

Nature and Resistance in Palestine

Mazin B. Qumsiyeh

Professor and Director, Palestine Museum of Natural History (PMNH) and its Palestine Institute of Biodiversity and Sustainability (PIBS) of Bethlehem University
mazin@qumsiyeh.org, info@palestinenature.org

Abstract

The world faces global catastrophic climate change that impacts our environment. In Palestine, this situation is exacerbated because of an environmental “nakba” linked to Zionist colonization over the past century. Sustainability is thus a priority. Environmental education and stewardship must involve coverage of key principles and certain agreed categories based on scientific principles and in a systematic way. The Palestine Institute of Biodiversity and Sustainability and the Palestine Museum of Natural History and its nascent botanical garden (all at Bethlehem University) provide a model for integrating research, education, and conservation in ways that work to protect the environment even under Israeli occupation. We argue that this is also a form of empowerment and resistance.

Introduction

Today many people realize that there are major threats facing us as a species; the two largest globally are climate change and the threat of nuclear war. Most people also realize that we cannot wait on governments to address pressing issues that affect our livelihood and sustainability. One can cite hundreds of examples of the short-sightedness and greed driven corporate-governmental-military alliances that threaten our very existence. Most environmentalists were not happy with the inadequate, hesitant and non-binding steps agreed to at that climate summit in Paris. But recently, the US administration under President Trump announced withdrawing from the Paris accords while selling hundreds (is it hundreds of billions?) of billions of dollars worth of weapons to Saudi Arabia (and to Qatar). Simultaneously, data show that the natural resources of the earth are being depleted rapidly. Yet, much of the wealth is being concentrated in the hands of the few with the rich getting richer and the poor getting poorer. Again and again, governments do not seem capable or willing to address these existential issues. Even with the existential threat of climate change, great powers seem to want to do too little too late. Accurately diagnosing the problems we face based on good reading of social and human history is essential. However, this must be followed by offering therapy based on logic and ensuring a relatively good prognosis for us and our planet.

Environmental education (EE) is critical to environmental stewardship (ES) especially as we face habitat destruction and climate change. Wealthy countries generally have more educated public and enough resources (human and financial) to try and deal with the challenges. Yet, most of the 7 billion people on earth live in developing countries with limited resources depleted by decades of colonization and Western usurpation of their

resources. The situation is even worse in developing countries still under occupation and/or in politically and socially difficult circumstances.

It is now recognized that climate change that causes resource depletion (e.g. water) can contribute to conflict, thus connecting the two main threats facing our societies (see Nordås and Gleditsch, 2007). Palestine is a case in point where 7.2 million Palestinians are refugees or displaced people, a decades-long occupation continues to have a severe negative impact on the environment, and instability prevents people from rationally advocating solution to existential problem. Hereby, we discuss how we developed a successful program of EE and ES under occupation in a poor and developing country with limited resources; this can also be considered an act of resistance and an act of hope for the future. The lessons learned could also apply in other developing countries.

Palestine and its peculiarity

Before the Zionist project in the late 19th century, Palestine had some 1300 villages and towns each with small and manageable population. The total population then was 850,000 with various religious persuasions (3% Jewish, 13% Christian, 80% Muslim, 4% other). The land was owned or operated by those local people. Since the first Zionist congress in 1897, this structure has been radically shifted with mostly European Jews migrating and taking over the land. Initially, there were very small land purchases and removal of local peasants who farmed the land for centuries but who were forced out because of Ottoman collusion with Zionists and very wealthy elite Arabs who illegally sold the land. This was a small percentage of no more than 7% of supposed privately owned land.

