

**Background Paper for
The Shared Homeland Paradigm Project:**

Overcoming Natural Resource Inequalities

David Simon & Joseph Rabie

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The views expressed in this publication are those of the author(s) and do not necessarily reflect the position of the Shared Homeland Paradigm project.

Abstract

Underlying – literally – the fractured and conflicted geopolitics of Israel–Palestine are the various elements of the shared natural environment, namely topography, hydrography, vegetation and natural resources. Anthropogenic climate and broader environmental changes are accelerating, exacerbating the already substantial variations of precipitation and temperature in this semi-arid to arid zone. Ensuring climate resilience and sustainability for any and all future reconstruction and development is therefore imperative. We summarise the latest evidence and modelling predictions forward to 2030 and 2050. The current geopolitical divisions and conflicts make the challenges of envisioning and building a different future that is more sympathetic to and in harmony with the environment even more challenging. Consistent with the notion of a shared homeland, we therefore adopt a perspective that sidesteps the current geopolitical deadlock by adopting a bioregional approach that holistically integrates human and natural concerns. This is illustrated by the fact that the dominant topographical feature and watercourse – Nahal Besor/Wadi Gaza - runs successively through the West Bank, Israel and the Gaza Strip, and requires integrated joint conservation and management, just as the allocation of water rights from the Jordan River requires collaborative governance.

Introduction

This point of departure is that a durable and sustainable resolution of the longstanding conflict in Israel/Palestine requires some settlement that recognises the rights, dignity and aspirations of both Israelis and Palestinians, as well as other minorities. Visions and versions of how this might be achieved vary and will continue to evolve in the light of the changing contours of the conflict and especially the widespread and pervasive destruction in the Gaza Strip . Whether the ceasefire it can lead to the envisioned successive stages of stabilisation and political resolution remains to be seen.

Political polarisation, distrust, trauma and alienation within and between communities have undoubtedly sharpened greatly of late and will further complicate the already-fraught process of negotiating some version of a one- or two-state solution acceptable to the major protagonists, the respective populations and external guarantors. A key element of the challenge is to avoid simply rebuilding everything in situ that will simply perpetuate the multiple intersecting inequalities and unsustainabilities that feed the conflict and will continue to do so unless addressed substantially.

The current borders between the Gaza Strip, Israel and the West Bank do not lend themselves to economic or environmental sustainability, especially in the context of growing populations and accelerating climate/environmental change that are exacerbating existing pressure on and conflicts over land and other resources,

especially water supply. These issues are inherently transboundary in nature and require transboundary strategies regardless of the political resolution. Simply put, some form of joint or shared approach to transboundary resources, such as watercourses like Nahal Besor/Wadi Gaza that link the West Bank, Israel and Gaza, is essential for regional sustainability and climate resilience. Failure to achieve this, particularly within the constraints imposed by the semi-arid and arid environment, would simply result in unsustainability and disaster for all.

Description: The Lie of the Land

It therefore stands to reason – and this is the underlying normative assumption – that a clear understanding of the indivisibility of the study area’s natural environment and how its diverse components are tightly integrated, can provide the basis for initial negotiations with clear mutual benefits. Progress in this sphere would then help to build confidence and reduce tensions and mutual suspicions, thereby serving as a stepping stone towards negotiations over the more overtly political dimensions.

Our intention in this paper is to set out the:

1. Key dimensions of current climatic and environmental conditions,
2. The most recent and sophisticated projections of changes over the period to 2050,
3. The value of an integrated bioregional approach to the environment.

Key Parameters of Climate and Environmental Change

Any form of reconstruction in Israel/Palestine will need to promote rather than further inhibit sustainability and resilience. This implies taking fully into account the region’s arid or semi-arid climate, as well as the accelerating environmental challenges being caused by climate change and episodes of conflict. Failure to do so will worsen living conditions and livelihood prospects, especially for already-vulnerable communities and households. Moreover, even in the short-term, rebuilding in Gaza and damaged parts of the West Bank – particularly if it merely aims to restore the status quo – will ‘bake in’ future problems reflecting the existing inequalities, dimensions of poverty and dispossession, and ‘unsustainabilities’.

Particularly important are the direct and indirect impacts of climate change and broader climate-induced environmental changes on health – both individual and public. This has several dimensions and builds on existing inequalities and vulnerabilities exacerbated by conflict and destruction. Particular foci include changing incidences of disease and exposure to debilitating and potentially fatal heat – for which the key variables are extreme temperatures, humidity and duration. The elderly, infants and under-fives, and those with cardio-vascular and other chronic underlying health conditions are at particular risk. Perhaps the most appropriate way to integrate such

issues into reconstruction and development is by means of the World Health Organization's One Health approach,¹ which addresses the health of people, animals, and ecosystems holistically.

Climate change is already resulting in pronounced but uneven changes in rainfall, water resources, extreme weather, and rising temperatures across the region. All the authoritative global and regional studies predict that these will accelerate between 2030 and 2050, with very real and dangerous consequences for human and animal health, livelihoods, biodiversity and ultimately livability:

Air and sea temperature and their extremes (notably heat waves) are likely to continue to increase more than the global average (high confidence). The projected annual mean warming on land at the end of the century is in the range of 0.9–5.6°C compared to the last two decades of the 20th century, depending on the emission scenario (high confidence). Precipitation will likely decrease in most areas by 4–22%, depending on the emission scenario (medium confidence). Rainfall extremes will likely increase in the northern part of the region (high confidence). Droughts will become more prevalent in many areas (high confidence) (IPCC 2022: 2235)

All of this will inevitably extend desertification in much of this study area in the absence of greatly upscaled mitigation measures and adaptative actions to adjust to living in such a changing environment.

