



THIS WEEK IN
Palestine

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■ Transitional
Ecology

Special Issue
August 2021



Message from the Editor

Given the undeniable signs that our earth is in distress, action must be taken. Time is no longer a luxury. Saving our planet requires collective measures in the global and local arenas. In Palestine, the occupation has only exacerbated the environmental crisis that affects the quality of our air, water, energy, and even waste and transportation.

This special issue, themed “Transitional Ecology,” highlights efforts to support renewable energy and achieve energy independence. Donors are working with Palestinian cities to help them become more sustainable through reducing carbon emissions, establishing proper ecosystem management, and decreasing pollution. Other notable efforts tackle environmentally friendly vocational training, start-ups, and local governance.

TWiP is grateful to **VIS - Volontariato Internazionale per lo Sviluppo (funded by the Italian Agency for Development Cooperation, AICS through the Project NUR – New Urban Resources) for acquiring the gold sponsorship of this issue.** VIS has prioritized projects that focus on the environmental and energy sector, and has supported many important projects by matching Italian and Palestinian communities and expertise.

Thanks also go to this month’s authors: Chiara Appendino, the mayor of Turin, Italy; Anton Salman, the mayor of Bethlehem; Guglielmo Giordano, the head of office at the Italian Agency for Development Cooperation in Jerusalem; Emanuela Chiang, an Italian project cycle management expert; Luigi Bisceglia, the Yunus Social Business Center coordinator at Bethlehem University; Ziad Alsayeh, director of the Urban Planning and Public Works Department of the City of Bethlehem; Hazem Kawasmi, director of operations at the Municipal Development and Lending Fund; Maria Bottiglieri, head of Youth Policies, International Cooperation and Peace Department for the City of Turin; Yara Dahdal, project manager at Nature Palestine Society; Georgina Abboud, an architect who focuses on environmental sustainability; Rafael Abboud, an ecological architect; Suleiman Abu Mufferreh, director general of the Directorate of Joint Service Councils at the Ministry of Local Government; Francesca Costero, coordinator of International Cooperation and Social Cohesion Projects for EnAIP Piemonte; Claudio Daniele, director of the EnAIP Piemonte Rivoli Training Services Centre; Gianpiero Toso, of the International Cooperation and Peace Office of the City of Turin; Salvatore Guida, project manager of VIS and the UN-Habitat Palestine Country Office. Our Book of the Month is *Political Economy of Palestine: Critical, Interdisciplinary, and Decolonial Perspectives*, and Personality of the Month is Dr. Fadi Kattan, dean of the School of Business Administration at Bethlehem University.

From the entire team at TWiP, we hope you enjoy the last few weeks of summer and think green!

Amal Hassan



Cover: A lonely tree in the Jerusalem wilderness, on the way to St. George’s Monastery, Wadi Qelt. Photo by Salvatore Guida.



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THIS WEEK IN Palestine

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Transitional Ecology



6

Two Cities in Transition



18

Supporting the COVID-19
Response in Bethlehem



10

Supporting Environmental
Sustainability in Palestine



22

Enabling Sustainable Energy
for Bethlehem Residents



14

Humans and
the Environment



26

Sustainable Cities



30

Developing Social
Business in Palestine



50

Waste to Energy



34

Spotlight on Bethlehem-
Turin Cooperation



54

Vocational Training
to Support Start-Ups



40

A Picture Is Worth a
Thousand Words



60

Let it Light!



44

Utopian Palestine

Personality
of the Month **66**

Book
of the Month **68**

Maps **71**

The Last Word **74**

Two Cities in Transition



By Chiara Appendino
and Anton Salman

B

y 2030, all countries will be required to contribute to achieving the United Nations' approved Sustainable Development Goals

(SDGs). Local governments are also called upon to implement these goals. Our work on the NUR (New Urban Resources) Project fulfils our commitment to goal No. 11, the creation of more sustainable cities and communities. We set out to put this commitment into practice with reliable partners and a city that we are very close to, Bethlehem.

Conceived by the Italian city of Turin and the Palestinian city of Bethlehem with co-financing from the Italian Agency for Development Cooperation, the NUR Project provided us the opportunity to work together, capitalizing on a clean, renewable energy source: solar power. The city of Turin lent Bethlehem its leading experts in the field of energy transition to complement the competences of the project's technical partners.

When it comes to energy sustainability, the city of Turin can contribute a lot to international partners as it has rolled out many initiatives to benefit its citizens, thanks to a vision that has accompanied the choices of this municipal administration and that will undoubtedly help relaunch the country after the COVID-19 pandemic. In recent years, our city has taken part in numerous local and global projects that aim to improve energy efficiency and reduce the amount of CO₂ that is released into the atmosphere.



The mayors of Turin and Bethlehem signing the NUR Project partnership agreement.

On an international level, the Covenant of Mayors (renewed in 2019 with the new Covenant of Mayors for Climate and Energy) has led to significant developments, such as the adoption of the Turin Action Plan for Energy and the launch of the Climate Resilience Plan in 2020. These two programs revolve around important strategic goals that anticipate the objectives set by both the European Union and international



To make an overall difference, everyone must play a part, and individual behavior is critical: from city administrators to civil servants to private citizens.



Piazza Vittorio Veneto in Turin.

agreements such as the Paris Agreement on climate change.

This strategic vision has been translated into concrete actions on a local scale that aim to cut CO₂ emissions, including the planting of 50,000 trees of various species over the last five years, or recently attaining the international quality certification UNI ISO 50001, which attests to the careful handling of energy resources in buildings that belong to the city.

Our efforts are more than symbolic commitment; they constitute meaningful actions that set a positive example for the entire community.

Local environmental and energy policies, combined with international cooperation initiatives, can make our cities, and thus our planet, more sustainable. The NUR Project, which enabled Turin and Bethlehem to reinforce a virtuous path of city-city cooperation, is an example of this. Working together, we have the opportunity to improve together, making it easier to handle complex issues such as that of energy transition.

Chiara Appendino has been the mayor of Turin since 2016.

Since 2017, the Bethlehem Municipality has been directing all its efforts to create a sustainable environment in the city of Bethlehem. As a first step, to comply with the United Nations SDGs, the Bethlehem Municipality implemented a Strategic and Development Investment Plan for the years 2018–2021.

Following up on the strategic plan and based on the fruitful cooperation between Bethlehem and Turin that aims to develop both territories, the NUR (New Urban Resources) Project has begun to be implemented. Deemed the first pilot project to address renewable energy, NUR aims to contribute to achieving the United Nations SDG Nos. 7, 11, and 13.

Bethlehem's development and expansion is limited, however, due to Israeli occupation practices that include fragmenting the city, confiscating land, controlling its resources, and depriving its people of development. In addition, the city of Bethlehem, like other Palestinian cities, does not control energy or



electricity resources and is obliged to buy from an Israeli electricity company. Hence, this project has become a means to help reduce high electricity costs, particularly for the municipality's facilities and street lighting, which are added to each household's electricity bill. These efforts take Bethlehem one step closer to creating an independent energy sector.

The NUR Project helps the Bethlehem Municipality to empower citizens and raise public awareness of renewable energy. These efforts will help obtain natural resources

that can facilitate their lives and provide Bethlehem with an overall vision of environmental sustainability. It also represents a starting point for Bethlehem and its citizens to reach a green and sustainable future. We are proud to share that since 2020, the Bethlehem Christmas tree and Manger Square decorations have been lit with solar panels from the NUR Project. This sends an important message to other Palestinian cities and cities around the world about the possibility of transforming our cities into green cities and encouraging them to follow the same path.

In addition, the Bethlehem Municipality – as a member of the Covenant of Mayors for Climate and Energy – aspires to make Bethlehem a model for environmentally friendly and urban cities by the year 2040. The city will work towards reducing pollution and encouraging citizens to use environmentally friendly means of transport such as electric cars, in addition to using solar panels to reduce electrical consumption. Recently, the Bethlehem Municipality and the city of Cologne worked on the Nakoba Project to supply LED lighting units for Caritas Street and its branches. This is part of a series of projects that the municipality seeks to implement to achieve the SDGs related to clean and affordable energy.

Together with local authorities, institutions, citizens, and international partners, we will continue these great efforts to implement projects that endorse alternative energy resources and energy transition for a greener world.

Anton Salman has been the mayor of Bethlehem since 2017.



Bethlehem at night.

Working towards the United Nations SDGs 2030, the Bethlehem Municipality has introduced sustainable renewable energy resources to reduce electricity costs through the NUR Project, which can generate 30 percent of the energy consumed for public street lighting. Costs paid by each household for public lighting will be reduced from ILS 15 to ILS 9 monthly.

Christmas tree lighting ceremony in Bethlehem.



Supporting Environmental Sustainability in Palestine



By Guglielmo Giordano

The environment is a significant issue for the Italian Agency for Development Cooperation (AICS) as a whole, and for Palestine in particular, as the Palestinian population faces economic crises, wars, uncertainty, food precarity, and unending social problems. Environmental issues matter because Palestinians in their homeland have the right to quality air, food, and other needs. In fact, nature should be preserved even more in a country where the population lives under constant stressful conditions.

The importance of renewable energy is widely recognized as a fundamental element of the green economy, and more and more countries are addressing policies to increase investment and finding tailored solutions to their respective environments and conditions. Europe has expressed its interest and will to engage in this area, either through the member states or through external action and development cooperation. AICS is ready to continue to accompany Palestine in the enhancement of solar energy through permitting the release of significant financial resources to be dedicated to the implementation of other important services for the well-being of the Palestinian people and providing the needed energy to enhance private sector development and, consequently, the creation of employment.