It was only in 1948-1950 when Israel was founded by military rule that a large wave of ethnic cleansing happened and Zionists took control of the much of the land of the local Palestinians (Pappe, 2006). Nearly 500 villages and towns were destroyed and their land re-cultivated mostly with European pine trees which damaged the local environment. In 1967, Israel occupied the remaining 22% of historic Palestine (plus the Sinai and the Golan Heights) and built settlements throughout the occupied territories in contravention to International law (4th Geneva Convention) (Masalha, 1992; Qumsiyeh, 2004). When the West Bank and Gaza came under Israeli rule in 1967, only the area of Imwas was forested and became Canada Park after destroying the three Palestinian villages in the area. In all other areas of the occupied territories, forests and vegetation cover was removed to build the Israeli settlements which now house 750,000 Israelis (ARIJ, 2015). Simultaneously, rules were introduced that prevented Palestinians not only from doing much of their usual agriculture but also from managing forested lands or building in open spaces. Alon Tal, Founder of the Israel Union for Environmental Defense, acknowledged that: "...it's a Zionist paradox. We came here to redeem a land and we end up contaminating it" (Beyer, 1998; Tal 2002). One area where this was clearly manifest is that after the destruction and ethnic cleansing of some 500 Palestinian villages and towns including all their Orchards in 1948-1950 (see Pappe, 2006) the colonizing Israelis planted European pine trees because they are fast growing and can quickly cover-up the area. But this monoculture is also environmentally bad for the local fauna and flora and is a fire hazard.

Currently 750,000 Israelis live in these Occupied Palestinian Territories (OPT). The OPT are also subdivided into areas; some annexed to Israel, some under Israeli civil and military control (61.1% of the OPT), some under Israeli military control only (18.3%) and a small area under Palestinian civil and partial security control (17.7%) (Isaac and Hilal, 2011; ARIJ 2015). In the West Bank itself, some 30% of the territory is delineated by the occupying army as closed military zones and “nature reserves”. The system of occupation and colonization creates significant issues for the local people and the local environment. The occupation and colonization is highly destructive to the Palestinian environment. We can cite dozens of example in detail but let us just list key challenges:

- a) Draining of the Hula wetlands in northern Israel (key biodiversity area, especially for migratory birds);
- b) Israel’s diversion of the headwaters of the Jordan Valley that resulted in significant impact on the valley system and drying the Dead Sea
- c) The planned Red Sea – Dead Sea canal, a joint project between Israel, Jordan, and the Palestinian Authority;
- d) Israel’s practice of putting some of the worst polluting industries in Palestinian areas;
- e) The settlements and the walls, built with little environmental impact assessment, that scar the biblical and natural landscape;
- f) Settler attacks on Palestinian property, including but not limited to burning trees and dumping sewage on farm land.

The development of the state of Israel and its further occupation of the 1967 areas emphasized military security, territorial security and demographic security but not environmental security (Tal, 2002; Newman, 2009). In 1990, the settler population in the West Bank and Gaza stood at over 200,000 (120,000 Israelis in illegally annexed areas of East Jerusalem). The Declaration of Principles and Oslo agreements between Israel and the PLO did not prohibit settlement expansion or Israeli colonization efforts in the occupied areas. Between 1993 and 2000, the population of settlers in the occupied areas doubled to over 450,000 and today stands at 750,000 (ARIJ 2015). This occurred despite the fact that international law is very clear about the illegality of these settlements. Article 49 of the Fourth Geneva Convention (to which Israel is a signatory) clearly states that the "The Occupying Power shall not deport or transfer parts of its own civilian population into the territory it occupies". UN Security Council Resolution 465 of 1980 reads in part that:

..all measures taken by Israel to change the physical character, demographic composition, institutional structure or status of the Palestinian and other Arab territories occupied since 1967, including Jerusalem, or any part thereof, have no legal validity and that Israel's policy and practices of settling parts of its population and new immigrants in those territories constitute a flagrant violation of the Fourth Geneva Convention relative to the Protection of Civilian Persons in Time of War and also constitute a serious obstruction to achieving a comprehensive, just and lasting peace in the Middle East.

Israeli colonies in the occupied areas were intended for security and control. Thus, most land confiscation and colonial settlement activity was intentionally concentrated on the high grounds (hills and mountains) (Benvenisti 2002). Due to this peculiar arrangement, a runoff of wastewater, pollution from industrial colonists in declared “industrial zones”, and soil erosion on the hills directly impacts Palestinian communities located in the lower areas adjacent to these colonies (Hamad and Qumsiyeh 2013).