One other set of critical climate change impacts relates to the Mediterranean Sea. Its mean surface temperature has already increased by over 1.5°C since the industrial revolution, and its rate of warming is accelerating, especially in the eastern Mediterranean basin (up to 0.44°C per decade). The rate of sea level rise is also increasing, from an average of 2.8±0.1 mm yr⁻¹ over the 1993-2018 period to a predicted aggregate rise of at least another 0.15–0.33 m by 2050 (IPCC 2022). Ocean acidity is also increasing, which will have a negative effect on many forms of marine life, including some important fisheries.

The combination of sea level rise and falling water tables as a result of increasing exploitation of aquifers, along with reduced precipitation will cause accelerating groundwater salinization, exacerbating already overstretched freshwater supply and conflict-degraded agricultural challenges in littoral and adjacent inland areas respectively.

¹ One Health is a collaborative, multisectoral, and transdisciplinary approach — working at the local, regional, national, and global levels — with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.

The Israel National Spatial Strategic Plan (2024) highlights the same four key climate change spatial trends of sea level rise, reduced precipitation, desertification and extreme heat affecting Israel – and by extension its neighbouring areas, including Gaza and the West Bank. “In particular, rising air temperatures are expected to have significant planning and geopolitical implications on Israel and its neighbouring countries” (INSSP: 222).

It should be noted that the average data trends summarised here mask smaller-scale variations across the study area: temperatures rise with increasing distance from the Mediterranean and Red seas, moderated by altitude, and also by distance further south into the Negev and Sinai deserts. Precipitation generally increases northeastwards across the region, with more falling on the west-facing slopes of hills and mountains. Forward projections to mid-century show marked changes after 2030, with some small-area variations, and some places, including inland parts of the Gaza Strip and adjacent areas of Israel, likely to experience summer heat extremes that pose a very real threat to health and even life, though not yet to the extent being experienced in major Gulf cities (over 50°C) (Heritopolis and UN-Habitat MetroHub 2025). Most of these changes are rapidly becoming irreversible in the short-, medium- and long-terms. Since climate/environmental change is one of the so-called ‘wicked problems’ facing society, the effects and necessary counter-measures are transboundary, affecting Gaza, the West Bank, Israel, and Egypt, and require multi-stakeholder collaboration.

The Bioregional Concept/Approach

Historical/Institutional Context

The bioregion as a paradigm for local development (Evolution of understandings of environment and resources, including the bioregion)

Most of the world’s current political boundaries reflect the outcome of military conquests and political relations over the last 500 years of European expansion and colonialism, resulting in the current global world order. Only rarely, do these coincide with natural boundaries such as a river or watershed along the summit of a mountain range. So many frontiers have been abstractly traced with a ruler on the map, majestically ignoring the geographical and ethnical realities on the ground. Geopolitical forces, acting through nationalism, colonialism and industrialism, have become the major factors shaping the division of territory.

The bioregionalist approach defines territorial entities in terms of their geographical and ecological singularity, underpinning a coherent natural milieu that shapes the conditions of habitability of its populations, both human and otherwise. A bioregion will rely, as far as possible, on local resources for its agricultural production, for the needs of construction and manufacturing, for the provision of water and the

generation of energy. It will favour local know-how and cultural specificities. Borders with neighbouring bioregions are blurred and permeable, and (ideally) relations are based upon exchange and solidarity.

The bioregion, as a notion, was born in the 1970s California counterculture, as a reaction to productivism, environmental destruction and indigenous dispossession, in a movement directed at *reinhabiting* the land. More recently, bioregionalism has been adopted in Europe to qualify a movement advocating urban and territorial planning at a local scale, notably in Italy². Historically, they can be traced back to the regionalist movement of the early 20th century, leading proponents of which were Paul Vidal de la Blache, Patrick Geddes and Lewis Mumford. Geddes is particularly relevant here, because he is the author of the 1925 Tel Aviv town plan, celebrated one hundred years later for its ecological approach.³ It is to be noted that Geddes, the regionalist, referred to Tel Aviv as a component of Greater Jaffa.

Brief summary of origin of current boundaries and their sustainability challenges

During the Ottoman period, Palestine was perceived, in the eyes of European visitors coming to see the biblical sites of the Holy Land, as being a largely empty, backward territory. An erroneous view, since the countryside was, in fact, host to a close-knit network of agricultural villages. The arrival of Jewish immigrants, with the purchase of land from landowners and the expulsion of tenant farmers, set the stage for the convulsions of the 20th century.