As the need to move to green energy sources has gained due attention from most countries, with its substantial benefits now properly understood, investments in the sector must be scaled up. Green energy is not only needed to preserve the environment, but it can also play a pivotal role in economic growth that is free of external hurdles.

To see that the energy sector is one of the areas of AICS intervention in Palestine, it is important to note

Renewable energy is a fundamental element of the green economy and policies. Since 2000, Italy has supported Palestine's efforts to achieve energy independence. Guglielmo Giordano, director of AICS – Italian Cooperation Agency in Jerusalem – explains how AICS supports Palestine through the implementation of several programs and investments.





that the commitment to the energy sector began some years ago. Since 2015, Italy has contributed a total of over €21 million to support the energy sector in Palestine. But the collaboration in this fundamental sector was solidified long before that time. The very first initiative, the Electricity Utility Management Program (EUMP), began in June 2000 as the Electricity Sector Investment Management Project (ESEMP) to finance the rehabilitation of the electricity sector in the West Bank through a soft loan of a total of €33.5 million. The expenditures within this program amounted to €16.2 million.

Due to the success of the program, in 2008 the Palestinian government decided to transform the ESEMP into a multi-donor EUMP. Then, in 2015, the residual amount from ESEMP (€17.3 million) was reallocated to EUMP. A new agreement was signed with the aim

to improve the electricity grid in the West Bank in order to contribute to energy efficiency (civil works, supplies, and equipment needed for the operationalization of four substations to improve the efficiency of the electricity network). Initiatives focused on replacing all the existing scattered connection supply points to be served by new 161 kV substations, overloading existing feeders and low-voltage networks, increasing the quality of supply, and reducing losses and outages. The four substations include the Aljalama Substation near Jenin, in the northern West Bank; the Sarra Substation near Nablus, in the northern West Bank; the Ramallah Substation in the central West Bank, and the Tarqumia Substation near Hebron, in the southern West Bank.

A more recent program, Enhancing the Business Environment for Micro, Small and Medium Palestinian Enterprises (EPEC), is a two-year

program that has a budget of €2 million to contribute to improving the competitiveness of Palestinian micro, small, and medium enterprises (MSMEs). The program supports the Palestinian Energy and Natural Resources Authority (PENRA) in enhancing the business environment and MSME productivity, specifically concerning the access to renewable energies and their use, in order to significantly reduce production costs through lower energy dependence.

Within the framework of this program, €1.3 million will be transferred over two years to benefit PENRA in supporting the assessment of local markets and MSMEs, and evaluating available potential to access renewable energy sources to control energy consumption expenses and reduce operation and production costs for MSMEs. More than 10,000 MSMEs in the West Bank will benefit from this local technical assistance

through awareness campaigns and onsite workshops. In addition, energy data will be collected from MSMEs and analyzed by PENRA. Technical assistance to the MSMEs will facilitate access to renewable energy and include energy audits, renewable energy source analysis, feasibility studies, and technical studies for the proposed solar photovoltaic systems. A database will also be established at PENRA for the installed renewable energy systems in Palestine. The database will serve as an important monitoring tool and will provide essential data to be used in the development of the Palestinian energy sector and enhancing the green economy concept and sustainable development of the sector.

Previous ongoing initiatives of local institutions were directly funded by AICS. Today, Italian local authorities play a major role in Palestine, reaffirming that the country is considered to be a priority for Italy. In this context, the AICS contributed to the funding of the New Urban Resources (NUR) Project that aimed to support the diffusion of renewable energy in the Bethlehem area through the installation of solar panels and the provision of technical assistance to enhance vocational training, start-ups, and local governance, thus wisely matching Italian and Palestinian communities and expertise.

Guglielmo Giordano has been at the Head Office of the Italian Agency for Development Cooperation in Jerusalem since January 2021. He can be reached at gerusalemme@aics.gov.it.

Humans and the Environment

Towards an Integral Ecology



By Emanuela Chiang

Integral ecology is not a discipline concerned solely with the study and protection of the environment, but rather a genuine vision of human development which offers much food for thought. It completes the

concept of integral human development, already embraced by many, but which nonetheless disregards one essential factor, viewed by some as self-evident but which in actual fact is anything but: the view that the environment is not a box that contains us and within which we live, but rather a system of relations between living organisms and nature.

A wonderful overview of integral ecology can be found in Pope Francis's Encyclical Letter *Laudato Si'*, written in 2015, which presents a very lucid analysis of the socio-environmental crisis that the world is undergoing, both addressing the possible causes and offering proposals for solutions.

We all know that the environmental situation is very worrying, both globally and locally. Globally we are witnessing the effects of climate change, the loss of biodiversity, deforestation, and desertification, which intertwine with local issues such as atmospheric and hydrogeological pollution, and land consumption. All this has a negative impact on quality of life for people and communities, and COVID-19 is just one of the manifestations of how our planet is ailing and the dramatic social consequences of environmental degradation. "We are faced not with two separate crises, one environmental and the other social, but rather with one complex crisis which is both social and environmental. The human environment and the natural environment deteriorate together; we cannot adequately combat environmental degradation unless we attend to causes related to human and social degradation."¹

Consider the etymology of the term ecology, *oikos* = house, and *logos* = discourse: discourse on the house. The earth is indeed the "common home"

we all live in, and where everything is interconnected. "Time and space are not independent of one another [...] just as the different aspects of the planet – physical, chemical and biological – are interrelated, so too living species are part of a network."ⁱⁱ Nature (creation) must not therefore be viewed as something separate from us or as a mere backdrop to our lives. We are part of it and it is part of us.

Faced with these complex problems, we therefore need to adopt an integral approach: Pope Francis's affirmation that everything is connected invites us to consider the complexity of reality, and the ecological crisis, as an external manifestation of an ethical, cultural, and spiritual crisis. We need an approach capable of combining the different perspectives that now appear fragmentary and divided. *Laudato Si'* offers a systemic vision, that is to say integrated and integral, of the various dimensions around which our personal and collective existence gravitates. An analysis of environmental problems cannot be separated from the analysis of human, family, work-related, and urban contexts, nor from how individuals relate to themselves, which leads in turn to how they relate to others and to the environment. There is an interrelation between ecosystems and between the



The earth is our "common home" where everything is interconnected. The vision of integral ecology presented in Pope Francis's Encyclical Letter *Laudato Si'* (2015), is a lucid analysis of the socio-environmental crisis and the complexity of reality where everything is connected.

various spheres of social interaction, demonstrating yet again that "the whole is greater than the part."ⁱⁱⁱ





The causes of environmental issues must therefore be sought not only in environmental factors but in the functioning of society as a whole, its social and economic dynamics. We cannot arrive at the causes by analyzing only one of these aspects, and therefore the solutions, the idea of our “common home” must be based on an integral vision: an ecology that is social and economic, as well as environmental.

If everything is connected, then the health of a society’s institutions has consequences for the environment and the quality of human life^{iv}: “Every violation of solidarity and civic friendship harms the environment. In this sense, social ecology is necessarily institutional and gradually extends to the whole of society, from the primary social group, the family, to the wider local, national and international communities.”

Integral ecology also includes looking after humanity’s cultural heritage in its broadest sense. Together with our natural heritage, in fact, there is

an historical, artistic, and cultural heritage that is equally important and equally under threat. **Cultural ecology** sets out to safeguard the common identity of places and create habitable cities, which does not mean destroying existing ones and building new, supposedly more ecological ones which might not always be desirable to live in. On the contrary, it is a question of integrating the history, culture, and architecture of a specific place to safeguard its original identity. The disappearance of a culture can be just as serious as, or even more so than, the disappearance of a species of plant or animal. In this sense, it is essential to show special care for indigenous communities and their cultural traditions.^v

Development in the proper sense of the term includes efforts to bring about an integral improvement in the quality of human life, and this entails considering the settings in which people live their lives. Hence the concept of the **ecology of everyday life**. Indeed, the places

we live influence the way we think, feel, and act. The extreme poverty experienced in areas lacking in beauty, open spaces, or potential for integration can breed brutality and be exploited by criminal organizations. It is important, for example, that the different areas of a city be well integrated and that its inhabitants not be forced to live isolated in their neighborhoods; that transport be accessible and functional, that there not be an excessive number of cars that produce traffic and pollution, and that there be adequate roads and parking spaces to protect the urban fabric.

The Encyclical Letter also reminds us that **human ecology** is based on a sacred connection: the relationship

between human life and the moral law, which is inscribed in our nature and is indispensable when it comes to creating a more dignified environment. Our body itself places us in a direct relationship with the environment and other living beings.

Lastly, integral ecology is inseparable from the notion of **common good**, a principle that has a central and unifying role in social ethics. Underlying the principle of the common good is respect for the human person as such, endowed with basic, inalienable rights for his or her integral development. It also means working to ensure social well-being and security and develop intermediate entities, applying the principle of subsidiarity. The notion of common good of course extends to future generations too. We can no longer talk about sustainable development without considering intergenerational solidarity. The environment, as Pope Francis reminds us, is merely on loan to each generation, which must then hand it on to the next.

Emanuela Chiang is an Italian expert in project cycle management and has taught the subject at Bethlehem University since 2010. She has expertise in the field of migration, and in 2020 she began studying and working in the field of integral ecology. She can be reached at e.chiang@volint.it.

ⁱ Pope Francis, https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_encyclica-laudato-si.html.

ⁱⁱ Ibid.

ⁱⁱⁱ Ibid.

^{iv} Ibid.

^v Ibid.

