

Balu' as Residual Space:

Landform and Sociality in Palestine

Omar Imseeh Tesdell and Iyad Issa

Traces and ruins structure the landscape of Palestine. Archeological sites loaded with religious and historical freight litter its urban and rural landscape. However, certain geographic features, too often considered part of a detached “natural” landscape, also embody traces. Here we consider the way that geographic features of the landscape, known as landforms, compose part of the social and economic fabric of Palestinian cities and villages. In particular we turn our attention to the *balu'* – seasonal pools or winter ponds – that form from the collection of runoff from winter rains in a low area. These formations are called *balu'* in the Palestinian vernacular from the root word “to swallow” and they might be understood as geographic depressions that “swallow” rainwater, allowing it to percolate slowly into the soil. Sometimes these seasonal ponds survive into early summer; sometimes they dry after the winter rains end in March, depending on rainfall amounts and temperatures. *Balu'* areas can also refer to sinkholes, potholes, or caverns in the ground. The soils in *balu'* areas tend to be heavy, clayey soils associated with sediment collected from runoff.

Wetland areas – including *balu'* areas – generally hamper the expansion of both urban and agricultural areas as they require interventions like drainage to render them usable within these spaces. The mass drainage of wetland spaces around the world in the late nineteenth and early twentieth centuries, which made use of improved tiling technologies, has slowly given way to a more measured approach. It has been shown that wetland areas play a crucial role in ecosystem function, including facilitating groundwater recharge, providing habitat, and controlling

floods. Environmental conservationists now push to either retain or reestablish wetland spaces as important features of the hydrological processes.

The destruction of wetlands areas in Palestine has been extensive. Among the most prominent examples are the Huleh wetlands, part of the Huleh Valley ecosystem, were drained by the Israeli government and Zionist colonists in the 1950s. It was brought back in part in the 1990s under pressure from environmentalists after flooding. The majority of wetland areas, meanwhile, have been drained and destroyed to make way for agriculture or urban expansion.

Traces of the antecedent balu‘ areas remain upon the landscape, however. These balu‘ trace areas collect runoff, host more varied plant and animal life, and contain distinct soil types owing to their disparate history. This essay provides a preliminary exploration of the balu‘ areas in Palestine. We explore two distinct balu‘ spaces that help us to consider the interrelation of landform and Palestinian socio-economic life. Part one explores the Marj Dayr Ballut as a residual space crucial to a unique farming system, and part two investigates the shifting role of the balu‘ within the urban fabric of Ramallah–al-Biréh.

Marj Dayr Ballut as Trace

The balu‘ of the West Bank village of Dayr Ballut offers a unique insight into the relations of sociality and landform in Palestine. The balu‘ is situated within the *marj*, or agricultural plain, at the edge of the village. The balu‘ and marj area is host to one of the most diverse agro-ecosystems found in Palestine today.¹ Rain-fed (*ba‘li*) systems used to produce wheat, barley, sesame, and lentils, in addition to vegetables like faqqus (Armenian cucumber) across Palestine. These highly diversified agro-ecosystems have declined drastically since the 1960s for a suite of reasons, ranging from changes in labor and social structure to economic shifts to Israeli government restrictions on trade and farmland. Within this context, the Dayr Ballut marj stands out as a rare living trace of a former landscape of rain-fed agro-ecological systems that supported Palestinians for generations.

Land use analysis has established the land area of the Dayr Ballut marj at about 900 dunams (222 acres), which is a large agricultural plain by West Bank mountain standards. The area is located in the Western slopes of the West Bank hill ridge near Salfit, at an elevation of 260 meters (853 feet) above sea level, with a mean annual rainfall of 569.8 millimeters (22 inches), similar to the annual precipitation of Berlin, Germany. The plain lies above Dayr Ballut valley, which snakes down to the coast from an elevation of 500 meters (1,640 feet) in the hill range south of the city of Nablus. The plain’s rich complex of colluvial-alluvial and Mediterranean brown forest soils provides an enviable growing medium. At the same time, the village is pinned in by a complex of Israeli restrictions. Settlements hem in the village to the east, south, and north; an Israeli-imposed nature reserve borders on the south; and the separation wall stands to the west.

