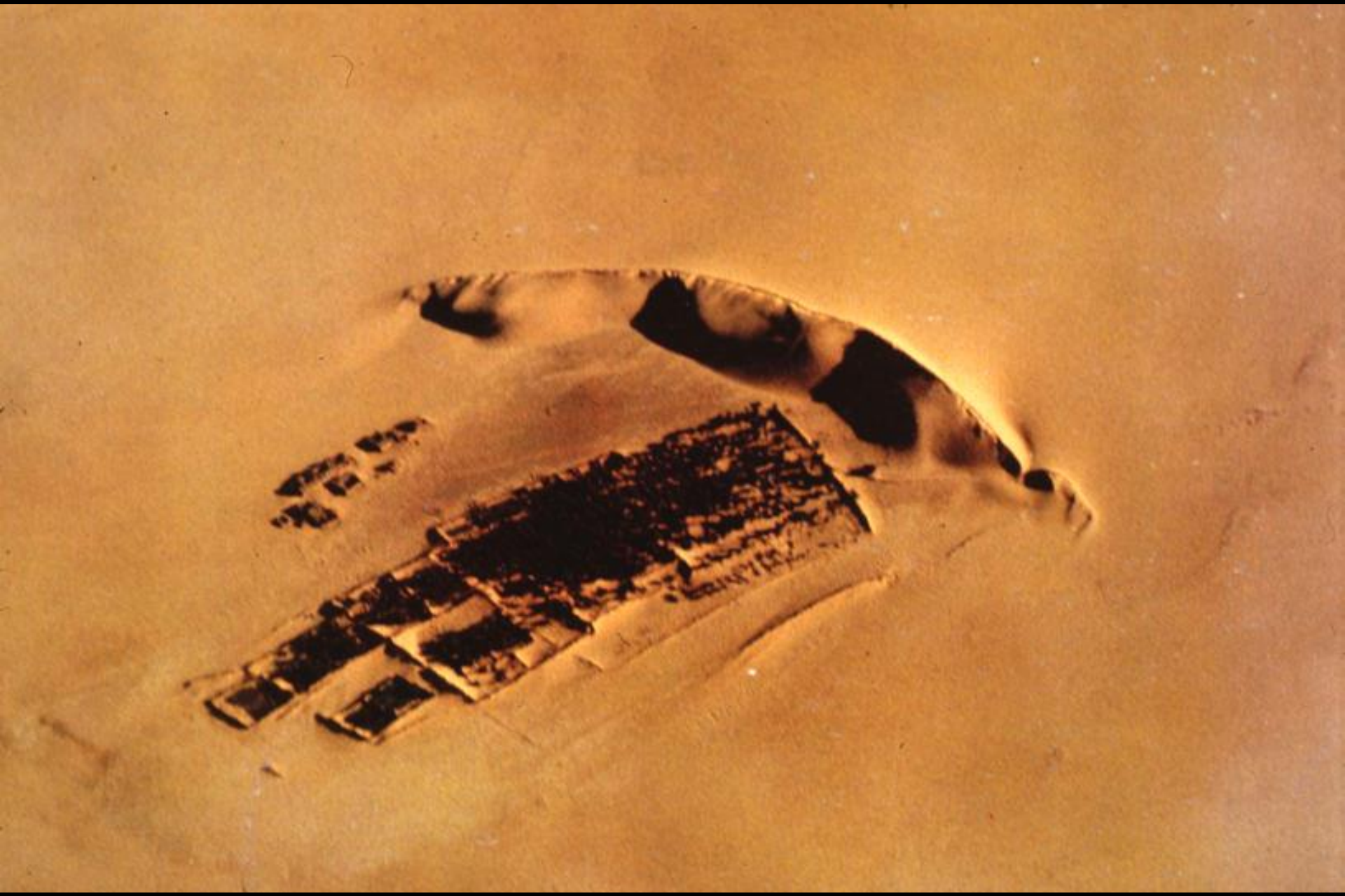
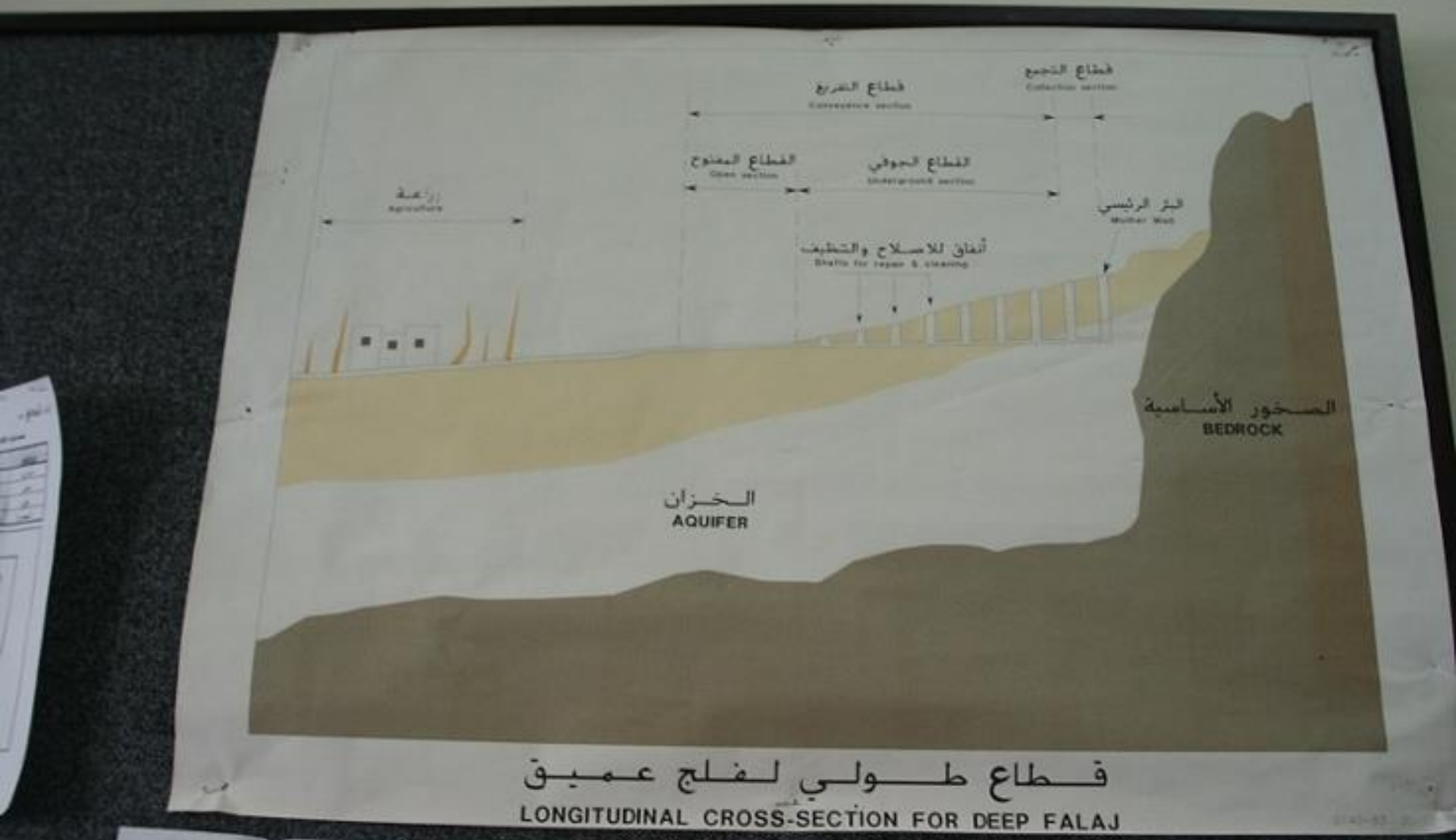
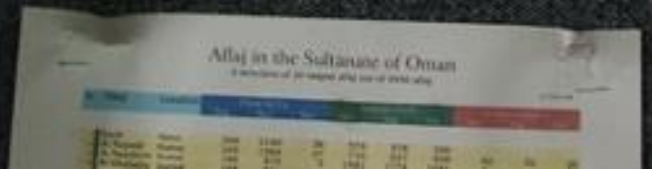



ABITATO IN TERRA CRUDA
Acqua di condensazione e precipitazioni occulte
ACQUE SOTTERRANEE
Rifiuti
Apporto di umidità
Tronchi di palma
Terra cruda
Materiali da costruzione
Cibo
Humus
PALMETO
Agricoltura a tre livelli



قطاع طولي لفلج عميق

LONGITUDINAL CROSS-SECTION FOR DEEP FALAJ

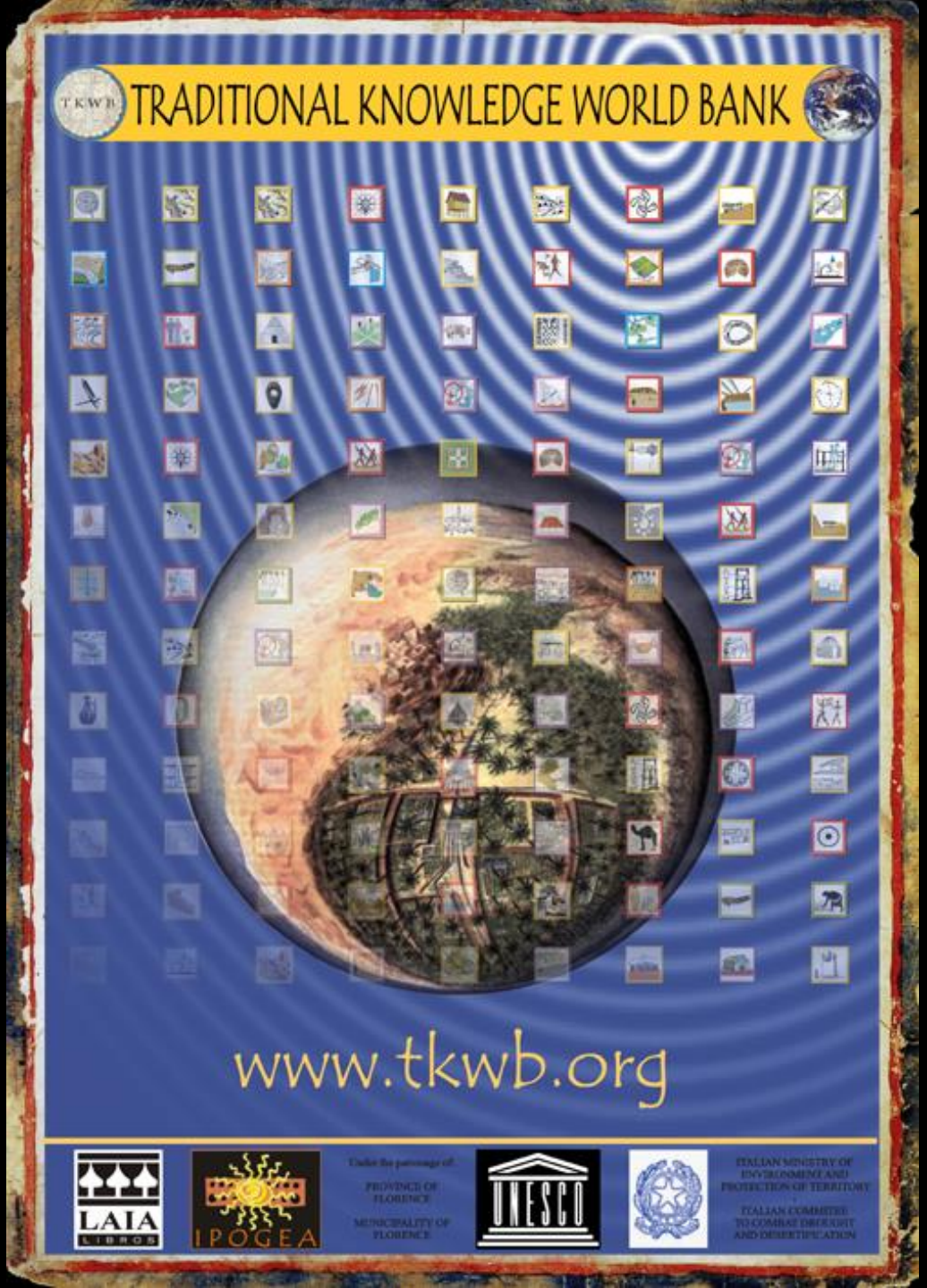


OMAN CEMENT CO.