Indeed, the current boundaries in the study area were delineated at the very end of the colonial/imperial era, as the British Mandate over Palestine was partitioned between Israel and what was intended to become the State of Palestine. The War of Independence/Naqba in 1948 killed and displaced innumerable people, predominantly Arabs/Palestinians, into the Gaza Strip on the one hand, which came under Egyptian control, and the West Bank, which became part of Jordan. Over the following years, Israel constructed a sequence of containing settlements known as the Gaza envelope (HaOtef)⁴, to counteract incursions from the Gaza Strip as it became the locus of the Fedayeen Insurgency. Israel subsequently occupied East Jerusalem, the West Bank and

² One of the leading figures and theorists was the Florentine architectural researcher, Alberto Magnaghi, with traditional and renewed practices in Tuscany providing a terrain for elaborating a bioregional approach.

³ An exhibition marking the anniversary is organised in Tel Aviv: <https://www.lieblinghaus.org/exhibitions-en/life-planet-city-eng>

⁴ These were the kibbutzim and other settlements attacked on October Seventh. There is a tragic irony in the contradiction between their leftwing population's engagement in attempts to coexist with that of Gaza, and the historical context of their having being conceived in order to solidify the occupation of formerly Palestinian land.

Gaza during the Six-day War in 1967 but this is not recognised by international law, which regards the occupation as illegal.

These are the roots of the current situation in which, apart from the River Jordan, most of the borders do not align with natural boundaries and, particularly in relation to the Gaza Strip, could be said to build in unsustainability. One can make the following brief observations concerning the different forms of land occupation on both sides of the border, which bear witness to natural resource inequalities:

- In Israel, there is a clear demarcation between urban centres and agricultural land. Urban centres are characterised by high-rise construction and suburban-style zones of individual housing. Since the creation of the state, new towns have burgeoned throughout the area, in many cases upon the ruins of Palestinian villages. Towns such as Be'ersheva and Ashkelon have become major centres. Agriculture is organised around kibbutz and moshav villages. It is heavily mechanized, and based on the input of agrochemicals.

- The confined geopolitical condition of the Gaza Strip has resulted, with the influx of refugees and natural population growth, in particularly dense land occupation. The towns were (before the destruction of the current war) characterised by a dense tissue of buildings with minimal green space. At the same time, agricultural land was intensively cultivated, providing much of the territory's market garden production. Gaza's strawberries were renowned for their quality.

- The West Bank, transitioning between the well-watered western slopes and desert to the east, is host to an ancient agricultural tradition, both cultivation and livestock, witnessed to by vineyards and olive groves on the terraced hills. Population increase has led to the urbanisation of former villages, around Hebron, the major centre. Beyond the general land grab that Israel has instituted, local farmers suffer the persecution of Jewish supremacist settlers intent on driving them off their land. This increased in frequency, intensity and violence during 2025 to include unprovoked attacks on civilians of all ages, destruction of homes, shops, factories, vehicles, infrastructure and – especially during the harvest season – olive groves and other crops.

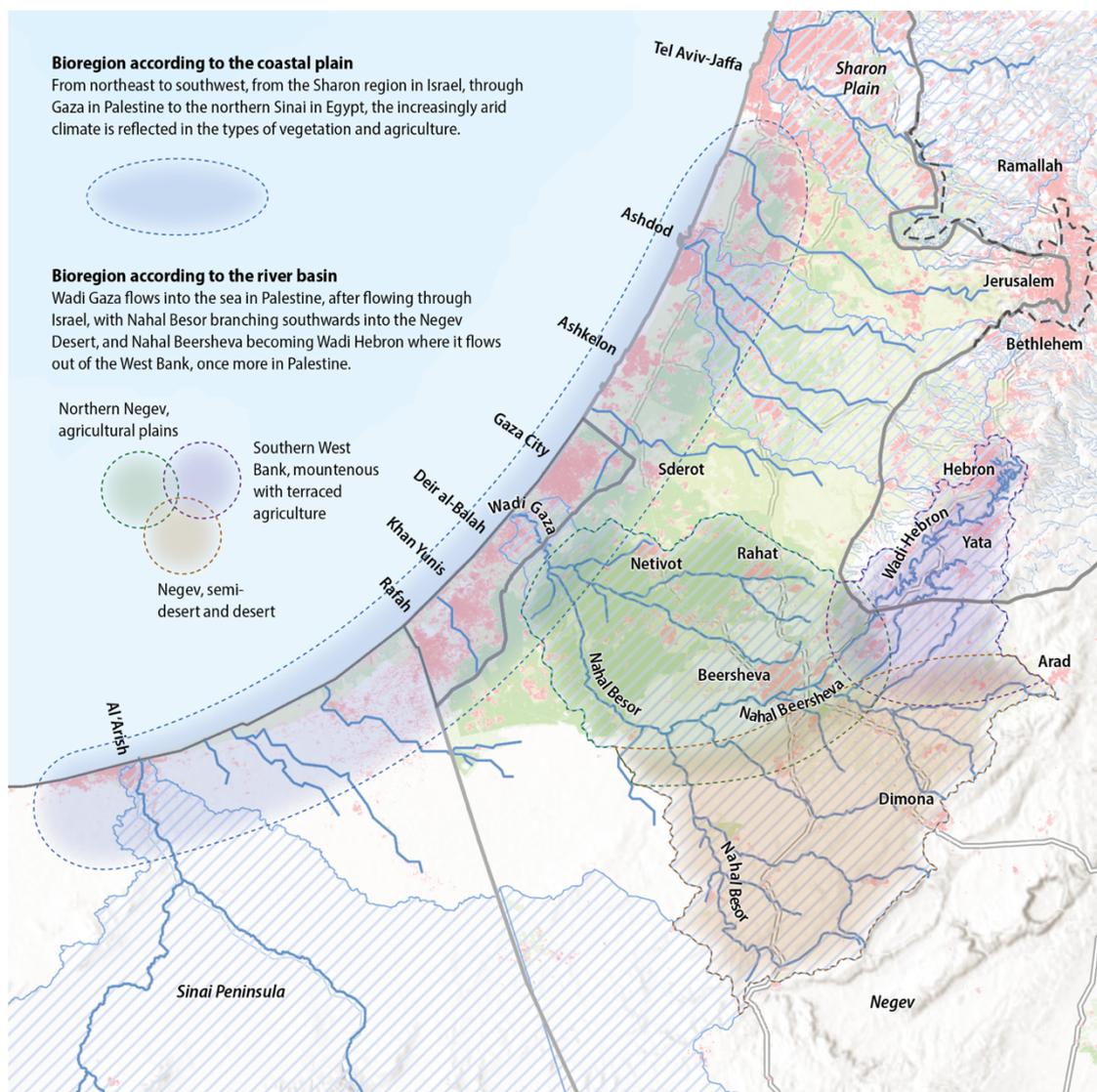
- The Negev's Bedouin populations have been forcibly settled in seven state-planned townships, the largest being Rahat. Many have established themselves in what is defined by the State of Israel as "unrecognized" villages, forming an informal urban sprawl covering large areas. Considered illegal and hence not served with infrastructure, they suffer harassment and demolitions.

