Shortlisted 2016

Cities and Community

Palestine Regeneration Team (PART)

Dr Nasser Golzari, Golzari-NG Architects, PART,
   University of Westminster
Dr Yara Sharif, Golzari NG Architects, PART
Professor Murray Fraser, Bartlett School of Architecture,
   University College London, PART

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Traditional courtyard in the
historical centre of Birzeit.
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This is a fascinating piece of work
that bridges anthropology and
urbanism, political and cultural
studies, but also appears to operate
on a design and build level. It is a
complex and multi-dimensional
project that employs an imaginative
and well-established research-from-
practice initiative exploring how best
to regenerate and 'heal' fragmented
places and communities in the
Palestine/Israeli borders. This is an
important and non-romantic examination
that has delivered interesting results
and has generated momentum.

2016 Judging Panel

Palestine Regeneration Team (PART)

Dr Yara Sharif Golzari NG Architects and PART
Dr Nasser Golzari Golzari-NG Architects, PART,
and University of Westminster

Prof Murray Fraser Bartlett School of Architecture and PART

This submission describes the design research of a team seeking constructive ways of using architecture and urban design to mend the fragmented landscape in Palestine/Israel through the principles of 'stitching' and 'empowering'. The aim is to explore spatial possibilities while also demonstrating the links between building and socio-economic regeneration, as a way to address issues of conflict and cultural identity. Importantly, therefore, the team's work demands an alternative approach within the context of Palestine that brings forward 'absent' narratives through spatial means. Using techniques of 'social mapping' and the analysis of everyday life and traditional cultural practices in Palestine, the projects extol low-cost low-energy sustainable design. In addition to designing urban layouts and retrofitting existing buildings in derelict Palestinian towns and villages – in both the West Bank and Gaza Strip – the team also engages in speculative design projects that explore hidden potentials within the fissures created by Israeli occupation. The research team was founded in London in 2008 by two practitioners and an academic, and receives support also from Arup and other environmental specialists. Its projects are developed in collaboration with local organizations and NGOs in Palestine such as UNESCO, UN-Habitat, Palestinian Engineering Association, and Riwaq: Centre for Architectural Conservation. The work presented here builds upon previous involvement in an ongoing programme to regenerate 50 historic towns/villages that together contain half of Palestine's surviving built heritage, two projects for which won prestigious international architectural awards in 2013 and 2014. This submission however focuses on recent projects that push the urban and sustainable design approaches further, and which involve close participation with community groups. A wide range of exhibitions, publications, lectures and workshops have been used for dissemination. The overall proposal is for a form of 'green stitching' of derelict urban areas that has relevance for all countries, not only Palestine/Israel.

Introduction
"Stitching & Empowering"

This submission describes the design research of the Palestine Regeneration Team (PART). Through a sequence of responsive design interventions, PART's aim is to find constructive ways of using architecture and urban design to mend the fragmented Palestinian landscape through the principles of 'stitching' and 'empowering'. In addition to designing urban strategies and refurbishing buildings in derelict towns and villages in Palestine, PART also engages in speculative design projects that explore hidden potentials within the fissures created by Israeli occupation.

Figure 1a
Maps of the '50
Villages' in the
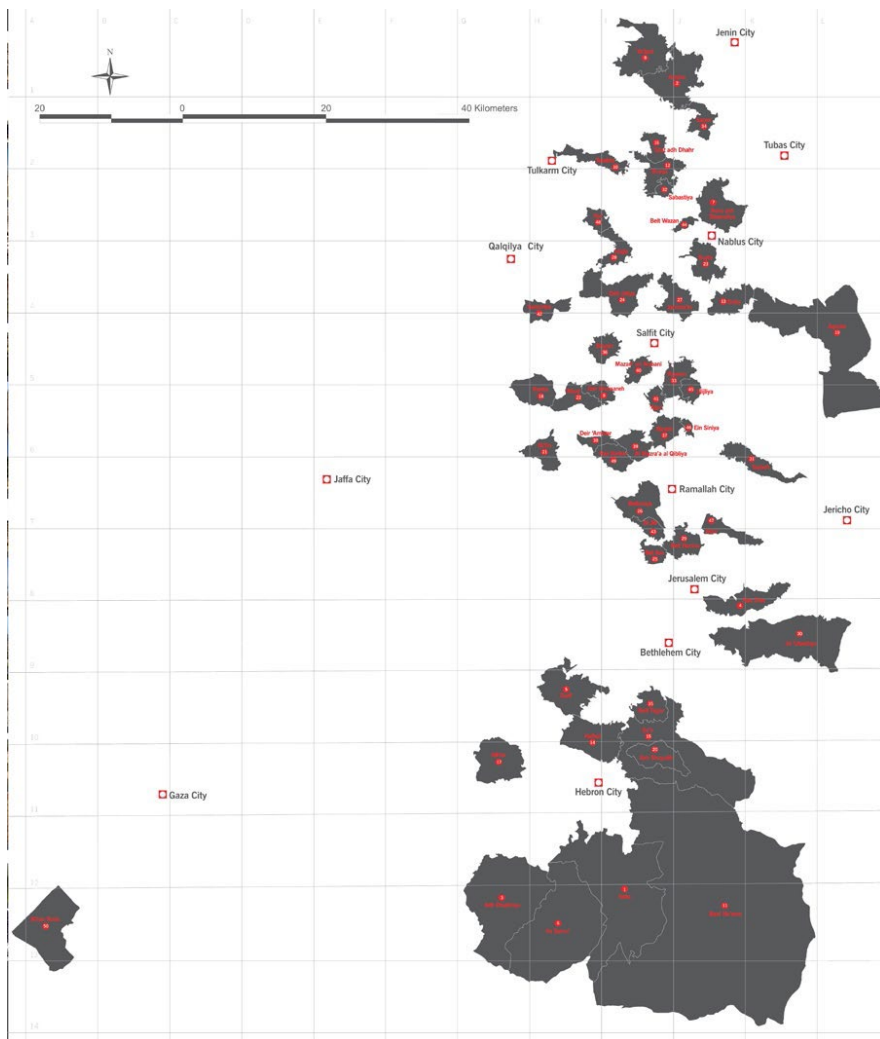West Bank and
Gaza Strip.
© Riwaq

Figure 1b
Maps of the '50
Villages' in the
West Bank and
Gaza Strip.
© Riwaq

Figure 2
Photograph of a typical
Palestinian rural scene
in the West Bank with its
cultural landscape divided
by invisible lines that
demark Areas A, B & C.

PART was founded in London in 2008 by two practitioners, Yara Sharif and Nasser Golzari, who run Golzari NG Architects (NGA) and teach at the University of Westminster, along with another co-founder, Murray Fraser, professor and vice-dean of research at the Bartlett School of Architecture, UCL. All of PART's projects are carried out through the agency of Golzari NG Architects. Miriam Ozanne, a mechanical/services engineer at Arup, as well as other environmental specialists, supplements the core team. PART works closely with local organizations and NGOs such as UNESCO, UN-Habitat, Palestinian Engineering Association, and Riwaq: Centre for Architectural Conservation. For example, it is engaged in Riwaq's regeneration of 50 historic towns and villages that together contain half of Palestine's surviving built heritage. The pilot project – with NGA/PART as a consultant – to revive the historic centre of Birzeit, near to Ramallah, was given an Aga Khan Award for Architecture in 2013. PART and Riwaq also jointly won a 2014 Holcim Award for Sustainable Construction in the Middle East Region for their design proposals for Beit Iksa near Jerusalem, now in process. PART is currently also involved in other projects and interventions for the region, such as the Gaza Learning Room, Gaza Self-Help prototype, Open Gaza project in collaboration with Michael Sorkin, Terreform in New York and over the years it has organized lectures, exhibitions, workshops and events in Britain and elsewhere to disseminate its design research.

Aims and objectives

PART's main aims are to examine and respond to the spatial fractures caused by many years of Israeli occupation, and to seek architectural/urban means to 'stitch' together the fragments and to 'empower' Palestinians across the map. Its role is thus far removed from what some NGOs and aid organizations currently offer in Palestine. Like in any state of occupation, there is a thin line that separates not only Palestinians from Israelis, but also Palestinians from themselves, creating deep social divisions. The crucial question today is whether these spatial fractures can be healed.

PART also seeks to use its projects to demonstrate the links that exist between building and socio-economic regeneration, as a dynamic yet sustainable means of addressing issues of cultural identity. Importantly, therefore, its work demands a change of attitude towards architecture and conservation of cultural heritage, moving away from what is an essentially reactive and romantic act to a critical approach embodying a strategy for social change. In Palestine, any act of preserving/conserving cultural heritage becomes *per se* an act of resistance and a form of creative action. In this sense, PART can be regarded as being political by being apolitical. Taking a critical approach to architecture is often stereotyped as being 'negative' or sometimes even dismissed as a 'luxury' available to those in developed western countries.[1] Instead, PART argues that critical practice needs to be adopted as an essential part of architectural design throughout the world, including Palestine – a country deprived of many basic resources, yet rich in terms of its cultural practices. How, then, might an appropriately critical mode of architecture be conceived and pursued under such conditions?

If Palestine's regeneration is to be enriched by critical practice, the present cultural context – with its unseen social networks and habits – must become the most vital resource for designing sustainable communities. The acts of 'stitching' and 'empowering' can only be built up from below. Invisible and informal social and management networks already exist, and PART, in partnership with local organisations, aims to make use of them. For its initial stage, back in 2008, NGA/PART along with Riwaq formed the ThinkNet, a selected team of architects, planners, economists, sociologists, anthropologists and conservationists from the UK, Europe, USA, Middle East and Palestine that could advise upon issues of urban regeneration, social need and cultural identity. The UK team, led by PART, focused on two scales: firstly, the urban scale of 1:10,000, and secondly the 1:1 bodily scale experienced by Palestinians in their daily lives. The goal was to devise responsive interventions within the existing built fabric that would create a collective strategy to enhance local social and economic self-sufficiency across the map. A colloquium of the London-based members of the ThinkNet was held at the Westminster University in May 2009, hosted by PART, and including practitioners/theorists such as Peter Barber, Mike Edwards, Pamela Edwards, Abe Hayeem, Richard MacCormac, Fergus Nicol and Jeremy Till.

Research Outline: Context/Methodology/ Structure

Research Questions
Vital to all of the design work by PART are the following research questions:

1. How can architecture heal, stitch and empower within the Middle Eastern context?
2. How can critical design research/practice enact change within a conflict zone?
3. How might low-energy sustainable design take on a more political approach?
4. How might everyday life and silent forms of resistance be incorporated into architectural/urban design?

Research Context

The initial springboard for PART's work in Palestine came from partnership with Riwaq: Centre for Architectural Conservation, a non-profit organization based in Ramallah set up in 1991 to protect architectural heritage across Palestine. It was founded by Suad Amiry, a well-known architect and author of several novels. Since 1991, Riwaq has been the leading agency for architectural conservation in Palestine. While it is difficult to tackle the renovation of all Palestinian built heritage – which, according to Riwaq's register, amounts to 50,320 historic properties in 422 sites across the West Bank/Gaza Strip – it has through its '50 Villages' project prioritized the regeneration of 50 towns and villages that would lead to the protection of around half of surviving historic buildings.[2]

There is a real challenge in attempting this 'stitching' and 'empowering' in the Palestinian context. In retrospect, the changes that took place within Palestine's landscape were relatively minor up until 1948, when, following the formation of the Israeli state, hundreds of villages were destroyed and indeed erased from the map to enable re-occupation. Later, after the 1967 War,

further dramatic alterations took place in Palestine through more destruction, zoning and land confiscation, plus the removal of local narratives. A subsequent major change in Palestinian towns and villages has been the form of 'global capitalism', described by Jubeh, imposed upon the population.[3] This destruction of traditional socio-economic structures has affected people's perspectives, beliefs, needs, and most importantly, their day-to-day practices. Palestinians' relationship with their land has transformed gradually, with farming no longer seen as a viable source of income. Instead, increasing numbers of ex-agricultural workers now work in Israel as wage-labourers.