Supporting the COVID-19 Response in Bethlehem

UN HABITAT
FOR A BETTER URBAN FUTURE

Courtesy of
UN-Habitat Palestine
Country Office

The coronavirus disease (COVID-19) pandemic has cost over 3,800 lives, devastated the national economy, and upended many spheres of human life across Palestine. While Palestine may not have been the hardest hit country by the pandemic, it has certainly faced significant surges which were exacerbated by the lack of capacity to respond in a timely manner. This lack of capacity is due to the weakened apparatus as a result of the Israeli military occupation which has been in place for the past five decades.

Against this dismal background, progress towards the attainment of the 2030 Agenda of Sustainable Development in Palestine was tested. In truly transformative areas such as reducing inequality and tackling high poverty rates, progress has either been stalled or even reversed. Anecdotal evidence shows that Palestine, by and large, is not on track to meet the Sustainable Development Goals and targets by 2030. One of the important means of implementation required to support sustainable transformation is the global flow of foreign direct investment, which declined considerably during 2020 as a result of the COVID-19 crisis in Palestine. The impact of COVID-19 will fall hardest on the most vulnerable groups, especially in crowded urban communities, including women, youth, the elderly, and other marginalized populations.

In response to the COVID-19 pandemic, UN Habitat, with financial support from Alwaleed Philanthropies, provided support to the local government units in the Bethlehem area, which was the epicenter of the pandemic in Palestine. The overall goal of the program was to supplement UNRWA, the Joint Services Council for Solid Waste Management in Bethlehem, and Camp Service Committees' efforts to support solid waste management preparedness and response to the COVID-19 pandemic to further stabilize the community and

strengthen the integration between refugees and host communities in the Bethlehem area. This intervention allowed for the continuation of solid waste management services in the governorate and refugee camps during times of crisis, which supported the prevention of another health hazard during an already vulnerable time.

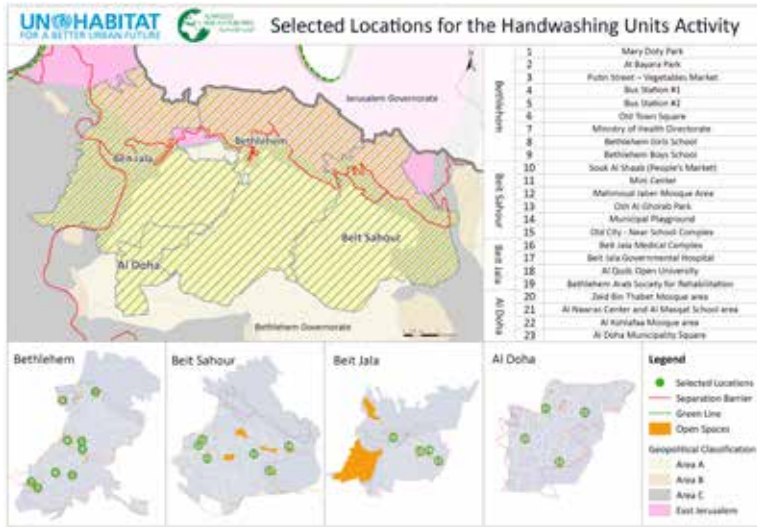
Providing and installing physical sanitation and hygiene units, while taking into consideration safety measures, was another important program deliverable. UN-Habitat worked with local implementing partners and the municipalities of Bethlehem, Beit Sahour, Beit Jala, and Al-Doha to select suitable locations with a fit-for-purpose technology to support these efforts. The units provide the public with safe and open access for handwashing as a means to promote public hygiene and reduce the transmission of COVID-19 in public spaces. Overall, 23 handwashing units were installed in public and crowded spaces in the four targeted municipalities (map); locations on the map can also be



Palestinian cities and communities should continue to work diligently towards the attainment of the Sustainable Development Goals, despite all the insurmountable challenges that they continue to face. The SDGs can't be under "lockdown"!

■ Handwashing unit installed at Bethlehem's central bus station in March 2021.





■ Location map of handwashing units in the Bethlehem urban area.

accessed by using the local mapping application, DorooB Navigation.

Furthermore, the program aimed to support the users of public spaces in the Bethlehem area, particularly markets, parks, and transportation hubs, to become more aware of their personal health, safety, and hygiene, and to adopt the best behaviors in their surrounding environments to

remain safe and healthy during the pandemic. This was achieved through developing and implementing a targeted awareness campaign which was officially launched with UN-Habitat's implementing partners on October 31, 2020, on the occasion of the World Cities Day. With the slogan "Take care of you, to take care of them," the campaign's main objective

■ Infographic on hygiene and personal safety in public places; distributed in print and on social media platforms.



is to complement awareness and communication activities related to COVID-19 by the Palestinian Ministry of Health, the World Health Organization, and other organizations by focusing on messaging related to fact-checking, hygiene, and prevention measures, and coping with the mental health effects of the crisis. The campaign reached approximately two million users (52 percent of whom were female and 48 percent male) through its interactive posts and motion graphics on COVID-19 prevention and other related advice. The majority of the community populations reached were between the ages of 13 and 34.

The program as well is supporting a stocktaking exercise with national and local interlocutors to document the progress that has been made towards the attainment of both Goal No. 11 on "Sustainable Cities and Communities," with a focus on identifying the achievements and the challenges pre- and post-COVID-19, as well as on the attainment of the New Urban Agenda in Palestine, also outlining how the pandemic has affected progress. This exercise will be documented in reports that aim to synthesize the data that is available on Goal No. 11 targets and indicators and compare them to the baseline data to determine the extent of tangible impact as well as the support, especially post-COVID-19, needed to further advance Palestine's path towards the attainment of Goal No. 11 and accelerate its commitment towards sustainable urbanization.

One of the earliest and most crucial lessons learned from this crisis is the need to expand efforts to support local government units in developing disaster-response capacity and preparedness, both within existing and planned urban operations.

With enhanced participatory and citizen-led urban development, Palestinian cities and communities still have the potential to recover and grow, offering better livelihoods, greater social inclusion, and green growth – all of which are important for fostering the physical and mental well-being of Palestinian citizens.

This must be done with a focus on enhancing spatial planning to reflect measures for spatial distancing, adequate provision of public green spaces, and disaster preparedness planning for potential future crises, whether man-made or natural.

The program has published documentaries related to the activities to support solid waste management and handwashing units.

UN-Habitat Palestine prepared this article with the assistance of Alwaleed Philanthropies. The content of this article can in no way be taken to reflect the views of the Alwaleed Philanthropies or UN-Habitat. Furthermore, the boundaries and names shown, and the designations used on the maps presented do not imply endorsement or acceptance by the United Nations.

Enabling Sustainable Energy for Bethlehem Residents



By Ziad Alsayeh

B

ethlehem, which in Arabic translates to “house of meat” (“house of bread” in Hebrew), is the capital of the governorate by the same name. The city which sits at an elevation of 765 meters above sea level is known

for its Mediterranean climate, with hot, dry summers and cold winters. In winter the temperature can drop considerably (to between 1°C and 13°C in January) and there is frequent rain. From May to September the climate is mild and sunny. The hottest month is August, with highs of up to 35°C.

Bethlehem Municipality was founded in 1872 and covers an area of 7.5 km², one third of which is the ancient old city of Bethlehem. It is home to the famed Church of the Nativity and Star Street (a UNESCO World Heritage Site). The municipality provides services to 35,000 inhabitants and 2 million tourists annually. One of its main services focuses on energy.

In Palestine, energy is a costly burden for both the government and citizens. The cost of electricity equates to 12–17 percent of per capita income, making it vastly more expensive than neighboring Jordan, where the cost reaches to only around 2 percent. When it comes to electricity, Palestine receives approximately 88 percent of its power from Israel.

Bethlehem is currently twinned with more than 100 cities around the world, 35 of which are in Italy. Since 2017, the municipality has been working to make



■ Inside the Church of the Nativity in Bethlehem.

Bethlehem a sustainable city, joining the Covenant of Mayors for Climate and Energy (www.pattodeisindaci.eu), and it is fully committed to projects that aim to produce renewable energy. This has led to the launching of the New Urban Resources (NUR) Project for renewable energy for Bethlehem, thanks to an agreement signed with the city of Turin in 2015, funded by the Italian Agency for Development Cooperation.

The NUR Project aims to help the municipality of Bethlehem boost its energy autonomy with solutions that are sustainable for the environment,



■ Solar panels on the roof of the bus station.



■ Mini-system above the changing rooms of the Davide Astori football pitch.

including supporting local start-ups engaged in managing and maintaining energy systems. NUR has given Bethlehem an overall vision of environmental sustainability, driven by the work of the local authorities, the behavior of individual citizens, and the system as a whole.

The project meets the energy demands of the Bethlehem area, which is under considerable strain due to the increased population and urban development, exacerbated by the fragility of the Palestinian energy supply. For this reason, the first stage of the project entailed the construction of a pilot system of solar panels to cover the energy demand of public

lighting and, in parallel, three mini-systems on municipal buildings, combined with specific training courses for local youth who work as electricians and technicians in the alternative energy sector.

For Palestine, renewable energy is a necessity. It is also an opportunity for economic development, which should be part of a strategic regional framework designed to help the country work towards energy independence. This is even more significant in light of the climate crisis: global warming and policies to reduce CO₂ emissions that demand a transition from fossil fuels to renewable sources. Photovoltaic energy, especially solar panels, holds a great deal of potential for Palestine, given that it is safe and reliable and does not require high maintenance. It is efficient and cheap in providing lighting in outlying areas; it is flexible,





■ Mini-system on the Peace Center in Bethlehem.