It is clear from the above that the distribution of resources such as water, land, infrastructure, public services and all the rest is profoundly inegalitarian, Israel shamelessly reserving the lion's share for itself and using settlers on the West Bank to

pursue violent dispossession to increase this still further. The human and environmental costs are considerable, undermining the sustainability of longstanding Palestinian villages and livelihood strategies. This is what a bioregional approach would aim to remedy, while additionally integrating the non-human component (biological, topographic, hydrographic...), and in particular, the necessary adaptation to the transformations being brought upon the area by global warming, as detailed above.

Assessment: Which model(s) for the bioregion?

The truth be told, the current geopolitical strife in Israel/Palestine makes any project based upon cross-border co-operation highly speculative, if not downright utopian. Yet recourse to a narrative based upon this kind of coexistence is the only viable path that might counter the current disaster.



Two bioregional paradigms. Credits: Joseph Rabie, Gitit Linker, Anthedon, A Vision of Hope

Along the coast

One way to consider the bioregion as a coherent milieu would be in terms of the coastal plain, taking into account its gradual transition from a Mediterranean climate, through semi-arid to desert conditions. The continuum south of Tel Aviv (Ashdod, Ashkelon), merging into northern Gaza (Beit Hanoun, Gaza City), is characterised by a level of precipitation and fertile soil that have favoured the formation of rich agricultural landscapes.

The Gaza Strip, going from northeast to southwest, constitutes an area of transition between citrus orchards, olive groves and palm groves. Going further southwest towards Khan Yunis and Rafah, the climate becomes more arid, but with irrigation, is (was) intensely cultivated on both sides of the border. Leaving Gaza for the Sinai in Egypt, in the direction of El Arish, one encounters plantations adapted to the arid conditions, just as one morphs into a different bioregional context, that of the desert beyond. Thence, one crosses the Suez Canal into the Nile delta, an entirely different world.

In terms of the water basin

The water basin comprised, for the American bioregionalists, the fundamental element constitutive of a bioregion. It mirrors Geddes's valley section, which shows how human activities correspond to the successive milieux encountered along the river's course. In our case, this allows one to conceptualise an exciting vision in which bioregional unity surpasses geopolitical fractures: all the ingredients are there, only the will for human coexistence has to be brought into line!

Wadi Gaza traverses the Gaza Strip between Gaza City and Deir al Balah, over a distance of some six kilometres, downstream from the border with Israel. There is (or was, before the war) a water purification plant located just inside the border providing a flow of water. A Wadi Gaza Master Plan was drawn up for a natural park and greenway by the UNDP Programme of Assistance to the Palestinian People in 2022. In former times there were consequent wetlands at the river mouth, destroyed by urbanisation and severe reduction of the river's rate by exploitation upstream in Israel.

Named Nahal Besor in Israel, it flows in a generally southeasterly direction, leaving the agricultural lands of the coastal plain behind as it reaches upstream into the Negev Desert, with its source near Sde Boker. It has several tributaries, and while much of the system runs generally dry, it is subjected to flash floods. The presence of vegetation on the banks indicates an efflorescence of the water table. It has two major tributaries, Nahal Gerar that flows past Rahat into the foothills to the east, and Nahal Beersheva, the wide, dry riverbed of which divides this major urban centre in two.

Nahal Beersheva has several tributaries, with several branches flowing into the eastern Negev. A northern branch penetrates the foothills as they rise up to the highlands of the southern West Bank, having its source in Hebron – named, appropriately, Nahal Hebron – but this is its Hebrew name; in Arabic, it is the Wadi al-Khalil. A branch, Wadi Samoa, has its source near Yatta, an area where the Bedouin population is subjected to intense harassment by the settlers and army.