With this capitalist transformation from the 1990s, compounded by the 1993-94 Oslo Peace Agreement that constricted built-up areas a few key cities, the buildings erected in the West Bank and Gaza Strip have taken on a different shape. Concrete-and-blockwork structures now replace traditional stone buildings, and, over time, residential dwellings have encroached upon more and more agricultural land. Whenever horizontal expansion became impossible, the alternative in the West Bank was for high-rise buildings that are alienating and destroying the urban/cultural landscape. Today, therefore, most of the surviving Palestinian historical fabric is abandoned, and rural areas are suffering the most given their peripheral location. Nonetheless, the context is also loaded with potential, triggering a fresh approach by PART for the '50 Villages' project and other schemes.

Working on the historic centre of Birzeit as the pilot for the '50 Villages' project, constructed during a period lasting from 2008-13, offered

the initial way to address these issues. Close to Ramallah, and an important university town, Birzeit's decayed historical centre consisted of irregular winding clusters of one-or two-storey traditional houses with shallow domed roofs and stone walls. Despite their cultural and aesthetic wealth, many of these had fallen into a chronic state of disrepair and as such were sparsely populated, making Birzeit an excellent representative of current conditions in the rural/peri-urban areas of

Figure 4
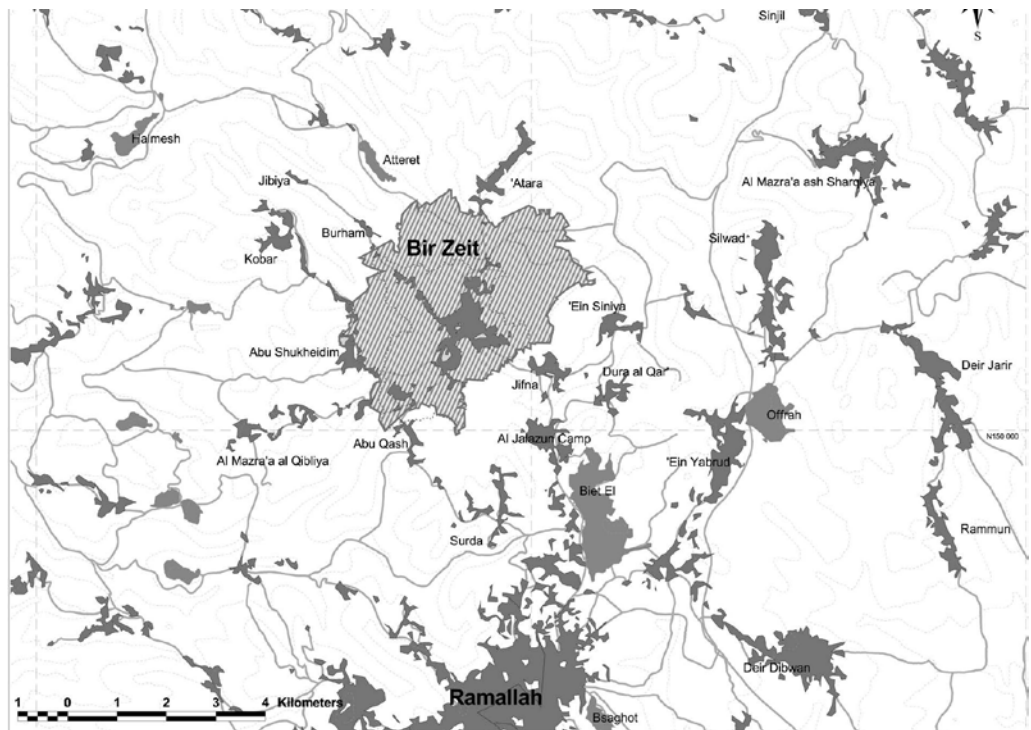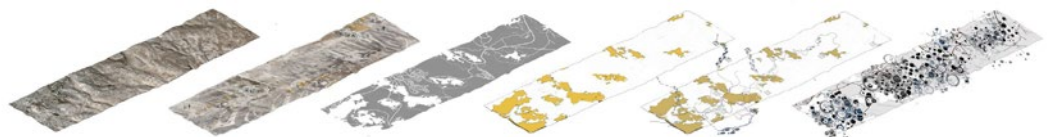Map of the Ramallah region including Birzeit and its surrounding built-up areas.

Figure 5
A strip of land showing the complex matrix of formal and informal layers in the West Bank.

Palestine's central highlands. Olive-tree terraces surround the town, and its name – which translates as 'the well of oil' – refers to the olive-oil wells that still exist today. Birzeit is also located in land classified by the Oslo Agreement as 'Area B' (i.e. territories nominally in the administrative control of the Palestinian National Authority but in reality controlled by Israel). This situation, combined with problems about who now owns the old buildings after so much political upheaval, had only served to push Birzeit's built heritage down the list of civic priorities.

Thus the process of devising a novel regeneration strategy for Birzeit, which PART addressed along with Riwaq back in 2008, began by posing some critical questions. How does one create a successful balance between protection, development, comfort and aesthetics? Which parts of the historical centre were most important to refurbish, and how could these be socially and economically sustainable? Should one encourage the relocation of Palestinian businesses or Birzeit University to this derelict district, or instead aim to attract new cultural tourists? Were iconic buildings a necessary component to regenerate historic centres, or should we advocate an understated design approach better suited to existing patterns of local life?

Given the uncertainties under which Palestinians now live, the empowerment of local citizens became from the outset a vital element in the team's design strategy. The closest parallels are with Nabeel Hamdi's theory of 'small change' or the community-driven projects by Teddy Cruz along the Mexican/US border.[4] To relate its

proposals to local people, based on an extensive process of consultation, PART proposed that all architectural and urban interventions, whether visible or invisible, needed to be embedded into the existing historic fabric to provide clear sense of continuity. This dialectic process between theoretical research and social engagement offers new readings of Palestinian built-up areas, with the margins now playing a key role. In the case of Birzeit, many of the concrete-and-blockwork buildings were reconceived from being dull boxes that damaged the environment and should be demolished, to being treated as vital locations of urban livelihood – whether as an informal coffeehouse, children's tree-house, mechanic's garage, or bike-repair shop. Seemingly messy leftover spaces were used as generators for social dynamics and to link the historical centre to the wider context, an approach introduced by NGA/PART that is still unique within Palestine and the Middle East generally. In 2013 the project to regenerate Birzeit, enacted by Riwaq, was granted a prestigious Aga Khan Award for Architecture. Since then, PART's strategy has been developed in subsequent designs with Riwaq on the '50 Villages' programme, notably for Hajjah (2011-15) and Beit Iksa (2014 to present), and the Gaza strip which will be featured in the text that follows.

Research Methods
Above all, PART's work is intended as an example of design research in architecture, which all it members have been closely involved in through their writings and doctorates.[5] As a working definition, architectural design research refers to

the processes/outcomes of inquiries and investigations in which architects use the creation of projects, or broader contributions towards design thinking, as the central constituent in a process that also involves the more generalised research activities of thinking, writing, testing, verifying, debating, disseminating, performing, validating, etc. Adrian Forty has shown that architects have deployed a combination of these modes of expression for a rather long time in their work.[6] It is vital that the design element and other modes of research activity and research methodology

Figure 6
Conceptual drawing by PART for the historical centre of Birzeit, proposing two routes to form parallel spines for the urban design strategy.

operate together in a symbiotic manner, with each feeding into others throughout the whole process from start to finish. In turn this raises an important point about temporality, in that design research is not something that happens at the beginning of a project, as a sort of R&D stage, before the architect 'lapses' into more normative productive modes. Indeed, architectural design research is open to the full panoply of techniques for designing/making that are available to architects (including sketches, drawings, models, digital imaging, precedent analysis, prototyping, interactive design, materials testing, building process, user feedback, etc).

In terms of its research methods, PART's distinctive technique of 'social mapping' is used in all projects to explore the spectrum of invisible networks, socio-economic activities and emotional responses onto a site. Mapping is not only used as a method to record the facts on the ground but also to imagine scenarios that might happen. These processes are always carried out with local community groups through diverse activities such as interviews, surveys, workshops, archival research and personal observations.

Urban design proposals are hence sketched, modelled and tested as part of developing the final suggestions. Working with local NGOs and other community groups, PART's intentions for urban interventions are very much along Nabeel Hamdi's idea of 'small change', whereby invisible urban alterations can ripple through to have far larger repercussions, not least in this case by acting as work creation for local builders. Overall the intention is to create possibilities within the historic centres and beyond through architecture

that has social, economic and cultural ambitions. This includes ways to rethink housing, affordable sustainable technologies, cultural interaction to counteract the current tend towards the atomization of socio-spatial arrangements in the West Bank.

Environmental testing is also used by PART to reconfigure typical existing dwellings to save energy and improve internal thermal comfort through simple modifications and/or extensions. This is based on intensive *in situ* climate monitoring using temperature/humidity monitors and is overseen by two acknowledged experts in low-energy design, Mike Wilson and Fergus Nicol, who both worked previously with Nasser Golzari on developing environmental strategies in Iran that were then adapted to Palestine's climatic context. The need to promote low-energy ecologically efficient design is a deliberate response to Israeli policies of monopolizing the provision of water and other essential resources, with these being sold back to Palestinians at inflated prices. This politicized reading of the need for low-energy design was emphasized by Murray Fraser in his speech to the 2009 RIWAQ Biennale in Ramallah, and has since become a fundamental principle for PART. The aim is to seek ways of alleviating dependency on Israel for water and electricity, thereby making inhabitants more self-sufficient. PART's approach was further developed to address what Nasser Golzari calls 'invisible and affordable technologies'. These are inspired by daily cultural practices, which in turn form collective environmental strategies that accumulate across the different parts of Palestine to address the control of resources.

To enhance these processes of design and testing of individual buildings, PART's environmental strategy has since been extended to using 'greening' as means to create 'urban pockets' that can stitch together the Palestinian built fabric. PART initially devised this strategy for the Gaza Strip, and later for Hajjah in 2012. It included the principles in a booklet titled *Green Initiatives and Guidelines for Building Practices*, which applies both to new and refurbished buildings. This approach is being pushed even further in Beit Iksa's Eco Kitchen project, where PART is presently developing a unique technology designed using local labour and recycled materials that provides the first-ever 'green roofs' in Palestine.

The direct physical fabrication of built elements and services systems is used to test out new construction methods, which generally involve the adaptation of traditional forms. Again, PART's building experiments were first implemented *in situ* in Gaza and subsequently in other towns such as Hajjah and Beit Iksa, as well as in prototypes

Figure 7
Typical section through a traditional Palestinian rural house showing its cross vaulting and stepped floor levels.
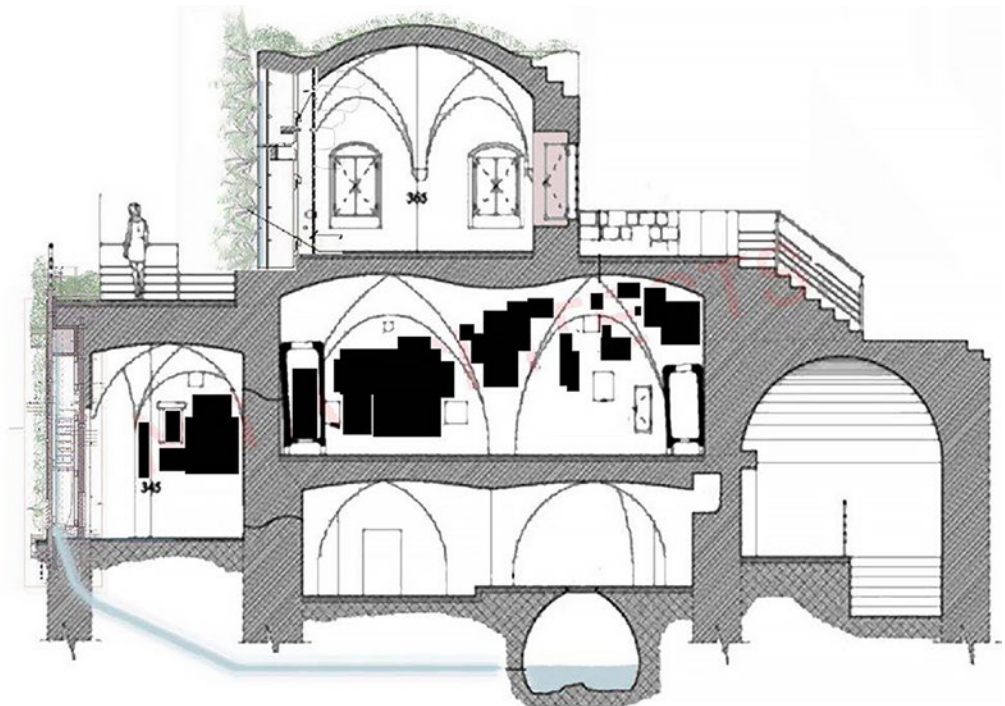
made as exhibition pieces. These experiments with materials and techniques are aimed to find low-cost but aesthetically successful models of construction that Palestinian builders can easily learn about and use.