■ Mini-system and weather station on the roof of the engineering department of Bethlehem Municipality.

given that solar panel systems can be expanded to respond to future needs; the energy produced is clean (does not emit toxic gases) and renewable; it reduces the intensity of natural disasters caused by the phenomenon of thermal emissions, and it creates new job opportunities for Palestinian citizens. In addition, excluding malfunctions or defects, solar panels can last between 20 and 30 years. As Palestine benefits from a high number of sunny days and the Palestinian population is relatively small, this means that individual initiatives or government projects are capable of delivering short-term results.

The NUR Project sought to implement interventions that would immediately impact the citizens of Bethlehem, who – together with the municipality – pay a fairly high bill for public and street lighting. Data from the local electricity company (JEDCo) shows that in 2017 the municipality of Bethlehem consumed almost two million kWh of electricity for public and street lighting, at a cost of ILS 1,109,706, which is equal to €288,500. In the same year, the municipality spent ILS 511,403, which is equal to €133,000 on 1,030,289 kWh consumed by just three municipal buildings located in the town's main square (Manger Square) and the central bus station. This is a considerable expense for both the municipality of Bethlehem

and citizens, as each residential, commercial, industrial, or cultural unit in Bethlehem pays ILS 15 a month for the public lighting service.

The NUR Project made it possible to create a municipal pilot system to cover part of the consumption of the public street-lighting system by connecting the energy produced from this project to the main electrical network, in a key area of the city, for both residents and tourists. The 285 kWp photovoltaic system was in fact installed on the roof of the bus station, which houses a shopping center and is the hub for numerous buses that take hundreds of tourists and pilgrims every day to the Church of the Nativity, just 300 meters away. The first stage of work (2019) led to the installation of the first 145 kWp plant, which generated 219,000 kWh of energy in 2020. The second leg of the project (2021) added another 140 kWp.

In parallel, the project also installed three mini-systems on municipal buildings, a prerequisite for advanced technology transfer. The first (9 kWp) was mounted above the changing rooms of a football field dedicated to Davide Astori, the Italian footballer who died in 2018. Renovated with the support of the Fiorentina and Cagliari football clubs, the pitch serves as a complex for three schools in the city center and hosts all teams and youth

who want to play football in the city. In 2020 it generated 9,980 kWh.

The second system (14 kWp) was set up on the roof of a municipal administrative building and in 2020 generated 14,700 kWh. Unfortunately, the system was out of order for more than 2 months as a result of a short circuit that could not be immediately restarted due to the COVID-19 lockdown in the city of Bethlehem in March and April 2020. A weather station was also set up there to collect information on solar irradiance and wind conditions, with a view to installing a wind turbine. In 2020 the overall output of the three systems installed was 243,680 kWh: 12 percent of the annual demand for street lighting for the entire city.

Also, as part of the NUR Project, the municipality is committed to installing a third 62 kWp mini-system on the Peace Center, a municipal building that overlooks Manger Square. Testing is scheduled for the end of August 2021.

To contribute to efficiency and energy-saving measures, the photovoltaic panels were complemented by the installation of LED light bulbs, which are reliable and use less electricity than the bulbs previously in use. Almost 270 lights have already been replaced in fixtures on the main streets that lead to the Church of the Nativity; this will also help drive down the cost of public lighting.

Lastly, the project also supplied LED lights for the famous Christmas tree that is put up every year in Manger Square, right next to the Church of the Nativity. Starting in 2020, the tree lights were powered by the renewable energy produced by the various systems installed.

The NUR Project has successfully promoted best practices and positively contributed to the lives of the citizens of Bethlehem and other areas of



LED light bulbs, which are reliable and use less electricity than traditional bulbs, have been placed in the fixtures on the main streets that lead to the Church of the Nativity, helping to drive down the cost of public lighting.

In 2020, the Bethlehem Christmas tree lights were powered by renewable energy.

Palestine, solving one of the many critical problems that face Palestinians every day.

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Article photos are courtesy of the author.

Sustainable Cities



It is our duty in Palestine and in the Arab world to collaborate with other economic blocs in the world to move into a new era where we compete to invest in low carbon projects, far removed from the conventional polluted cities that are harming the environment and Mother Earth.



By Hazem
H. Kawasmi



A sustainable city is a city whose development tackles three complementary dimensions, namely: economic, social, and environmental. Building sustainable cities means building inclusive,

resilient, and sustainable communities – inclusive in terms of community participation in the planning and oversight of infrastructure sub-projects and environmentally sustainable in terms of cleanliness and efficiency, resilience to social, economic, and natural shocks, and prepared for natural disasters due to climate change. If designed properly, cities can minimize the effect of climate change, preserve the environment, and build a prosperous economy that can reflect positively on people's lives and happiness.

If the world wants to prevent further global warming, then cities have to work on significant emissions reduction, proper ecosystem management, and atmospheric pollution reduction. This means that cities have to be transformed from traditional conventional cities into those that are sustainable. Cities have to move to low carbon investments to create jobs with cleaner air, and they have to pay attention to their transport system and their industries, as both these sectors consume a large amount of energy and produce high carbon emissions. This calls for serious commitment on the part of the ruling authority to set policies that encourage environmentally friendly investments that are far-removed from historical urban forms. It is time for cities to move to green infrastructure and services, starting with green buildings for the public sector, such as hospitals and schools.

Initially, there is a need to increase the capacity of Palestinian governmental and nongovernmental institutions, as well as local government units, to be able to deal with projects related to climate change and the environment. Currently, municipalities take into consideration environmental and social

safeguards when implementing infrastructure projects that are funded by the Municipal Development and Lending Fund (MDLF). New infrastructure development programs would include concepts such as climate change and sustainable development embedded in the programs that would be implemented in all municipalities in the West Bank and Gaza Strip.

Certain cities in the West Bank are facing rapid growth, but they still cannot find comprehensive solutions to key issues such as traffic congestion, timely trash collection, water shortages and pollution, and operating costs. This is a significant challenge in developing a quality urban environment, which most if not all Palestinian municipalities find impossible to achieve nowadays. Not to forget the overarching



■ World Bank's Integrated Cities and Urban Development (ICUD) Project.



■ Children's playground in a public park. Photo by Ngoc Tran, Shutterstock.



problem of the Israeli military occupation that threatens everything the municipality can achieve in this regard. Municipalities, like the central Palestinian government, do not have control over their natural resources and borders. According to the World Bank, 74 percent of the West Bank and Gaza Strip is urban. When moving among cities, it is not easy to distinguish when you leave a city and enter another one due to indistinguishable borders. That is why proper sustainable planning needs stronger coordination between adjacent cities and villages. This task has never been easily accepted by local government units since they have been accustomed to planning individually and autonomously. Coordinating policies, plans, and development strategies among neighboring local government units will help utilize the land more efficiently, manage the resources more effectively, and give a chance for holistic urban planning, such as investment in public transport and the creation of public green space. The Palestinian population and urban areas are growing on an annual basis, thus the need to plan professionally is no longer a luxury. Urban growth provides some good opportunities, but it can also

pose serious economic, social, and environmental challenges. If cities want to serve their citizens, improve their livelihood, and enhance their economic development, they must plan well for sustainable development.

The deficiency of sewage systems in Palestinian cities is a major problem, particularly within the context of environmental and sustainable development. In the southern West Bank, there is a strong need for a joint sewage system plan across a number of municipalities that exist in one urban area. Due to the high cost, few municipalities are able to invest in a sewage system from their own resources, despite its high priority for citizens and the sanitary and environmental danger inherent in free-flowing wastewater. According to a report by B'Tselem, the prolonged neglect of around 100 million cubic meters a year of untreated wastewater has caused

severe hazards in the West Bank and is liable to pollute the mountain aquifer, the most important and highest-quality water source for Palestinians. Wastewater from tens of settlements is not connected to wastewater treatment facilities, thus millions of cubic meters of wastewater flows as raw wastewater into West Bank streams and valleys, causing serious environmental problems.

Since the COVID-19 pandemic began in early 2020, the resilience and responsiveness of municipalities to the crisis has become an urgent issue to address. The MDLF, through its communication with the donor community and support from the Ministry of Local Government, was able to design and launch a new

municipalities' strategic development and investment plans that the municipalities prepare and publish every four years to coincide with the election of a new municipal council. All municipal planning takes place with intensive community participation that is inclusive of the participation of women and youth, in addition to individuals with special needs. In July 2020, the Belgian government decided to increase the budgetary envelope for development cooperation in the Palestinian Territory to €10 million, to specifically focus on addressing environmental and climate-change challenges, and to contribute to developing more "green," resilient, and sustainable municipalities and territories.

KNOWLEDGE MANAGEMENT AND COMMUNITY ENGAGEMENT FOR SUSTAINABLE CITIES



emergency program with a budget of more than \$50 million. The MDLF will assist the municipalities in the coming period to prepare their own resilience plans to deal with any unforeseen crisis that may arise in the future. These resilience plans will complement the

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Developing Social Business in Palestine



By Luigi Bisceglia

In Palestine there is fertile ground for developing a new business model defined as social business, an enterprise that creates income for the poor or provides them with essential products and services.

Developing the concept of social business began in Palestine on July 28, 2017, when Bethlehem University and the Yunus Center signed a Memorandum of Understanding in Dhaka, Bangladesh, leading the way for the Faculty of Business Administration to create a Yunus Social Business Center at Bethlehem University (YSBCBU). This is a major endeavor as it is the first social business center in the Middle East accredited by the Yunus Center in Dhaka. The partnership is also supported by the University of Florence and VIS (International Voluntary Service for Development), an Italian NGO working in the field of economic development. The YSBCBU is an operational arm of the School of Business Administration and any profit deriving from its work is reinvested in its activities to promote social business in Palestine.