There is some debate about whether some nations are able to advance their regulatory and enforcement standards to protect their environment in an increasingly globalized system (Vogel, 1997). Developing countries are at a particular disadvantage because of the lack of economic resources. There is a direct correlation between the GDP and level of environmental interest (Mills and Waite, 2009). The GDP of Palestinians is 1/8 that of Israelis who share with them the space of historic Palestine but this gets more distorted during the cyclical uprisings against the occupation (Hever 2010).

There are many other issues where the occupation can effect sustainable development and protection of the environment (see MOPAD 2014 for a summary). For example, a main problem facing the tourism sector in general (including ecotourism) is the policies of the state of Israel to destroy means of livelihood of the local population (Shay, 2016; Isaac *et al.*, 2016). Another example is that as Israel tries to change the bounds of the semi-arid regions to make them arable lands, it is pushing the Bedouins further south. As climate changes, the desertification increases and the semi-Nomadic Bedouins are caught in the middle (Weizman *et al.*, 2015).

We must also add the uneven distribution of water between the natives and the Israeli occupiers (Gasteyer *et al.*, 2012; Al-Haq 2013). The UN Commission on Human Rights reported in 2000 that:

- *Palestinian entitlements for water include the underground water of the West Bank and Gaza aquifers, in addition to their rightful shares in the waters of the Jordan River as riparian. The annual renewable freshwater yield in the occupied territories ranges from 600 million cubic meters to 650 million cubic meters*
- *The Palestinian use of the Jordan River before 1967 was through 140 pumping units. Israel either confiscated or destroyed all of those pumping units. In addition, Israel closed the large, irrigated areas of the Jordan Valley used by Palestinians, calling them military zones that later were transferred to Israeli settlers.*
- *At present Israel extracts more than 85 per cent of the Palestinian water from the West Bank aquifers, which accounts for about 25 per cent of Israel's water use.*
- *Israel provides settlers with a continuous and plentiful water supply, largely from Palestinian water resources. The supply to Palestinians is intermittent, especially during summer months...*

Politics trumping facts can be devastating to understanding of issues like environment and water. For example, deliberately misstating facts, hiding them, selectively representing uncertainty and much more was done by Israeli officials to serve their

political interests in the Jordan River basin (Messerschmid and Selby, 2015). Confiscation of land for settlements is also one of the major threats to the Palestinian nature reserves (Etkes and Ofran, 2007). The confiscation of Ras Imweis and six adjacent areas, now known as Nahal Shilo, northwest of Ramallah are examples of taking in the name of nature and then destroying nature to build colonies (POICA, 2013).

Besides the colonization other issues effect environmental conservation in Palestine. Rapid natural and unnatural (via migration) growth of population places much pressure on our limited space and overtaxed water resources. The industrial consumerist agriculture imported from the West exacerbates things (use of pesticides, monoculture etc). Law enforcement related to nature conservation remains marginal and the society remains largely unconnected from nature, focusing on mere survival.

There has to be benefit sharing from conservation and biodiversity (Schroeder and Lucas, 2014). Görlach *et al.* (2011) summarized potential economic benefits from environmental conservation efforts (if successful) in Palestine. Non-governmental organizations (NGOs) are a key nexus in this process. The defeat of Arab regimes in 1967 forced remaining Palestinians both in the areas occupied in 1948 and those occupied in 1967 to develop self-reliance mechanisms to cope with Israeli occupation (Qumsiyeh and Isaac, 2012). Those self-reliance mechanisms were gravely diminished by the Oslo Accords. In the wake of these upheavals – and particularly since the Oslo Accords, NGOs proliferated in the region. Initially there were few NGOs dealing with environment or sustainability issues in the OPT. Those that were established had good agendas but the Palestinian political developments caused the situation of volunteerism and the spirit of giving to diminish. Many NGOs became, like Palestinian Authority ministries, more concerned with salaries than with achieving their mission (Qumsiyeh, 2012; Majdalani Azzeh 2012).