الشركة العمانية للأسمنت

Characteristics of modern and traditional knowledge

Modern knowledge	Traditional knowledge
Specific solution	Multifunctional
Immediate efficacy	Functional over long period
Specialisation	Holism
Dominant powers	Autonomy
Separation	Integration
External resources	Internal inputs
Confliction	Symbiosis
Monoculture	Connection and complexity
Uniformity	Diversity
Inflexibility	Flexibility
Costly maintenance	Self-regulation and labour intensity
Internationalisation	Consideration of the context
Costliness	Saving
Attention to mere technical details and rationalism	Symbolism and full of significance
Dependence	Autopoiesis

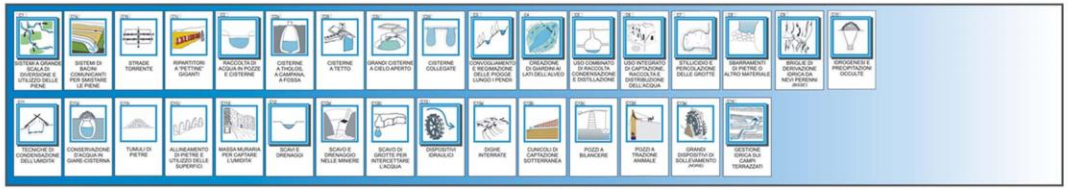

TKWB
TRADITIONAL KNOWLEDGE WORLD BANK
www.tkwb.org
LAIA
LIBROS
IPOGEA
Under the patronage of:
PROVINCE OF FLORENCE
MUNICIPALITY OF FLORENCE
UNESCO
ITALIAN MINISTRY OF ENVIRONMENT AND PROTECTION OF TERRITORY
ITALIAN COMMITTEE TO COMBAT DROUGHT AND DESERTIFICATION