The center aims to promote Yunus' vision of alleviating poverty by implementing the concept of social business. It also provides strategic support, incubation, and acceleration services for start-ups that want to become real social businesses.

The YSBCBU carries out research activities related to social business in Palestine. It is committed to developing a multi-annual social business action plan, carrying out awareness-raising activities on social business in the private sector, institutions, and among Palestinian students. The center conducts consulting for companies that want to expand their social business activities and create partnerships with other Yunus Social Business Centers and social businesses worldwide. It trains researchers, consultants, and professors at Bethlehem University. It also teaches recruiters in preparation for social business workshops in high schools and universities. Capacity-

building activities are carried out in collaboration with the Yunus Social Business Center in Florence and the Yunus Social Business Lab in Pistoia. The center promotes visibility through activities such as an annual social business plan competition. It also plans to start new social businesses and currently supports a three-year development project (2019–2023), entitled “Start Your Business!” led by the Italian NGO VIS.



Developing and supporting the spread of the social business model in Palestine presents an opportunity for Palestinian growth. Professor Yunus, a Nobel Peace Prize Laureate (2006) and founder of Grameen Bank, identifies it as a form of social entrepreneurship suitable to grow both in developed and developing



The first meeting of Professor Muhammad Yunus and Luigi Bisceglia, in Dhaka (Bangladesh), in July 2017.

In 2017, the Yunus Social Business Center was established at Bethlehem University. It is the first center accredited in the Middle East. The center owes its name to Professor Muhammad Yunus, Nobel Peace Prize Laureate 2006 and founder of Grameen Bank, who theorized the concept of social business. The purpose of the center is to promote social business creation to boost economic growth in Palestine.

countries. A social business is an enterprise that creates income for the poor or provides them with essential products and services. It operates much like a traditional enterprise but with a social or environmental objective. Unlike a charity, it produces profits that must be reinvested entirely in the business, ensuring that profits help achieve the social objective. This concept must not be confused with the more general social enterprise idea as social business is based on clear principles that shape its operations. Its primary objective must focus on overcoming poverty or other problems that afflict society; although a social business has both investors and owners, they do not obtain profits, dividends, or other forms of economic benefit.

Social businesses operate like any traditional business; they carry out their activities within the capitalist system. They must find a way to sell their products and services to cover costs and possibly produce additional revenue that can be reinvested in the company to expand its activities. Like any traditional business, they have to deal with financial problems, recruitment of talented personnel, marketing, management problems, and expansion goals. However, the absence of financial gain for investors, due to the reinvestment of profits in the company, makes a social business more stable than a traditional business; the lack of a link between investors and the share price means that in times of economic difficulty investors will be less inclined to leave the uncertain company. This has a substantial impact on the life of social business and allows long-term planning to achieve social or environmental

objectives, as well promote transparent management.

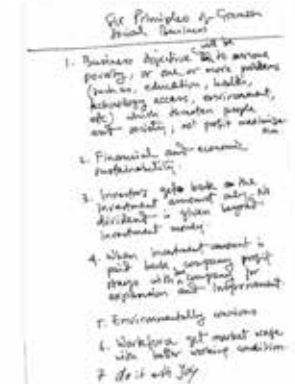
A social business must be able to attract talented staff and management. Often these individuals are discouraged from social enterprises because of the widespread notion that their orientation towards helping people involves appealing to “benefactors” who are willing to sacrifice their interests for the good of society. This is not the case in social businesses; they aim to offer competitive working conditions with the for-profit sector to attract talent from the same labor market that for-profit companies exploit, offering competitive wages and benefits. This is made possible by the excellent economic stability that this business model requires compared to traditional nonprofit organizations.

An employer’s personal rewards in a social business are greater than those provided by traditional companies. The most significant benefits are identified in the person’s ability to contribute to social or environmental change in their community, with equal tasks and economic conditions compared to a for-profit business, which aims primarily to satisfy investor interests.

This organizational model is open to all market operators: companies, foundations, individuals, and governments, and any type of economic or social entity. Social business aims to solve social or environmental problems that were initially the responsibility of governments. In turn, governments can manage social businesses or collaborate with them. This social model allows businesses, individuals, and civil society to access a form of business to solve

Seven Principles of Social Business

1. Business objective will be to overcome poverty, or one or more problems (such as education, health, technology access, and environment) which threaten people and society; not profit maximization.
2. Financial and economic sustainability.
3. Investors get back their investment amount only. No dividend is given beyond investment money.
4. When investment amount is paid back, company profit stays with the company for expansion and improvement.
5. Gender sensitive and environmentally conscious.
6. Workforce gets market wage with better working conditions.
7. ...do it with joy.



■ The seven principles of social business elaborated by Professor Muhammad Yunus, Nobel Peace Prize Laureate 2006 and founder of Grameen Bank. On the right side of the figure, the original manuscript written by Professor Yunus.

a social or environmental problem without having to wait for public intervention that may be slow or even impossible.

On the contrary, social business can expand and create continuous social impact. In Palestine, the dependence on international aid and its fluctuation, the highly bureaucratic public sector, structural unemployment, and fiscal shock, together with profound political instability and the Israeli occupation, limit the ability of the Palestinian Authority to respond to people’s social needs. The presence of unsatisfied social needs, high unemployment levels, and a negative trade deficit make it necessary to develop a private sector to meet the Palestinian population’s needs, absorb structural unemployment, meet social needs internally, and reduce excessive dependence on imports.

Thus far, the solution to governments’ difficulties in responding to the needs of the population has been identified by the concept of privatization,

which involves handing over public property to private individuals to pursue personal gain. Social business could be a reasonable opportunity to counter the foreign policies of international aid. For example, NGOs, like other nonprofit organizations, can own a social business, therefore donations can be used as an investment to launch this type of activity; over time, this activity could pay back the organization’s investment, which can be reused for other initiatives. Social business is a new way for some government activities to combine the merits of business activities, such as creativity, innovation, and energy, with a government’s typical social mission.

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Spotlight on Bethlehem-Turin Cooperation



By Marta Bottiglieri

There are many time-honored bridges that unite the city of Turin and the municipality of Bethlehem. The two cities first began to work together in 2014, thanks to the Italian-Palestinian cooperation program PMSP (Palestinian Municipalities Support Program), which sets out to strengthen the technical, administrative, and managerial capacities of Palestinian local authorities and foster partnerships with counterpart local authorities in Italy.

An institutional agreement signed between the two cities in Turin in 2015 set out to help develop the local economy in Palestine through the Bethlehem Smart Water (BSW) Project and the Plan of Innovation, Economy, Redevelopment, and Management of Gross Market in Bethlehem (PIERMA.rket). The agreement laid the

foundations for subsequent initiatives, one of the most significant being New Urban Resources (NUR). In 2017, the first call for proposals for local authorities was published and focused on renewable energy for Bethlehem, co-financed by the Italian Agency for Development Cooperation (AICS) of the Ministry of Foreign Affairs and International Cooperation. Like the PMSP, this call for proposals sought to boost municipal services (water, energy, waste, transport) and foster local development of similar bodies in partner countries, particularly in priority areas for Italian cooperation, such as the Palestinian territories.


Thanks to the partnership between the Italian-Palestinian cooperation programs, the cities of Turin and Bethlehem succeeded in building a meaningful ongoing partnership, with initiatives ranging in focus from water (BSW) to food (PIERMA.rket) to energy (NUR).

Water, food, and energy: these three essential goods are fundamental rights for citizens (the right to water, the right to food, and the right to a healthy environment). Access to these goods is made possible thanks to local public services managed by municipalities and their affiliated companies.



CITTA' DI TORINO

NUR (in Arabic, “light that comes from above”) is the name of a project established in response to Bethlehem’s need to access renewable energy sources, which it has not been previously equipped with. NUR set out to increase the renewable energy autonomy of an area with more than 30,000 inhabitants and reduce the cost of public energy for citizens. The initiative was designed by the two municipalities applying a holistic approach, i.e., interventions in different sectors of local policy that are capable of fostering sustainable development in the local area. Interventions range from the construction of infrastructure to capacity building in the field of energy governance; from vocational training to fostering entrepreneurship

 View of Bethlehem.



in the energy sector; and from educational activities to cultural and artistic initiatives. Four key axes were identified: 1) installing solar panels on public buildings and technical assistance to improve energy efficiency; 2) providing vocational training courses and incubation for start-ups in the energy sector; 3) raising awareness and educating citizens through art and participatory processes for youth and students; 4) strengthening local energy governance.

The project highlights the focus on sustainability and strengthening partnerships. NUR contributes to fulfilling the UN Sustainable Development Goal No. 11, which aims to make cities and human settlements inclusive, safe, resilient, and sustainable. For cities, this is an objective in itself and also a gateway to implement all 2030 agenda objectives on a local level. NUR, in particular, aims to “localize” objectives No. 7 (provide clean and accessible energy), No. 4 (ensure inclusive, equitable, high-quality education and promote lifelong learning opportunities for all), and No. 8 (promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all).



■ View of Bethlehem.

NUR has been successful in addressing multiple levels of sustainability. Environmental sustainability, by providing previously nonexistent photovoltaic infrastructure to deliver clean, sustainable energy for local needs; economic sustainability, by cutting the cost of electricity bills for public lighting incurred by citizens, fostering new models of social business in the energy sector, and promoting NUR with the Turin Islamic Economic Forum 2019; socio-educational sustainability, by

promoting vocational training courses for various trades in the energy field, and educational projects in the schools in the two cities; cultural sustainability, by launching and running the visual arts competition *Let it Light!* which combined cooperation and contemporary art thanks to the visibility provided by cultural institutions in Turin (Paratissima) and Bethlehem (the Walled Off Hotel, better known as the Banksy Museum); and institutional sustainability, by drawing up an energy plan for Bethlehem, supporting the municipality in preparing public tenders in this sector, holding seminars on energy governance, and creating a manual of energy-saving good practices for local authorities, schools, and citizens.