The physical features of the marj furnish the conditions for a thriving small-scale Palestinian agriculture system. Impressively, the plain is divided into 515 individual parcels farmed by at least 200 people, nearly all women. These parcels are planted in a

diverse array of crops, including wheat, barley, sesame, lentils, faqqus, onion, garlic, and okra. The heavy clayey alluvial soil is tilled by tractor (operated by men, in their main agricultural role), but planting, weeding, and harvesting are done by hand. The crops are grown largely without the use of synthetic chemicals, greenhouses, or irrigation. Using archival photos and oral history, we have been able to document the agro-ecological record of the Dayr Ballut plain for approximately one hundred years in an attempt to understand what accounts for the long-term viability of this dynamic farming system into the present, when the vast majority of similar farming areas in the West Bank have all but disappeared.

The topographic circumstances of the marj may hold part of the answer. Given its plentiful rainfall, its rich soil, its warm climate, and its geomorphological position as a flat plain, the multi-crop farming system does not require costly irrigation or greenhouses. This greatly reduces the overhead of production. Of the total area of about 900 dunams, 106 dunams (26 acres) are located within what local people call the balu' area. It floods with the winter rains and remains wetter than other parts of the plain throughout the year. The farmers of Dayr Ballut plant the wetter balu' area of the marj only with okra because it thrives on the moist soil conditions. Its ability to retain high soil moisture in a wet-dry Mediterranean climate like that of Palestine enables the farmer-women of Dayr Ballut to grow crops profitably without the need for expensive resources: water, irrigation equipment, or chemical inputs. Villagers express a desire to extend drip irrigation and greenhouses into the marj, but cite the Israeli authorities' restrictions on water and construction in the site as the main impediment.

In some cases the ancient traces in the balu' are literal. The balu' in Dayr Ballut is home to tadpole shrimp species, belonging to the *Notosraca* (Crustacea) family. Studies have found the closes related species *Lepidurus apus* and *Triops cancriformis* in rain pools across Palestine. These tadpole shrimp are living fossils: fossils from the Triassic Period, more than two hundred million years ago, are nearly identical to the specimens found living today. According to a study by Israeli researchers on the reproductive habits of these species in seasonal pond areas, the balu' in Dayr Ballut is home to the *Triops cancriformis*, which is the more rare of the two tadpole shrimp species.² Israeli researchers have harvested eggs from the tadpole shrimp species and attempted to establish them in other wetland areas as a protected species. Palestinians from Dayr Ballut have noted that the tiny prehistoric creature may be one reason that the plain falls within Area C under the Oslo interim accords, a classification that facilitates Israeli control of the natural resources.

The landform of the marj and balu' in Dayr Ballut is both a trace and a site of potential. It has galvanized Israeli interest in the area to control a valuable agricultural plain and ostensibly protect rare species. However, at the same time, the landform itself has provided an accommodating geographical situation for a dynamic and highly successful agro-ecosystem, which is largely self-reliant with no need for costly infrastructure. Whereas in conventional thinking the balu' forms an impediment to agricultural and urban expansion, from the vantage point of Dayr Ballut we can see how the landform of balu' itself provides the conditions for a thriving agro-ecosystem. In this sense, balu' is less a trace or ruin and more a site of potential, delivering a viable and successful arrangement



Figure 2. Aerial photograph showing al-Balu' pond in relation to the historic center of al-Bireh, 1918, Bavarian State Archives, online at www.gda-old.bayern.de/bestaende/viewer/viewer.php?show=/bestaende/palaestina/bayhsta_bs_palaestina_0597.

while the rain that falls in the adjacent eastern slopes is collected by another web of valleys that channel rainwater to the Jordan Valley and ultimately into the Jordan River and the Dead Sea.⁴ The water collected in al-Balu' is part of a very small share of the rainwater that does not find its way into either of these widespread webs of valleys. The seasonal pond could usually be seen between the start of the rainy season in December and the spring season (April–May). This could vary based on the amount of rainfall and temperature every season. In a mountain region, which lacks permanent surface water areas, balu' areas and similar seasonal or permanent surface water are exceptional natural features, worthy of investigation and protection.

Al-Balu' and Village Agriculture

Despite the lack of precise quantitative data regarding the agricultural production of al-Bireh in general, and al-Balu' area specifically, over the past century, oral history and the available archival documents can provide insights. A quick analysis of this history reveals that al-Balu' area, like other highland plains, was utilized for *ba'li* (non-irrigated) seasonal agricultural activities. Compared to the neighboring areas, especially the town of Ramallah, al-Bireh village (now urban area) had numerous plains around the historic

center, especially to the northern and western sides, which were used to grow seasonal crops and vegetables rather than olive groves. Al-Balu‘ was no exception: okra, legumes, and cereals such as wheat and barley used to be cultivated there. The wet area was used only for summer crops,⁵ as it was inaccessible during the winter season due to the existence of the pond.

