



Partnership solicitation

In June 2014, **the Palestine Institute for Biodiversity and Sustainability (PIBS) at Bethlehem University** was initiated by a generous donation from Prof. and Mrs. Mazin Qumsiyeh, other local donors, and via mostly volunteer efforts. **Our Motto is Respect:** for ourselves, for others, and for the environment. **Vision:** Sustainable human and natural communities. **Mission:** Research, educate about, and conserve our natural world, culture and heritage and promote responsible human interactions with our environment. **Goals:** 1) Research and knowledge dissemination on the fauna, flora, and ethnography of the region (Western Asia and North Africa). 2) bridge science-policy-practice gaps to promote sustainable communities, focusing on marginalized communities.

The institute developed quickly and now includes a Museum of Natural History (PMNH), an Ethnography Exhibit (cultural heritage), a Botanical Garden, a Community Garden, an Animal Rehabilitation Unit, a Biodiversity Center, Herbarium, Molecular and Cytogenetic Laboratories, Biodiversity Library, Mobile Educational Unit, and more. Learn more about us by visiting our website (palestinenature.org). Visit our YouTube Channel (<https://www.youtube.com/@PIBS-BU-2017>). Here are a couple of videos <https://youtu.be/E8h2xCe2mK0> and <https://youtu.be/AZOoOzXU7tQ>

This year, we celebrate our 10th anniversary. The achievements were remarkable. Please take seven minutes to see this video <https://youtu.be/qt8OTGoS198> and this booklet that beautifully illustrates what we do (<https://www.palestinenature.org/annual-reports/10-Years-PIBS-Final.pdf>)



In brief, PIBS (with volunteer and donor support)

- Published **128 research papers** in **peer reviewed journals** in many areas: fauna, flora, conservation measures, environmental injustice, sustainable agriculture, climate change, protected areas, and human rights.
- Published **220 other articles** of a more lay person nature in magazines, journals, and key information websites

- **Enhanced awareness** of tens of thousands of visitors through visits to our **Natural History and Ethnography Exhibits** and the **Botanical Garden**.
- Produced various educational modules such as **interactive games** tailored to the Palestinian community, **brochures and posters** on environmental topics to distribute to schools, and **animated videos**.
- Established 20 **environmental clubs** at various schools
- Held over 1100 **workshops** half of them local and half from over 40 countries.
- Launched a **Mobile Educational Unit (MEU)**, which is the first mobile exhibit of its kind in Palestine. It visited 46 schools, benefitting 6011 students in **marginalized communities** who are unable to visit us.
- Led the efforts for the new **Protected Area Network** and **National Biodiversity Strategy and Action Plan (NBSAP)**.



- Played a major role in development of the Environmental Studies master's program at Birzeit University and a **new Bachelor program** in Technology for Environmental Sustainability at Bethlehem University. PIBS team also supervised many bachelor and master **thesis projects** both locally and even internationally (especially interns from Germany) in diverse subjects.
- Provided leadership and acted as a **model for national, regional, and global actors** in areas like **environmental justice** and **challenging settler colonialism** vis a vis the environment.
- Set up a successful **animal rehabilitation unit**.
- Engaged in **community service activities** that benefited >650 families.

Going Forward:

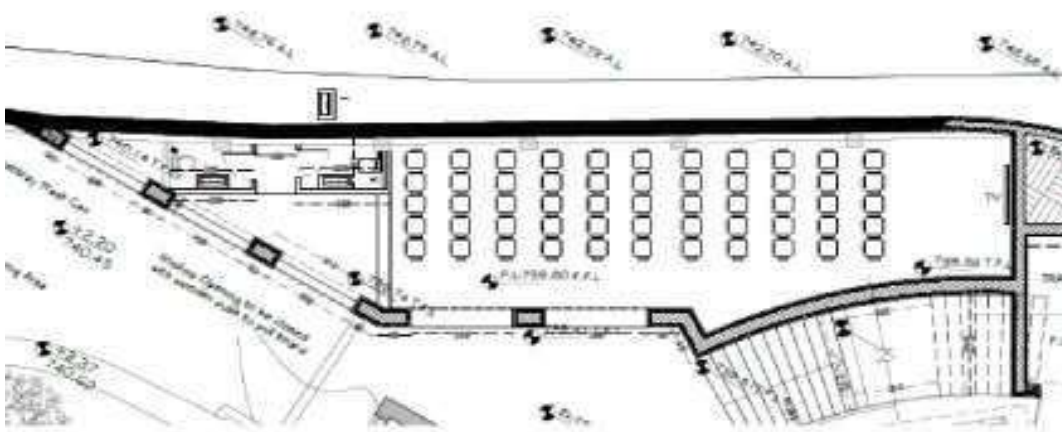
These achievements and dozens of others found on our website allow us to dream bigger. We will accelerate our research activities, conduct important consultancies to shape national and global actions for conservation, expand our exhibit space from the current 110 square meters to 1350 square meters with the new building (see <https://youtu.be/ZuNwdk5-6N0>) and fit the space with modern interactive exhibits on everything from ethnography to natural history to Palestinian history. We will also expand our conservation and community service projects to benefit nature and people. This includes restoration and rehabilitation of habitats, tree planting, and service to marginalized communities (women, children, Bedouins, those in Area C, and farmers).