Both physically and symbolically, the river system embodies a geographical reality that serves as an invitation to reconciliation and concord, through the necessity to take care of a shared, threatened natural heritage.

These two partially superimposed bioregional models are not presented as alternatives, requiring the choice of one or the other. On the contrary, they present a dual territorial overlay, each representing particular, coherent forms capable of fostering modalities of development in tune with the preservation of the environment.

The first provides a maritime referential, and will incite towards shared stewardship of coastal resources between Egypt, Gaza and Israel. This includes necessary efforts aimed at the sustainable husbandry of piscatorial resources. The kurkar ridges running parallel to the long beaches constitute a natural treasure that require safeguarding within the context of intense anthropocentric land use along the coast – uses that are not only agricultural, but dominated by industry, power production, water desalination and ports. These are enabled by the bonanza of undersea natural gas, which, given global warming, would better be left where it is. Cross-border projects in solar energy could advantageously replace gas, given the availability of land in the Sinai Desert.

The river basin defining the second, can be subdivided by milieu into several sub-bioregional zones: the fertile plains to the north, the foothills-to-highlands of the West Bank, the semi-arid to arid sections of the Negev Desert to the south. Though rain falls in unequal quantities upon these different areas, there must be equitable distribution. Parsimonious use of the cross-border aquifer must be organised to ensure its continued repletion. Gaza's highly qualified farmers should be given access to adequate land by some mechanism of cross-border redistribution. Farming in general should turn its back on large-field, intensively cultivated monocultures, dependant on pesticides and fertilizer, and reorientate towards a more resilient mix of crops in an agro-ecological approach. Biodiversity must be encouraged, with rewilding projects in favour of local flora and fauna, particularly, but not only, along and in proximity to the riverbeds.

In both cases, the human habitat has to be profoundly reconfigured in order to integrate the effects of global warming, which have already been increasing steadily over recent decades and are forecast to accelerate after 2030. Extremes of heat will

become more frequent and intense, posing increasing health hazards and even threats to life, especially among infants and under-fives, the elderly and those living with chronic health conditions such as diabetes and cardio-vascular illness. Except in the northeast of the region, precipitation is expected to decline, although unevenly and occurring with greater intensity on fewer days, thus increasing the likely risk and intensity of flash floods. **Proactive and co-designed planning will be essential in order to minimise damage and maximise aquifer recharge and rainwater harvesting at all scales, from individual households to communities and governments.**

Comparative examples

The longstanding and interlocking complexities of this conflict make it both intractable and, indeed, unique in some respects. Nevertheless, insights derived from other contexts where entrenched conflicts over land and resources have been addressed with varying degrees of success through transboundary environmental initiatives to build collaboration and confidence might prove instructive in helping to formulate constructive ways forward here.

Transfrontier Conservation Areas (TFCAs) in southern Africa:

South Africa's transition to non-racial majority rule in 1994 presented the country with numerous short-, medium- and long-term challenges, including inequality of land distribution and access to knowledge, resources and social power. Nevertheless, as southern Africa's regional hub, South Africa has long remained attractive to economic migrants from neighbouring states. During the long eras of segregation and apartheid, authoritarian and strongly enforced controls had limited such migration to fixed-term labour contracts with obligations to return to their home countries on completion and as a condition of renewal. However, as enforcement was relaxed during the transition away from apartheid, unregulated migration increased, no longer just to urban industries and mines but also as cheaper agricultural labour than South African workers. Control became difficult, especially since many of the country's northern and eastern boundaries comprised extensive national parks and other nature reserves. Poaching increased dramatically and the construction of fences to prevent illegal migration proved relatively ineffective but took a heavy toll of wildlife since they obstructed seasonal migration routes or access to water sources.

Accordingly, the Peace Parks Foundation was established to drive a vision of collaborative and integrated transfrontier environmental conservation management by the respective national conservation authorities that would protect wildlife and its habitats, remove border fences, provide legitimate employment to local populations and allow development of novel international tourism. While the original national park boundaries were not generally established on the basis of natural features like

watersheds or river basins, they do coincide in some areas. The enlarged transfrontier parks certainly provide more integrated natural areas, with some bioregional features, that facilitate environmental management and allow long-distance seasonal animal movements.

This programme proved fairly controversial at first but had high-level backing and was promoted vigorously and largely independently of the Southern African Development Community, although it was enabled by a SADC Protocol in 1999 (<https://www.sadc.int/pillars/transfrontier-conservation-areas>)

To date, there are eight Transfrontier Parks in the region, with another four labelled 'emerging'. The largest at present is the Kavango Zambezi TFCA (KAZA), embracing some 42.5 m ha straddling parts of Botswana, Namibia, Angola, Zambia and Zimbabwe. It comprises a mixture of national parks, forest reserves, community-managed areas etc. Five of the eight existing Parks involve South Africa:

- [|Ai-|Ais/Richtersveld Transfrontier Park](#) (Namibia and South Africa)
- [Great Limpopo Transfrontier Park](#) (Mozambique, South Africa and Zimbabwe)
- [Kgalagadi Transfrontier Park](#) (Botswana and South Africa)
- [Limpopo/Shashe Transfrontier Conservation Areas](#) (Botswana, South Africa and Zimbabwe)
- [Maloti-Drakensberg Transfrontier Conservation and Development Area](#) (Lesotho and South Africa) (<https://www.sanparks.org/conservation/transfrontier/overview>)

The scale is vast. For instance, the core of the Great Limpopo TP is some 35,000 km² at the heart of a TFCA of 100,000 km² that includes several other national, provincial and private parks in the respective countries (see Ramutsindela 2004, 2007, 2014, 2017).