Case Study

In 1989, Bethlehem University developed an Institute of Community Partnership that worked with marginalized communities to achieve economic empowerment. In moving more towards sustainability, we at the university saw the need to initiate an institute that develops new techniques and knowledge relating to sustainability (especially food security while protecting health and the environment) and knowledge transfer to marginalized communities. This includes also research best methods to ensure community buy-in and ownership of local initiatives. We are especially focused on adaptation and mitigation of the adverse effects of climate change, desertification, and Israeli occupation.

My students and I were the first Palestinians to publish research on biodiversity in such groups as scorpions and amphibians, to demonstrate genetic impact on human health of Israeli industrial settlements, to study infertility among Palestinian males, to study cancer cytogenetic in Palestine, and on other topics (see palestinenature.org/research). Based on these studies and others, plus the work and ideas of dozens of young volunteers, the Palestine Museum of Natural History was launched in June 2014 with ambitious plans.

Using largely volunteer efforts and local donations, the Palestine Museum of Natural History (PMNH) and its Palestine Institute of Biodiversity and Sustainability (PIBS) of Bethlehem University have a mission focused on research, education, and conservation of our natural world, culture and heritage and the use of knowledge to promote responsible empowered human interactions with all components of our environment. Our motto is RESPECT (first for ourselves, then others, then the environment). In the past three years, we managed to:

- 1) Publish 25 applied research papers (on things ranging from environmental health to biodiversity to sustainable livelihoods, to education, and more);
- 2) Develop an agricultural research station and botanical garden (including aquaponics) and use them to empower marginalized local farmers (production, research, and knowledge transfer);
- 3) develop educational programs that benefited thousands;
- 4) Host hundreds of local and international visitors who gained knowledge of local challenges and opportunities;
- 5) Build partnerships with local and global governmental and non-governmental entities resulting in benefit to environment and sustainability;
- 6) Develop databases and other resources including collections, photo library, digital library, local biodiversity database, and a seed bank.

This is an integrated system for research, education, and conservation to address areas in need in Palestine, a country under stresses of occupation. The museum grounds and its botanical garden (integrated ecosystem) are an oasis for wildlife in Bethlehem and an oasis for young people seeking alternatives and a new way of looking at themselves and their environment (empowerment and nature conservation).

PMNH/PIBS developed educational modules relating to waste reduction, recycling, upcycling, composting, permaculture, and aquaponics. These modules were developed in partnership with university students and stakeholders in the community and were tailor-made to suit specific target communities especially focusing on marginalized villages, women, and youth. Partner organizations and institutions in these ongoing efforts include the Environmental Quality Authority, Ministry of Agriculture, Ministry of Health, Ministry of Education, local NGOs, and local community councils.

We live in a society under occupation where the largest inequality is that between the Jewish settlers (750,000 settlers in the West Bank) and the local Palestinians. For example, Israel uses 91% of the water of the West Bank. A second level of inequality exists in our society with marginalization of women and youth. We believe we have made a difference in both these levels via empowerment activities such as our research and educational programs that were focused on sustainability.

In research, we published work identifying key health risks of the Israeli activities such as industrial settlements dumping toxic waste on marginalized Palestinian Communities (see palestinature.org/research). PMNH/PIBS also published on use of museums and botanical gardens in advancing sustainability and environmental awareness in Palestine and as a model of resilience for developing countries. In education, PMNH/PIBS

empowered school students to connect better to the land, feel empowered, shed the mental occupation imposed on them via the occupation and thus develop initiatives of youth empowerment (>50% female). The young girls with whom we worked showed more significant effect (what do you mean?) on their family and community members compared to boys. This prompted PMNH/PIBS to increase work with young girls who became empowered leaders in their communities.