SITTI - System of Icons of Traditional Techniques and Innovative

A SILVICULTURE
ANIMAL BREEDING
HUNTING, HARVESTING

B AGRICULTURE

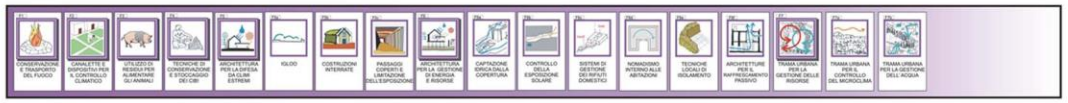
C WATER MANAGEMENT



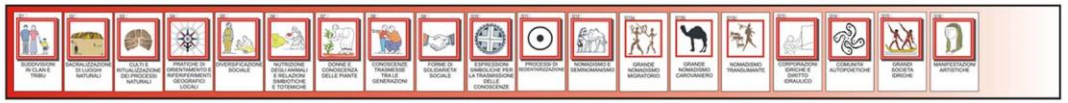
D SOIL AND ENVIRONMENTAL CONSERVATION

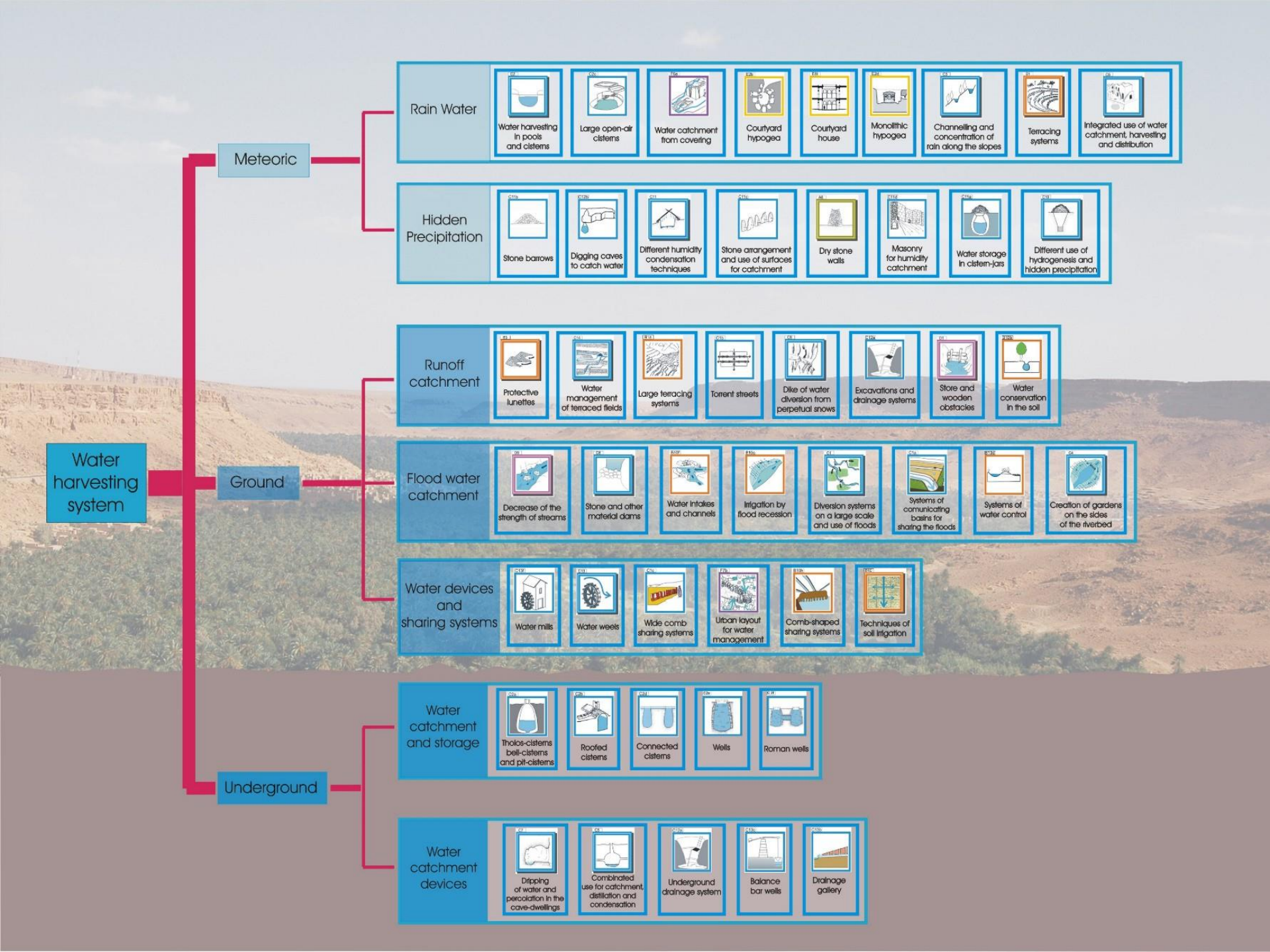
E SETTLEMENT, ARCHITECTURE AND MOVABLE ARTEFACTS

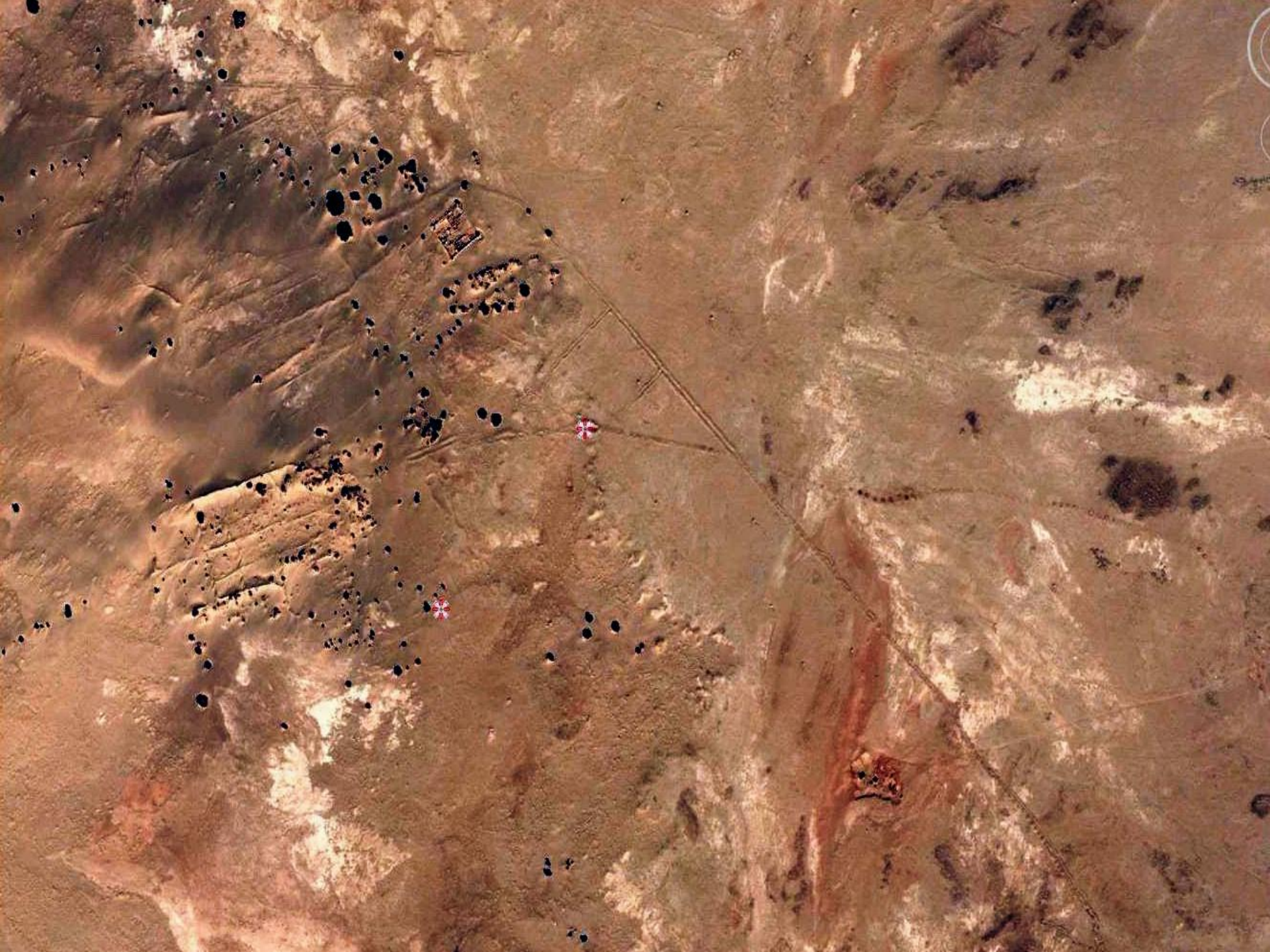
F ENERGY AND RESOURCES MANAGEMENT

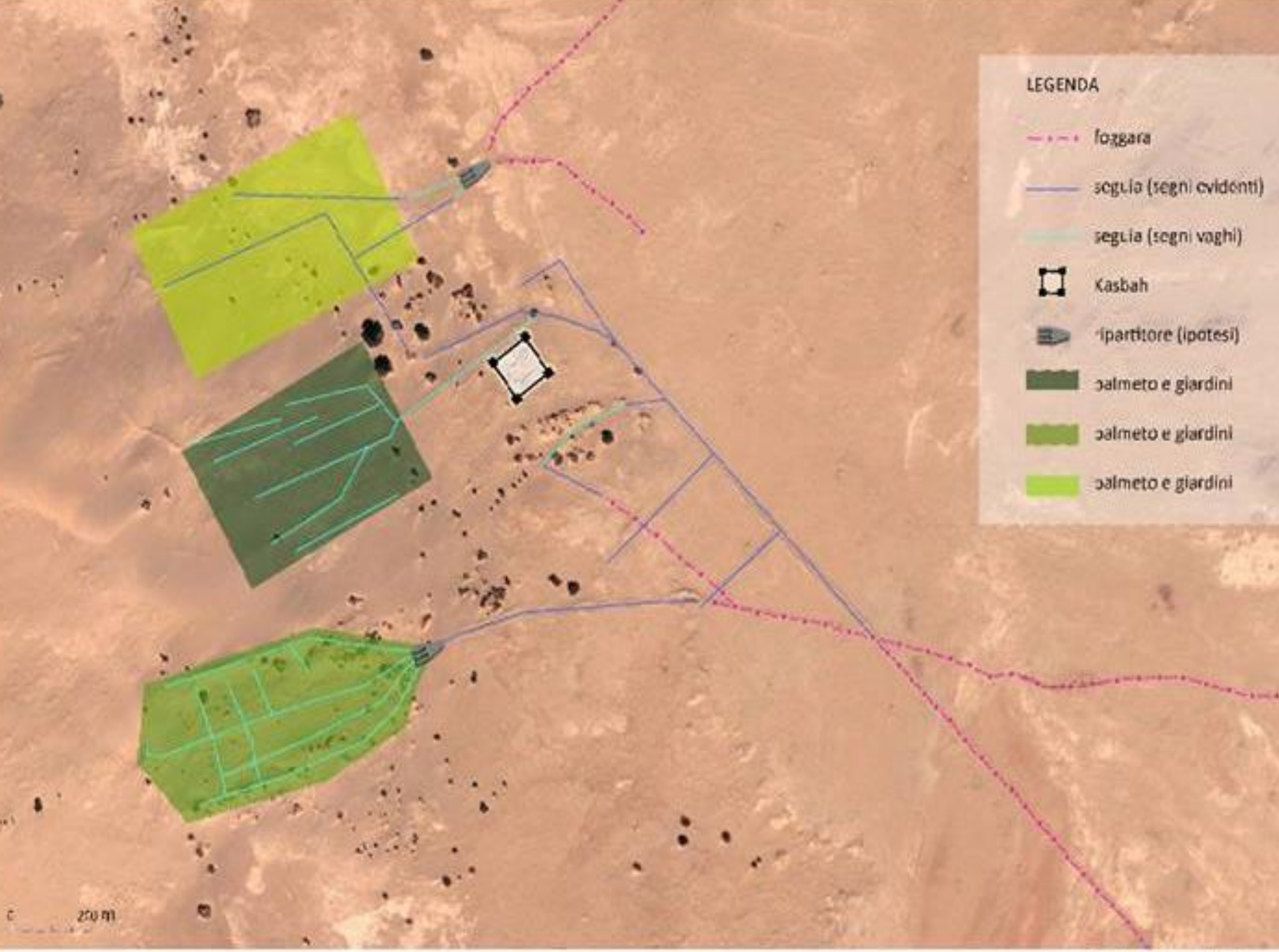


G SOCIAL ORGANIZATION, ART AND SPIRITUALITY

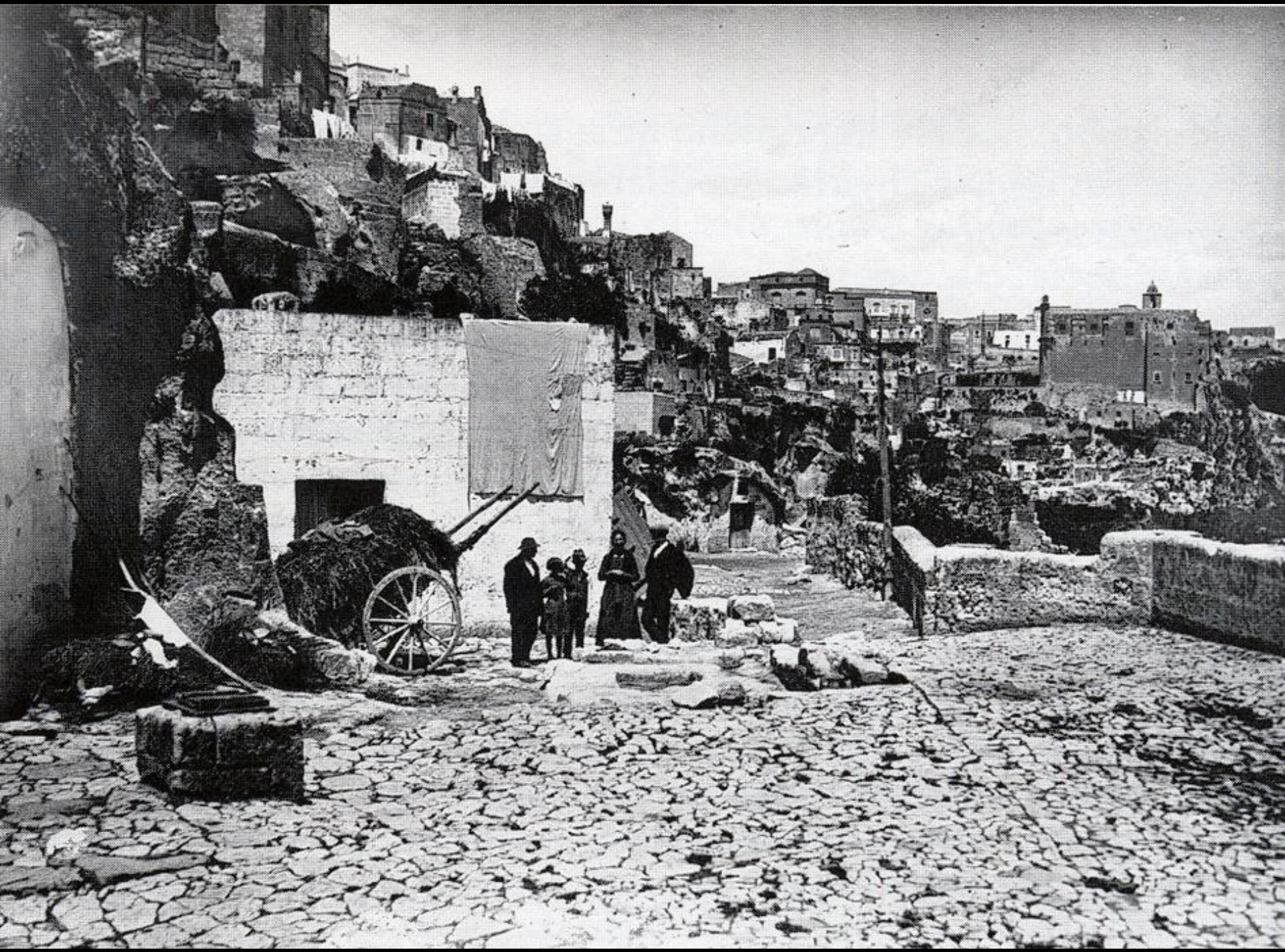


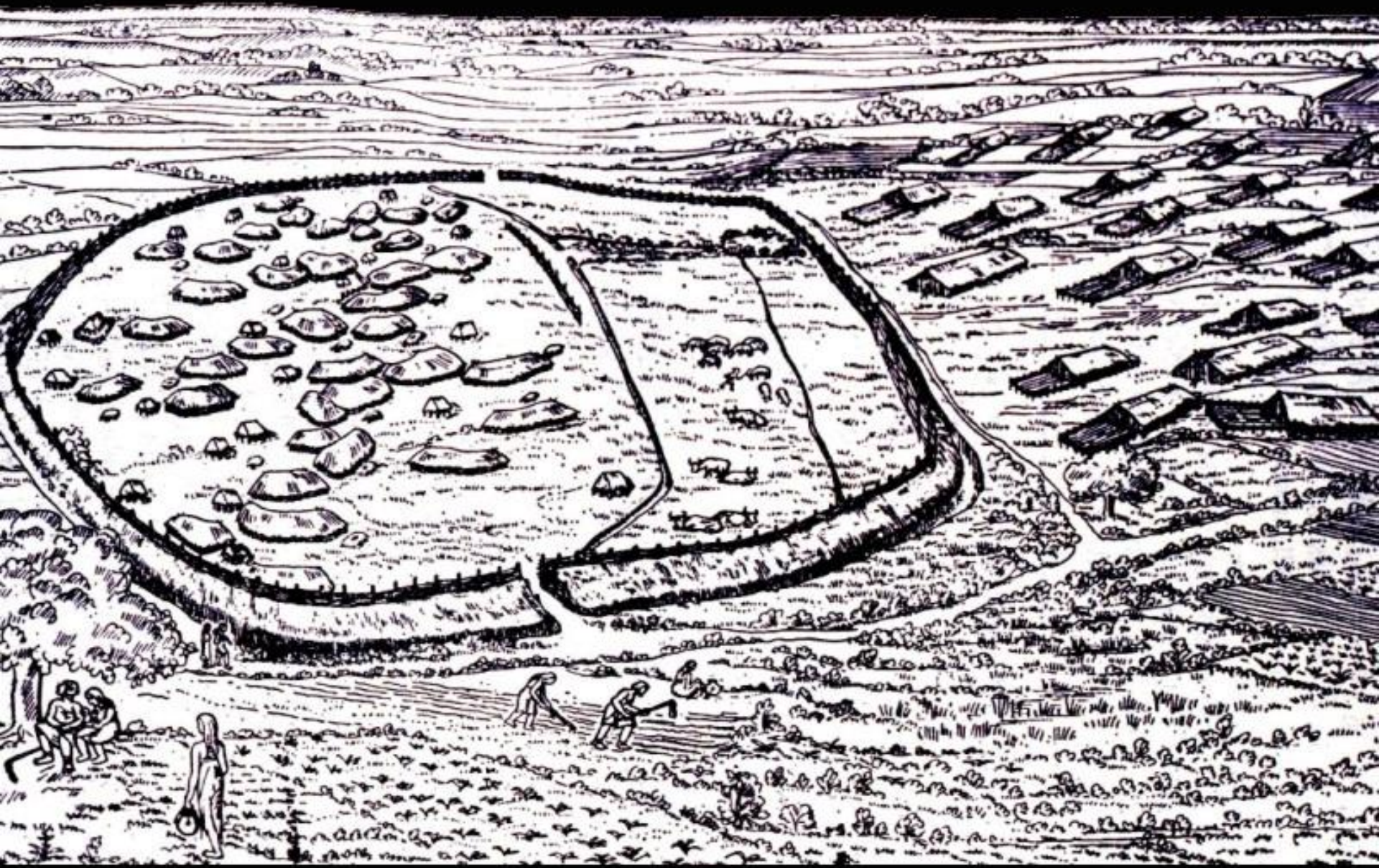

Water harvesting system
Meteoric
Rain Water
Water harvesting in pools and cisterns
Large open-air cisterns
Water catchment from covering
Courtyard hypogea
Courtyard house
Monolithic hypogea
Channelling and concentration of rain along the slopes
Terracing systems
Integrated use of water catchment, harvesting and distribution
Hidden Precipitation
Stone barrows
Digging caves to catch water
Different humidity condensation techniques
Stone arrangement and use of surfaces for catchment
Dry stone walls
Masonry for humidity catchment
Water storage in cistern-jars
Different use of hydrogenesis and hidden precipitation
Ground
Runoff catchment
Protective lunettes
Water management of terraced fields
Large terracing systems
Torrent streets
Dike of water diversion from perpetual snows
Excavations and drainage systems
Stone and wooden obstacles
Water conservation in the soil
Flood water catchment
Decrease of the strength of streams
Stone and other material dams
Water intakes and channels
Irrigation by flood recession
Diversion systems on a large scale and use of floods
Systems of comunicating basins for sharing the floods
Systems of water control
Creation of gardens on the sides of the riverbed
Water devices and sharing systems
Water mills
Water weels
Wide comb sharing systems
Urban layout for water management
Comb-shaped sharing systems
Techniques of soil irrigation
Underground
Water catchment and storage
Tholos-cisterns bell-cisterns and pit-cisterns
Roofed cisterns
Connected cisterns
Wells
Roman wells
Water catchment devices
Dripping of water and percolation in the cave-dwellings
Combinated use for catchment, distillation and condensation
Underground drainage system
Balance bar wells
Drainage gallery