Specific needs

Our amazing achievements were done with very limited funds. We raised both unrestricted and restricted funds (grants including from Prof. and Mrs. Qumsiyeh, the EU, the National Geographic Society, the Darwin Initiative, the British Council, the Royal Society, etc.). Our operational budget fluctuated from \$70 to \$120,000 annually. That is why we depend 70% on volunteer labor (including founders Prof. and Mrs. Qumsiyeh). The remarkable achievements listed were thus achieved with minimal costs. We now seek your partnerships to take a higher step in this year (2025): plans for activities that significantly advance sustainability for both humans and natural communities in Palestine and beyond. **Below is a list of 15 projects of varied scopes that funders can select from to help us as we expand our services. The first ten of those are needed urgently to have a functioning and open museum of natural history which helps us in achieving our mission and goals at a much higher level.**

PROJECT 1: We now have under the bus parking lot an empty space that is yet to be completed and furnished that would become a visitor lecture room with amenities like a bathroom, seating, and the electrical and mechanical needs of a lecture hall accommodating >55 visitors. This acts as a debriefing room to introduce visitors to our facilities, orientation, video showing, and host lectures. The room can also act as occasional exhibit space for things like art or photography shows. Below is the design. Budget proposed: \$51,000.



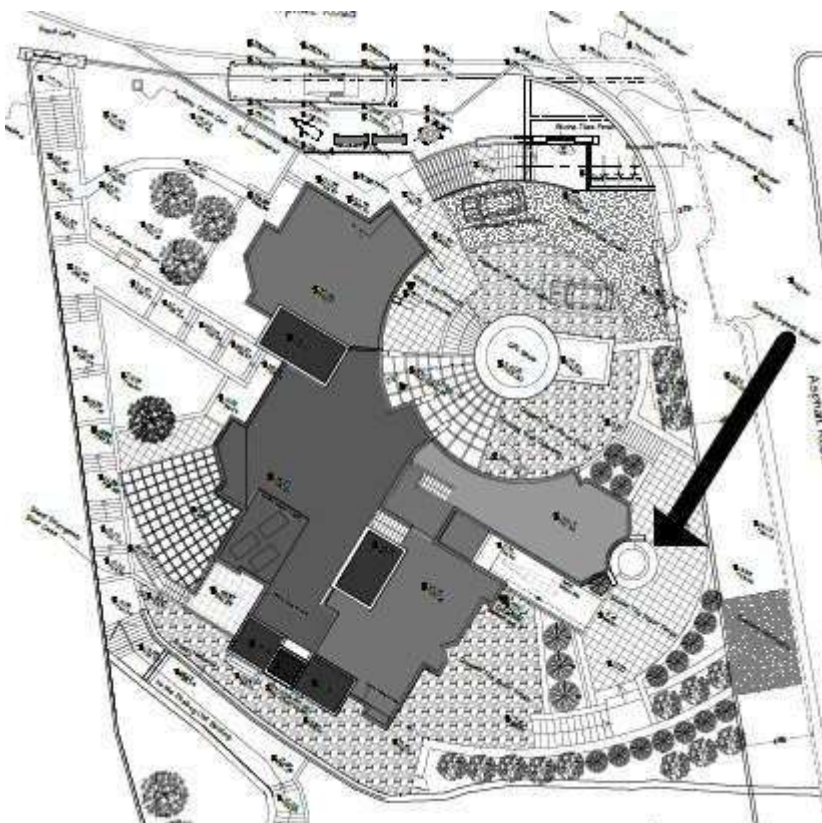
PROJECT 2: Elevator and handicap accessibility. The building must be compliant with society needs and accessible to all people. Two elements are needed: 1) The elevator shaft was constructed as were the openings to the different levels, and now the elevator is needed and is a bit complicated because as you can see from the picture it needs to open at half levels because of the original structure of the building with staggered levels (see figure below, white is new construction). It is estimated to cost \$68,000, 2) Handicap lift between the reception area and cafeteria level. This lift is needed per architectural plans and to be compliant with handicap access that is not addressed by the elevator (cost of the lift \$19,000). This requires immediate action to order the two items which take six months to implement. The total cost is \$87,000