At one level, Palestinians in the West Bank are in totality considered a marginalized community because of the Israeli occupation there since 1967 (50 years). The UN and other international agencies and researchers all document the de-development and economic deprivation that is inherent in military occupation and colonization (see for example books and articles by Shir Hever on the economy of the occupation or read the UN reports on human rights). This falls under the category of indigenous people. PMNH/PIBS thus works to empower all segments of this indigenous Palestinian population. Within this community the focus in the past two years and also going forward is on women and youth (and particularly on young school girls). From Kindergarten through elementary school and on to high schools and universities, PMNH/PIBS works with young people to develop **respect for themselves (empowerment), respect for others (regardless of their religion or background), and respect for nature**. These three levels of respect are critical to societal sustainability and prosperity.

My wife and I donated the initial funds for this project and volunteer full time to ensure success of the project in transforming the society which can happen mostly via youth and women. This philosophy is ingrained in our vision, mission, goals, and current projects. PMNH/PIBS school educational programs for example work to empower students in mixed or in all girl schools to develop environmental clubs, to plant a garden in their back yards, to recycle, to think of income generating projects in their communities and do all of this while creating and maintaining a healthy sustainable environment for people and for all living creatures. PMNH/PIBS staff and volunteers worked with the women affairs section of the Ministry of Religious affairs to start an educational empowerment program for women in rural communities. PMNH/PIBS is working with the Environmental Quality Authority and Ministry of Health to empower people to have better healthier environment while increasing productivity via programs like ecotourism and permaculture and small home based projects (such as handicrafts). These are all forms of resistance and to protect our heritage related to nature.

Impact of PMNH/PIBS

Research: Research in the OPT lags behind developed countries and even nearby developing countries because we are under occupation but R&D are critical for development especially in areas like healthcare, agriculture, and the environment (see Qumsiyeh, MB and J. Isaaq. 2012. Research and Development in the Occupied Palestinian Territories: Challenges and Opportunities. Arab Studies Quarterly. 34(3): 158-172). PMNH/PIBS developed a number of research projects with minimal finances and relying mostly on volunteerism and student work at the universities. Over 25

publications in the past three years were produced (see for example <https://www.palestinenature.org/research/>). They cover relevant areas to sustainability such as management of protected areas, biodiversity surveys, genotoxicity, environmental health, human effects on the environment, and use of museums and botanical gardens. Some of our research publications are posted at <http://palestinenature.org/research>

Education: Teaching environmental concerns or any other area of science here in Palestine faces two additional major challenges: occupation/colonization and a traditional society with culture emphasizing religion and tradition. As far as societal cultural issues here are many examples of the impact on environmental education. For example teaching evolution (which is the basis of biological and biodiversity studies and conservation) whether in schools or higher education institutions, can face significant obstacles (Nelson, 2008). There are significant efforts in this area being done by the EQA, MOA, universities, schools, and many NGOs but these efforts are dispersed and uncoordinated and the impact of them while positive has not been evaluated in terms of efficiency and has not been coordinated enough to increase effectiveness (EQA, 2015). On the issue of occupation, the curriculum and the whole school structure is indeed impacted by things like economic deprivation and lack of freedom of movement (EAPPI, 2013). Yet, there is much more that can be done in this area by Palestinians even under occupation.

Our initial motto in regards to education was to develop respect a) for ourselves (self-empowerment), b) for our fellow human beings (regardless of background), and c) for all living creatures and our shared earth. We started by doing research on environmental issue and concerns because we cannot educate without really knowing what exists in our environment. We also tried to think like the Chinese proverb *“I hear and I forget, I see and I remember, I do and I understand.”* Through literature review and consulting some experienced educators we developed and implemented some educational projects. In partnership with Qattan Foundation (www.qattanfoundation.org), we developed a week-long science festival for hundreds of school students. Canadian and US government funded small projects educated 100 students (55% female) who learned and practiced on preserving biodiversity, composting, recycling, reducing waste, and using alternative energy.