The distinctive characteristics of al-Balu‘’s soil and location determined the agricultural activities in the area. The capture of the rainwater in the al-Balu‘ and the adjacent areas in the plain kept the soil wet for several months and made the *ba‘li* agriculture system possible. Moreover, the topsoil of the area was fertile and deep which helped to produce better agriculture crops and vegetation. Another distinctive feature of this area, mentioned by many locals, was the use of this seasonal pond during winter as roosting spot for several types of migratory birds. In addition, locals mentioned the existence of micro-ecosystem that hosts several species of insects and worms during the winter season, forming a temporary natural habitat for the birds.

Al-Balu‘ and Urban Development

Like adjacent villages, Ramallah and al-Bireh were subject to gradual urbanization and urban transformation since the turn of the twentieth century. The transformation of al-Bireh from a small village to a town, then to a city has shifted socio-spatial relations away from a community structured around agricultural activities to a more urbanized community based on commerce and services. One of the most prominent transformations was manifested in land use. Village-cultivated land has been gradually transformed to new residential, commercial, and industrial neighborhoods.

Al-Bireh’s urban development expanded first in two directions: the first was toward al-Manara, the new urban center for the merged cities of Ramallah and al-Bireh. The second direction was along the Nablus–Jerusalem road. The second half of the twentieth century witnessed development included linear commercial and residential development toward al-Manara and along the Jerusalem–Nablus road. In addition, development to the north of the village, along the Nablus road toward al-Balu‘ area, included the establishment of an industrial zone. Development also expanded south of the historic center, first along the Jerusalem road then to the adjacent mountains, including the areas of al-Sharafa, Sath Marhaba, and later Umm al-Sharayit. The establishment of an Israeli colony (Psagot) at Jabal al-Tawil in 1981 seriously contained development to the east.⁶

Limited archival material such as maps and aerial photographs can provide some insight into the development of al-Balu‘ as an urban area and its demise as a wetland. The first wave of urbanization in Ramallah–al-Bireh (1900–1960), left al-Balu‘ relatively untouched, due to its remoteness from the town center, according to the administrative borders of al-Bireh. Survey of Palestine maps for the Ramallah–al-Bireh urban area in 1943 show the northern urban border did not include al-Balu‘ and stopped only five hundred meters north of the historic center (less than one-third of the distance between the historic center and al-Balu‘ area). Its distance from the main development corridors

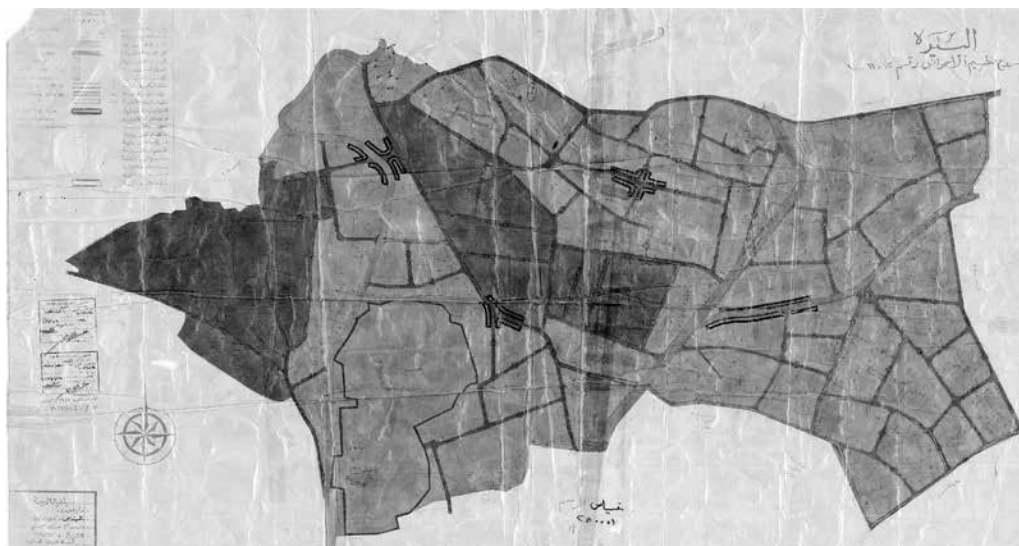


Figure 4. Map showing the proposal for al-Bireh master plan extension, 1966, al-Bireh Municipality.

development dynamics of the 1960s. The master plan envisioned the expansion of the city toward the north. The proposal considered the development of al-Balu' area to be mainly residential with minimal local retail activities. Al-Balu' zone was seen as a chunk of land in need of development through the real estate market. This approach overlooked both the historic use of this land and the natural and ecological characteristics of the area. The linear agricultural land plots, known by farmers as *mawaris*, suddenly transformed to empty urban parcels waiting developers to build on them.