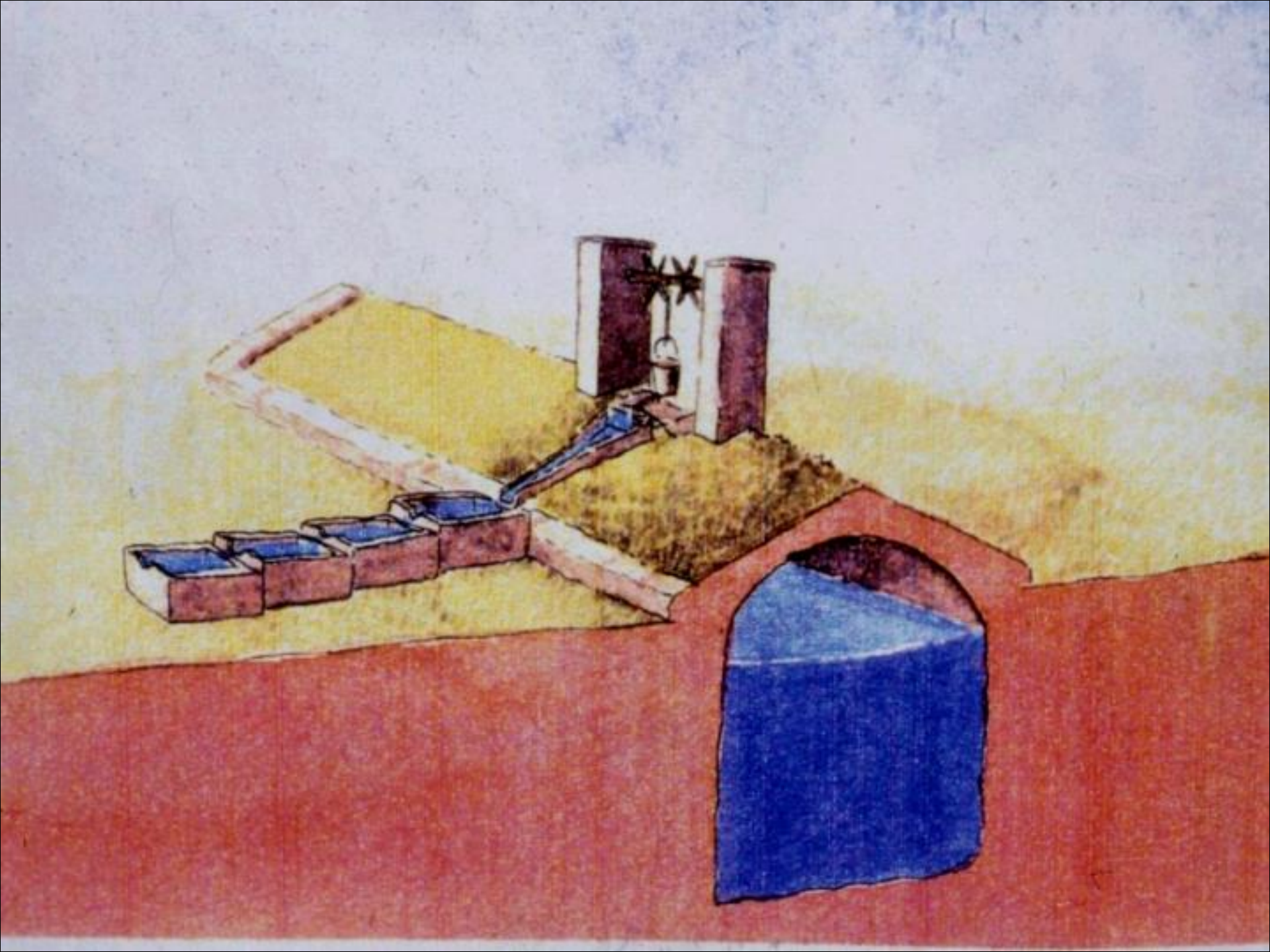


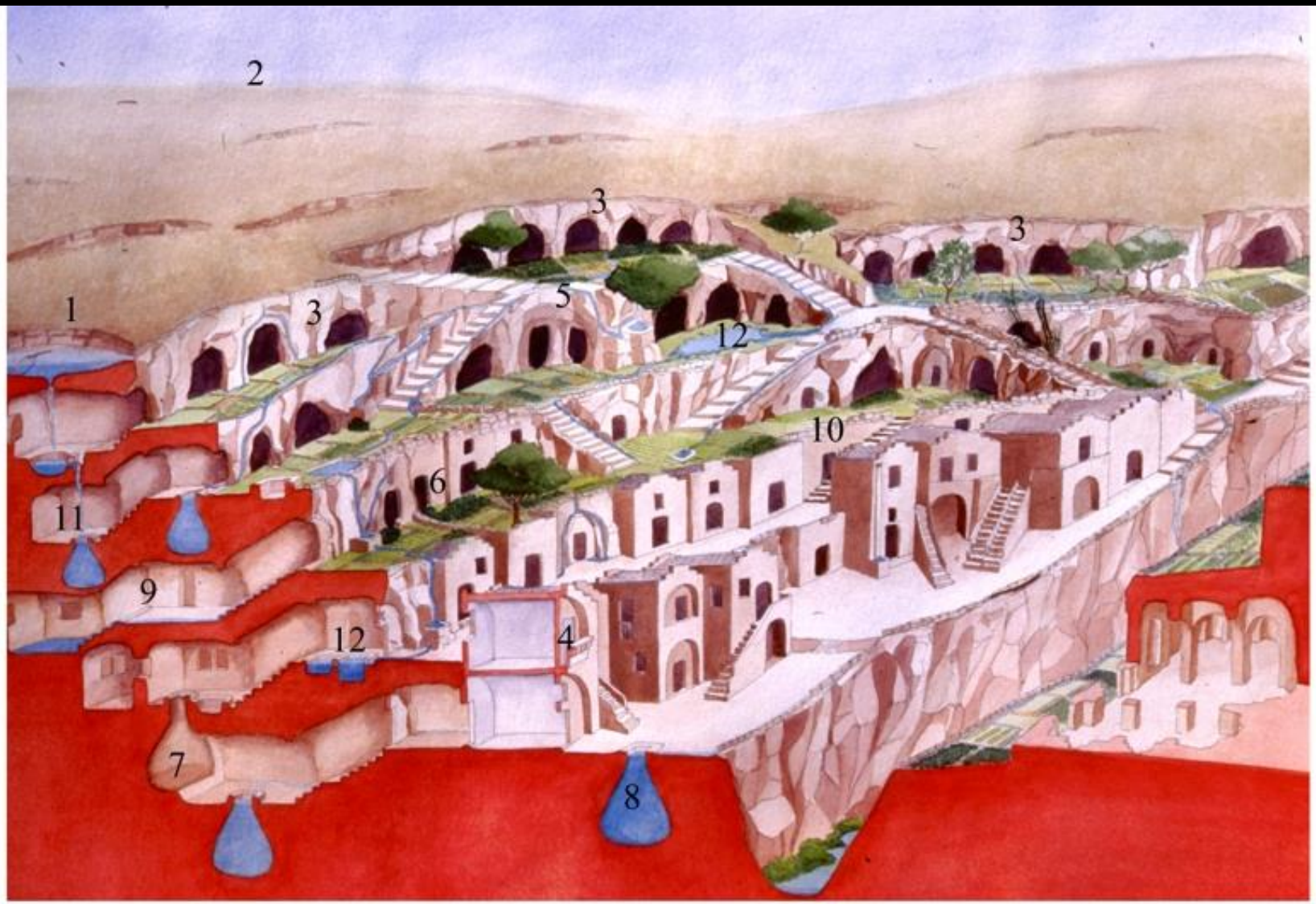

LEGENDA
fozgara
segu.ia (segni evidenti)
segu.ia (segni vaghi)
Kasbah
ripartitore (ipotesi)
palmeto e giardini
palmeto e giardini
palmeto e giardini
250 m

World Heritage Convention	New Landscape Vision
Universalism	Multiculturalism and diversity
Fixed definition	Regionally adapted and evolutive definition
Separation of nature and culture	Integration
List of excellence	All landscapes
Outstanding values	Everyday life
Tangibility	Both tangibility and intangibility
Staticity	Dynamism
Monument	Ecosystem
Museographic approach	Social, productive and evolutive approach
Conservation	Prevention, management and preservation through change
Authenticity	Perpetuation of knowhow through traditional knowledge
Heritage	Commons and people









1 canali, fossi e drenaggi

2 cisterne a tetto

3 Scavo nelle caverne

4 ipogei e giardini pensili

5 complessi sotterranei

6 aie-giardino

7 conservazione di acqua in giare cisterna

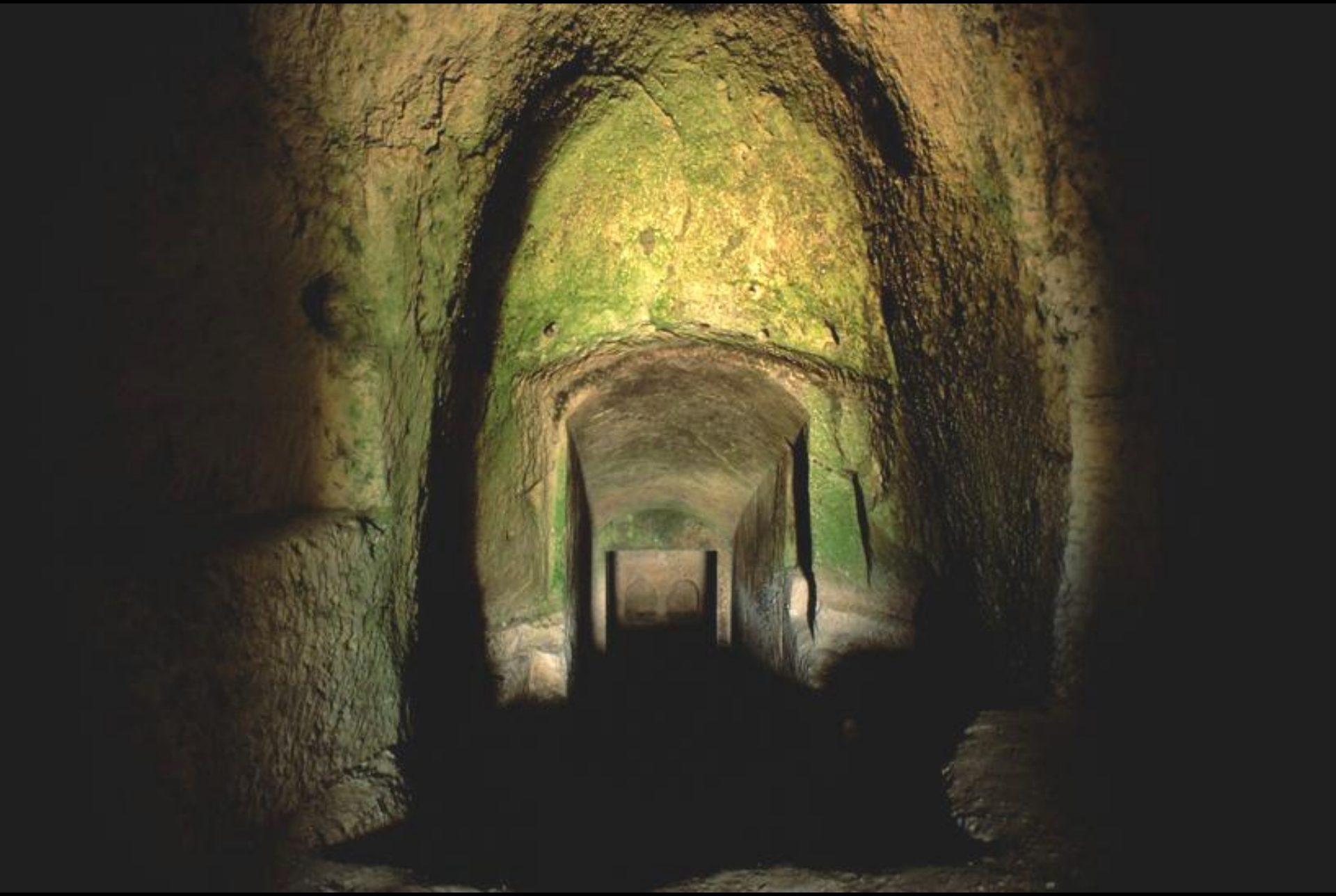
8 raccolta negli ipogei a corte

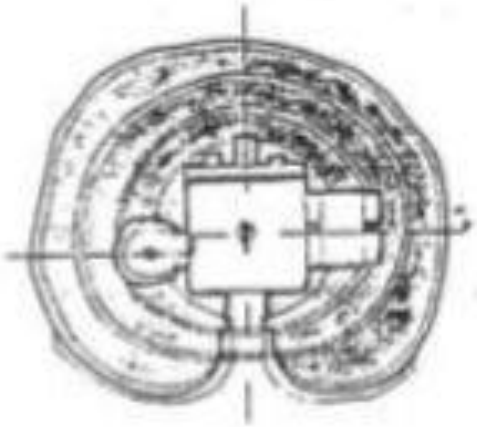
9 Captazione di energie e risorse

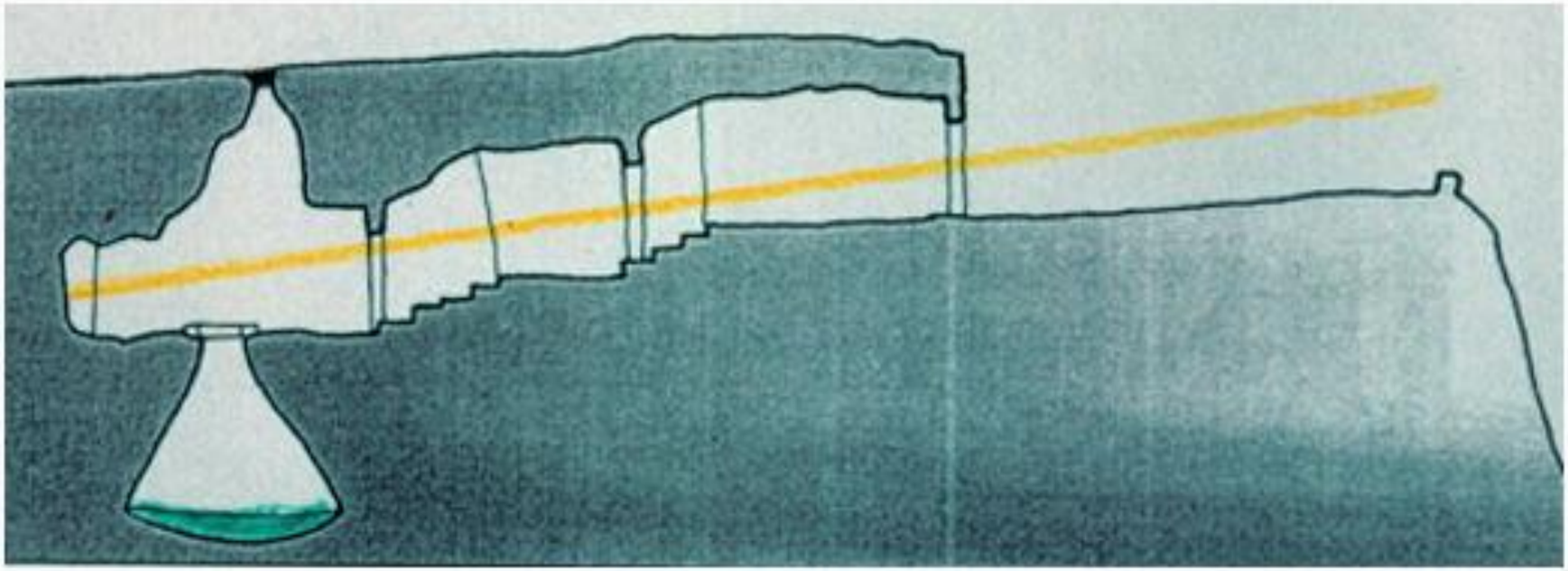
10 uso integrato di captazione, raccolta e distribuzione dell'acqua