Through trials and (some) errors, we learned some practical lessons that maybe relevant to other groups doing such projects:

- 1) Involve teachers and students at every stage of the implementation,
- 2) Democratic process of establishing environmental clubs at schools and facilitating their success,
- 3) Interactive and hands-on workshops on areas such as human impact on environment, recycling, and composting,
- 4) Field trips that involve environmental stewardship (e.g. picking up trash),
- 5) Focus on see, touch, feel, and do to explore,
- 6) Any museum or botanical garden “exhibits” must be tailored to action and behavioral change and not merely “see and learn”.

Many students commented on how they can now reduce their waste and also how they did not realize how many useful objects (even decorative and gift items) they can make from what previously they thought of as garbage. The environmental clubs formed in the early stage of the projects and the educational modules produced outcomes such as creating school gardens and recycling projects and created a ripple effect in their local communities. The programs showed that it is possible to do things that change behaviors (beyond EE) even with the challenges discussed above. For example, we saw that what girls did impacted their parents and their brothers and sisters, with some parents and teachers told us how impressed they are with the work being done. In one case, a father visiting us commented about how after working with us his daughter became more of an activist on issues like smoking and throwing trash in the streets (he said he appreciated that change, that sense of self-respect).

Sustainability/conservation: PMNH/PIBS started reducing organic solid waste in the Bethlehem area with household of volunteers and staff at the museum. We then expanded with school project (eight schools). Then involved some food markets including the central vegetable market in Bethlehem (overseen and in cooperation with the Bethlehem Municipality). We are now expanding this in the Bethlehem District and moving into the second district (Salfit District). Already many people involved tell us how happy they are with the project success. Some food markets actually withdrew from the program and started composting their own waste and using it in the gardens of owners and employees. This has minimized the environmental impact of dumping organic material with other solid waste but also and due to increased interest in planting organically resulted in improvement to our environment.

As climate changes and population growth increases, the practices described above become even more critical to sustainable development. Having people grow food and herbs literally in their backyards gives them empowerment and increases their incomes and food security. The project also improves both physical (through better and more organic nutrition) and psychological (through gardening and fresh air and plants) well-being of marginalized communities especially in the difficult circumstances of occupation and marginalization. The increased vegetation cover while recycling nutrients via composting also reduces effects of global warming (mitigation and adaptation for sustainability).

60% of solid waste generated in the occupied Palestinian territories under occupation is composed of organic material that can be composted to produce garden and farm fertilizers. The composting project initiated and ongoing at PMNH/PIBS collects household, restaurant, and food market organic "refuse" and through enhanced composting (knowledge based) produces organic fertilizers. The first step to achieving this project was tailoring traditional composting methods to local situations (e.g. using local earthworms to enhance composting). The knowledge was transferred to households through the work with women's groups, school environmental clubs, mosques and churches, and other civic society groups. This is spreading and is already having an impact (which is only set to increase) on health (reducing solid waste) and on food security (people encouraged to have family and community gardens) despite shrinking

land availability (due to occupation and population growth) and shrinking natural resources including water.

Our own community garden at PMNH/PIBS is flourishing and many households report successes to us in their gardens. These gardens also increase plant cover thus mitigating climate change and improving the environment protecting biodiversity (e.g. by reducing dependency on industrial food production). In our museum gardens, we have seen significant growth in volume of composted material. We started from little or no composting and in the past year have gone to composting several tons of organic products. We anticipate this volume to double every year in the Bethlehem District and now to move to a new district (Salfit). The scalability is very high. The botanical garden and experimental agriculture research station develops modules that are expanding (a ripple effect). It has been well received and replicated in other places. Already in Nablus and Hebron initiatives are under way to create a similar project. PMNH/PIBS published papers that suggest to other developing countries that they could do similar projects and already received some inquiries and interests on these even before some our experiences are fully out and shared.