Results have been mixed but the principle is important and worth considering. At least two important models should be highlighted for potential relevance to the Shared Homeland project. The first is the way in which settlement of a large land restitution claim by the Makuleke community, whose traditional land had been sequestered for white-owned farms and to establish the northern part of South Africa's Kruger National Park was achieved. This had potential to become a long and highly conflictual land restitution case under post-apartheid legislation but, through imaginative leadership by the new South African National Parks authority and Makuleke community leaders, an amicable solution was found through formal recognition of the community's land rights, the granting of preferential employment opportunities in the Park and a joint management model for the area in question (De

Villiers 1999). This set a precedent for comparable claims in other conservation areas. This land also forms part of the Great Limpopo Transfrontier Park.

The second model is that the Richtersveld National Park in South Africa's northwestern Cape broke new ground in the region as the first significant new National Park established in 1991 by the reconstituted SANParks after the end of apartheid and the first from which the residents were not evicted but engaged fully as management partners. Farming and other pre-existing forms of employment continue, while tourism and the park itself provide considerable new employment, thereby diversifying the community's livelihood profile. This now forms the South African part of the Ai-/Ais-Richtersveld Transfrontier National Park with Namibia, established by bilateral governmental treaty in 2003 (Ministry of Environment, Forestry and Tourism, n.d.) .

Functional urban areas straddling different jurisdictions

The second potentially pertinent comparative example has a distinctively South African flavour as a key legacy of apartheid. A key tenet of that ideology was that each officially defined ethnic group should have its own 'homeland', although the spatial manifestation of this was a highly unequal political geography in which the white minority controlled the rump of the formal economy, including almost all mines and large commercial farms. The various African tribes were allocated mostly marginal land, often comprising a patchwork of small areas, disproportionately small in relation to population numbers and what would be required for economic viability and environmental sustainability. Political rights were supposed to be exercised in these 'homelands' (previously called bantustans), which were all intended to become nominally independent under pliant conservative governments but these were not recognised internationally.

In several cases, most notably the Eastern Cape, KwaZulu, the Orange Free State and Eastern Transvaal, the boundaries of the respective ethnic 'homelands' were drawn or changed through 'consolidation' so that they came sufficiently close to the large urban areas to include the peripheral high-density, low-income townships where urban Africans were required to live. Among the best known were Mdantsane outside East London (Eastern Cape) and Soshanguve outside Pretoria (Transvaal). In apartheid terms, this made the township residents into 'foreigners', who had to cross the border daily as 'frontier commuters', along with many others living further away. Amenities were basic and this device was used to remove the cost of housing production, infrastructural provision and maintenance and the like from the municipal budgets of the 'white' rump cities and impose them on the respective bantustans.

With the demise of apartheid, all this discriminatory and unjust institutional paraphernalia was abolished and replaced with a new system of non-racial provinces and integrated municipalities (so-called 'unicities' under the 1996 Constitution) in

order to promote reorganisation, functional and governance integration and to tackle structural inequalities. Thirty years later, much has been achieved in certain respects but towns and cities still bear the unmistakable socio-spatial scars of apartheid urbanism, while many inequalities persist. Despite burgeoning black middle classes and elites, in part due to affirmative action programmes and government largesse, structural inequalities and real poverty persist. Indeed, on some indicators, they remain stubbornly wide or have actually become more extreme. The literature is vast but representative examples from the early post-apartheid period documenting the restructuring include Tomlinson 1990; Swilling et al. 1991; Simon 2001; Turok 2001; Visser 2001, 2002; and Western 2002. More recent reflective perspectives include Turok 2013; Nengomasha 2021 and Robbins 2025).

The lessons from this for Shared Homeland are that it will take massive political and financial investment to address the structural inequalities between Palestine (especially Gaza in view of the extent of recent destruction) and Israel as a means to reduce tension and conflict. Other confidence-building measures will be needed.

Franco-German reconciliation following the Second World War

This example is particularly pertinent as a beacon for future peaceful relations between Israel and Palestine, both because of the total success of efforts at reconciliation, and the degree of enmity that had to be overcome. Indeed, for the century and a half following Napoleon's putting an end to the Holy Roman Empire, Germany and France came to consider themselves "hereditary enemies". The Franco-Prussian War in 1870-71 ended with the fall of Paris; the following Treaty of Frankfurt led to France paying considerable indemnities and the cession of Alsace-Lorraine. The First World War led to Germany paying reparations, and the return of those territories to France. The carnage in the trenches left an entire generation on both sides scarred for life. The environmental damage on the battlefields was such that a century later there are still areas that are out of bounds.