Furthermore, members of PART are involved in designing speculative and experimental projects, which test out new spatial possibilities within the fractured spaces created by the occupation. Many of these ideas stem from Yara Sharif's PhD by Design, entitled 'Spaces of Possibility and Imagination within the Palestinian/Israeli conflict'. Speculation plays an important role within PART's methods, producing a continuous navigation between the physical and the virtual, the real and the speculative. It is a process that has been developed yet further by PART members in their teaching and research by design at Westminster University, Oxford Brookes University and University College London.

Document Structure
Having set out the basis for regarding PART's work as a clear example of design research in architecture, with its close links between practice and academia, and a focus on 'stitching' and 'empowering', the structure of this booklet is that it will explain firstly the urban thinking behind PART's projects and then look at the environmental strategies in the subsequent chapter. This will be followed by a fourth chapter that gives an account of the ways that PART is disseminating its design research, and after that a concluding section will outline some of the recent or forthcoming initiatives that it is involved in.
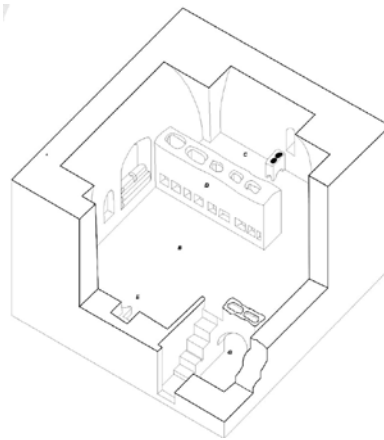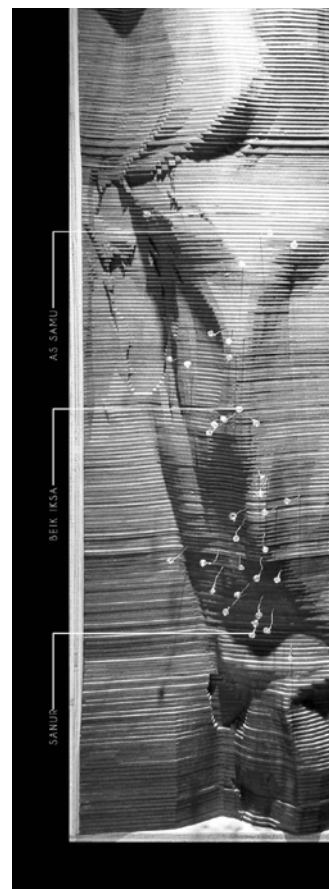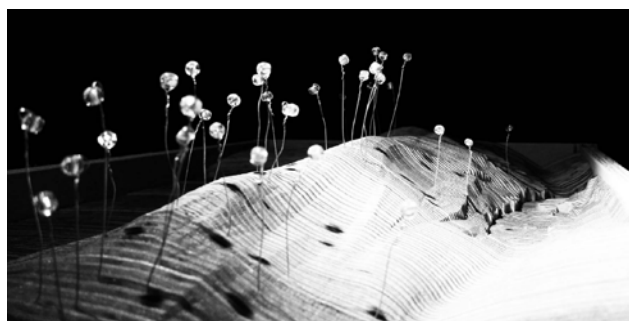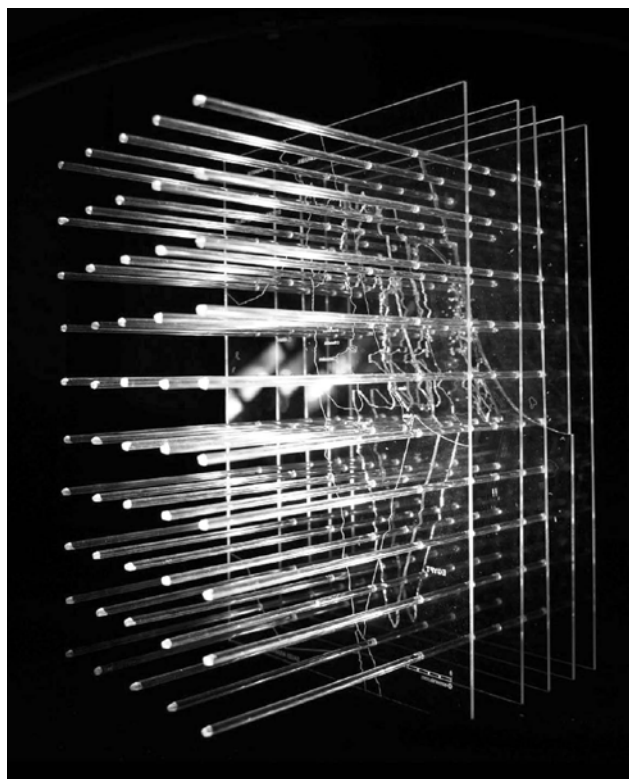

Figure 8
A section through the historic building known as Rabi Attic, showing PART's proposed passive environmental interventions including green-wall construction, water-filtration system and evaporative cooling wall.

Urban Strategies
The fundamental strategy used by PART for its projects is rooted in the need to look at street-based models of urban regeneration in Palestinian towns and villages, which in turn is based upon understanding traditional and contemporary forms of everyday life. This is not simply to improve the social and cultural mixing of local people, but also for economic reasons. Encouraging street-based commercial activities such as shops, markets, and other public facilities – in contrast to the car-based planning being used for most new urban development in the West Bank – can help to make streets become once again the spines for activities that bring life back to towns and villages, thereby challenging the economic and political constraints of the current situation. What is required therefore is a conception of Palestinian towns and cities as a continuous network with many polycentric nodes of growth and development, and with also extensive

Figure 9
Conceptual models
by postgraduate
architectural students
at Oxford Brookes
University that explore
different ideas of
layering and stitching
© Albert Suen,
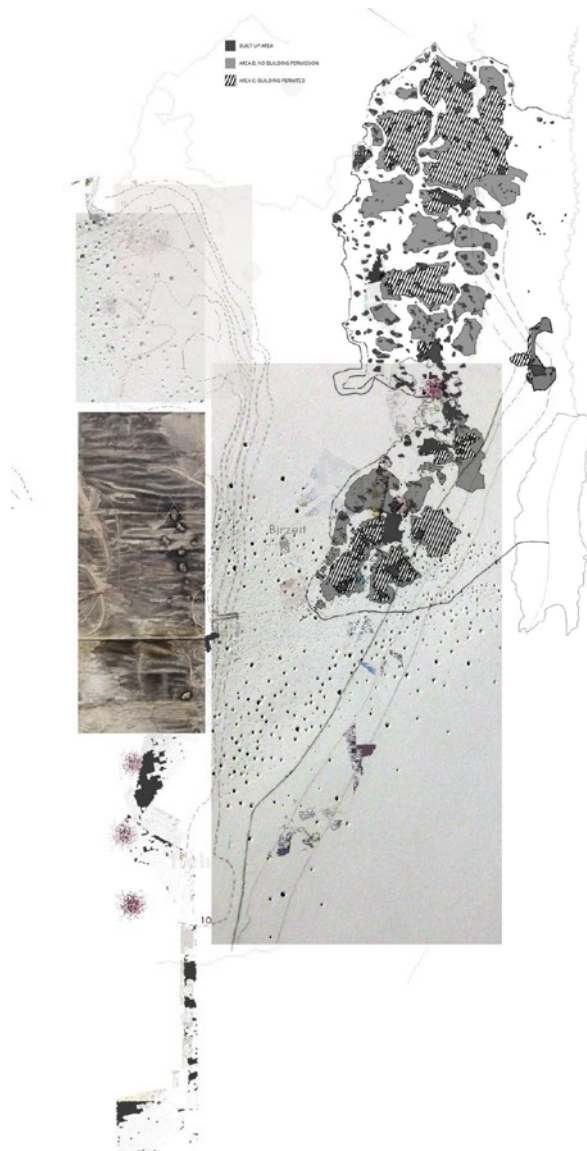Luke Evans, David More
and John Ball.

Figure 10
Compound image showing, right, a map of the West Bank showing the fragmentation of the land into Areas A, B and C based on the Oslo Peace Accords, and left, Yara Sharif's proposal to stitch the Palestinian landscape using the many stone quarries as new matrixes to reconnect people from below the ground.

The West Bank in fragments
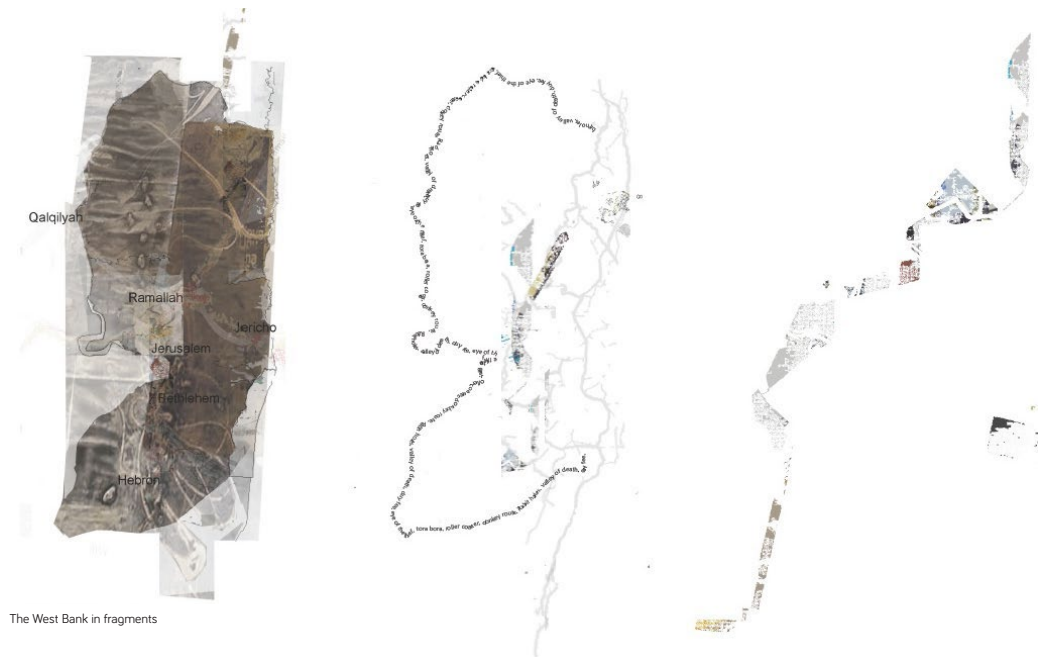
communication links that can be brought into play when needed. PART regards this condition as a matrix that, if overlapped and crisscrossed, is able to create endless possibilities for 'stitching' and 'empowering'. The most effective form of urban resistance lies in creating vibrant streets that cannot easily be stopped or blocked.

In this sense, two approaches are especially important within the urban strategies devised by PART, the first being that of 'social mapping' and the other involving the idea of 'stitching'. To give examples, PART's proposal for Birzeit was strongly based on an analysis of the links with Ramallah and other surrounding towns and villages, and now

in the case of Beit Iksa, the intention is to connect the changes to the agricultural areas around, even to seemingly dead and leftover spaces, to make them also elements within the urban strategy. Hence this chapter will now discuss these themes in relation to the earlier work in Birzeit and to the current project that Riwaq is engaged with on site, with PART as the lead consultants, which is for the village of Beit Iksa next to Jerusalem.