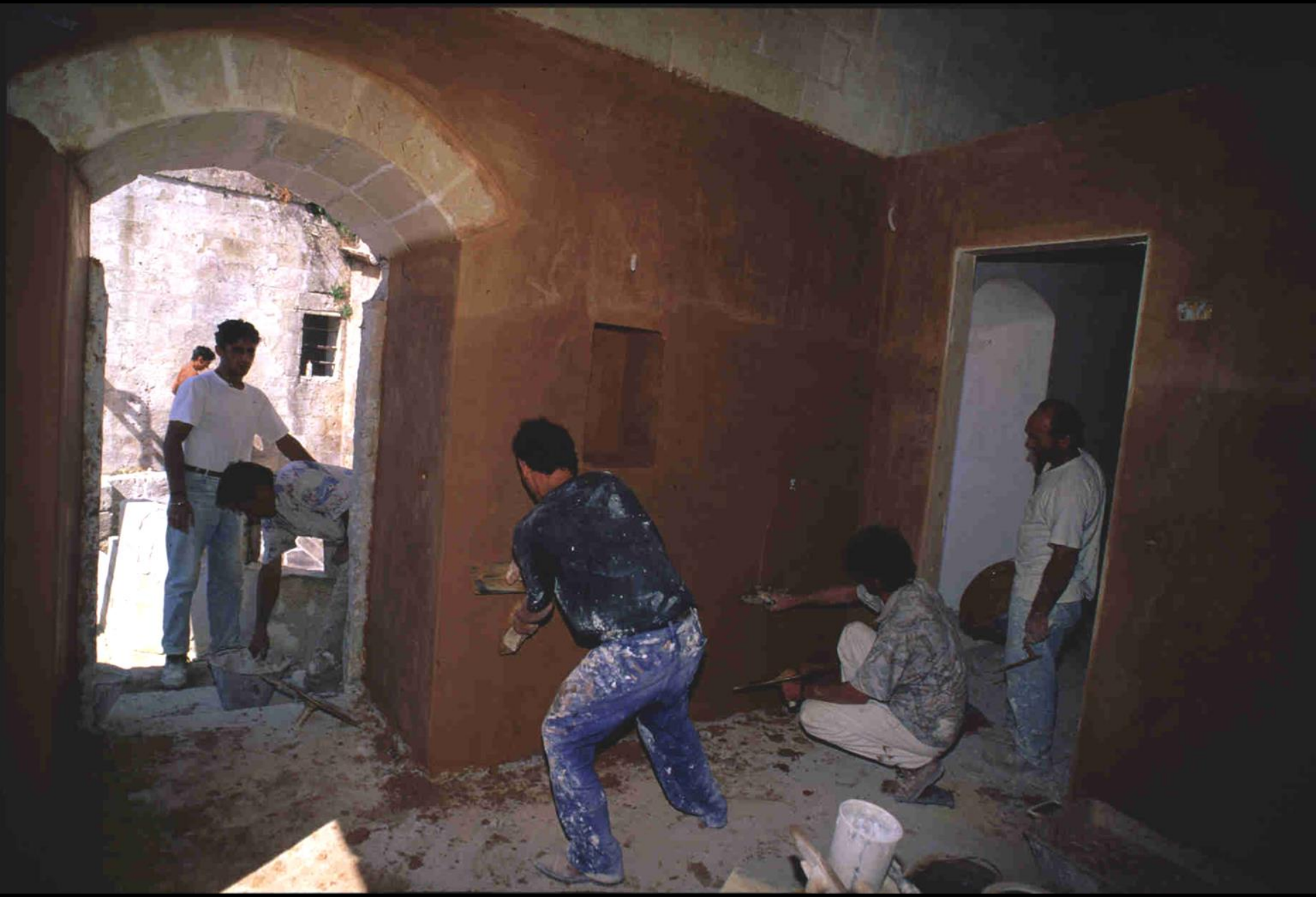
11 Scavo di grotte per intercettare l'acqua

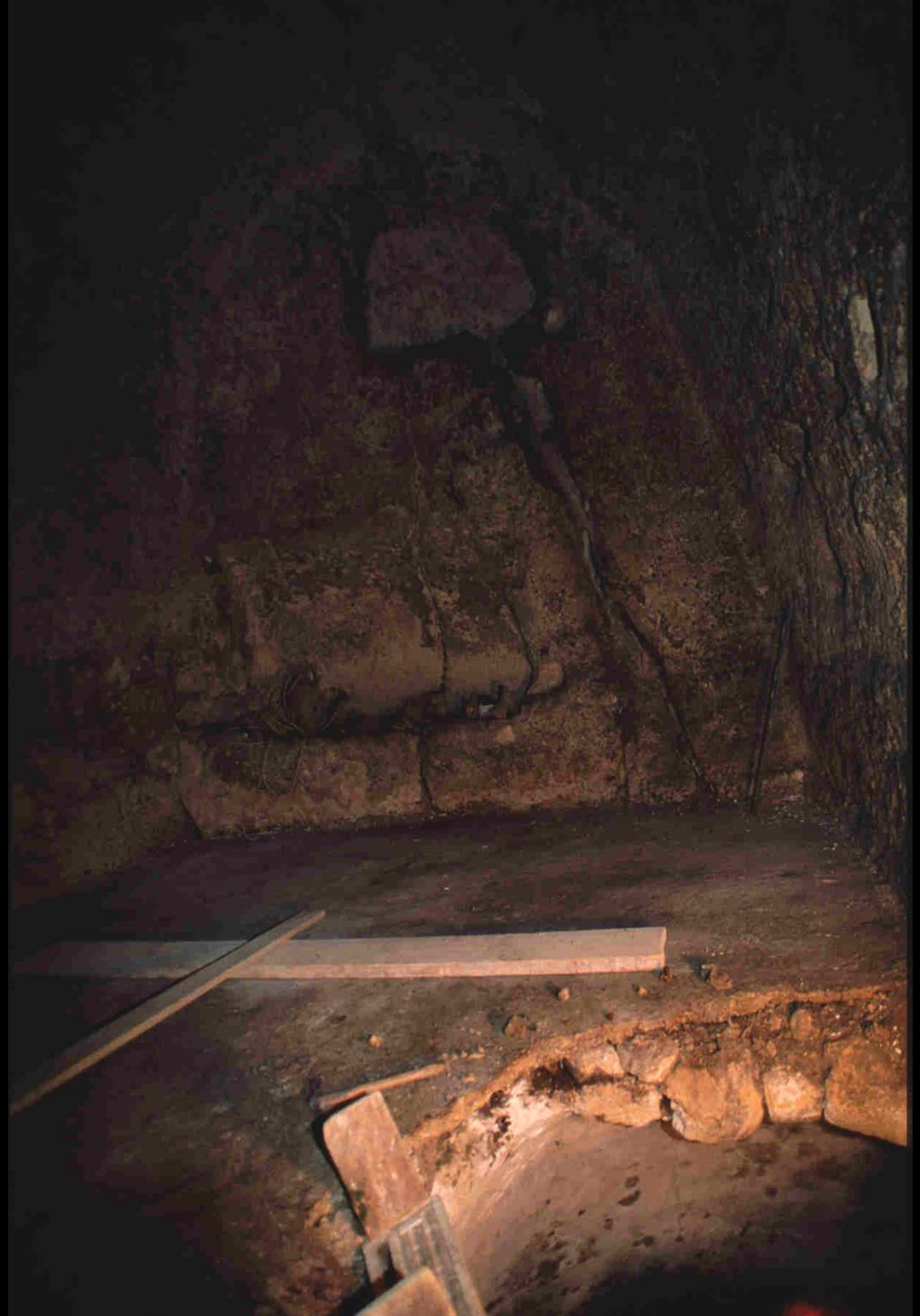
12 raccolta di acqua piovana in pozze e cisterne