Institutional sustainability is one of the most interesting aspects of the NUR Project, given that the city of Bethlehem is now able to interface with other cities and international players engaged in energy transition processes.

Institutional sustainability and collaboration between the two cities of Turin and Bethlehem have allowed for the creation of a stable bond between the cities and a friendship between the two communities.

The project achieved its objectives through technical exchanges, capacity building, a hackathon, cultural competitions, training and educational courses, webinars, and events. All these activities were staged in partnership with stakeholders engaged in energy transition and include the cities of Bethlehem and Turin, the Coordination of Municipalities for Peace (Co.Co.Pa.), two universities (Turin Polytechnic and Bethlehem University), a research institute (Links Foundation), an NGO (VIS), a vocational training body (EnAIP Piemonte), a vocational school (STS - Salesian Technical School of Bethlehem), and a company (Ai Engineering Srl). Other instrumental stakeholders include cultural players such as the Walled Off Hotel in Bethlehem and the Paratissima Art Fair in Turin, the Energy Centre of the Turin Polytechnic, the energy companies IREN Group and JDECo, the Avogadro High School in Turin, EnAIP in Rivoli, the Majorana School in Grugliasco, and the Pininfarina School in Moncalieri, which interfaced with



■ The NUR Project being presented at the Turin Islamic Economic Forum.



■ The entrance of The Walled Off Hotel.

■ Bethlehem's message of solidarity to Italy at the beginning of the COVID-19 pandemic.



Palestinian schools to raise awareness among Italian students of the issues at stake. The city of Turin involved various departments in the project: the International Cooperation and Peace Office, the Cultural Activities area, and the Energy Manager.

The positive energy of this partnership enabled the NUR Project to survive the COVID-19 pandemic. While activities were initially suspended, the resilience of the partnership made it possible to cope with this unprecedented situation. Despite the difficulties of repeated lockdowns in the two cities, NUR and its activities bounced back. Some were simply completed at different times, while others were rescheduled online, including webinars on governance that replaced the technical exchanges and international conferences. Some initiatives were redesigned, such as educational programs in schools due to closures and distance learning in both areas, which were partially replaced by a video competition for students and young people, as a means of testing various approaches to environmental sustainability.

During the pandemic, institutional bonds were further strengthened. Messages of solidarity and sympathy were exchanged between the mayors of the two cities to maintain the Turin-Bethlehem bond and to keep hope alive of restarting cooperation after the crisis. NUR played an important

role in strengthening the partnership between two communities with different institutions, associations, schools, educational bodies, and profit and nonprofit organizations, ensuring that inter-institutional cooperation was not limited purely to the relationship between the two municipalities but rather a friendship forged between two communities.

Indeed, this is NUR's energy which created a system of scientific, technical, economic, political, social, educational, and cultural bridges despite borders and boundaries, forging a stable bond between Turin and Bethlehem.

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Article photos are courtesy of the author.

Note: Links to the websites of the partners in the NUR Project and all other information, material, and videos produced as part of the project can be downloaded at <http://www.comune.torino.it/cooperazioneinternazionale/en/nur/>.



ECOTECH RECYCLING



ECOTECH RECYCLING is the first Palestinian company licensed by the Palestinian Ministry of National Economy and approved by the Environment Quality Authority to recycle electronic and electrical waste.

The purpose of the process is material recovery. The waste is first shredded into a fine particle form, then the various components are separated and finally exported to metal refineries or other companies. The whole process is carried out very securely and responsibly, and any data still left in memory will be totally destroyed.

We operate from a 3,100 square meter facility at the Bethlehem Multidisciplinary Industrial Park in Bethlehem and use modern, environmentally friendly recycling machinery.

We accept the following material for recycling:

IT equipment, such as PCs, laptops, printers, and servers

Telecom equipment, such as cell phones, switches, etc.

All types of printed circuit boards

All types of electrical wires/wiring and cables, such as charges

We are ready to collect items directly from clients.

Contact us at: Anton Hallak

email: ecobethlehem@gmail.com,

anton.ecoteckrecycling@gmail.com

Mobile: 054 830 6260, 059 908 0199, Fax: 02 582 7253

A Picture Is Worth a Thousand Words



By Yara Dahdal

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s I was pursuing my doctorate a few years ago, my dissertation results were sometimes complicated, and it seemed impossible to get my three supervisors to agree on the results.

The wisest of my supervisors often told me: “A picture is worth a thousand words.” And it was true. In many cases an illustrative graph that summarized my results seemed to work like magic. Many readers would probably agree with me that scientific language is often complex and sometimes even incomprehensible; on the other hand, if this language is translated into a simple and accessible format it can benefit policymakers, stakeholders, and the public.

Palestine is known for its rich flora, where about 1,613 vascular plant species have been recorded in the West Bank alone. This floral richness can be attributed to Palestine’s distinct location as a land that bridges three continents and has five distinct biogeographical zones packed into a small area. Unfortunately, this floral wealth faces major threats that compromise its existence, such as urbanization, habitat fragmentation and loss, invasive species, climate change, and pollution.

Transitional ecology is defined as the incorporation of ecological research into public art, which includes transforming vacant urban areas into community platforms. Although transitional ecology sounds like something fancy, it has been implemented by the Nature Palestine Society (NPS) team to engage communities and raise public awareness regarding the vulnerable,

near-endemic *Iris atrofusca* (*Sawsanet Shafa Al-Ghour*), a royal iris flower that is distributed, in patches, along the eastern slopes of the West Bank.

In March 2020, NPS was awarded a grant by the Critical Ecosystem Partnership Fund and BirdLife International to assess, conserve, and protect *Iris atrofusca* within the Jabal Tammoun Nature Reserve, in the northeastern part of the West Bank. Many activities were implemented over the course of this 14-month project. A comprehensive survey was completed to assess the distribution of the royal iris, an essential piece of information that was critically lacking. Moreover, the *Iris atrofusca* Botanical Garden was established for in-situ conservation actions of the rare plant, as well as smaller botanical gardens at three schools in the village of Tammoun. To raise awareness regarding the importance of protecting this

■ *Iris Atrofusca*’s mural created on the concrete wall surrounding Muscat Secondary Boys School, Tammun village, Palestine. Photo by Anton Khalilieh.





■ Work in progress by a local artist. Photo by Salam Bsharat.

treasure, three workshops were held for stakeholders, farmers, students, and rangers, and marked hike trails were created for nature lovers to enjoy the landscape of the nature reserve and its flora and fauna.

Despite successful implementation of these activities, the NPS team felt that something was still missing; so, after an extensive brainstorming session, the team decided to create a mural to represent the lifecycle and habitat of *Iris atrofusca*, as well as conservation slogans to serve as an educational model. The mural was created on the concrete wall (30 meters in length and 3 meters in height) that surrounds the Muscat Secondary Boys School, which is located on the way to the nature reserve, transforming it into a piece of art. This mission was accomplished with the help and

support of local artists, teachers, students, and the directorate of the Ministry of Education in the Tubas District. These efforts were crowned with success when the general director of the Environmental Quality Authority, Jameel Mtoor, and the governor of Tubas District, Major General Younes Al'Assi, along with stakeholders and a wide spectrum of community members attended the launching ceremony of the mural to celebrate Palestinian Environment Day. Positive feedback from this event helped emphasize the importance of adopting a multidisciplinary approach to public engagement and raising awareness of the importance of implementing ecologically oriented research.

While the funding for this project ended a few months ago, the mural



■ Side activities performed by Al-Golan Primary School during the mural's inauguration ceremony in the presence of the general director of the Environmental Quality Authority, Jameel Mtoor, and the governor of Tubas District, Major General Younes Al'Assi, along with stakeholders and community members. Photo by Salam Bsharat.

still sends a loud and clear message that reminds hundreds of people every day of the rare jewel of the *Iris atrofusca* and the importance of its conservation.

Dr. Yara Dahdal holds a PhD in water desalination and wastewater treatment. She has two postdocs, the first in water contamination and

the second in science diplomacy. Yara is currently the projects manager at Nature Palestine Society. She is an active member of the scientific basis task force at the East-Mediterranean and Middle East Climate and Atmosphere Research Center led by the Cyprus Institute. She can be reached at yara@naturepalestine.org.

■ Stakeholders, students, and community members at the mural inauguration ceremony. Photo by Alaa Kanaan.



Utopian Palestine

A Future Sustainable Hub



By Georgina and
Rafael Abboud

A

s the world's population grows, architects of this generation should alter the concept of design to wisely

accommodate this growth. Our vision should focus on increasing efforts to introduce new self-sufficient, eco-friendly buildings that can serve various needs. Ecological architects are desperately working to create viable building designs that can function in the near future as machines or industries to generate energy from all available environmental sources: sun, wind, and water.

Solutions and smart designs must be available for future cities and buildings in every climate type, given the impact of climate and other natural factors. Designing sustainable and eco-friendly structures does not always have to be “complicated” or “expensive.” There are many ways to achieve ecologically sound and sustainable structures, whether through the materials used in construction, the construction process itself, or even the function of the building.

Some principles of sustainable and ecological architecture can be characterized by simply taking care of the environment around us, saving energy, and being efficient in every action we take. We are seeing more sustainable architectural projects being implemented worldwide to address the consequences of climate change and to lower carbon emission. Architects are working on more efficient and environmentally friendly designs through the use of materials, space, and energy in moderation, without harming the environment. The same must be done in Palestine.