'Social Mapping'
PART's approach is that the local cultural context, with its complex social networks and everyday habits, provides the main source for rebuilding

sustainable communities and spaces. In order to be relevant to a community, and others who might use the site, any architectural intervention needs to respond to and celebrate the daily local rituals. To uncover new ways of reading a given place, PART applies the innovative technique of 'social mapping' to reveal and record the spectrum of invisible moments, using these then to plot social activities and emotional responses into the design interventions. Given that 'social mapping' is a relatively new investigatory method, its application in Palestine wasn't always easy; our main challenge was to convince Riwaq and other groups to appreciate specific activities or observations of inhabitants as signs of dynamics within a site, as part of the emphasis on largely unseen social networks. But it is essential to pay attention to these urban systems. As Maurice Mitchell observed during similar work in Kosovo:

> '… none of the activities mapped have meaning on their own, it is the matrix of these activities, the networks that make them alive the key tool. It is the collectiveness of these activities that gives the town its meaning'.[7]

The act of plotting invisible activities onto the maps of historical centres led PART to the identification of dynamic spots that could be used to assist the subsequent urban design. In Birzeit, for example, new routes were identified that were based on invisible and informal activities seen as vital for 'stitching' and 'empowering'. These could be as minor as an impromptu bike-repair shop created by local children that was turned into something more visible and formal. In Beit Iksa, the

act of 'social mapping' led to the unveiling of an invisible world of what are known as 'night hunters', referring to the unofficial flotilla of Palestinian workers who use this dead space as a secret bridge to working on the other side of the 'Separation Wall' in Jerusalem. From this analysis the need for specific men's spaces, women's spaces, and also children's spaces were all identified as part of the process of re-stitching required between Beit Iksa and its surroundings, and most importantly with Jerusalem. In this manner, the 'social mapping' by PART became a way to bring back the absent narratives of Palestine in spatialised form.

This particular aspect within PART's approach is hence intended to celebrate the ordinary. It brings with it an entirely new dimension to the reading and alteration of urban space. A series of collective events and workshops organized constantly with the local inhabitants, such as in Beit Iksa, offer the means for PART to create dialogue, build confidence, and uncover even more about the potential of the place. By slowing down the design process to observe day-to-day habits, incidents and narratives – plotting and relating them back to a program of activities – one can create a more sustainable regeneration approach. What is remarkable is that these moments, often little fragments which are almost too small to be noticed, seem to possess a unique state of invisibility, but yet if pulled together within a design proposal they can contribute immensely to the regeneration of a place. PART's approach has therefore been much less about confrontational design interventions, and more about celebrating normality and bringing it gently to the surface.
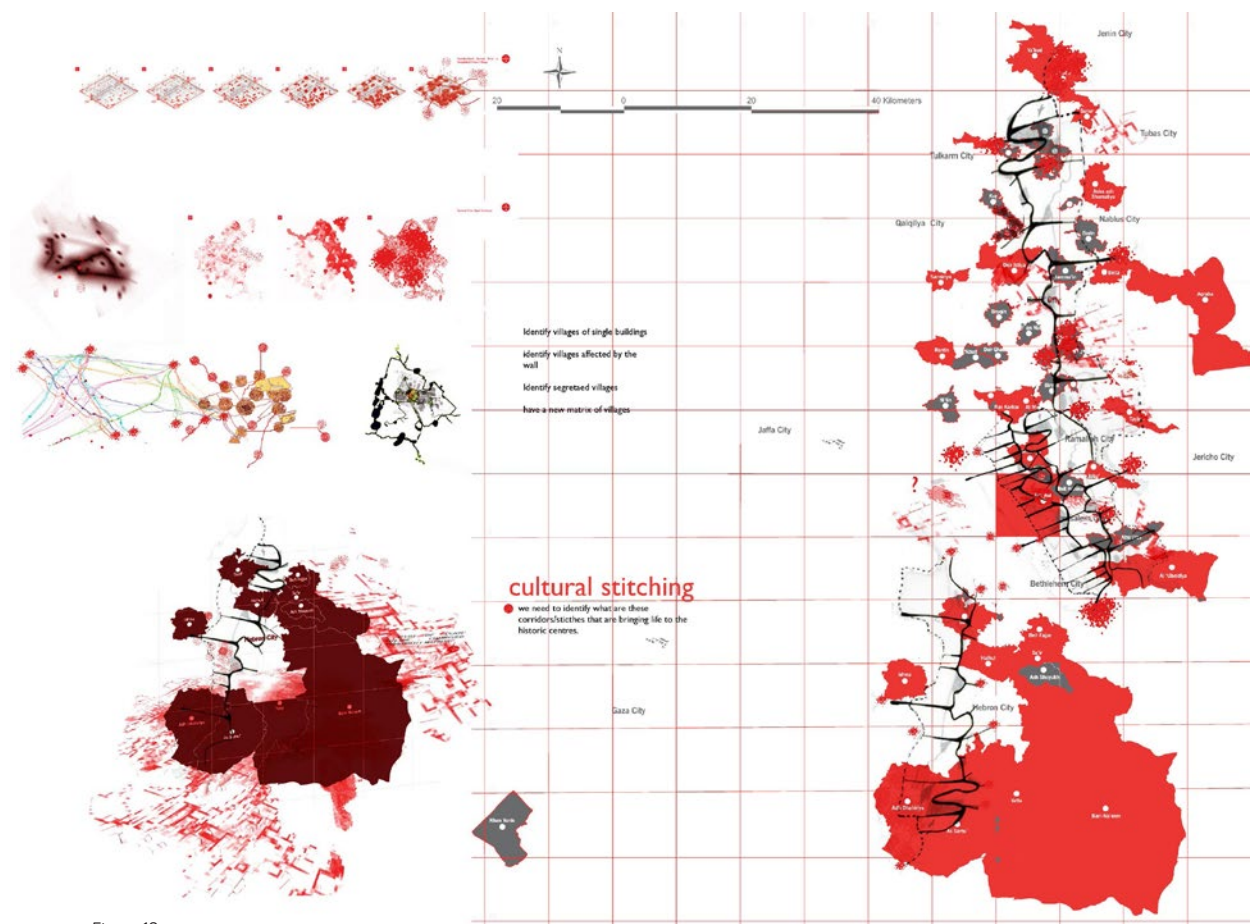
Figure 12
Sketch proposal by
PART for various
possible matrixes across
the Palestinian map,
which if overlapped
and crisscrossed could
create future scenarios
for restitching.

cultural stitching

we need to identify what are these
corridors/sticthes that are bringing life to the
historic centres.

Identify villages of single buildings

Identify villages affected by the
wall

Identify segretaed villages

have a new matrix of villages

Figure 13
Mapping of the journeys of informal street vendors in the noman's-lands within the Palestinian landscape.

'Stitching'

As mentioned, the village of Beit Iksa is currently PART's main site of investigation, and is pushing further the notion of 'stitching' together fragmented landscapes. With the problematic location of Beit Iksa on the outskirts of Jerusalem, only a mere 1,600 inhabitants are left there. The village is now encircled by new Israeli settlements and by two major pieces of infrastructure that will cut off its Palestinian residents from their nearby agricultural lands. One is the 'Separation Wall' and the other is a proposed new railway line/station. As in many other West Bank villages, this complexity

of the map on the ground, along with the scarcity of water and other essential resources, plus a great deal of surface pollution, has left this once self-sufficient agrarian society as marginalized and with a level of unemployment that exceeds 75% of adult males. Yet what might be viewed today as an unimportant, 'invisible' village was once a witness in the past to significant historic events, each of which has shaped its character and added to its built fabric. The most notable event was Napoleon Bonaparte's visit to Beit Iksa right at the end of the 18th century, which duly gave the village its name, but also influential historically was the strong ties

Figure 14
Speculative drawing
and model of bird
follies to form a new
habitat for birds to
reclaim border lines.

between this village and the Ottoman Empire, since it was one of the 24 so-called 'throne villages' used to govern the region.

The above qualities placed Beit Iksa high up on the Riwaq's list for the '50 Villages' project, and this has led to the ambitious revitalization scheme now underway. In addition to PART's strategy to 'stitch' the village into the surrounding network of Palestinian fabric, a series of design interventions are currently taking place on site in Beit Iksa,[8] many of them on a small scale and based around capturing informal agencies. In order to achieve this, the emphasis was placed on the concept of 'shifting scale' between the two dimensions of 1:10,000 and 1:1, whereby the details of these everyday buildings, with their seemingly simple ideas and observations, can also be used to underpin the wider urban strategy of 'stitching'. The hope is thus to make a qualitative addition
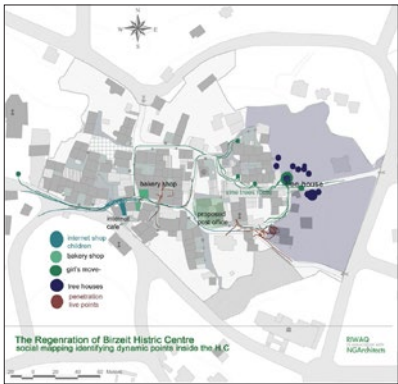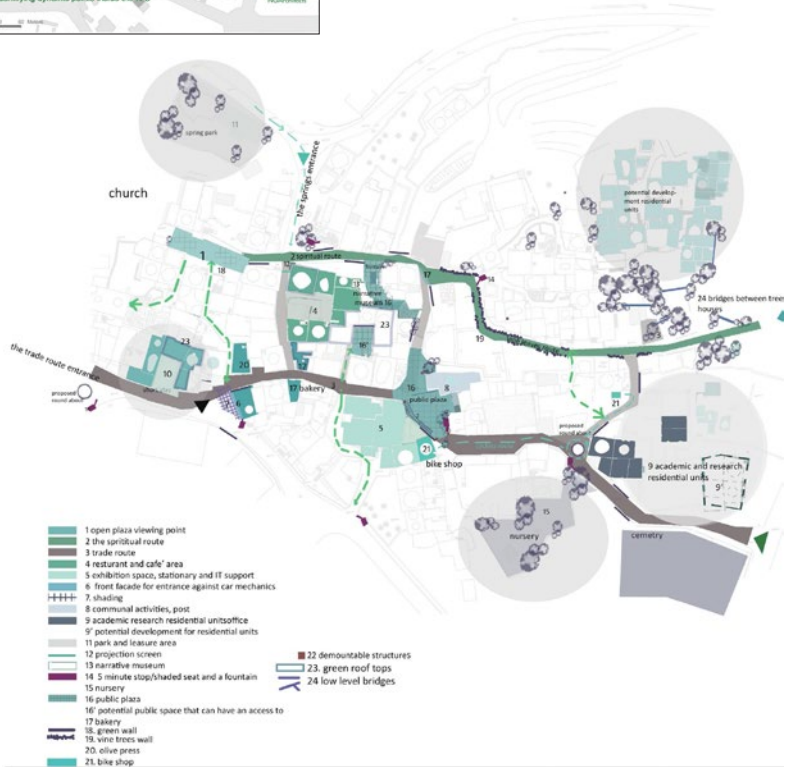
Figure 15
PART's urban proposal for Birzeit's historical centre based on the two proposed routes through the town and the associated 'urban pockets' inspired by the 'social mapping' of everyday life there

1 open plaza viewing point
2 the spiritual route
3 trade route
4 resturant and cafe' area
5 exhibition space, stationary and IT support
6 front facade for entrance against car mechanics
7. shading
8 communal activities, post
9 academic research residential unitsoffice
9' potential development for residential units
11 park and leisure area
12 projection screen
13 narrative museum
14 5 minute stop/shaded seat and a fountain
15 nursery
16 public plaza
16' potential public space that can have an access to
17 bakery
18. green wall
19. vine trees wall
20. olive press
21. bike shop

22 demountable structures
23. green roof tops
24 low level bridges

also at the regional scale. This can only be done by 'empowering' communities through offering them a means to improve their environment and living conditions, so as to respond to the urgent issues they face daily. Therefore, the speculative design approach for Beit Iksa is in line with other projects devised by PART, and enacted by Riwaq, which offer examples of responsive sustainable design.

At the larger urban level, i.e. 1:10,000, a study of the map of the area showed that due to the presence of the Green Line, 'Separation Wall', the demolition of local buildings, and other factors, the village of Beit Iksa has become now all but invisible from the air. So in order to connect it once more with Jerusalem and the neighbouring villages of Deir Yassin and Lifta, PART took the earlier speculative study in Yara Sharif's PhD by Design that re-imagined uses for the air and underground in the West Bank. Realising that Beit Iksa sits on a crucial bird migration route, a series of tall bird folly structures have thus been placed to create stopping off stations for birds on a line that runs all the way to Lifta at the other end. Economic corridors are also proposed to provide better transport links to other villages, and a so-called 'memory' belt is being introduced around Beit Iksa to remind citizens of key historical buildings that remain. And also at the urban scale in the village there was a similar policy as used in Birzeit of repaving the streets and providing small shaded public seating, all of which is intended to reinforce the local sense of community.