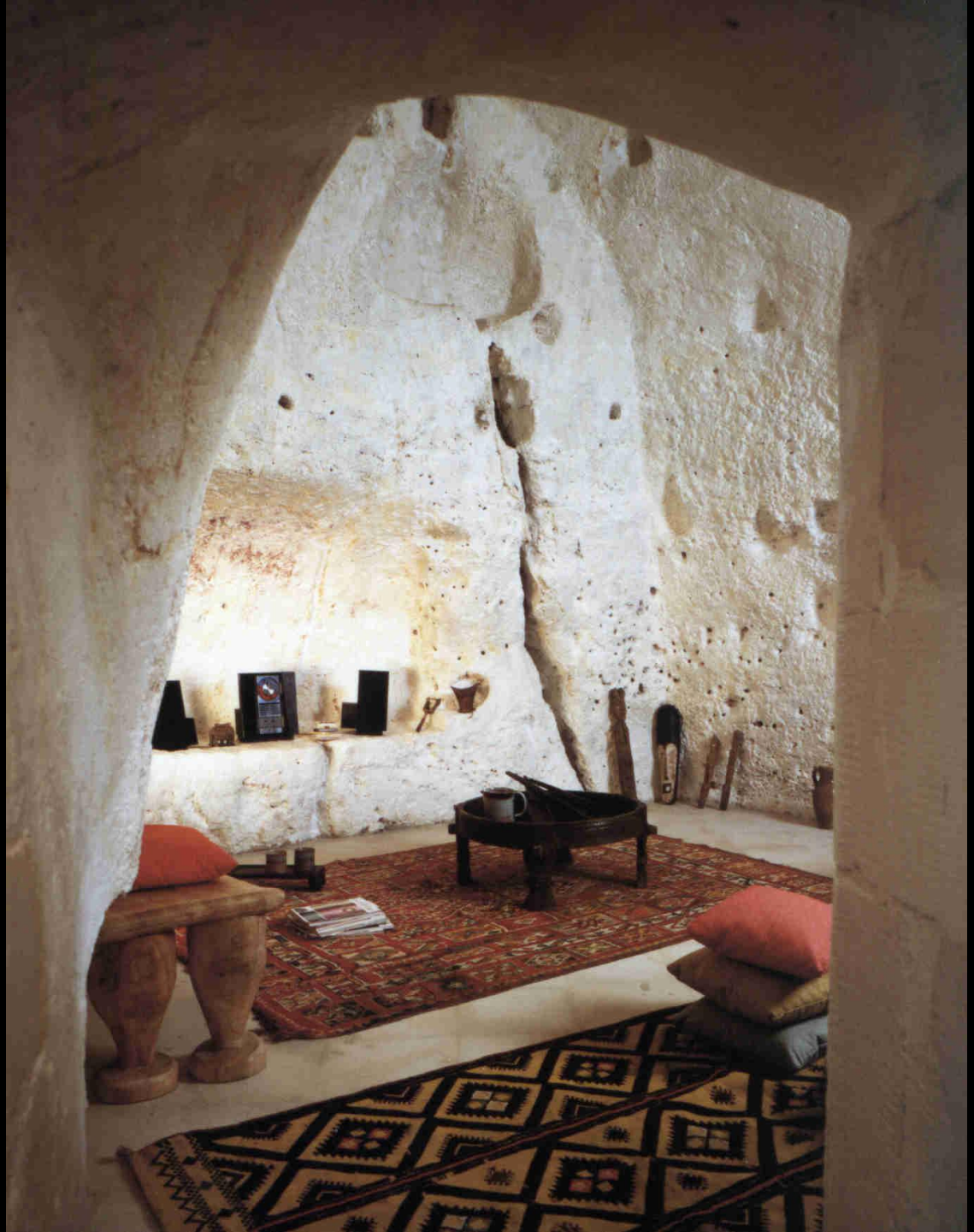


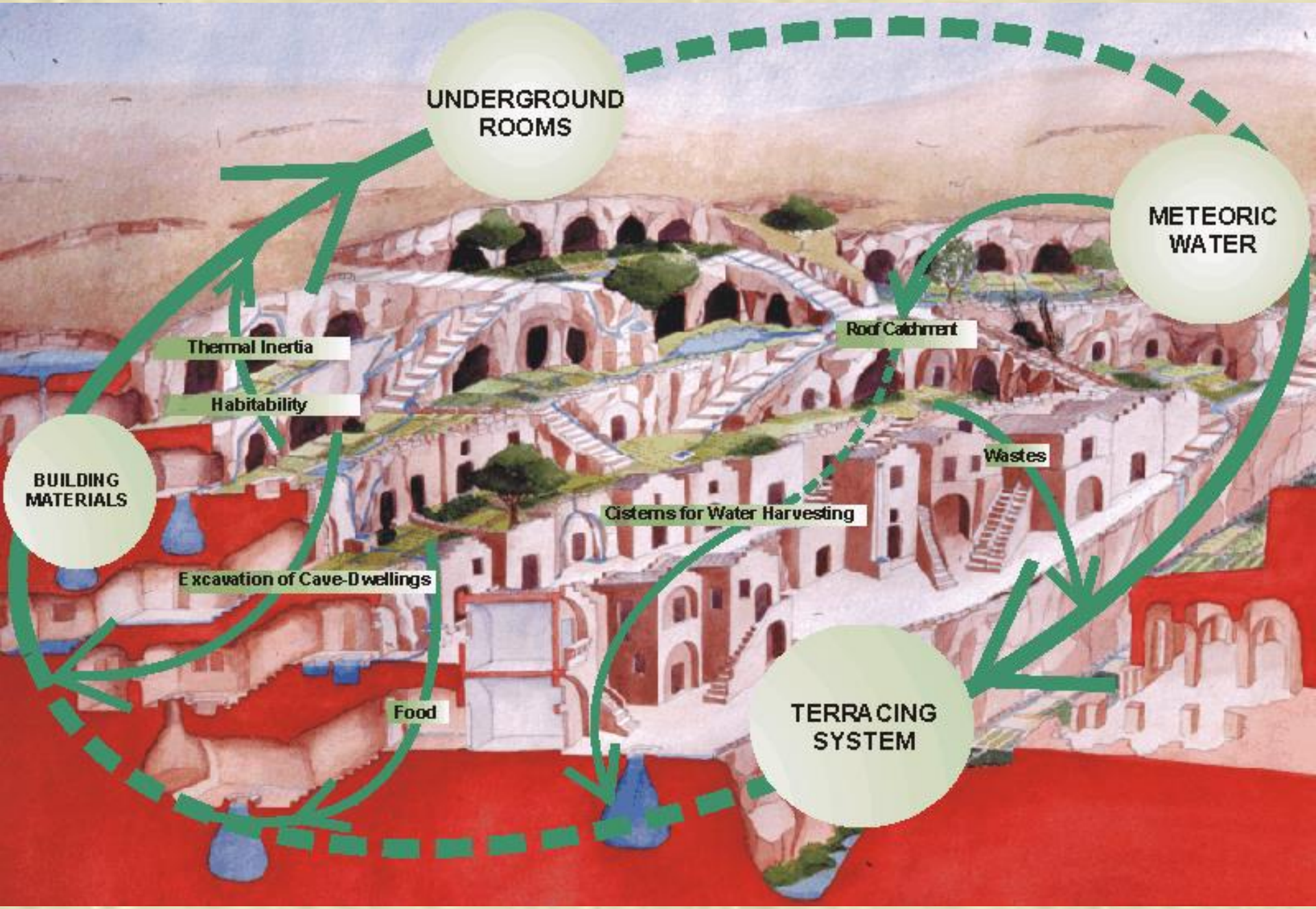


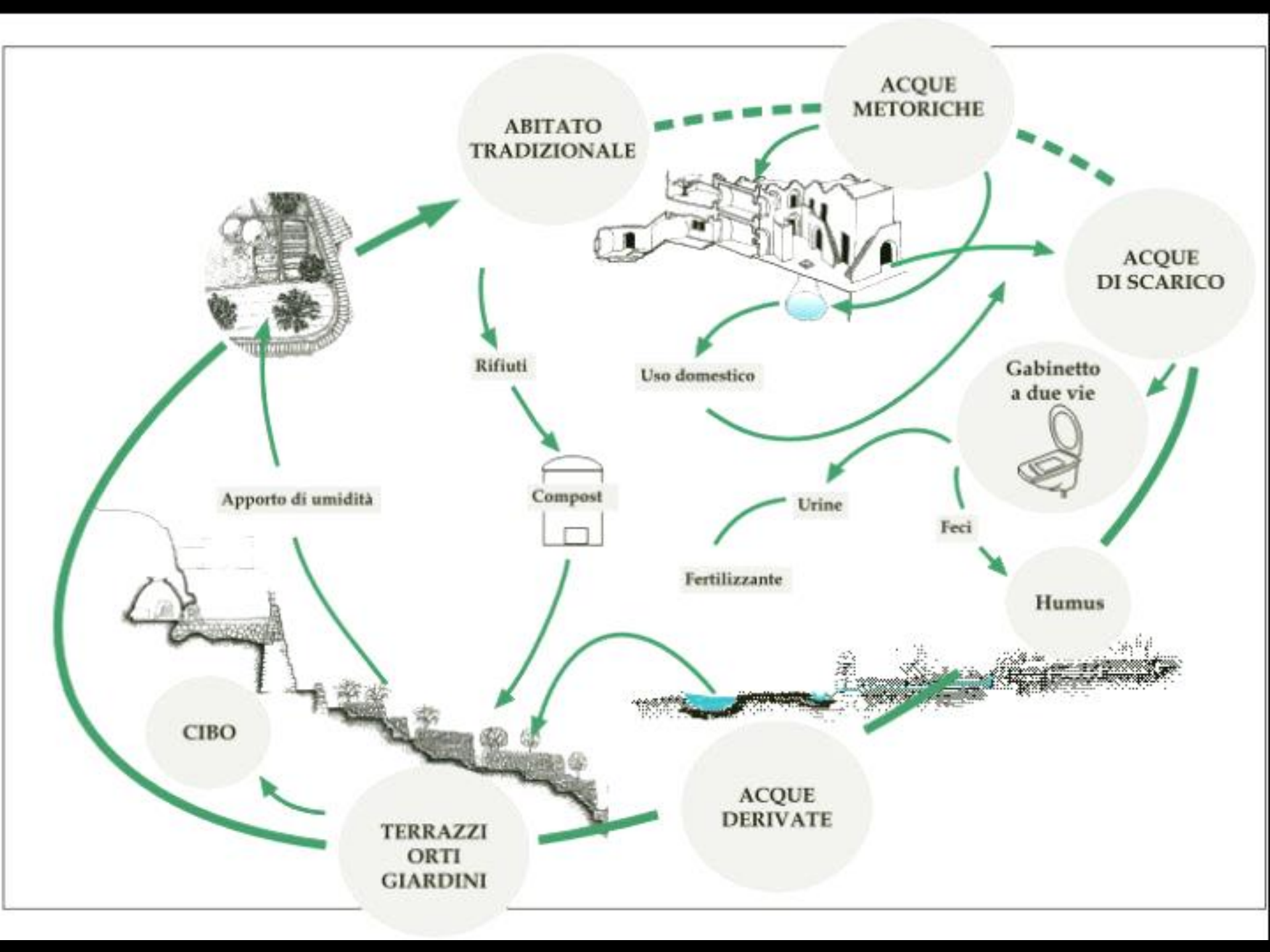









UNDERGROUND ROOMS
METEORIC WATER
Roof Catchment
Thermal Inertia
Habitability
BUILDING MATERIALS
Wastes
Cisterns for Water Harvesting
Excavation of Cave-Dwellings
Food
TERRACING SYSTEM


ACQUE METORICHE
ABITATO TRADIZIONALE
ACQUE DI SCARICO
Rifiuti
Uso domestico
Gabinetto a due vie
Apporto di umidità
Compost
Urine
Feci
Fertilizzante
Humus
CIBO
ACQUE DERIVATE
TERRAZZI ORTI GIARDINI

PARCO DELLA CIVILTA' CONTADINA - INDIVIDUAZIONE AMBIENTI

CANTIERE VISITABILE

I cantieri fruibili ai visitatori diventano essi stessi un motivo di attrazione

SPAZI VERDI

Ripristino dei giardini pensili e terrazzamenti con la vegetazione spontanea autoctona


Malva rosa


Valeriana rossa


Arganetta Azzurra


Lino di Tommasini


Vedovella dei Prati

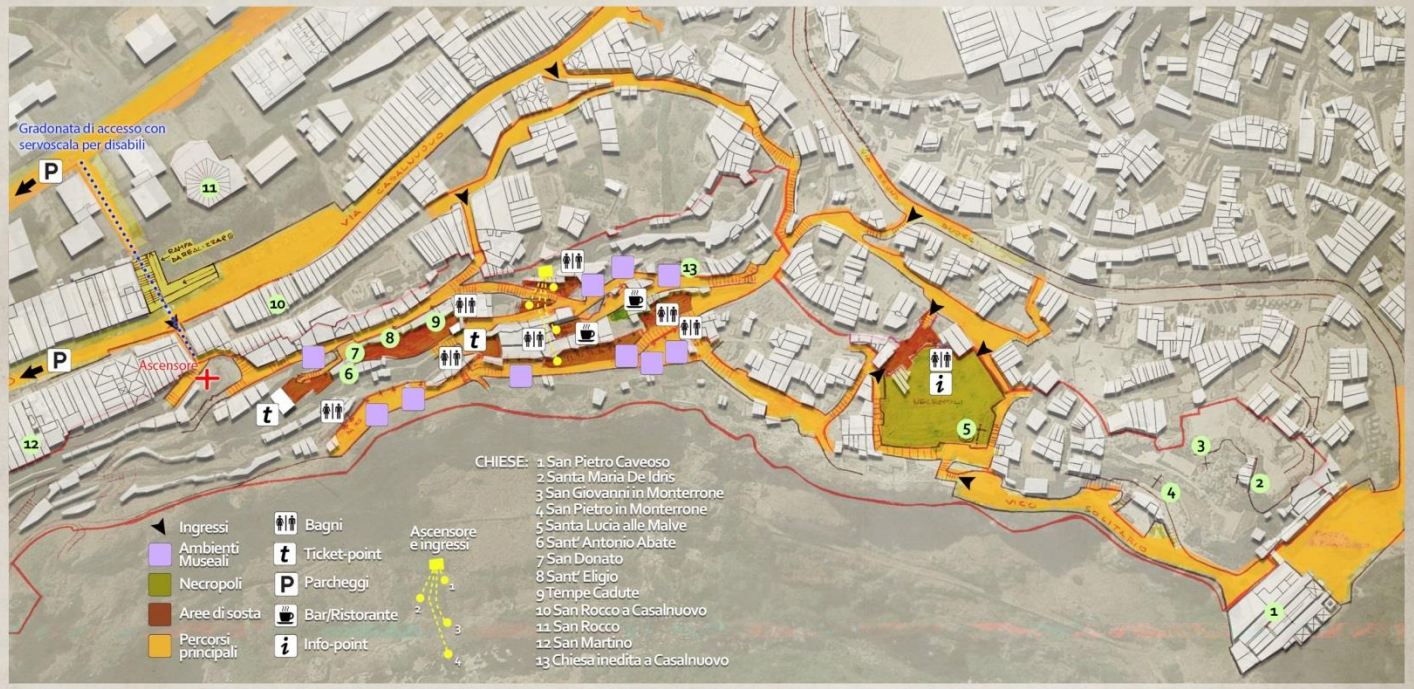

Ferula


Latte di gallina di Adalgisa


Cipollaccio della Basilicata


Tetti fioriti nel periodo di abbandono dei Sassi (2003)


Rendering di giardini pensili e di vegetazione locale



ACCESSIBILITÀ

Elevatore a pedana aperta

Piattaforme elevatrici per superare piccoli dislivelli, in piena autonomia

Montascale

Per ovviare a situazioni più complesse, non alterando le preesitenze che hanno reso unica e caratteristica Matera

Accessibilità Visiva

Specchi parabolici o schermi video permettono la visione di ambienti inaccessibili ai meno abili

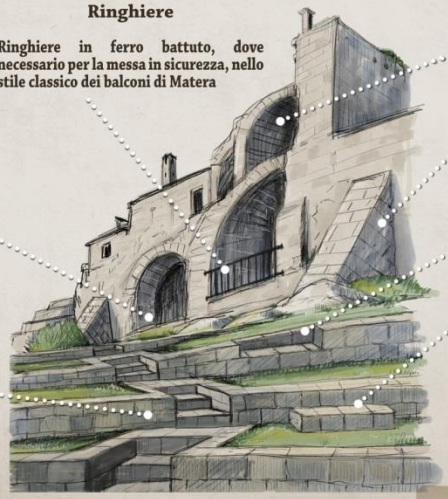
Parapetti di pietra

Recupero dei parapetti in pietra locale fino al ripristino dell'altezza originale. Eventuale aggiunta di ringhiere, dove necessarie per la messa in sicurezza, nello stile classico dei balconi di Matera

ITINERARI

Ringhiere

Ringhiere in ferro battuto, dove necessario per la messa in sicurezza, nello stile classico dei balconi di Matera



Contrafforti

I contrafforti tufacei consolidano le strutture murarie mettendo in sicurezza i percorsi

Sedute

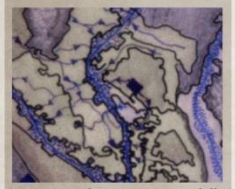
Le sedute sono perfettamente integrate nel costruito dei terrazzi e delle architetture, realizzate o scavate nel pieno del tessuto murario o con conci di tufo a ridosso di muri esistenti

PARCO DELLA CIVILTA' CONTADINA - RECUPERO DELL'ACQUA

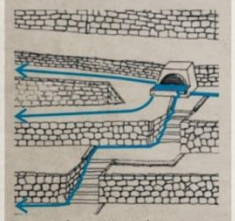
DALLA GESTIONE DELL'ACQUA IL RIPRISTINO DEL RICICLO DELLE RISORSE VERSO L'ECONOMIA CIRCOLARE

L'acqua dei cieli, la pioggia e la brina, raccolta nei drenaggi e nelle caverne è la risorsa dei labirintici complessi trogloditi dei Sassi.

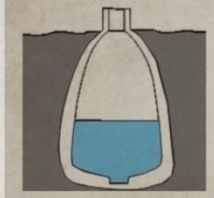
Lo svolgimento verticale della città permette l'utilizzo delle gravità per la distribuzione delle acque e protegge dai venti che spazzano l'altipiano



La trama dei percorsi e delle stradine si forma seguendo il sistema di canali e questo ne spiega l'aspetto intricato, apparentemente inspiegabile, ma frutto della originaria matrice idrica.



Durante le piogge violente terrazzamenti e sistemi di raccolta dell'acqua proteggono i pendii dall'erosione e convogliano per gravità le acque verso le cisterne nelle grotte.