PROJECT 3: Designing and furnishing children’s indoor and outdoor play areas. The institute has already received 30-40 children daily. With this new facility, we can receive 10 times more people and expand and enhance educational opportunities for young visitors, create a family-friendly environment, and create a new generation of empowered stewards of our environment. See the rough architectural design for this room below which will be completed structurally in February or March 2025. Steps and approximate costs of implementation: 1) design of the interior furniture and placement (including bookshelves, library content, games, educational modules, etc.), 2) design of exterior areas and playground (including slides, swings, seesaws, ground cover is also needed to ensure safety. Some items will be made from recycled material like tires), 3) purchase of needed items, 4) installing and testing. \$60,000 cost [secured]



PROJECT 4: Landscape around the new facility (other than the children area). This creates a functioning surrounding of the museum and acts as a bridge between the museum and the botanical garden below that: stone and benches (see figure below) will cost some \$9000. Landscaping and making the fountain (shown by arrow in architect design below) and the surrounding yard of the fountain will cost \$22,000.



PROJECT 5: Exhibit development in new museum. While the building is slated to be completed in February 2025, the interior exhibits have been designed now and include exhibit rooms on geology/paleontology, vertebrate biodiversity, invertebrate biodiversity, conservation (including protected areas), ethnography (including cultural heritage), history of Palestine over the past 5,000 years and more.

There are eight exhibit areas and the design of these can be seen in [this detailed document](#) and the total cost of all the items listed in the document including display cases, interactive digital exhibits, lighting and sound fixtures, dioramas, posters, and sourcing items is \$240,000.

PROJECT 6: Street entrance. Steel railings, structures/walls, and two statues (Ibex and Hyrax) at the entrance of the Natural History Museum. The statues are to be made of fiberglass and installed on top of natural stone. The total cost of the design and installation is \$25,000



PROJECT 7: Reception area entrance: This will be a covered patio at the entrance of the reception area. Cost estimate \$23,000



PROJECT 8: Solar energy photovoltaic system including batteries meeting the needs of the new museum: \$28,500 [raised/funded already]

PROJECT 9: Fire Pump (UR listed) and Stand-By Electric Generator (Required by the civil defense):
Total \$76,000

PROJECT 10: Cafeteria furnishings including kitchen. The kitchen and cafeteria serves visitors, students, researchers, staff, and volunteers. It includes indoor and outdoor seating areas. The cafeteria generates revenues to help in museum operational costs. It has a panoramic view of the sloping hills to the Dead Sea and the mountains beyond in Jordan. It will also utilize garden produce from our farm and herbs from the botanic garden. It can serve 75 people comfortably at one time. The cost includes design and furnishing (cooking equipment, tables, seating, cashier, etc). Architect initial design with tables shown below. Cost \$70,000