At the 1:1 scale of design interventions proposed by PART, these consisted of three key features that responded to the findings of the 'social mapping' stage – i.e. the men's bus stop, the women's eco-kitchen and the children's eco-playground. For the first step in this level of 'stitching' in Beit Iksa, two abandoned buildings in the historical core are presently being refurbished and adapted for reuse as working spaces. The latter includes the eco-kitchen for the local women's association, which in turn is linked to the concurrent landscaping project to rehabilitate the spaces around the building for local citizens into interactive educational playgrounds for children, areas with winter-seating and summer-seating, and a protected bird habitat. Tall spindly steel posts are being made by local builders to provide urban markers and create shady areas to sit underneath. And given that this area of Beit Iksa is on a sloping site, terraced growing areas are also being formed into a series of 'green roofs' so that the local women's association can grow the fruit and vegetables needed for the kitchen. It was for these combined social, environmental and agricultural aims that this Riwaq project for Beit Iksa, in which PART is centrally involved, was given a Special Commendation in the 2014 Holcim International Sustainability Awards for the Middle East Region, and hence it is worth now looking in more detail at the environmental strategies that PART has been developing in parallel with its urban aims.

Environmental Strategies

As a result of the research that PART has been carrying out into environmental issues, it is manifestly obvious for Palestinian architects/urban designers to become as ambitious as possible in relation to low-energy design and sustainable

urbanism. While in western countries these aims are often attributed to our collective guilt about human-made climate change, in Palestine the impetus stems from the way in which the Israeli government has permitted companies to acquire a monopolistic position in terms of providing essential services such as water, electricity, gas, etc., with these services being sold to Palestinians at a far

higher cost. It is a recipe for future impoverishment of Palestinians, and the appropriate response is to reduce the amount of energy used and to increase the recycling of resources. The urgent demand for a strategy for affordable technologies that can create more livable conditions for citizens has been vividly expressed by Swyngedouw et al:
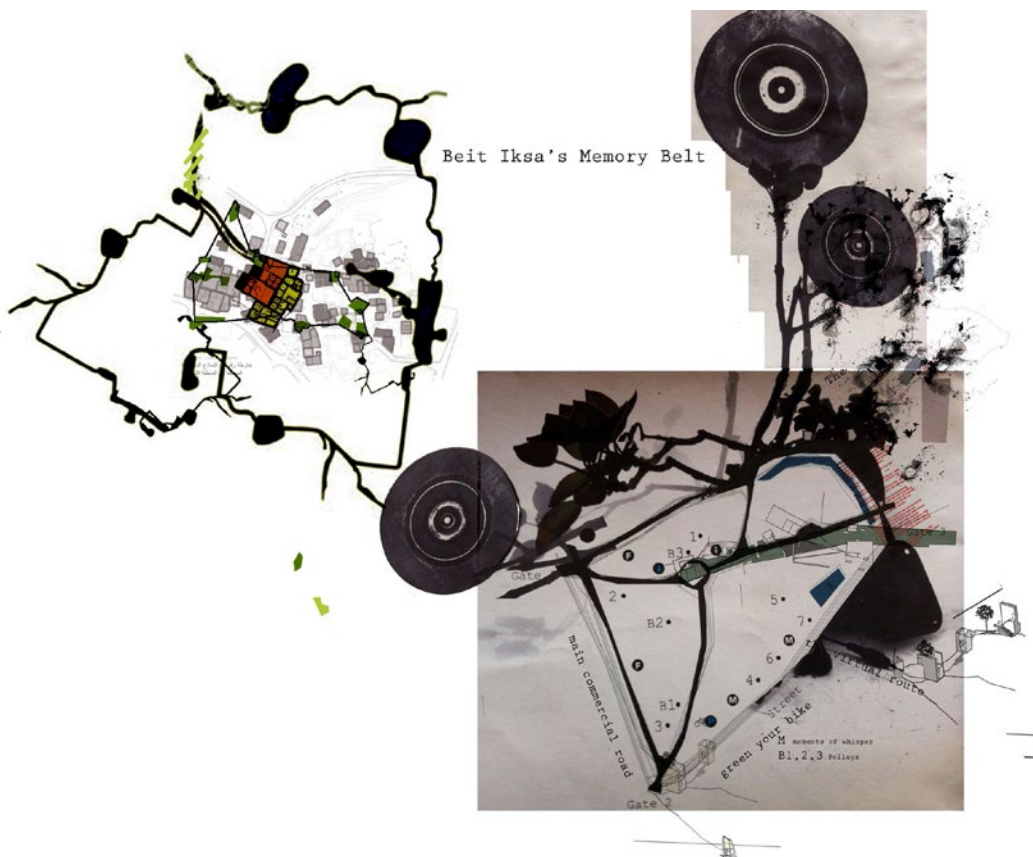

Figure 16
Conceptual urban strategy by PART for the village of Beit Iksa proposing a 'memory belt' that links significant historical buildings and also some extended 'economic corridors' to stitch the village to its surroundings in order to help the regeneration process.

Figure 17
Detailed drawing of the
proposed interventions
for Beit Iksa showing
also the three key sited
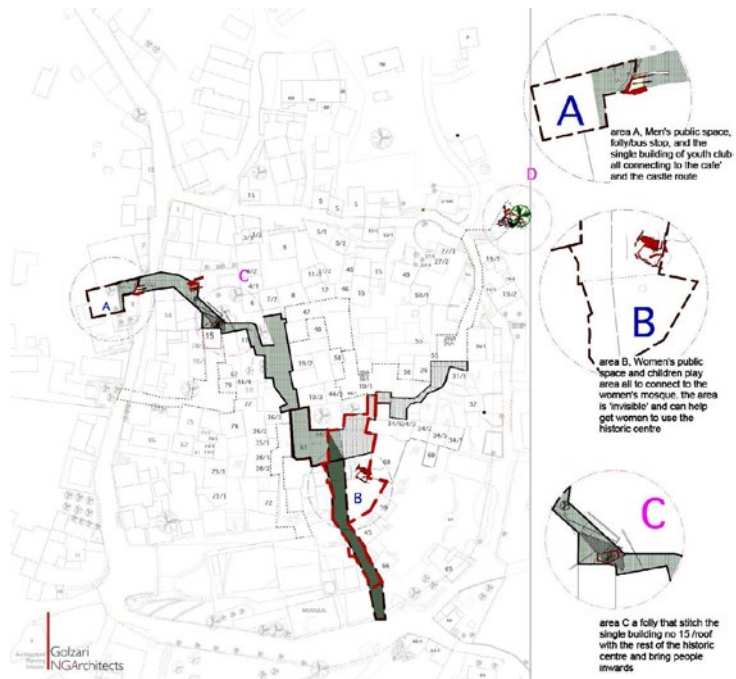for built interventions
within the 'memory
belt'.

Figure 18
Aerial photograph of the
derelict historical centre
of Beit Iksa prior to the
start of construction of
the scheme by Riwaq
and PART, showing how
the old buildings were
allowed to become
overgrown as a means
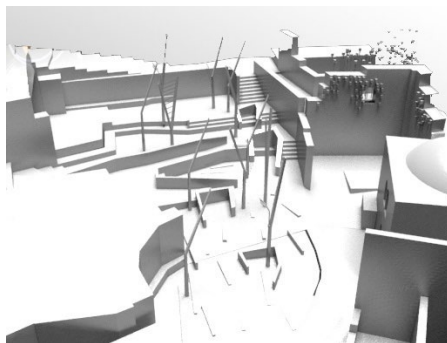to make the village
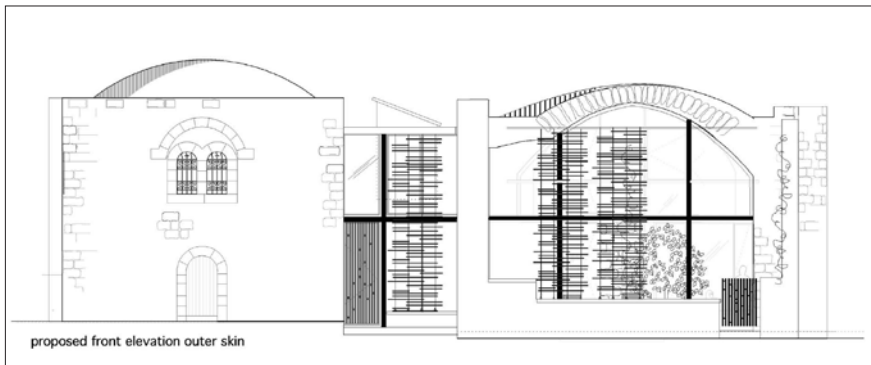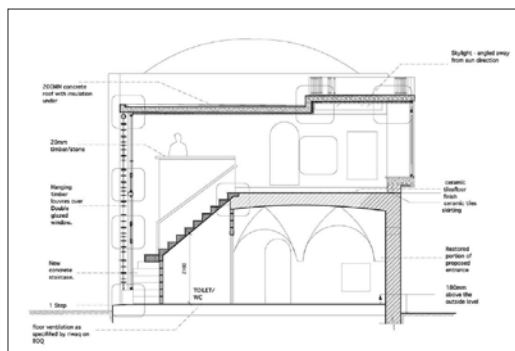become 'invisible'.
© Riwaq

Figure 19
Drawing and renders of
PART's design for the
women's eco-kitchen
and children's
eco-playground,
with bird folly poles
marking the high
points, which won a
Holcim International
Sustainability Award
in 2014.

proposed front elevation outer skin

Figure 20
Photographs of
the repaving and
retrofitting of historical
buildings in Beit
Iksa, focusing on the
women's eco-kitchen
and children's
eco-playground.

Figure 21
General photograph
showing the
women's eco-kitchen
and children's
eco-playground in Beit
Iksa, and also the fringes
of Jerusalem on
the horizon.
© Riwaq

Figure 22
Photograph of
the children's
eco-playground in Beit
Iksa under construction
showing the new
shuttered concrete wall,
stepped terraces and
a few of the spindly
bird-folly poles in place.
© Riwaq

'*The political programme, then, of urban polit-ical ecology is to enhance the democratic content of socio-environmental construction by identifying the strategies through which a more equitable distribution of social power and a more inclusive mode of environmental production can be achieved*.'[9]

Nasser Golzari, through earlier projects with Golzari NG Architects in Iran, and research for his PhD by Design titled 'Re-Reading Affordable Technologies: Sustainable design for the Middle East', has taken the lead in defining PART's envi-ronmental strategies in sites like Hajjah, Beit Iksa and the Gaza strip. His work involves exploring/developing simple design techniques that can be embedded into everyday practices in different localities in countries with hot and dry climates, many of which tools are partly forgotten or have faded away altogether, yet can assist greatly in reducing energy usage. Sometimes, these simple techniques are meant to empower communities, in order to give more control over their living condi-tions, while at other times the aim is to resist the pressure and domination of globalised consump-tion. These ideas were developed initially in two projects in Tehran, called the 'Climate House' ' and 'Green Office', designed in conjunction with Pierre D'Avoine Architects and in close collaboration with Mike Wilson and Fergus Nicol as environmentalist consultants (plus specific specialist input from Rosa Schiano-Phan and Brian Ford of then WSP Environmental) and the local municipality architect, Omid Saberi and Parisa Sanaie based in Tehran. The shortcomings that had to be dealt with in Iran were extensive: lack of supervisory/management skills, shortage of up-to-date energy-efficient building materials, high construction costs of low-energy materials, limited construction skills, and absence of post-construction monitoring.