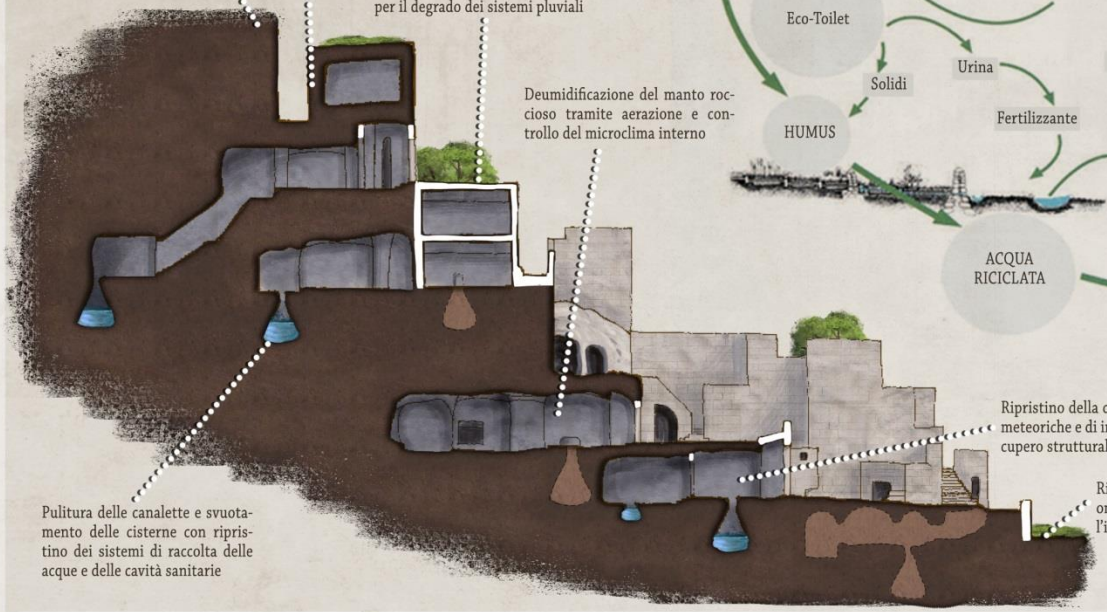
Sul fondo delle grotte c'è spesso una cisterna che non è collegata con delle canalette, e si alimenta con la condensazione dell'umidità aspirata dalle cavità

Risanamento delle strutture superiori e riorganizzazione dei sistemi di evacuazione delle acque

Ripristino del sistema di gronde e discendenti pluviali e pulitura delle facciate

Lo scorrimento, percolamento e capillarità delle acque è uno dei fattori più importanti di degrado dovuto alla esposizione atmosferica e al mancato controllo delle acque meteoriche per il degrado dei sistemi pluviali

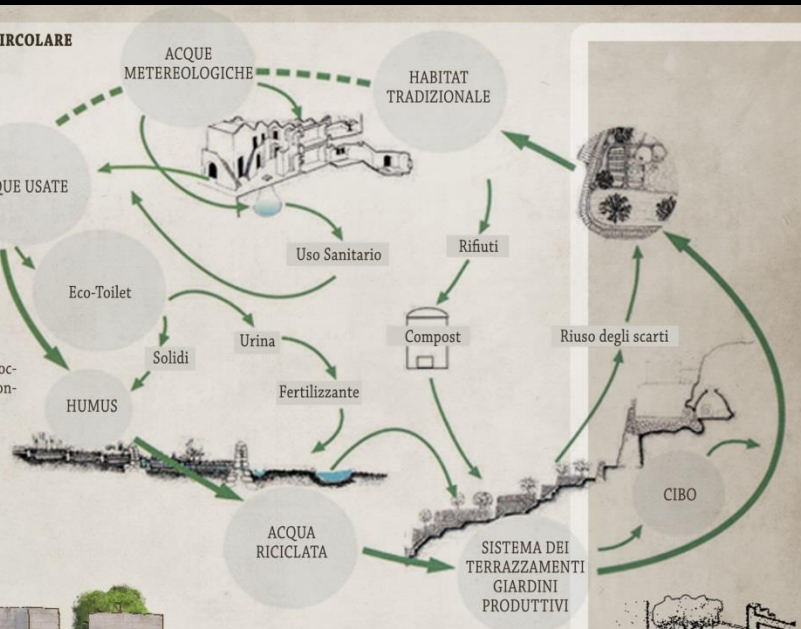
Deumidificazione del manto roccioso tramite aerazione e controllo del microclima interno

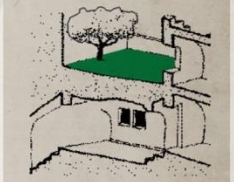


Pulitura delle canalette e svuotamento delle cisterne con ripristino dei sistemi di raccolta delle acque e delle cavità sanitarie

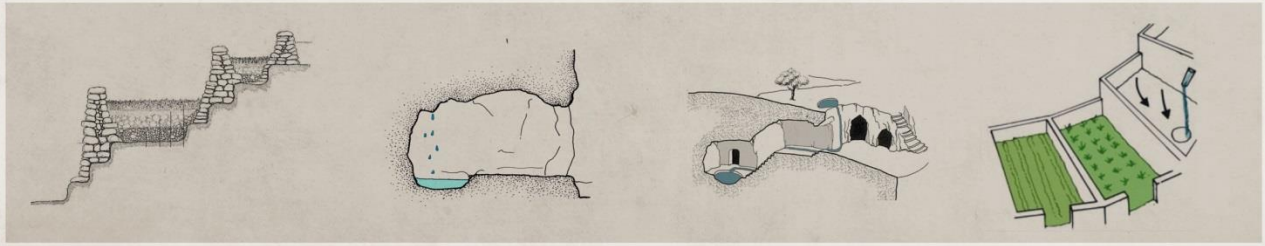
Ripristino della corretta gestione delle acque meteoriche e di infiltrazione e operando il recupero strutturale delle cavità ipogee

Ripristino della canalizzazione per la ripartizione per l'irrigazione del suolo





Il giardino pensile, utilizzato per raccogliere i rifiuti e creare l'humus, è l'hortus conclusus (giardino murato) scavato nella pietra indispensabile a causa della povertà dei suoli e della necessità di riparare le piante.



Il materiale per le parti costruite così come con i massi di calcaree, risultato della ripulitura del terreno, si fanno muretti, tumuli e terrazzi che proteggono i pendii dalle piogge rovinose e creano l'humus e la possibilità di coltivare.

L'abbassamento di temperatura provoca la condensazione di gocce che precipitano nella cavità. La stessa acqua accumulata fornisce ulteriore umidità e frescura amplificando l'efficacia della camera di condensazione.

Nella stagione secca le cavità scavate funzionano durante la notte come aspiratori di umidità atmosferica che si condensa nella cisterna terminale degli ipogei, sempre piena anche se non collegata con canalette esterne.

Il tetto è compreso nelle murature che permettono di non sprecare una sola goccia di pioggia e di convogliarla tramite discendenti di terra cotta nella cisterna. Le linee di scorrimento laterali delle acque divengono le scale e i collegamenti verticali del complesso urbano.

Nella corte è scavata la grande cisterna comune che raccoglie ora le acque dai tetti. Questi per rispondere a tale scopo non hanno mai le falde che sporgono esternamente alle abitazioni.

PARCO DELLA CIVILTA' CONTADINA - RESTAURO

FATTORI DI DEGRADO:

Disgregazione profonda della parti rocciose esterne a causa della gelivazione che provoca l'ingrossamento delle gocce di umidità assorbita e dell'aggressione di licheni o piante superiori

Evaporazione e ricristallizzazione superficiale con formazione di croste incoerenti e attacco degli strati teneri da parte degli agenti atmosferici

Alterazione chimico fisica degli strati superficiali dovuta all'inquinamento atmosferico dele patine nobili con disaggregazione e sfarinatura

Decompressione delle murature e creazione di fratture verticali. Risalita umidità capillare

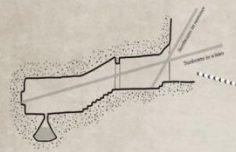
Percolamento idrico attraverso le volte e le strutture superiori dovuto alla raccolta in microfratturazioni della umidità assorbita dalle porosità del materiale tufaceo

Disaggragazione delle facciate per scorrimento meteorico superficiale di piogge sature di solfati di calcio e residui carbonosi

Ostruzione delle canalette di scorrimento e riempimento delle cisterne con detriti e materiali di riporto

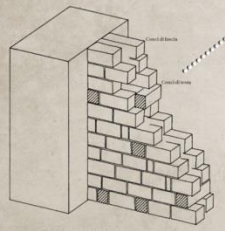
Infiltrazione dei tetti, degrado delle coperture con disfacimento delle parti lignee e gravi lacune nelle trama dei coppi

PRESCRIZIONI:



Deumidificazione del manto roccioso tramite aerazione e controllo del microclima interno.

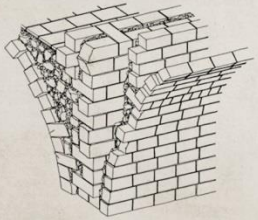
Inserimento dei servizi nel rispetto della tipologia interna. Nelle cavità, non alterare i segni di scavo delle varie epoche storiche.



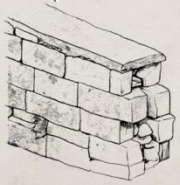
Ripristino delle apparecchiature murarie nella trama e dimensione della tradizione.

Lasciare traspirare le pareti interne utilizzando malte tradizionali a base di calce idraulica, pozzolana o coccio pesto creando un sistema omeostatico che assorbendo e rilasciando l'umidità regola automaticamente l'equilibrio micro climatico.

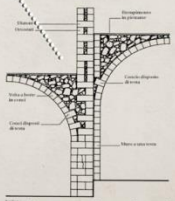
Nella tecnica costruittva tradizionale viene rispettata la legge del quarto: le pareti sono spesse un quarto dell'apertura dell'arco della volta



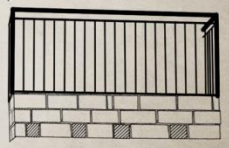
Arcate e volte sono restaurate nella logica della tradizione ripristinando le chiavi con le centinature o creando sottarchi, arconi rampanti e contrafforti di sostegno.



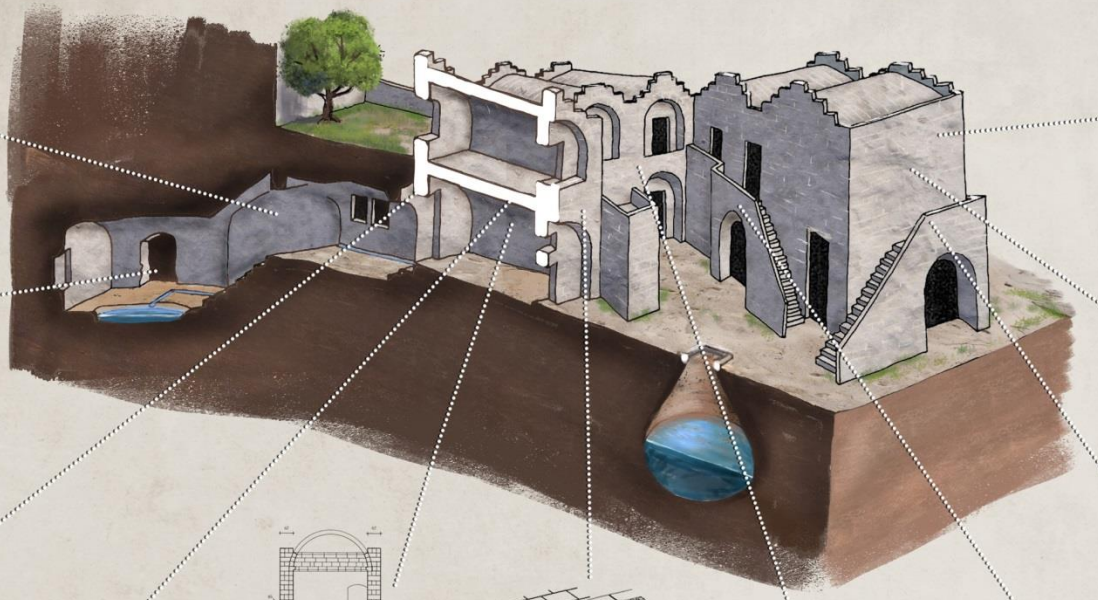
Eliminazione sulle facciate di tutti gli elementi estranei pulitura, devitalizzazione dei licheni. Riaggregazione dello strato superficiale con latte di calce o aggreganti sintetici invisibili, traspiranti, permeabili al vapore e rimovibili che permettono di conservare superfici anche fortemente alveolizzate.



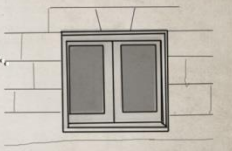
Consolidamento di archi tufacei negli ambienti ipogei interventi di cuci e scuci utilizzando conci di tufo con caratteristiche dimensionali e di invecchiamento omologhe a quelle originarie



Le forme delle balaustre originarie in ferro battuto nero vengono riproposte all'esterno per sostituire balconate e balaustre moderne.



Contrasto della decompressione con contrafforti tufacei e, o, riduzione delle fratture tramite tiranti di acciaio o di resine e aggreganti polimerici.



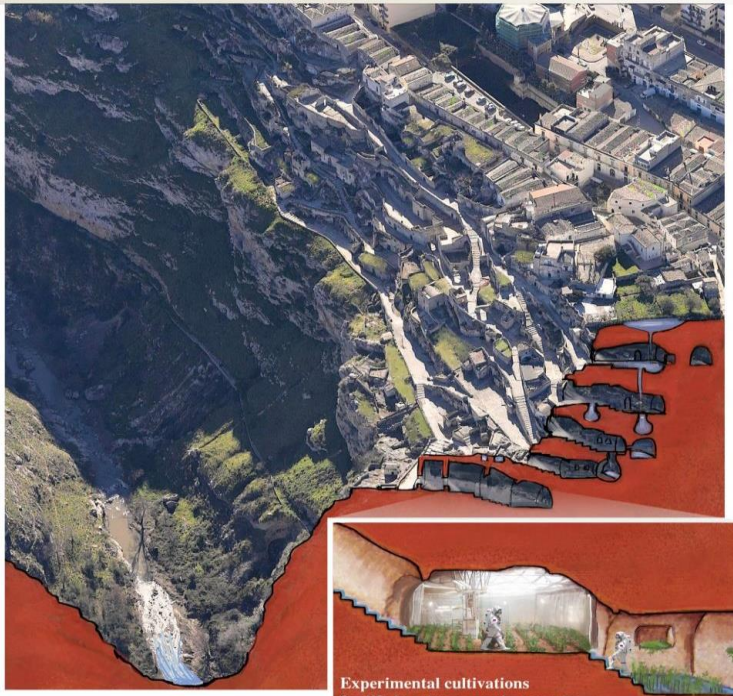
Tinteggiatura è operata secondo le norme della tavola del colore, in giallo spento in modo tenue ed omogeneo, senza alcuna sottolineatura esagerata delle cornici.