Palestine's climate offers great variety and beauty – from forests to deserts, salty seas, and subtropical beaches – each and every environment is unique. Our land provides us with many resources that we can benefit from when it comes to building ecologically. We need to cooperate with the surrounding

nature to give character to every building design and to allow its story to be told – the story of passion for a land that dates back millions of years. Geography and architecture (exterior and interior) must intertwine. Advanced ecological soundness does not mean high technology but rather simplicity. We need to give back to nature what it really deserves, starting today, right now.

Environmentally friendly structures in Palestine can have great advantages, namely, energy efficiency and a healthy environment, among others. Using locally sourced materials might help reduce carbon emission. Buildings in Jericho, for example, can use mud, rammed-earth walls, dried

Ecological design does not have to be “complicated” or “expensive,” regardless of the challenges that come with designing sustainable and eco-friendly buildings. Let's build a better future for ourselves and our children; nature will thank us! #PALIstainable2040

■ Example of dried palm leaves on ceiling.
Photo by Designboom.





■ Example of a roof garden. Photo by the American Society of Landscape Architects.

palm leaves, sheep wool, and other locally available materials to ensure sustainability, thus benefiting the local economy and creating more jobs. Dried palm leaves can be used to clad roofs, and sheep wool can be used as thermal insulation.

Governments should mandate the exclusive use of construction materials that do not emit ozone-depleting substances, have low to no inherent toxicity, have low embodied energy, and have minimal overall environmental impact.

Buildings that are designed for countries with hot climates, such as Palestine, should generate energy from the sun. Photovoltaic panels – in other words, solar panels – are a great example of how a building can be self-sufficient. Producing power with a solar system is an energy-saving measure that will help the environment and also reduce the monthly electricity bills of Palestinian families.

An alternate way of preserving energy in the built environment is through benefiting from old Palestinian buildings. In the Old City of Jerusalem, for example, there are many old homes. Some are not in great condition for various reasons. Through a process of rethinking the interior spaces, they can be reused to their best possible potential. Designers need to emphasize the importance of using recycled and reclaimed materials, reusing old furniture, and eliminating unnecessary items. One could argue that by doing so, we would limit our designs and ideas. On the contrary, we are thinking outside the box, especially when we find a meeting point between highlighting the beautiful story of a building while still being able to integrate modern interior design. By reusing a large percentage of the existing building and carefully dismantling the old sections, we not only reduce material and construction waste and maximize energy efficiency, we relive a beautiful story from the past and showcase the simplicity of past generations.

Architecture can serve to enhance quality of life even as it reduces negative environmental impact. This can be done by implementing green and sustainable measures and design techniques when building a residential or commercial project. First, through the use of a durable and efficient building envelope. Again, let's take a building in Jericho for example. The average temperature in the city of Jericho can reach 45°C in the summer, and 26°C in winter. Stone facades will help to increase the thermal mass of the building while giving it a cooler interior. A water improvement system and low-flow plumbing systems can also be used. This would allow the users to save water and only use it as needed. Another design technique might be as easy as using drought-tolerant plants, such as lavender, sage, thyme, cactus, and succulents, to decorate the landscape. This is an efficient way to create a beautiful landscape without the need for excessive amounts of water for irrigation.

Integrating greenery and plants as part of the design is another way to promote a healthier environment in ecological buildings. Buildings

in Jerusalem lack green spaces. The empty roofs of buildings are used to collect junk. We need to transform these wasted areas to create biodiversity in our city. Green roofs can be used to generate organic produce, store rainwater to be used for irrigation in the drought months of the year, and even use it to generate power. Green roofs will help purify air and regulate indoor temperatures, especially in densely populated Palestinian neighborhoods.

There are always advantages to building sustainably, but there are also challenges in constructing green buildings. Our research has found that one of the main reasons sustainable buildings are not common practice in Palestine is that there is not enough information provided to support a fully functional construction system. The various local organizations and entities involved in architecture and building codes in Palestine lack the information needed to promote green building requirements and guidelines. This itself is an obstacle that many local and international architects have to live with, despite their interest in and passion for building an ecological future.



■ The empty roofs of the houses in the Old City of Jerusalem. Photo by Welcome to Palestine.



■ Palm trees in Jericho. Dry leaves can be used for roofs. Photo by FreeBibleimages.

Ecological and eco-friendly buildings are one of the solutions to help reduce our carbon emission. If the practice of eco-design is taken seriously, it will yield great social and environmental benefits. We need to change the way we think, and as architects, we have to be creative and introduce a new global lifestyle. We need to design and develop sustainable buildings and spaces that connect people. All buildings of the future should create their own energy and be eco-friendly. Ecological systems pertain not only to buildings, they are a lifestyle. People need to change the way they live and adapt to a new lifestyle in order to make the ecological systems work. If its many resources are used in the built environment, Palestine would become a utopian country for its people and a role model for the world. Despite the struggles, we Palestinians should

ensure that everything we do as a nation be of benefit not only to ourselves but also to nature.

Georgina Abboud, an architectural designer at 2XĀ Architecture and Interior Design boutique firm in Jerusalem, is involved with high-end local and international projects that focus on sustainability in the built environment.

Rafael Abboud, an ecological architect at 2XĀ Architecture and Interior Design boutique firm, is an activist for ecological and environmental buildings worldwide.



Photo by Firas Jarrar.

Waste to Energy



By Suleiman
Abu Mufereh

Integrated solid waste management considers waste prevention, minimization, generation, treatment, source recovery, and disposal as well as its impact on environmental, social, and health aspects, even

years after final disposal. Many countries have achieved advanced status in waste treatment while others are still trying; some countries or cities are even considering a zero-waste concept. In some countries, such as Palestine, when the waste management system basically depends on mixed municipal waste collection transfer and disposal, some major problems emerge, particularly due to land scarcity or accessibility and difficult or restricted use of land for various reasons.

One of the solutions could be the use of waste-to-energy technology or incineration for energy generation, to totally or partially replace final waste disposal. Waste to energy is also an adaptation measure for greenhouse gas (GHG) emissions in Palestine.

Solid waste management is the responsibility of local governmental units (LGUs) and joint service councils (JSCs). Most LGUs and JSCs, including the government of Palestine, face financial difficulties. Seeking integrated solid waste management (SWM) also faces a number of challenges, primarily the capacity levels in disposal sites and landfills, and the scarcity and restricted accessibility to the needed land in what is known as Area C (areas under Israeli administrative control), far from residential areas. In addition, raising public awareness of integrated SWM is still in its initial stage and is far below the desired level in Palestine, particularly the needed environment for activation of the 3Rs (reduce, reuse, recycle) policies and practices, as major drivers of waste minimization.

Within this existing situation, the priority for JSCs and LGUs, as well as for residents and waste producers, is waste collection and transportation to focus attention on waste treatment and disposal methods.

In alignment with the Palestinian national strategy, significant efforts are allocated towards integrated SWM, e.g., improving collection systems, raising public awareness, and piloting recycling of some components of municipal waste. Addressing these issues is a slow and long-term process. Still, disposal of waste in landfills is a serious problem and satisfactory progress has not been achieved, compared to collection and transferring processes.

We can simply say that we are in the red zone. Therefore, one of the probable methods to solve the problem of waste treatment is incineration, through which we produce energy and minimize disposed waste volume to less than 15 percent. In addition, incineration for energy production was considered to be one of the conditional mitigation actions to address national GHG emissions which is included in the national

-Approximately 4,000 tons/day (1,400,000 tons/year) of municipal waste is generated in Palestine (West Bank and Gaza).

- The capacity of existing landfills is severely limited.

- Until the 3Rs (reduce, reuse, recycle) policy is activated, the incineration of mixed municipal waste can offer a solution.

determined contributions of Palestine. Recent studies considered waste-to-energy technology as one of the best treatment approaches to reduce emissions.

Currently used method of waste disposal in the sanitary landfill of Al-Minyah, in the southern West Bank.





Two main principles must be adhered to in waste management: polluters pay and cost recovery, which affirm that waste generators are expected to pay. Considering incineration as waste-treatment technology requires high investment and high operational cost, especially as we are working with low levels of income.

The State of Palestine is classified as a lower-middle-income country. Gross domestic product (GDP) per capita was less than approximately US\$3,000 in 2018, and Palestine's population is expected to increase from 5 million in 2021 to 9 million by 2050.

Until today, private involvement has been limited. Investors are still reluctant to pioneer this industry, even though there is a real opportunity to recover the potential resources in "waste" in Palestine. The government has taken advanced steps and issued a call for proposals, asking the private sector to invest in waste to energy; the call was processed but has not yet been awarded. This emergency action would deal with almost 100 percent

of waste disposal of the municipal waste collected, particularly since the capacity of all sanitary landfills in Palestine (Zahret al-Finjan alminyah, Jericho, Johr al-Deik and Al-Foukhary, Deir al-Balah and Beit Anan) are approaching full capacity. In addition, the increase in random, illegal dumping of waste and illegal burning in the central area of the West Bank is leading to high levels of GHG emissions. This emergency action would offer an intermediate solution for the existing shortage in landfill capacity. Expanding the existing legal sanitary landfill sites is necessary to ensure adequate measures for minimizing methane emissions into the atmosphere.

Some studies even recommend waste to energy as one of the treatment technologies as a solution for municipal waste, replacing the total landfilling of waste. Still more studies are needed to determine the feasibility of producing electricity by incinerating municipal waste. An environmental and social impact assessment is needed to ensure that the infrastructure and technology

for generating electricity from incinerated waste does not lead to a negative impact on the environment or on vulnerable communities.