Drawing on Golzari's initial research, PART now classifies these hybrids between technical and cultural design tools as 'techno-cultural' devices, with the key examples being:
- Spatial organization around a courtyard, which as Gholamhossein Memarian and Frank Brown argue, offers 'a model of low-energy design of built form, which supports rather than destroys family and community life'.[10]
- Use of heavily insulated roofs and high thermal mass, i.e. tactics more typical of environmental design in cold northern climates, but to prevent solar heat gain in hot countries;
- Maximisation of air-flow through all parts of the buildings;
- Flexible seasonal occupation of building such that different rooms are occupied at different periods;
- Use of high-level roof terraces and outdoor rooms during very hot days and cooler summer evenings;
- Insertion of trees, pergolas and water pools to enable the cooling of occupants;
- Passive devices such as wind-catchers, night-cooling chimneys, etc;
- Light-pipes to bring controlled amounts of sunlight into buildings without the need for large areas of glazing that increase solar gain;
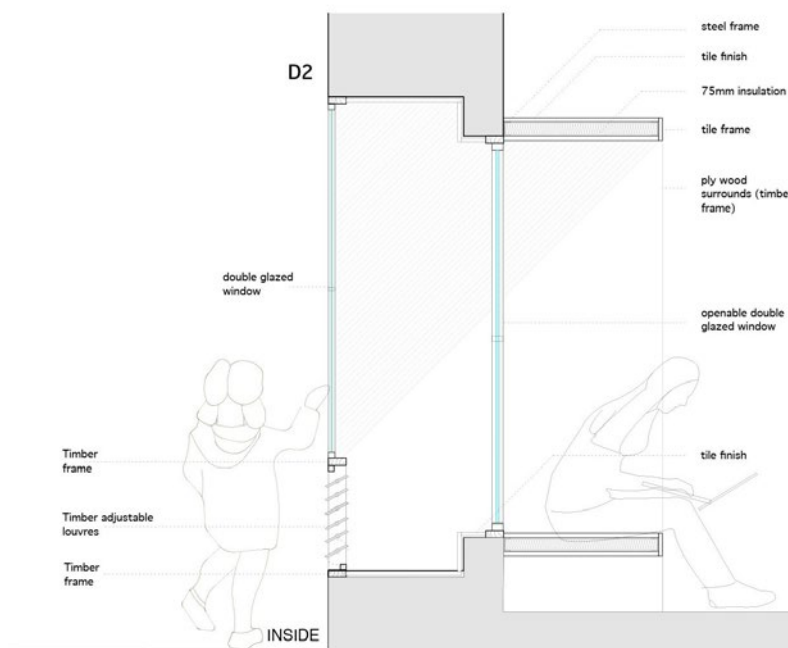- South-facing sun-catcher devices for cooler winter periods.

Figure 23
PART's proposed
winter sun-catcher
arrangement for the
south-facing windows
in the Hilal Community
Centre in Hajjah.

To explain the processes that lead to just one of these features, i.e. the use of night-cooling chimneys adapted traditional wind-catchers, PART designed these chimneys at a size of 300 mm x 300 mm in masonry and reinforced-concrete. To check the design feasibility, a 1:50 volumetric model was tested at the offices of Battle McCarthy Engineers. From these results, and also by studying precedents in Portugal and elsewhere, the chimneys were re-designed to utilise the principle of nighttime ventilation to cool the building fabric overnight, and hence reduce, or even avoid, the requirement for daytime mechanical cooling. For this system to be most effective, all windows have to be kept closed during the day, while at night, cross-ventilation and cooling-chimneys, linked to sensors, are used to draw colder air into the main rooms. Much of the analysis relied upon digital thermal modelling, carried out in this instance by Anthony Judds Associates.

These environmental strategies are clearly relevant in Palestine, where access to resources like water and electricity is controlled, and any interventions need to emerge out of affordable technologies. For any regeneration process to be truly sustainable, the crucial shortages – electricity, water, agricultural land, employment, etc – need to be addressed as essential components. In

Figure 24
Detailed drawings of
Nasser Golzari's 'Climate
House' prototype in
Tehran, which in its
use of seasonal design
strategies creates
one of the sources
for the environmental
components then used
by PART in Palestine.
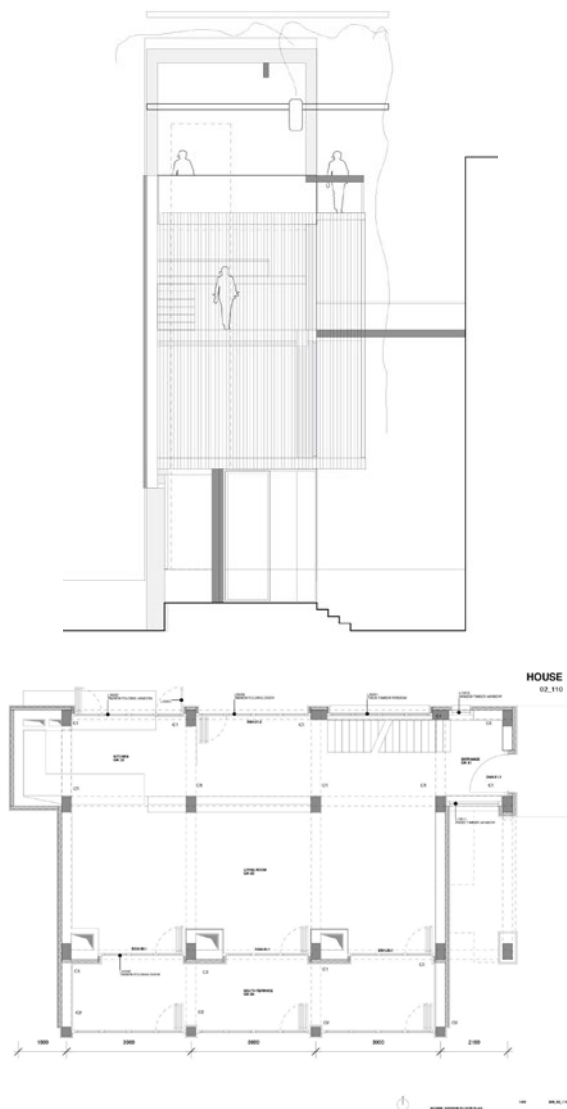
PART's work for Riwaq's '50 Villages' programme, the first application of these environmental strategies came through experimental propositions made to a typical Birzeit house to make it more self-sufficient in energy and water needs. Simple modifications and almost invisible alternative technologies were further developed in Hajjah, including adding an extra layer of insulation to help protect domed roofs from the searing heat; planting shady layers of vegetation on exterior walls; inserting cooling ponds and basins into entrances and courtyards; using stack-effect ventilation to provide passive cooling; canopies over south-facing openings; solar panels on roofs; effects; small openings with special sun-pipes for walls and domed roofs to increase internal air flow and natural daylight; recycling of 'grey' waste-water from hand-basins/kitchen sinks to flush toilets; and water filtration devices to supply extra drinking water from disused wells.

Greening Hajjah

PART scheme pushed its environmental agenda further in the agricultural town of Hajjah, carried out from 2011-15. Located in the northern part of the West Bank, Hajjah today has a population of around 30,000 and is also difficult to identify on the map due to the sprawl of illegal Israeli settlements and bypass roads now encircling it. Today, Hajjah experiences continual power cuts and a scarcity of water that leaves its fields dry and abandoned. Given this worsening of conditions, Hajjah's community, once known for its rich agricultural output, has started to look for alternatives such as working in West Bank cities or even

migrating abroad. As such its situation is typical of the expensive and wasteful Israeli policy of settling land in the West Bank in face of Palestinian opposition.[11] It is thus vital to note that building Israeli settlements in the West Bank brings with it serious environmental problems, as Amnesty International reports:

'The inequality in access to water between Israelis and Palestinians is striking. Palestinian consumption in the OPT is about 70 litres a day per person – well below the 100 litres per capita daily recommended by the World Health Organization (WHO) – whereas Israeli daily per capita consumption, at about 300 litres, is about four times as much. In some rural communities Palestinians survive on far less than even the average 70 litres, in some cases barely 20 litres per day, the minimum amount recommended by the WHO for emergency situations response.'[12]

Given that it is so close to Israeli settlement areas, any water or electricity supplies for Hajjah is conditional on allowing new networks of infrastructure serving the Israeli settlements to pass through their lands – otherwise, the threat is that Hajjah will be cut off completely from water and electricity. Being exposed to such dramatic conditions, and after visits and discussions with locals, there was a notable shift in PART's approach. It became apparent that the conservation alone of the historical buildings could not revive Hajjah; this needed to be accompanied by a strategy to address daily problems of environmental sustainability within a situation of very limited resources.

Figure 25
PART's general urban
strategy for the 'green
stitching' of Hajjah.

Through specific exercises of 'social mapping' and themed discussions with Palestinian groups, including local engineers, what emerged was a will by citizens and their municipality to reduce their energy use and thus regain some degree of control over natural assets, thus helping to empower their community.

In PART's mapping of Hajjah, a number of potential urban pockets were identified to be protected through 'green' devices including solar power, shading screens, recycling systems, and even a self-made wind turbine. Therefore, what became known as 'green stitching' has been the direction and strategy that PART has adopted ever since, with the use of the word 'green' meaning not only a literal greening of the surrounding fields but also the environmental measures that help bring locals back to the front-line of sustainable living. To create a more sustainable network, in the case of Hajjah, and later for Gaza City, these pockets of life included the electrical shop situated at the village entrance, shaded spots created by vegetation at the entrances to houses and alleyways, small private agricultural farms or gardens with their recycled containers, and the local women's *Zatar* workshop. To test the 'green stitching' concept, PART selected a single historic building (that had previously been an extended family dwelling) to demonstrate just how historic buildings can be transformed to meet contemporary lifestyles and daily needs through energy-saving environmental measures.

To increase environmental awareness, and following discussions with representatives from the village council, various community workshops and cultural events were held. These were inspired by the daily practices of inhabitants, and prompted PART to suggest a 'Green Guide' booklet that highlights good and bad habits in homes and places of work that can reduce waste and water consumption, and generally promote a more energy-efficient built environment. Rewards were offered for those prepared to try out different suggestions from the 'Green Guide' booklet. A technical officer was allocated by Hajjah Municipality to oversee the implementation of the new 'green practices' and to organise yet further workshops. Thus alongside PART's usual strategy of repaving the historical centre and of creating new squares and spots for a tearoom, bakery and café, as previously suggested for Birzeit, a series of extensive modifications were made to one disused public building to serve as an exemplar of 'green stitching'.

This former domestic building, now known as the Hilal Community Centre, is composed of three separate blocks. Its construction can be characterized as a traditional cross-vaulted structure, and its layout varies between one- and two-storey rooms with an average size of between 4.5 x 3.5m and 5.4 x 7.5m, and with an average 4m ceiling height. The site is on the edge of the historical centre, overlooking relatively new residential buildings to the south. This community centre was chosen for its public facilities and the spatial qualities of its fine courtyard, which seemed to offer real potential to revitalize seasonal lifestyles of the area. Physical and digital models were used to analyse the sun's path and shading patterns so as to maximise summer cooling and winter heating. Using this data, as well as on-site heat-gain/heat-loss