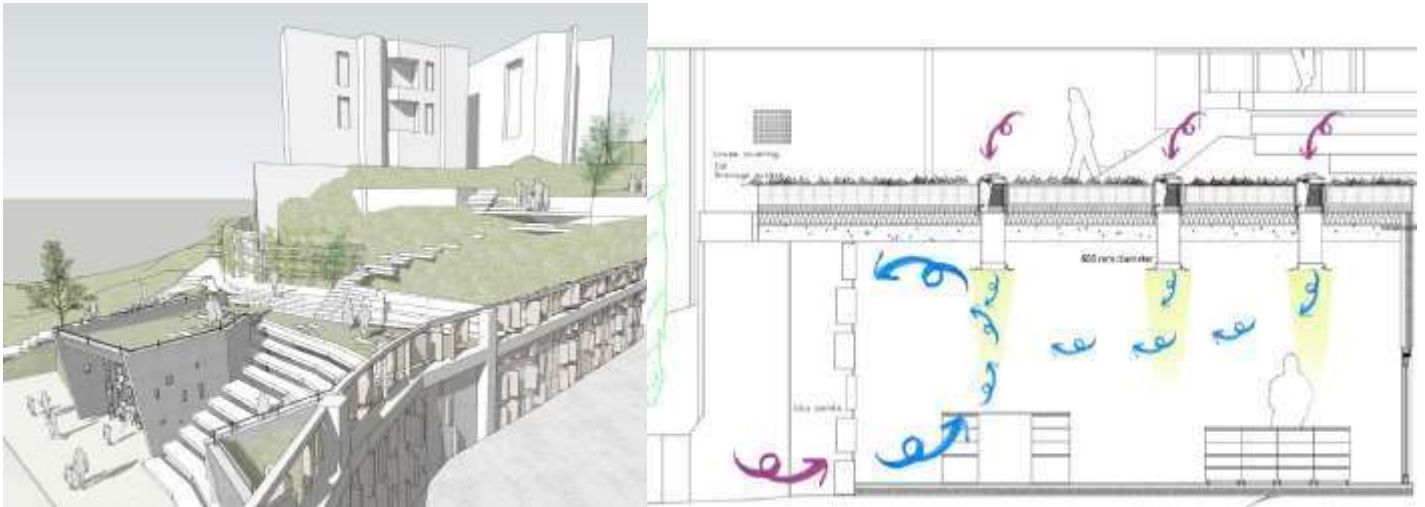
PROJECT 11: Developing a seed bank for Palestine of both wild species (especially threatened or endangered plants) and domestic species (especially heirloom seeds that are culturally relevant). This helps in conservation efforts (wild plants facing threats) and in food sovereignty (domestic local varieties of trees and vegetables). This involves renovation of space, buying supplies and equipment such as freezers and storage areas. Details in Annex 1. Budget proposed: \$96,000. [Raised/funds received]

PROJECT 12: Animal rehabilitation unit for injured animals and animals confiscated from smugglers and illegal hunting. This involves developing holding pens and a treatment facility. Veterinary medicines, tools for handling and more. Details in Annex 2. Budget proposed: \$119,000.

PROJECT 13: Rainwater harvesting system is needed to address acute water shortage in the institute and its gardens. This includes building a cistern 100 cubic meters and an aqueduct system to harvest the rainfall during winter. Budget proposed: \$56,000.

PROJECT 14: Endowment Fund. To ensure sustainability, we will need to create an endowment fund. The Qumsiyehs already pledge to match donations towards that up to \$250,000. But the endowment needs to be built so that by 2026, it has \$1.5 million.

PROJECT 15: New Green Building 2026-2029. A new proposed project slated for 2026-2029 will allow us to expand our services to receive tens of thousands more visitors in a new green building system. The design done by a London-based architectural firm is shown in this link https://www.palestinenature.org/donations/Revised-NHM-Palestine_Brochure.pdf . Cost estimate \$2.4 million



Donate: <http://palestinenature.org/donations>

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Annex 1. Proposal for a seed bank in Palestine

The environmental destruction in Palestine from wars, climate change, pollution and other threats affects both biodiversity, agrobiodiversity, and overall sustainability. The destruction endangers both domesticated and wild plants. There is one seed bank in Hebron for some domestic plant varieties operated by the Agricultural Work Committees. We propose here to develop partnership with that seedbank to complement its work by researching, collecting, storing, and engaging in benefit sharing for more rare domestic plants and also for wild plants. Over 600 species of wild plants in the West Bank are rare and many are very rare or on the verge of extinction (see Al-Sheikh, B. and M. B. Qumsiyeh. 2021 Imperiled ecosystems in Palestine: Rare plants as Indicators. Pp. 1-7 In Dominic DiPaolo and John Villeda (eds) “Imperiled: The Encyclopedia of Conservation”, Reference Module in Earth Systems and Environmental Sciences, Elsevier). The envisioned collaborative seed bank will be critical for conservation efforts. The existing botanical garden at the Palestine Institute for Biodiversity and Sustainability provides an ideal setting for this work (see Qumsiyeh M.B. M.H. Najajrah, E.N. Handal, J. Gideon , and M.A. Abusarhan 2024. The Importance of Urban Eco-gardens for Biodiversity and Human Sustainability: A Case Study from Palestine. Cities and the Environment, vol 17, issue 1. <https://digitalcommons.lmu.edu/cgi/viewcontent.cgi?article=1337&context=cate> <https://www.palestinenature.org/research/The-Importance-of-Urban-Eco-gardens.pdf>)

The project will:

- 1) Increase access to diverse and high-quality seeds, including traditional and indigenous varieties.
- 2) For wild rare plants provide a system of ex situ conservation to protect endangered varieties
- 3) For domestic plants enhance farmers’ capacity and increase knowledge in seed saving, storage, and exchange practices.
- 4) Foster community participation and ownership in seed bank operations.
- 5) Improve agricultural productivity, resilience, and food security at the local level.
- 6) Promote sustainable farming practices and preserve traditional seed varieties

This requires:

Refurbishing facility/rooms -interior modeling and furniture \$20,000

Equipment (refrigerators, incubators, freezers, dissecting microscopes, cameras) \$43,000

Prepping site in garden for test plantings \$5000

Part-time salary for two years for technician \$20,000

Supplies \$8,000

Total \$96,000

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Annex 2: Proposal for an Animal Rehabilitation Center (ARC)

Background and need

Palestine today has no animal rehabilitation center. Such centers are critical to protect humans and wildlife. Here are just few of the important functions of an ARC:

- 1) Compassion and caring for injured animals: Animals injured accidentally or intentionally (e.g. by illegal hunting) can be rehabilitated and released back to the wild. This also provides for human need for compassion and caring.
- 2) Ecosystem health: Nature is a web of relationships and any damage to one of its components will have a ripple negative effect on balance. This is also compounded in the case of endangered species or species with very low numbers but critical ecosystem value (like carnivores and raptors)
- 3) National “ownership” and stewardship: Humans and domestic animals (pets and cows etc) are taken care of when they are sick. Wild animals are national assets and the state must take responsibility.
- 4) Human well-being: There are many situations when people are faced with wild animals including snakes near their homes. With population pressures and urban sprawl such encounters are increasing. Well-meaning individuals need a place to call to deal with these animals in a professional way. ARC’s also help monitor and control wildlife diseases.
- 5) Education and awareness: An ARC can engage in various educational and awareness activities that contribute to natural system sustainability (biodiversity conservation) and in so doing also support human community well-being and sustainability.

Animal welfare means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behavior, and if it is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and even when needed humane euthanasia.

Proposal

Our proposal to set up an ARC at the Palestine Institute for Biodiversity and Sustainability at Bethlehem University (palestinenature.org) that serves as a pioneer to for Palestinian community needs in this area. We will utilize 4 dunums of the 14 dunum area of Mar Andrea Campus for this purpose, hire and train two staff members, develop needed infrastructure (like cages and rooks) and buy supplies needed (handling equipment, safety tools, bedding, food etc).

A system will be developed whereby we train staff (rehabilitators) and volunteers, do public education/awareness campaign giving phone number for people to call us, create an intake and evaluation

unit (involves rehabilitators physical examination and decision on potentiality of success and mode of treatment for injured animals). Some are inoculated (e.g. rabies) while others are treated and nursed. Then the animals are transferred depending on need to isolation facilities. Different animals require different diets. Some may also need training to get their strength for example for hunting. Once this center is set-up, it can also become a model. As a partnership between the Environmental Quality Authority and the Palestine Institute for Biodiversity and Sustainability at Bethlehem University, such a project will endure and flourish.

Proposed budget (in US\$) for the first two years*

- Rehabilitator training done at a foreign country and visit by an expert 12,000
- Local Veterinary support 12,000
- Vehicle 40,000
- Infrastructure development (cages, fenced areas, landscape) 15,000
- Equipment and supplies including food and medical supplies 20,000
- First two year salary (part time manager) 20,000

Total \$119,000

*subsequent years will be from earned fees and internal funding and donations

References

Thompson, P., 2015. *Wildlife rehabilitation manual*. Washington State Department of Fish and Wildlife.

Manual for Wildlife Rehabilitation

<https://wdfw.wa.gov/sites/default/files/publications/01651/wdfw01651.pdf>

Rules and regulations

<https://wdfw.wa.gov/species-habitats/living/injured-wildlife/rehabilitation/rules>

Resources for animal rehabilitation

<https://wdfw.wa.gov/species-habitats/living/injured-wildlife/rehabilitation/resources>

A typical procedure manual for an animal care facility

<https://www.joslin.org/Animal.Facility.Policy.Procedure.Manual.March.2009.pdf>

Other resources

<https://research.ku.edu/animal-care-use-research>

<http://www.mankwewildlifereserve.com>

https://www.genscript.com/antibody_ac.html

<https://news.mongabay.com/2018/04/animal-trainers-are-teaching-wildlife-to-conserve-themselves/>