The humiliation of Germany at the Treaty of Versailles was one of the factors fuelling the rise of Nazism and the conquest of Europe by the Reich during the Second World War. Much of the reconstruction was funded by the Marshall Plan – notably, this concerned not only Germany's former victims, but West Germany itself. This took place as Europe suffered a new division between the Western and Eastern blocs, the latter under Soviet domination.

While Germany and France became objective allies during the Cold War, this does not explain the spectacular turnaround in relations between the two that occurred over the following decades. This was the result of people of goodwill on both sides making a voluntary effort to change the course of history, by overcoming the enmity that constituted the bedrock of geopolitical relations between the two. After the horrors

of the war and the atrocity of the Shoah, after the absolute evil represented by Nazism, there came the imperative need for “never again”.

President Charles de Gaulle and Chancellor Konrad Adenauer are to be credited with initiating a process of reconciliation between the two that has resulted in true friendship between these neighbouring countries. Adenauer stated in 1950: “a union between France and Germany would give new life and vigour to a Europe that is seriously ill. It would have an immense psychological and material influence and would liberate powers that are sure to save Europe. I believe this is the only possible way of achieving the unity of Europe” (Huber, 2020).

It is important to note that initiatives were not confined to the political realm. According to Megan Huber, “French and German civil society organisations actively pursued the expansion of societal and cultural ties through youth and academic exchange programs, town and city ‘twinships,’ and academic or research collaborations.” (Huber, *ibid.*) She cites Ulrich Krotz who reports that the Jesuit priest, Jean du Rivau, organised over 10,000 family exchanges, the objective being to allow each side to encounter and learn to appreciate the other in a process of deconstructing past stereotypes.

The signature of the Élysée Treaty between France and Germany on 22nd January 1963 enshrined the new relationship between the two, founded upon friendship and coexistence. The treaty, Martina Benedetti Marshall of the Transfrontier Operational Mission, based in Paris, tells us, “put the accent on citizens, education and the youth. Social cohesion was identified as a major issue, as with the importance to favour encounters between the French and German populations. One of the first results of the treaty was the creation, that same year, of the German-French Youth Office, that still continues today to support exchanges, language courses, internships, etc. This bottom-up approach, centred on the young, has been one of the greatest successes of the Franco-German ‘couple’ within the context of the emergence of the European Union.”⁵

Indeed, the reconciliation between the two countries was the precursor for the creation of the European Union, which has thrived on cooperation in lieu of competition. It serves as an example for a meaningful rapprochement between Israel, Palestine and neighbouring states. And in the same way that the European Union has been at the forefront of a common environmental policy for all the member states, a rapprochement in the Middle East is necessary for dealing with environmental challenges that know no borders.

⁵ Correspondence by email.

Water management between Jordan and Israel

One of Israel's major historical sources of water was the Sea of Galilee that, along with the mountain and coastal aquifers, supplied the quasi-totality of the country's needs. The National Water Carrier, completed in 1964, was designed to bring water from the lake to the coastal plain, providing both agricultural and drinking water. Many of the sources were in the Syrian Golan Heights, and taking control of these provided one of the compelling reasons for the plateau's occupation during the 1967 Six Day War.

Israel's increasing water needs, along with the irregularity of water input from the Jordan River during drought years – exacerbated by the effects of climate change – has resulted in a general lowering of the lake's water level. It thus oscillates between total replenishment during wet winters, and dangerous depletion that has it flirting with the “black line” beyond which irreversible ecological damage becomes inevitable. A collateral victim is the Dead Sea, deprived of inflow through the lower Jordan River, that continues to shrink and drop in level while increasing in salinity, suffering severe damage along the shoreline.

The Israel-Jordan peace treaty signed in 1994 stipulates Israel's obligation to share the Sea of Galilee's water with Jordan, by ceding 50 million cubic metres of water annually (subsequently doubled), which exerts increased environmental pressure on the lake. In order to bolster its water supply, Israel has developed both seawater desalination and the recycling of wastewater. Currently these provide some 50% of Israel's annual domestic water needs, totalising some two billion cubic metres (Lidman, 2019). This water is not equitably shared: as the occupying power, Israel is obliged to provide water for the Palestinian population of the West Bank, where Israel controls the mountain aquifer. Palestinians receive 60-90 litres of water per day, below the World Health Organization's minimum limit of 100l/d (Fanack, 2025). (As far as Gaza is concerned, the situation was already problematic before the war, and is quite simply catastrophic today.)

Over the past decade, Israel has undertaken a major engineering endeavour, enabling the reversal of flow in the National Water Carrier. One of the objectives is to raise the level of the Sea of Galilee by injecting desalinated water from the Mediterranean, and indeed a small amount of chlorinated⁶ water piped from the National Water Carrier now flows into the lake via the generally dry Nahal Zalmon (Surkes, 2025). While this undoubtedly constitutes an elegant technological “fix”, one has to question its appropriateness, both ecologically – desalination generates enormous quantities of brine that is environmentally detrimental; the influx of desalinated water risks altering the natural composition of the lake's water – and

⁶ The odour at the outlet is unmistakable.

philosophically – by the reversal of flow, with “artificialized” water from the sea replacing the influx of rainwater from the highlands.