Based on this proposal, small-scale urban development of al-Balu' area started at the beginning of the 1970s. It seems reasonable to conclude that development started on the adjacent slopes of the balu', where the bedrock is shallow and building foundations could be erected at minimal cost and where services such as streets, electricity, and running water were available. Buildings were not erected where rainfall formed seasonal ponds. The development was mainly residential, the most prominent being the Abu Laban housing complex at the northwest edge of al-Balu' area and the Jerusalem Water Undertaking housing complex at the southern edge of the area. Later, in the 1980s and 1990s, development continued at the edges and expanded significantly beyond al-Balu' to the northern slopes, leaving the heart of the area, where rainwater naturally collects, undeveloped. It is worth mentioning that the area adjacent to al-Balu' on the east (east of the Jerusalem–Nablus road) was not developed due to restrictions imposed by Israeli Civil Administration Office.⁸

During the 1990s, after the Palestinian Authority took control of the major urban areas of the West Bank and the Gaza Strip according to the Oslo accords, rapid urban growth occurred in the major cities of Palestine. Ramallah and al-Bireh faced huge pressure as a result of urban development. Al-Balu' area was a main scene for continuous construction activities due to its proximity to the city center. The new development started to intensify



Figures 5 and 6. Maps showing al-Balu' and surrounding urban development of al-Birah and Ramallah in 1996 and 2015, with the darker plateau area surrounding the pond. This map is based on a map produced by al-Birah Municipality, with lines and borders by the author.



Figure 7. Partial view of the seasonal pond during winter, 1980s. Photo from al-Bireh Municipality annual report, 1987.



Figure 8. Rainwater trapped in scattered spots in al-Balu' in 2016. Photo courtesy Iyad Issa.

gradually. However, the nature of this new development was different from previous development. It included several governmental and national security buildings alongside new commercial and retail facilities such as shopping centers. In addition, new residential buildings were erected, but of types different than the villas, semi-detached housing units, and detached homes built in the 1980s.

The municipality tried hard to provide infrastructure to the area as a whole. The municipal services followed development along the edges of al-Balu' and only later reached the wetland area. The municipality launched the first project to deal with the wetland area drainage in 1998. The first phase was designed to drain the water of the seasonal pond away to the adjacent eastern slopes. The first phase was followed by many phases to expand the infrastructure to cover additional areas where rainwater remained to form small, scattered seasonal ponds. The project is still considered an on-going project by al-Bireh municipality and other areas are planned to be included.

Al-Balu' Today

Over the twentieth century, al-Balu' has been gradually transformed from an integral part of the village agricultural spatial structure and economy to a busy urban zone within the Ramallah–al-Bireh conglomeration. This transformation has gradually decreased agricultural activities and land use in favor of urban sprawl. Until the beginning of the twentieth century, al-Balu' was fully cultivated with vegetables and crops. Then, for some period, al-Bireh was a town with a remote area that was still cultivated with the same crops and vegetables, but agriculture was no longer the main local economic activity. Later, al-Balu' area shrunk to a limited spot of marginal agricultural activities within an urban surrounding. Nowadays, most of the wetland area has disappeared and buildings are being erected over the land. Agricultural activities are no longer practiced in the area on regular basis and on large scale except a small seasonal scattered pockets especially at the eastern margin of the plateau (east of the Jerusalem-Nablus road).



Figure 9. Current development trends around al-Balu'. Photocourtesy Iyad Issa.



Figure 10. Current development trends around al-Balu'. Photocourtesy Iyad Issa.

Today, al-Balu' area is considered a key part of the urban development of Ramallah–al-Bireh's urban fabric. The area's development includes public facilities, commercial and retail facilities, residential houses and buildings, governmental buildings, office buildings, and many other urban facilities. The topography of the area is mainly flat, which facilitated such rapid urban development. In addition, the scarcity of land available for new development offset the cost of building foundations, which otherwise may have hindered building in such an area. The topsoil from construction sites in al-Balu', it is worth pointing out, is considered a precious commodity and is sold for gardening activities in other places.