Conclusion and looking forward

Environmental justice is now considered an essential aspect to include in areas of conflict zones. There is also now the concept of integrating environment in peace building efforts. A good example of this is <http://environmentalpeacebuilding.org/> as a positive approach instead of the negative one of normalization. Normalization activities (also in environment) involve cooperation between the occupiers and occupied with assumptions of normalcy of the situation. Real peacebuilding requires facing hard realities and for the occupiers who wish to work with the oppressed to challenge the system and genuinely join in the struggle of the oppressed including on environmental justice issues in an area that is the cradle of civilization and key to peace and justice in other parts of the world.

The Palestinian environment is suffering from loss of natural resources, neglect of the environment, environmental pollution, low water quality, depletion of water sources, and other human impacts leading to habitat loss and decline in biodiversity. The Israeli occupation made addressing these issues more difficult and added more challenges to the Palestinian environment. Addressing these and global challenges like climate change requires a grassroot effort and not a top-down approach (Beck, 2015). This is precisely what PMNH/PIBS tries to do even under the difficult situation of conflict. Working and adapting to changing landscapes is based on diversity whether in natural world (Darwinian evolution) or in human societies (cultural evolution). This is a key to survival but the reverse is also true: most isolationist ideologies that refused to accept concepts of diversity are extinct or almost extinct.

The Palestine Institute of Biodiversity and Sustainability (PIBS) is envisioned to become a much larger center of formal and informal education, research, and organizing for conservation locally and regionally. Our plans for the near future include:

- 1) Developing a green building to accommodate the needs of PIBS and PMNH. Involving and developing local talent, architecture students at the Palestine Polytechnic University (Hebron) have taken on the project.
- 2) Improving our gardens. While we have developed the garden somewhat, we now need to create sections for an herbal and medicinal garden, develop a section of permaculture research (ecological agriculture), and develop paths and garden exhibits to be user/visitor ready.
- 3) Developing PIBS. Our plan is to offer diplomas and even bachelor degrees under the Faculty of Sciences, fulfilling the mission and goals of Bethlehem University in empowering sustainable human communities.
- 4) Expanding the environmental impact assessment unit at PIBS (see our beginning structure and rationale here <https://www.palestinenature.org/environmental-impact-unit/>)
- 5) Restructuring to ensure sustainability and long term efficacy: The board of advisors of PMNH (composed mostly of university administrators and university faculty) will morph into an executive board to oversee the full spectrum of operations of PMNH and PIBS.
- 6) Expanding outreach and education. We will develop interactive exhibits both indoors and outdoors (in the garden). We will also develop a mobile museum to take work to refugee camps and remote villages. We also plan to use 3D and other computer technologies for virtual museum tours and environmental education.

Palestine has been an occupied territory for decades and our situation remains intractable. Outside interventions have done both good and bad for Palestinians attempting to eke out a life on their land. PMNH developed out of a need to empower our young people ourselves. With the international community focusing on politics, interlopers actively undermining our sovereignty, and our own communities focusing on survival, just use of the environment has not been prioritized. PMNH's mission is focused on research, education, and conservation of our natural world, culture and heritage. We also emphasize the use of knowledge to promote responsible empowered human interactions with all components of our environment.

Gardening, one of PMNH's main activities, is a waiting game. Planted seeds do not bear fruit immediately. This museum's existence reflects Palestine's belief in the future. Our research focuses on the Palestinian flora and fauna that has been able to sustain in the face of steep odds, including ourselves. Our education programming is an investment in our community and our future leaders. Our conservation efforts aim to preserve the environmental and the cultural riches and to remind visitors that each must take an active role for this preservation to be effective and lasting. Altogether, this museum celebrates the indomitable spirit of survival that characterize this land and its people.

When one's physical environment is threatened constantly and one's physical existence is undervalued, the very act of existence is a form of resistance. We have taken this philosophy and applied it to the field of environmental education and stewardship. By celebrating and defending endemic biodiversity, educating our community, and informing

the outside world of our actions, we reject the malaise and apathy that would be easy to adopt. As our current situation is unconscionable, we overcome the innate human tendency to adapt. Instead, we resist.

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