One might mention here the international artist workshops organised around bird migration routes by Professor Yossi Leshem⁷ of the Tel Aviv University Department of Zoology, held in the Hula Valley in Israel in 2009 and above the Dead Sea in Jordan in 2017 – both part of the same hydrographic Rift Valley system comprising the Sea of Galilee – that brought together Jordanian, Palestinian and Israeli school children. Water is not only a material resource requiring geopolitical cooperation: deeply embedded in our psychic and spiritual make-up, it is an opportunity to foster coexistence.

Different bioregional approaches

There exist no institutionalised bioregions that have, as such, supplanted previous forms of territorial organisation. Since its inception in the California counter-culture in the 1970s, bioregionalism effectively continues to constitute a marginal and utopian movement, insofar as it proposes a post-capitalistic paradigm. The establishment of a full-scale bioregion is subject to the demise of industrial productivism, an unlikely option for the moment. In the examples detailed below, the bioregional approach functions as a kind of alternative overlay, as a means to introduce a more place-conscious and environmentally compatible paradigm of territorial organisation. Indeed, the term *bioregioning* (Wearne et al. 2023) is used, to acknowledge the partial, prospective level of intervention that is currently possible.

American bioregionalism led to the designation of a profusion of bioregions throughout North America, and further afield. The most emblematic is that of Cascadia, covering a vast area between the Pacific seaboard and the Rockies, stretching from Northern California all the way through British Columbia – more than 4000 kilometres long, it “extends as far as the salmon run,” according to the web site of the non-profit Cascadia Department of Bioregion. In geographical terms, it includes the watershed of the Columbia River and reaches all the way up to the Continental Divide, encompassing the Cascade Range. Clearly, such a large area is comprised of many geographical and biological milieux: Cascadia is thus divided up into nine sub-regions, totalling 75 distinct ecoregions.

Historically, Cascadia was associated with the back-to-the-land movement, that among other endeavours sought to save the indigenous forests of douglas firs and redwoods from the logging industry, bent upon transforming a natural heritage into a marketable resource. The fictional Pulitzer Prize winning “The Overstory” by Richard Powers is a testament to those activists who lived for many months in the summits of

⁷ Who says that birds ignore borders.

those trees to prevent them from being cut down. Cascadia continues to exist to this day through a loose confederation of movements scattered through the Pacific Northwest, focused respectively on environmental issues (salmon conservation), civil liberties, self-reliance, grassroots democracy, food autonomy, etc.

While the scale of the territory and the issues involved appear to be far removed from those of Israel-Palestine, the intellectual activity and the territorial implication of the American bioregionalists constitute a valuable source for projects elsewhere.

Bioregionalism in Europe has undergone a renewal through the work of the Italian architect and town planner, Alberto Magnaghi (1941-2023), professor at the University of Florence. At the heart of his work is the notion of the local project (Magnaghi, 2003), based on the concepts of territorial heritage and sustainable local development. He was at the origin of the Territorialist Movement in Italy and France, as part of a critique of the standardisation of a world reduced to the status of support for productive activity, adding the notion of place consciousness to that of class consciousness. He conceived of the *urban bioregion* as an ongoing co-evolution between nature and culture, in which town and countryside constitute a continuum that has to be designed in a systemic manner.

Magnaghi was commissioned to work on a variety of projects which allowed him to integrate bioregional principles through a methodology based upon detailed, sensitive study of the land and its representation through innovative cartography. In Tuscany, his work engaged with the territory at different scales: around Prato, in the immediate vicinity of Florence, based upon the intricate agrarian and hydrographic network that has developed since Roman times; a fluvial park on the Arno River conceived of as a hydro-ecological corridor; at the regional level of Tuscany, he demonstrated the strength of the complex, polycentric structure of human establishments within its environmental frame (Magnaghi, 2014).

The Italian and Israeli-Palestinian contexts share a Mediterranean affinity of continued cultivation and habitation evolving over thousands of years, witness to an artful and respectful transformation of landscape, that must be nurtured as the antidote to the large-scale disruption wrought by industrial agriculture.

Concluding thoughts

The importance of these innovative perspectives and the comparative agendas that they hope to inspire is to enable the coming reconstruction of Gaza to become an opportunity to integrate bioclimatic techniques, both in building typologies and the use of tree cover for cooling. Municipal and other structures of local government should integrate public participation as a matter of course. For dealing creatively with shared issues, collaboration between municipalities in Gaza, Israel, the West Bank and the

Sinai in Egypt will constitute a potent means for bringing populations together and healing their wounds. Given the legacy of death and destruction wrought through lengthy conflict, and the asymmetric power relations that both reflect and reinforce them, this will not be easy and will, to be sure, require sustained and patient trust building through transdisciplinary co-design and co-production.

Of utmost importance is the fact that, although the most visible concern is that of dealing with the consequences of the war and the destruction of Gaza, it is one of two existential issues, the second being adaptation to the worse-than-severe conditions heralded by climate change. This can only be dealt with through meaningful collaboration between populations across the region. The technical and financial “solutions” being pushed by the Trump administration are in no way aligned with the common good but seem to reflect powerful outside interests. As utopian as the bioregional approach appears to be, it has the power to inspire an alternative narrative as precursor for a new paradigm capable of prioritising socially, environmentally and economically sustainable and resilient futures for the region’s population being addressed by the Shared Homeland project.

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