Figure 26
Diagrams showing
the various passive
seasonal design
strategies applied in the
Hilal Community Centre
in Hajjah, as inspired
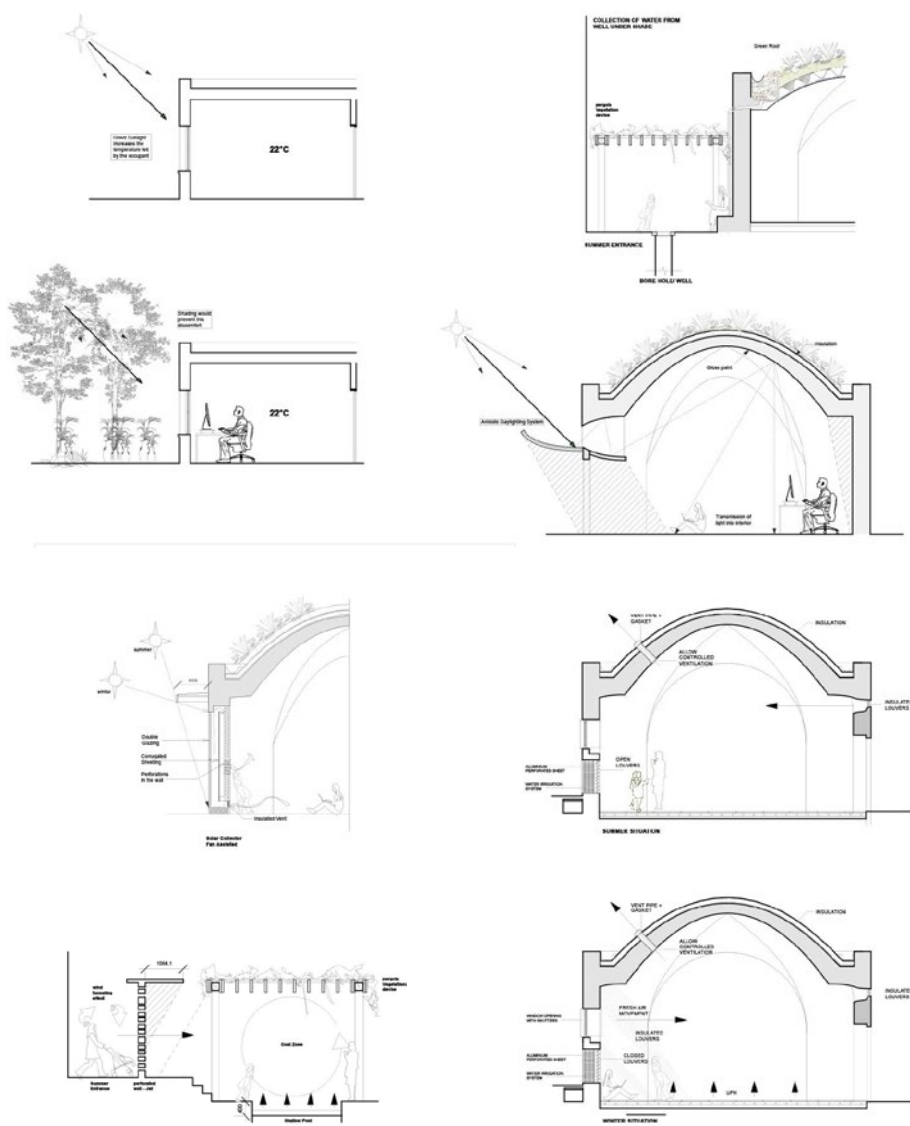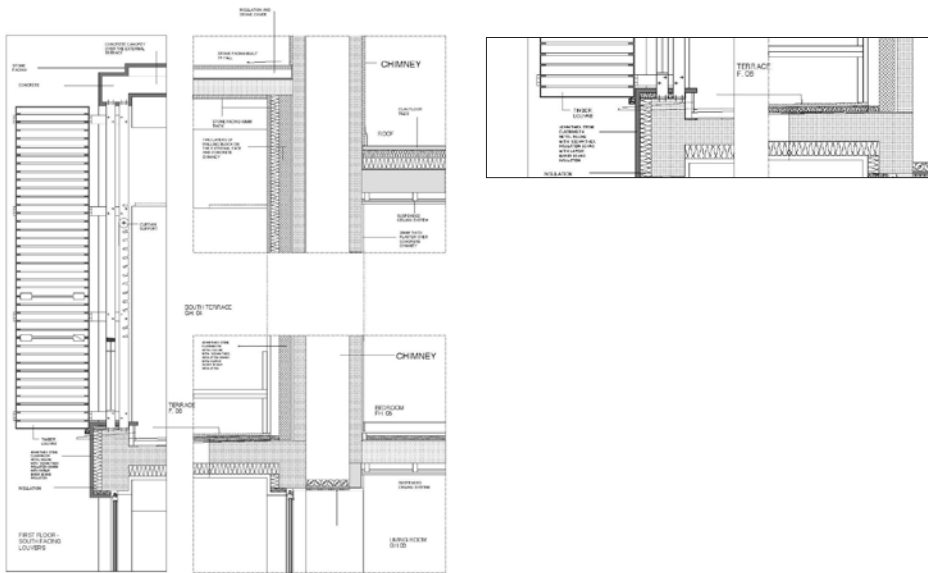by everyday cultural
practices.

Figure 27
Plan showing the winter and summer courtyards designed by PART for the Hilal Community Centre in Hajjah, along with the plan/section details of the extended 'siesta room' that now pops out of that building.

readings taken from a neighbouring building (i.e. the village hall), Fergus Nicol was able to calculate the desirable indoor thermal comfort temperatures in both summer and winter, by producing one of his well-known thermal comfort graphs (the Nicol Graph) for use by Hajjah residents. The building itself was duly re-designed, with the 500mm-thick stone walls of the Hilal Community Centre seen as possessing the advantage of providing high thermal mass. This in turn helps to stabilise the internal temperature of the rooms during the summer and winter. New functions within the Hilal Community Centre were identified according to the priorities set by local residents; they asked for a general office, children's nursery,

women's gym and toilets. These very different functions also posed a design challenge in terms of environmental performance.

To reduce solar gain, 50mm thick rigid insulation panels were added the roof on top of the asphalt covering – a waterproofing technique commonly used in Palestine – to enable the use of internally exposed surfaces. In Hajjah there is also a notable variation in daytime and nighttime temperatures; typically the drop is around 10°C in summer, enabling an effective use of thermal mass. However, given that human body temperatures are in the region of 36-37°C, other cross-ventilation strategies are needed to improve the process, especially in the space for the

Figure 28
Photograph showing the building interventions to create a new guest-house in Hajjah for visitors.
© Riwaq

women's gym, where additional fans were inserted. Building upon the clay panels used for cooling in the 'Green Office' in Tehran – and of course the common cultural practice in Palestine that incorporates clay for cooling drinking water – this too was adopted for the Hilal Community Centre as part of the passive strategies. For this Hajjah design, however, Rosa Schiano-Phan devised a more modest hybridised version of the clay-pot/downdraught wall. Hence the clay panels were inserted within the thickness of stone walls on the western side of the building to draw cooler and fresher air into the gym. In consultation with Mike Wilson, light-pipes were inserted into the domed roofs on the basis that these provide '*the three basic components of a window; collector, channel and distributor*'.[13] And, following consultation with Miriam Ozanne and colleagues at Arup, the building now recycles grey-water – that is reused after being passed through a simple sand/stone/UV-light filtration system – for wash-basins, or for collecting in a storage tank linked to a hot-water boiler in the kitchen, or to top up the underfloor heating system. There is also small localised grey-water recycling for the basins and WCs in the bathrooms, collected in 45-50 litre vanity tanks, filtered, and then reused for flushing.

Having first set out these environmental strategies for Hajjah, they are currently being pushed further still in the current scheme for Beit Iksa begun on site in 2014 and the on going Gaza reconstruction project . The latter scheme takes them to a more urban level, combining the aforementioned terraced 'green roofs' as also large water filtration devices that can then recycle the water once it has been used for growing fruit and vegetables, reusing it in the women's eco-kitchen for the activities there. The shading provided by the large spindly posts and bird shelters help to create a new eco-playground for local children, protecting them for sun but also designed such that this playground is able to be supervised easily by mothers working in the eco-kitchen beside. In this combination of energy-conscious thinking and urban design, the project now being constructed by local labour in Beit Iksa encapsulates best the principle of 'green stitching'.

Green Gaza Learning Room
Prior to these projects in the West Bank in Hajjah (2011-15) and Beit Iksa (2014 to present), research carried out by PART in the Gaza Strip provided the key point of departure for the core principles of 'empowering' communities and 'stitching' fragmented neighbourhoods by using innovative environmental principles.

After the devastating war with Israeli forces in 2008-09, which left so much of the Gaza Strip in ruins and bereft of funds and building materials, PART took up the challenge of trying to think how could Gazans, with their remarkable capacity for survival, and their long tradition of skills in construction work, manage to repair their towns under such conditions? This research work, centred on Gaza City, started off by exploring creative ways to rebuild using only existing materials and local labour and skills, through what was termed the 'Green Gaza Coalition' formed in partnership with UN-Habitat. Urban strategies for key neighbourhoods in the city were envisaged from

Figure 29
Drawings for PART's
low-cost 'Green Learning
Room' prototype, as
developed subsequently
from its initial design
iteration for the Gaza Strip.

joint workshops, out of which the concept of 'green stitching' gradually emerged as the only viable urban strategy to act as a bridge between the different communities. In addition, PART contributed a chapter about 'green living' as a section in UN Habitat's self-help guidebook for Gazan citizens in collaboration with other agencies there, so as to help with the urgent need for providing support for individuals and families interested in erecting their own new houses. Hence this booklet focussed on practical advice of how to achieve 'greener' lifestyles through the simple measures then being tested out by PART for the first time in the West Bank projects.

Following on from this Gazan initiative, small amounts of funding were provided by overseas donors to reconstruct a new development for 100 homes and a school in the Zaytouna neighbourhood of Gaza City. Members of PART travelled over in 2010, and found fulsome local support for the concept of what PART was calling the 'Green Gaza Learning Room'. This was to be in effect a community laboratory, as part of the reconstruction scheme, with the goal of ensuring that all new construction is based on an integrated strategy. Workshops were run to address the issues of resources in the Gaza Strip and to promote more sustainable and appropriate forms of building technology in regard to low-energy design, reduced-water consumption, recycling, etc. The 'Green Gaza Learning Room' was intended as an interface/threshold between the public space of the school building and the more private space of the dwellings. It sought to provide a collective drop-in space for families who have only

basic knowledge of construction, as well as for builders and other skilled workers wishing to learn about and try out new techniques of self-help construction. All users would thus be studying low-energy and low-waste systems, including full-size demonstration models, on display in the 'Learning Room' to help them rebuild their homes. By doing so, Gazans would be exposed to simple building techniques and practices that are able to provide better environmental qualities, with ideas again being drawn from everyday habits and cultural practices.

In order to develop the design for the 'Green Gaza Learning Room' a design charette was held at the Bartlett School of Architecture in October 2011, funded through the UCL Grand Challenges Fund, and comprising teams that brought together students and experienced architects such as Pierre d'Avoine. Out of this workshop, a coordinated design proposal was subsequently devised for the 'Learning Room'. The ideas have since been developed in other ways, as will be mentioned in the next section, most recently with PART becoming involved again in Gazan issues as one of the organisers of the 'Open Gaza' forum.

Research Dissemination
Design proposals and physical interventions are of course only two components in any regeneration process. Another crucial aspect of the work of PART also involves spreading its research outcomes as far as possible using different forms of dissemination. This had involved PART in collaborating with other cultural producers such as artists, filmmakers, photographers and so on

Figure 30
Poster advertising the
Palestinian Pavilion as
part of the Venice Art
Biennale in 2009.

from Palestine and other countries. As such, the members of PART have now between them given over 50 presentations in Britain and around the world about their work in Palestine. The most notable instances of dissemination to date will be described in this section of the booklet.

Exhibitions

Work by Yara Sharif and Nasser Golzari was included in Venice Biennale as part of the '50 Villages' project presentation that formed part of the installation for the Palestinian Pavilion at the Venice Art Biennale, held from 7th June – 22nd November 2009. There the artist Khalil Rabah (who made a radical shakeup to the concept of Biennale through his playful artwork 'Biennale within a Biennale') put together an exhibition along with six other artists from Palestine under the banner of *Palestine c/o Venice Pavilion*. Members of PART also gave presentations linked to this Venice event.

The first major airing for PART projects came when it was shown in *Public Domain: Public and Civic Spaces in the Arab World*, a group exhibition held at the Royal Institute of British Architects, London, from 12th July – 24th September 2011. It was curated by NOUS as part of the 'Shubbak: A Window on Contemporary Arab Culture' festival organized by then-Mayor Boris Johnson. Murray Fraser was also an invited speaker at the panel discussion forum on 'Public Domain: Public and Civic Spaces in the Arab World' held as part of the Shubbak Festival in the RIBA in July 2011. PART's major exhibition to date was for *The Palestinian Sunbird Pavilion*, a design installation for 2012 London Festival of Architecture/British Council's International Architecture and Design Showcase, which in effect constituted Palestine's pavilion for the London Cultural Olympics that year. It was mounted in the Dreamspace Gallery in Hoxton from 7th July – 5th August 2012. The opening event was addressed by Angela Brady, then-President of the RIBA, and Manuel Hassassian, the Palestinian Ambassador to the UK. Importantly, it was not just a means to portray PART's projects and aspects of Palestine cultural life, but also operated as a test-bed for materials. Rowland Keable, the renowned expert in rammed-earth construction, led a team of volunteers in preparing an experimental mixture of lime and rammed earth on movable castors as part of the Palestinian Sunbird Pavilion. Similarly, as Palestinian-patterned prefabricated wall panels was formed out of a combination of concrete and velvet, as designed and fabricated by Trish Belford and Ruth Morrow of Tactility Factory in Belfast

to specifications set out by PART. Furthermore, a large laser-cut plywood 'bird sculpture' and perforated illuminated laser-cut paper ceiling, as fabricated by Guan Lee, formed part of the display.