The remnant, residual space (*atlat*) of this area and its ecosystem can still be found in parcels not yet developed and awaiting future development. Those spots at the heart of al-Balu' still have the traces of the agricultural trenches and some still have the old shape of linear *mawaris* plots, but without any cultivated plants. Fragmented spots of wetlands appears during winter, as rainwater forms small water ponds here or there in empty parcels between the existing buildings. The new users of the plots may view these rainwater ponds as a problem or a minor fault in the rainwater drainage system. In fact, those water spots are the remnants of an ancient natural feature that lasted for hundreds or maybe thousands of years.

Nazeh Abu Fkhedeh is an agricultural engineer who is considered one of the last farmers who used to cultivate the wetland area in spring and summer. He described some of the last cultivation activities in the area between 2004 and 2009.⁹ Nazeh mentioned that he started growing the vegetables and crops while the foundation of one of the largest multipurpose buildings were under construction. He used to cultivate around twenty-five dunams, divided into five-dunam plots dedicated to growing different types of crops. He described the soil as fertile and suitable for growing several types of vegetables and crops. Nazeh used to cultivate vegetables such as okra and legumes such as chickpeas and beans. He concluded that cultivation was not profitable and demands intensive labor that was not available or affordable when he worked there. Now the building stands in what used to be part of the wetland among empty parcels without any traces of Nazeh's vegetables or crops.



Figure 11. New infrastructure and development trends around al-Balu' and where the seasonal pond used to occur. Photo courtesy Iyad Issa.



Figure 12. New infrastructure and development trends around al-Balu' and where the seasonal pond used to occur. Photo courtesy Iyad Issa.

This article has tried to shed light on a distinctive natural feature of the landscape of Palestine. By studying Balu' al-Bireh and balu' Dayr Ballut, we tried to highlight the demise of such residual natural spaces within the contemporary landscape of Palestine. First, the article tried to show example of surviving balu' in Dayr Ballut. Dayr Ballut's balu' survived due to a complex web of geopolitical and local agro-ecological factors. Nevertheless, an in-depth investigation shows not only the preservation of some ecological features of the system, but also changes in the nature and structure of the agricultural activities associated with the area. Second, the article examined the demise of Balu' al-Bireh as a residual space within the urban expansion of the city. The rapid urban development of al-Bireh–Ramallah reached the balu' area and included it within larger processes of real estate development. In this case, urban development caused a more drastic transformation. The urban transformation contributed not only to eliminating the agro-ecological activities, but also to the natural feature itself – including the soil and the wetland – gradually vanishing.

We hope that this short review will foster further in-depth research to investigate the nature and the importance of such remaining small-scale natural elements and their relation to surrounding landscapes and nature. In addition, we hope this work will foster an examination of the remaining balu' areas and their current situations with the aim of their future preservation as natural features of the threatened Palestinian landscape.

Omar Imseeh Tesdell teaches in the Geography Department at Birzeit University.

Iyad Issa is an architect and multidisciplinary researcher whose work investigates the intersections between architecture, urbanism, and art within the city's landscape and history. His research-based interventions explore topics related to modern history, urbanism, and cities in Palestine and the Arab region.

Endnotes

- 1 Research on the Wadi Dayr Ballut agro-ecosystem is underway in collaboration with researchers Saher Khoury and Yusra Othman.
- 2 See Michal Sorek, Jacob Douek, Tamar Guy-Haim, Noa Simon-Blecher, Baruch Rinkevich, and Yair Achituv, "Population Genetics and Reproductive Strategies of Two Notostraca (Crustacea) Species from Winter Ponds in Israel," *Zoology in the Middle East* 62, no. 4 (2016): 331–341.
- 3 The altitudes given here are approximations based on the master plan of al-Bireh produced by al-Bireh municipality.
- 4 In the case of Balu' al-Bireh, the rainwater moves eastward through Wadi Sha'ban (al-Bireh) and westward through Wadi al-Shawmar (Ramallah).
- 5 Author interview with Nazeh Abu Fkheda, Ramallah, January 2017.
- 6 *Al-Mawsu'a al-Filastiniyya* [The Palestinian Encyclopedia] (Damascus: Hay'at al-mawsu'a al-Filastiniyya, 1984), vol. 1, 229.
- 7 This is based on the master plan extension map provided by al-Bireh municipality.
- 8 Based on the Israeli Civil Administration's municipal border modification order of October 1982.
- 9 Author interview with Nazeh Abu Fkheda, Ramallah, January 2017.