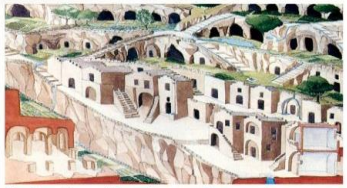
MATERA EXEMPLE

From ruins

The abandoned city

To Perpetuation of knowhow through traditional knowledge





Restoration of hanging gardens and caves

Flowered roofs with native species

Experimental cultivations
for life in extreme environments

Hanging gardens and local vegetation

WEEKEND
FINANCIAL TIMES
EUROPE | SATURDAY JULY 2/SUNDAY JULY 3 2005

HOUSE AND HOME

Living well in prehistoric caves

Emily Backus explores a 4,000-year old Italian settlement re-colonised for the 21st century

To lounge on a leather sofa in architect Pietro Laureano's home is to mingle with the ages. His living room is a cave carved in a limestone canyon wall around 2000 BC, and it has been inhabited almost continuously ever since. The cuts and dimples of prehistoric tools are visible on the ceiling. A crevice in the back wall once channelled water to an ancient cistern still under the floor. A pre-Christian stone altar in the adjoining room still marks the seasons with changing sunlight.

"I like to think of my children living in the place like children four thousand years ago. They sit on the sofa instead of an animal skin, perhaps. They watch TV instead of a fire."

Laureano lives with his Eritrean-born wife and two sons in the Sassi, the historic centre of Matera, a town located in the ankle of Italy's boot. Its bone-grey buildings densely clustered on a canyon slope inspired directors Pier Paolo Pasolini (*Il Vangelo secondo Matteo*, 1964) and Mel Gibson (*The Passion of Christ*, 2004) to use it as a film location for ancient Jerusalem.

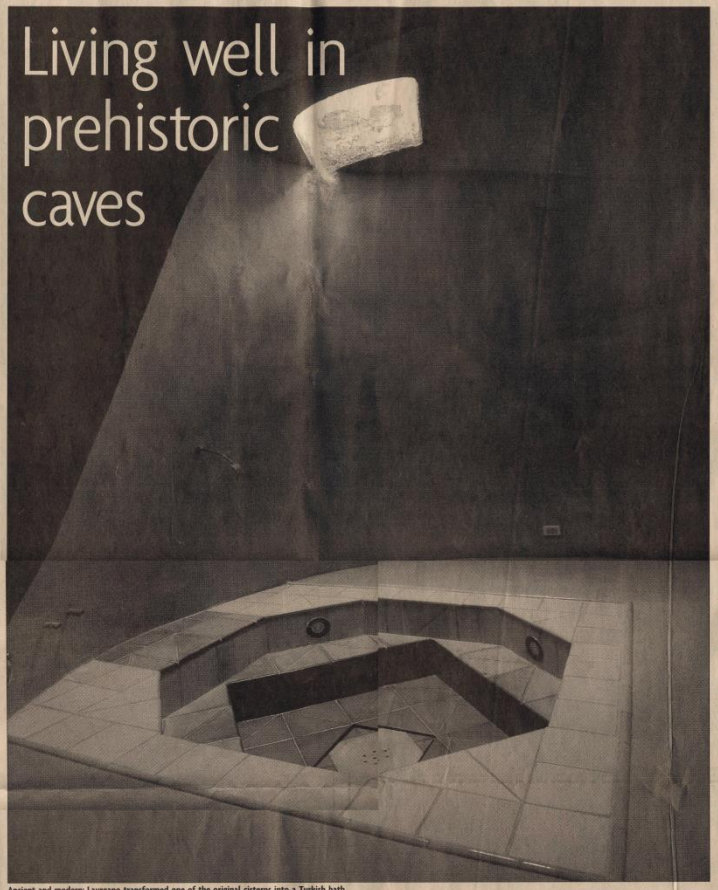
Like most homes in the Sassi, Laureano's is part-grotto and part-limestone block (a material called "tufo" by locals), with a floor plan that meanders across several storeys and eras. Above the prehistoric sitting rooms decorated with African masks, Berber rugs, and Ethiopian Christian iconography, the bedrooms on the second floor have terracotta floor tiles and majestic vaulted ceilings from the 1500s. The third floor is essentially a passageway that widens enough for bedroom furniture and narrows into a dead end staircase.

Laureano began renovating his home in the mid-1990's, when the Sassi (which means "stones" in Italian) was still a ghost town. Grass grew from the walls, pigeons nested in the roofs, bats infested the grottos, and refuse accumulated in dark corners. The government offered generous subsidies to re-inhabit the Sassi, but only a handful of architects and intellectuals, like Laureano, took up the challenge of reconciling modern life to primitive quarters.

> To the elderly who lived in the Sassi until the 1950s, the area represented an infernal youth spent wedged into dark, airless dwellings

To the many elderly who lived in the Sassi until the 1950s, the area represented an infernal youth spent wedged into dark, airless dwellings in which large families shared a single room with their livestock. Fleas, lice, and contagious diseases accompanied lives of back-breaking domestic and agricultural labour. Child mortality was over 40 per cent. Misery had passed from generation to generation for more than 200 years, and the Sassi drew national infamy as the "the shame of Italy". From 1950 to 1958, nearly 17,000 people were evacuated to housing built with government funds in the suburbs.

Laureano says the centuries-old squalor masked the ingenious urban design of an older, more prosperous age. A consultant for Unesco and a specialist in the traditional technologies of North Africa and arid Mediterranean regions, he has spent decades studying ancient methods of coping with desert climates and adapting them for use today. In 1993, he wrote a book called *Giardini di Pietra* analysing Matera's complex water collection system and its maze of subterranean architecture, noting close parallels with ancient settlements such as Petra in Jordan and the Djanet oasis in Algeria. That same year, he persuaded Unesco to add Matera to its list of World Heritage sites.



Ancient and modern: Laureano transformed one of the original cisterns into a Turkish bath

Laureano reckons Matera captured enough water from rain and condensation to develop a thriving pastoral economy, terraced gardens and remarkable urban density. Daily life was organised by Byzantine religious orders from the 9th to the 11th centuries, then increasingly by Benedictines and feudal lords after the Norman Conquest. Hundreds of former churches are carved into the Sassi, many still adorned with Byzantine iconography.

Matera was called "magnificent and splendid" by the 12th century Muslim geographer El Idrisi, and its praises continued to be sung as late as 1595, when the chronicler Eustachio Verricelli described it as "endowed with salubrious air" and "inhabited by ingenious men".

Misery descended in the 18th century, after Matera became the capital of Basilicata under the Kingdom of Naples. The town lost trading ties to nearby towns in Puglia, artisans disappeared, and wool prices plummeted due to competition from abroad. Sassi residents became field hands for local lords. The ruling and religious elite built majestic new quarters on the plain above the Sassi which ruined the water collection system. By 1789, the traveller Fortis described the people of the Sassi as "living in a state of barbarism".

Laureano says his home originally sheltered a single patriarchal family, but housed one family per room by the end of the second world war. His tan cheeks flush as he describes the ancient infrastructure he has integrated into his home. For him, traditional technology is aesthetically and symbolically rich, knitting culture to nature, beauty to craft, present to past lives.

The architect mined ancient recipes to paint the walls with waterproof washes that breathe. Limestone is prone to moisture and erosion, but provides excellent insulation. Come snow or scorching heat, the grotto remains a constant 15°C. The structure's stairwell, built on Arabic architectural principles, creates a "tower" of air circulation. To build an enclosed courtyard, Laureano dusted off a natural method of seasoning bricks long forgotten by local builders.

Of the dozen or so cisterns in his home, Laureano converted one into a traditional Turkish bath, with blue tiles and a great shaft of light filtering down from its defunct mouth. A working cistern under the patio supplies a kitchen faucet and the bathrooms, including one luxurious enough for a five-star hotel.

"I had to demonstrate that you could live well in the Sassi, because the idea was that it was shameful to live here," he says. "I had to do things for the sake of symbolism."

Today, the Sassi is almost fully occupied. Green shutters hang from light pastel walls. Citrus trees and geraniums sit on tidy terraces. Restaurants, bars, and hotels dot the tiny streets. About 2,000 people now live there, according to the town's Sassi Office, leaving room for another 500 or so. About 200,000 visitors came in 2004. But Laureano worries about the fact that the town government does not require Sassi houses to be eco-friendly and about the ever-growing stream of re-settlers and visitors. "Especially since Mel Gibson's film, which gave the Sassi international notoriety, everyone wants to buy a house [here]," he says. "The prices have risen; the municipality didn't limit car traffic. There are many now, who moved into the Sassi when I did, who now want to get out because there is too much noise."

Rocco Canosa, head of the Matera's department of mental health, has a home just as impressive as Laureano's and similar concerns about the Sassi. When he bought his house in 2000, the structure was a ruin; now his sitting rooms are spare and majestic with white walls and cross-vaulted ceilings of exposed yellow stone. Terracotta tiles zigzag across the floor of his kitchen in olive, yellow and reddish brown. The counters are a soft beige local marble called Mazzaro. Burlap cupboard curtains match an artwork of exquisitely woven burlap tatters. A dark timber ceiling blends with wooden heirloom cabinets, while a pair of frilly, blue glass, antique lamps hang on stark wires. There is an ample 15th-century courtyard with panoramic views, a wide, arched gallery and a cavernous, urn-shaped cistern that Canosa hopes to put to use. The canyon unfolds through the windows. A hilltop breeze lifts the curtains.

But Canosa wonders whether he'll be able to preserve the peaceful setting. "The Sassi don't have an appropriate development plan . . . In ten years it could end up a Disneyland for tourists – like what has happened to Venice," he explains. The neighbourhoods "are shaped like an amphitheatre. If someone speaks on the other side at night, you hear it".

Antonio Panetta, meanwhile, argues that tourism needs more attention in the Sassi. He and his wife, Dorothy Zinn, run a hotel called the Locanda San Martino, which has been open for two years. The hotel's name comes from a church, deconsecrated in the 1600s, that now forms two of the hotel's 22 bedrooms. Each room was a separate address, including an apothecary and a kiln. The generous conference area and lounge was a carpenter's shop. Fossil shellfish occasionally float overhead, embedded in the limestone. The breakfast bar is in a cosy grotto with a low, uneven ceiling, and Panetta says that, when the grotto's former residents came to visit, they were so amazed by the transformation that they wept.

> When the grotto's former residents came to visit, they were so amazed by the transformation (into a hotel area) that they wept

"The Sassi are now for a privileged few," Panete explains. "They cost a lot to renovate and maintain. They're difficult to access. They're for a small number of the impassioned." He'd like to see more basic tourist-friendly services, such as a newspaper stand, a bakery and parking.

Matera's mayor, Michele Porcari, says it is difficult to strike a balance between residents and visitors, because there are limits to what can be asked of locals.

"That there are too many cars is true, and we're working on that problem," he says. "I don't believe in [making the Sassi] a prehistoric museum. And I don't believe the Sassi should be commercialised but rather lived in. Thus we need residents . . . because the real beauty of the Sassi is the social life, the life shared. When tourists enter this social context, they experience it."

Back in the 21st century: a revving car engine, a crunch, a curse. On a mild June afternoon, a driver smashes his Audi's side mirror attempting an extremely tight turn in the Sassi. Metal grates stone as the driver extricates himself to judder up the steps of a nearby lane.

ROBERT DUVALL SE PONE LAS BOTAS • ROMAIN PUÉRTOLAS ARRASA • JORGE PONCE EN EMOTICONOS

DOMINICAL

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ARQUITECTO Y ASESOR DE LA UNESCO

Pietro LAUREANO

"Si China sigue nuestro modelo, la humanidad se acaba"

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Relive Matera: UNESCO experience dawns on conservation of China's cultural relics

Updated: 2016-04-18 08:47

By Ruan Fan(chinadaily.com.cn)

Pietro Laureano lives in one of the caves in Matera. [Photo provided to chinadaily.com.cn]

Protecting and preserving cultural relics has been an important task for China, especially in recent years as conflicts between conserving of historical relics and the growing economy stand out in the fast process of the nation's urbanization.

On Tuesday, President Xi Jinping stressed in a national meeting that the conservation of relics is part of the official duties of the CPC and all government departments. President Xi suggested that private sectors should be mobilized and involved in the effort.

Despite the efforts of protecting them, China's cultural relics were not taken care of at its best. Frescoes in Fenghuangshan scenic spot in Northeast China's Liaoning province, for example, was damaged at large after restoration. Sustainable development, though being laid as an important issue by the central government, still lacks concrete and convincing examples of progress.

Given such dilemma, we've invited Pietro Laureano, an Italian architect and urban planner to share with us his experience in conserving cultural relics. As a UNESCO consultant on arid areas, water management and endangered ecosystems, Laureano once spent ten years restoring the historic city of Matera in Italy. He helped turn the once abandoned ruins of Matera into a sustainable city. Matera was also chosen as the 2019 European Capital of Culture.

In an exclusive interview with China Daily Website, Laureano also gave advice on how China could achieve sustainable development in terms of conserving its many cultural relics.


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