Later still, in February 2015, PART participated in the international conference and exhibition titled *Re-Imagining Rurality* at the University of Westminster, organized by the ARENA research network, where its work for Beit Iksa was displayed and discussed.

Published material

Members of PART are also actively involved in publishing design research outputs as part of their practice activities, including an essay in *The Journal of Architecture* written by Nasser Golzari and Yara Sharif, or the acclaimed edited book on Design Research in Architecture by Murray Fraser, or Yara Sharif's forthcoming book based on her doctorate that will be coming out later in 2016 through Routledge.[14] In these and other publications, such as the self-build manual written for the 'Gaza Learning Room', key ideas about urbanism and environmentalism are passed on to other architects, municipalities, politicians, community groups, etc. Chapters by Yara Sharif and Nasser Golzari were also included in the 2015 book on Reclaiming Spaces, about Riwaq's '50 Villages' project, as edited by Suad Amiry and Khaldun Bsharah. Furthermore, a joint essay written by Yara Sharif and Nasser Golzari about PART's designs for Beit Iksa will be published in a forthcoming book edited by Doina Petrescu and Kim Trogal, to be published by Routledge in 2017 and titled *The Social (Re)Production of Architecture.*

Lectures

Murray Fraser gave a talk titled 'ThinkNet Report' as the invited concluding keynote speech at the 3rd Riwaq Biennale in Ramallah, Palestine on 16th October 2009). This event brought in artists, social theorists, planners, architects, environmentalists and many others joined in a series of journeys to the 50 selected villages, as well as other disparate locations, as a way to reflect upon the fractured territory of Palestine and uncover its potentials. In mid-2010, a presentation titled 'Gaza Calling' was given at the University of Westminster by PART reflecting upon the research trip to the Gaza Strip and the formation of the 'Green Gaza Living Coalition' with UN-Habitat. A joint-presentation was then put on in 2011 in Ramallah between PART and UN-Habitat about their Gaza coalition.

In March 2011, Murray Fraser and Yara Sharif presented on the 'Palestine Regeneration Team (PART)' to the 2011 Live Projects Colloquium held at Queens University Belfast, which was focused squarely on promoting the virtues of practice-based research. Following that event, members of PART contributed a joint lecture on 'Celebrating the Everyday: Critical reading of heritage as a dynamic tool for regeneration projects by PART, London, UK' to the International Conference on the Development of Historical City Centres run by the Hebron Rehabilitation Committee in Hebron, Palestine in mid-July 2011. In 7th December 2012 Yara Sharif and Nasser Golzari presented PART's work in Palestine at the Architecture Foundation's event titled 'Good news from now here'. In For the Human Rights Film Festival held at Oxford Brookes

Figure 31
Selection of the publications by members of PART.

Figure 32
Poster for the Open Gaza event held in London in November 2015. © Andreas Christodoulou.

University in February 2015, PART led a session that discussed their projects in Palestine alongside various film screenings and discussion about ecological problems such as the effects of extensive stone-quarrying in the West Bank. Many subsequent lectures and presentation have continued in this kind of vein, most recently in May 2016 in a talk by Murray Fraser about PART's practice-based work at a symposium organized by the Department of Architecture at the University of West England in Bristol.

Workshops

Workshops have been a continuing feature of PART's work in Palestine, whether being held in that region or in other locations. Following the first London meeting of the ThinkNet in May 2009 at the University of Westminster, a more extensive Birzeit Workshop/Riwaq ThinkNet session was organized along with local community groups about the ideas and designs for the '50 Villages' project as hosted by the Birzeit Municipality in the Palestinian West Bank from 12th – 15th October 2009. During the visit to the Gaza Strip in 2010, a 4-day workshop was run in collaboration between UN-Habitat, Palestine Housing Council, UNRWA, Palestinian Ministry of Planning, Gaza University and other local partners, with Yara Sharif, Nasser Golzari, Rowland Keable, John Broome and Nick Grant also participating. In December 2013/January 2014/December 2015, 'live' workshops to test on-site making were held with the local community along with Beit Iksa Municipality, Women's Association, Birzeit University, Riwaq, Arup and architectural students from Oxford Brookes University.

Figure 33
Photographs of
workshops run by PART
in Beit Iksa with local
women and children
for the actual building
of some of the 'green
stitching' interventions
associated with the
women's eco-kitchen,
including the building
up the first-ever 'green
roofs' there using
recycled materials
and boxes for the bird
habitat area that is
part of the children's
eco-playground.

Figure 34
Conceptual map for
the restitching of the
fragmented landscape
of Palestine.

Subsequent workshops have already been mentioned, such as the 'Green Gaza Learning Room' charette at the Bartlett School of Architecture in October 2011, and in July 2013 Yara Sharif and Nasser Golzari ran a design workshop at the London Metropolitan Women's Library on emergency identity and participation for reconstruction, with the emphasis on Palestine. Perhaps the most significant recent workshop was the 'Open Gaza' symposium at the University of Westminster in November 2015. This event was co-organised by Nasser Golzari, NG Architects and Michael Sorkin from New York, and saw contributions from Gazan architects as well as contributions from architects, environmental designers, theorists, etc from many countries. A book on 'Open Gaza', to be edited by Michael Sorkin, will be published in 2017, including a special chapter by PART members.

Conclusion

To conclude, it is worth noting some of the emerging or forthcoming initiatives that are arising from PART's work in Palestine, as well as some spillovers into other projects as part of the wider application of the ideas developed there. It is noticeable now that other partners in the West Bank and Gaza Strip are seeking ways to work with PART. This includes a proposal, if and when funding is available, that PART might create an installation for the newly-built Palestine Museum designed by Heneghan Peng, in what is termed 'the Digital Garden', and currently there is PART's role in running the London component of the Qalandia International (QI) in October 2016.

This year QI, the third such event, is innovative in expanding beyond Palestine to include Lebanon, Jordan, Austria and Britain. A comprehensive list of exhibitions, lectures, discussions, film screenings and other events have been prepared by PART, including an exhibition of its design research and students' interactive interventions. 'Open Gaza' will also be part of the QI through the involvement of the New York team members. The event will be held in 3 key venues in London: the University of Westminster, P21 Gallery and the Mosaic Rooms Gallery.

PART is currently in discussions with Teachers without Borders from Italy and Associpache Palestina to build the 'Green Learning Room' in the Jordan Valley. In partnership, this team is looking at a new schools programme there that would incorporate many of the environmental principles mentioned earlier. In partnership with a Palestinian organization in Ramallah called the Sakakini Cultural Centre, PART is developing ideas derived from the 'Green Learning Room' to create a mobile energy-garden prototype that could attach itself to their building, so as to make it self-sufficient, while also allowing it to travel around West Bank towns and villages.

Furthermore, there are interesting developments for the PART team in Britain that are arising from its work in Palestine, and which are being operated, for legal reasons, entirely through the professional office of NG Architects. The first came in the *Grand Designs*/National Custom & Self-Build Association's 'Self Build on a Shoestring' Competition in 2015, in which the 'Green Learning Room' was adapted/translated to suit British needs, resulting in being selected as one of top 16 projects for self build creatively under £40,000. The scheme was exhibited as part of *Grand Designs Live* show in Birmingham in October 2015. This was compounded when the entry by NG Architects was selected for the RIBA's 'Constructing Communities' Open Call Exhibition, which went on display in Peckham Rye from 2nd – 30th June 2016. The subject for this exhibition was how to find ways to counter the disappearance of social housing in the UK. Altogether, this arc of travel shows that the principles originally developed by PART for its work in Palestine, namely those of 'stitching' and 'empowering', are needed also in other countries like Britain that have very different political and socio-economic conditions. Inequality of wealth and opportunity regrettably afflicts all societies, as do the urgent problems being caused by human-made climate change. In this way, Nabeel Hamdi's notion of 'small change', as echoed in PART's commitment to invisible resistance, can be effective everywhere. Thus the design research process that PART has undertaken to arrive at its urban and environmental strategies, as described in this booklet, can be seen to be of relevance to architects across the world, not least in Britain, and suggests further fertile areas of investigation in the future.

Endnotes

1. For a critique of such views, see Murray Fraser, 'Beyond Koolhaas', in Jane Rendell, Jonathan Hill, Murray Fraser & Mark Dorrian (eds.), *Critical Architecture*, London/New York: Routledge, 2007, pp. 332-339.

    In addition, see Nasser Golzari and Yara Sharif, 'Reclaiming space and identity: Heritage-led regeneration in Palestine', *Journal of Architecture* 16.1 (2011): 121-44 (part of a special issue on 'Architecture and Conflict').

2. Khaldun Bshara & Saud Amiry (eds), *Reclaiming Space: The 50 Villages project in rural Palestine*, Ramallah: Riwaq, 2015.

3. Nazmi Jubeh, 'Fifty Villages and More: The protection of rural Palestine', in *Geography 101* (Vol.1), Ramallah: Riwaq, 2009.

4. Nabeel Hamdi, *Small Change: The Art of Practice and the Limits of Planning in Cities*, London: Earthscan, 2004; Teddy Cruz, 'Mapping Non-Conformity: Post-Bubble Urban Strategies' (2009), Hemispherica website. Available at: http://hemisphericinstitute.org/hemi/en/e-misferica-71/cruz; Murray Fraser, 'The Future is Unwritten: Global Culture, Identity and Economy', in Paul Brislin (ed.), *Human Experience and Identity: Sustaining Identity – Architectural Design special issue*, London: Wiley/Academy, November 2012, pp. 60-65.

5. Murray Fraser (ed.), *Design Research in Architecture: An Overview*, Farnham, Surrey: Ashgate, 2013; Nasser Golzari, 'Re-Reading Affordable Technologies: Sustainable design for the Middle East', Unpublished PhD Thesis, University of Westminster, London, UK, 2014; Yara Sharif, *Architecture of Resistance*, Farnham, Surrey: Ashgate, 2016.

6. Adrian Forty, *Words and Buildings*, London: Thames & Hudson, 2000, pp. 11-16.

7. Maurice Mitchell, *Rebuilding Community in Kosovo*, Machynlleth, Wales: Centre for Alternative Technology Publications, 2003, p. 20.

8. Nasser Golzari 'Cultivating Possibilities' in Khaldun Bshara & Saud Amiry (eds), *Reclaiming Space: The 50 Villages project in rural Palestine*, Ramallah: Riwaq, 2015, pp 45-69.

9. Nik Heynen, Maria Kaika & Eric Swyngedouw, *In The Nature Of Cities: Urban political ecology and the politics or urban metabolism,* London: Routledge, 2006, p.xiv.

10. Gholamhossein Memarian & Frank Brown, ' The shared characteristics of Iranian and Arab courtyard houses', in Brian Edwards, Magda Sibley, Mohamad Hakmi & Peter Land (eds.), *Courtyard Housing: Past, present and future*, Oxford: Taylor & Francis, 2006, p. 30.

11. Roby Nathanson et al, 'Final Report: A comprehensive analysis of the settlements' economic costs and alternative costs to the State of Israel', MACRO: The Center for Political Economics website, http://www.macro.org.il/images/upload/items/92069414034221.pdf (accessed 20 May 2016).

12. 'Troubled Waters: Palestinians denied fair access to water', *Amnesty International,* 27th October 2009, viewable on Amnesty International website, http://www.reliefweb.int/rw/rwb.nsf/db900SID/MYAI-7X87U6?OpenDocument (accessed 15th April 2016).

13. Peter Tregenza & Mike Wilson, *Daylighting: Architecture and lighting design*, London: Routledge, 2011, p. 172.

14. Nasser Golzari and Yara Sharif, 'Reclaiming space and identity: Heritage-led regeneration in Palestine', *Journal of Architecture* 16.1 (2011): 121-44 (part of a special issue on 'Architecture and Conflict'); Murray Fraser (ed.), op. cit., 2013; Yara Sharif, op. cit., 2016.