Given the anticipated future challenges of land availability, it is expected that the government could be willing to provide concessional finance for future incineration facilities after the planned Zahret al-Finjan pilot successfully demonstrates its technology, leading to partial future dependence on local energy production in the West Bank and Gaza.

The planned pilot may demonstrate viability of waste to energy as a technology in the State of Palestine and provide a financial model that can be replicated. It will also reduce GHG emissions and contribute to the national determined contributions of Palestine. This pilot will drastically reduce wasted resources by fully depositing valuable resources into final disposal sites. Waste incineration for energy generation, replacing the currently used disposal method of either sanitary landfilled or randomly dumped waste is associated with reducing the environmental and health impact.

On the other hand, some basic prerequisites are needed, including strengthening waste and energy legislation to include the approval and regulation of waste-to-energy technologies and hence ensuring that future facilities are able to move through the governmental planning process and can be adequately regulated. Engagement with the waste and energy sectors is also critical to encourage future financing and the overall implementation of low carbon technologies.

To promote private investment and participation for the waste-to-energy

facility, a series of institutional reforms is required, mainly, well-organized rules on tipping fees for incoming waste to the waste-to-energy facility which will be borne by LGUs and JSCs according to the volume of transported waste; and a feed-in-tariff rule for generated electricity, which will be guaranteed by the public sector (government) within a competitive setting with that of commercial electric supply. Based on these two revenue sources, investors can create a business plan that can recover investment funds and make a profit whose economic scale is worth at least several million dollars for a meaningful waste-to-energy facility. Currently, there are no clear rules or regulations on these two issues in Palestine, and such institutional reform is an urgent issue for developing a waste-to-energy facility under a public-private partnership mechanism in Palestine.

Suleiman A. Abu Mufereh, who holds a BA and an MBA in business administration, has been the director general of the Directorate of Joint Service Councils at the Ministry of Local Government from 2017 until today. Between 2008 and 2016, he served as the deputy director general and head of the rural development department. He currently manages solid waste improvement, infectious waste management, and grant AID projects under implementation in Palestine. He previously served as a two-term municipality mayor.

Vocational Training to Support Start-Ups



By Francesca Costero,
Claudio Daniele,
Salvatore Guida



In the framework of the New Urban Resources (NUR) Project, vocational training was prioritized to help build the vocational skills of Palestinian youth. Developing vocational skills was entrusted to EnAIP Piemonte, a nonprofit association that operates nationally and internationally to service youth, workers, and companies, and VIS –

Volontariato Internazionale per lo Sviluppo an Italian NGO with decades of experience in the vocational training sector. These parties worked closely together to identify teachers, develop detailed plans, and deliver vocational training modules.

The training specifically focused on boosting youth skills in the installation of renewable energy systems and providing technical and vocational skills, as well as general competences to position them for future career opportunities. The training began with technology modules followed by business-creation modules, including a hackathon.

After designing the macro-project, EnAIP and VIS identified the teaching skills needed and selected two Italian engineers (a male and female to ensure gender equality). The two teachers designed detailed training modules and developed teaching material, paying careful attention to both technical-methodological and linguistic aspects. (Italian material was translated into Arabic and English.)

In the preparatory phase, meetings took place in Italy with a live link to Palestine. This was vital in gathering necessary information to adapt the project to the setting. Interaction between the Italian teachers, the project coordinator in Palestine, and the local tutors was fundamental. The success of the project was contingent upon continuous feedback, and the working group's ability to adapt the initiative to the Palestinian context.

The on-site training has also been particularly important: EnAIP and VIS organized an intensive five-day training-of-trainers (July 2018) on the subject of renewable energy. Beneficiaries included five teachers from the Salesian Technical School in Bethlehem who were selected to be future tutors: two engineers, a head teacher, an electronics teacher, and an electrical engineering teacher. The training was led by a Palestinian engineer with skills in the sector as a teacher of renewable energy at the Industrial School of Deir Debwan, and founder of a small company that

Within the framework of the NUR Project (co-funded by the Italian Agency for Development and Cooperation), EnAIP Piemonte and VIS NGO cooperate with Palestinian entities to provide vocational training in the field of renewable energies and to incubate new start-ups with innovative business ideas that focus on the effective and smart use of green power.

■ Training the trainers on the photovoltaic system used for teaching purposes at the Salesian Technical School in Bethlehem.



installs solar panels. Thanks to this theoretical and practical training, the teachers became tutors for courses that were implemented in 2019.

Four courses on energy efficiency and the use of renewable energy (design and installation of photovoltaic panels) took place in March-April 2019 with 60 attendees (28 young people aged between 18 and 25, and 32 electricians), divided into four groups according to age and skills. The youth participated four hours a day over two weeks, while the tradespeople attended seven evenings plus a morning of outdoor activities. The courses were led by five teachers (two Italians and three Palestinians), who were joined by four local tutors. Two Palestinian teachers gave two additional training courses designed to provide business-creation skills (business, life skills, and solar energy business model canvas, June-July 2019). In total, 43 people took part (25 youth and 18 tradespeople). After a time of evaluation, certificates were issued to 103 participants from a variety of educational and career backgrounds. These differences were

vital to the success of the courses.

The training incorporated **integrated learning**, which alternates frontal instruction (using the blackboard, presentations, factsheets, online resources, and audio-visual materials) with interaction and discussion between the members of the group/class. Each student was encouraged to participate as fully as possible in order to develop active listening and knowledge-management skills. **Hands-on learning** required students to carry out tasks, exercises, and real-life activities, becoming active participants in the learning process. The teacher supports the students by offering advice and various problem-solving methods. The focus is on motivation and teamwork: discussing, evaluating options, assuming responsibility, making decisions, and managing conflicts. Both teachers and students used **interactive skills assessment tools** to follow up on the hands-on activities. Teachers used them to give students feedback on their performance, and students used them for self-assessment and to gain awareness of their progress.

■ Students visit the photovoltaic system installed on the roof of the bus station in Bethlehem.



■ Participants in the hackathon on renewable energy during the monitoring mission organized by the city of Turin.

During the training course, EnAIP Piemonte carried out technical/scientific monitoring activities designed to evaluate the project as a whole and the good practices that emerged in order to reproduce them.

A hackathon took place at Bethlehem University in November 2019 to select innovative ideas to incubate in four start-ups. During a hackathon, participants work on a problem for a limited period of time, looking for the most suitable solutions in the context. First, the theme of the hackathon was introduced, namely the innovative use of renewable energy sources, with the support of mentors and experts in the environmental sustainability field, whose task was to encourage participants to come up with suitable business solutions.

Out of the 31 business ideas conceived by individuals or groups, some were short-listed, and then made it through to the final selection of projects to be incubated. Four ideas were considered worthwhile to start a pre-incubation process

that aimed to perfect and fine-tune the idea, while another four embarked on a genuine incubation process, two through the Bethlehem Business Incubator (BBI) and two through the Yunus Social Business Center (YSBC). Social aspects were also included among the evaluation criteria, which were not linked solely to the creation of profit but which also focused on improving the lives of the underprivileged.

The following ideas were selected for pre-incubation: **a PV thermal panel** – photovoltaic and solar systems integrated into a single panel; **a PV-powered wheelchair** – a wheelchair power system that used a photovoltaic panel installed as a roof (capable of recharging the battery); **a carpet that generates energy from footsteps** – a system capable of generating electricity by exploiting the piezoelectric effect; **a portable charger (bicycle)** – a charging station for electric bicycles (and other means of transport), powered by photovoltaic panels that can be installed in various parts of a city.

The ideas selected for incubation through the BBI included **a hot water tank** – a thermal storage system that exploits the properties of phase-changing materials; and **power management at home** – an electricity-consumption control system that is capable of managing and optimizing power use.

The ideas selected for incubation through the YSBC included a **mobile app for waste** – a mobile application to increase the efficiency of municipal solid waste collection by means of a points system for users (as an incentive), to encourage recycling; and **a stick for those who are blind that is operated by solar energy**: a stick equipped with active sensors to enhance perception of the surrounding environment.

One of the main elements for the success of the training program was the full collaboration involving all the stakeholders, starting with identifying training needs. Great attention has been given to teaching materials and methodologies. Methodologies were adapted to the different target groups, and the efficient equipment and teaching materials at the Salesian Technical School that made available the equipment for the laboratories and the photovoltaic system on the roof of the school (and used as a specific case study and resource for practical exercises) proved suitable. Other success factors include the attention given to gender differences when involving teachers and students, attention to good organizational coordination with context-related problem-solving skills, ongoing and follow-up monitoring of the training, and full integration of Italian teachers and local tutors, thanks to daily coordination by VIS.

Article photos are courtesy of the authors.

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Claudio Daniele is the director of the EnAIP Piemonte Rivoli Training Services Centre and chairperson of the Technical Scientific Committee of the ITS Piedmont Energy Efficiency Foundation. He can be reached at claudio.daniele@enaip.piemonte.it.

Salvatore Guida is project leader of VIS in Palestine and can be reached at education.palestine@volint.it

■ Mustafa, one of the young students, is using a red multi-meter and is happy to be part of the project.



Let it Light!

Promoting Young Palestinian Artists

Interviews with
Noor Jabareen,
Yazan Abusalamah,
Salah Frookh,
and Ahmed Yasin

The visual arts contest *Let it Light!* organized by the New Urban Resources (NUR) Italian-Palestinian cooperation project aims to raise awareness about renewable energy through the language of contemporary art. We interviewed young Palestinian artists who won the contest to find out more about them and their art.

Noor Jabareen was born in 1990 and resides in Umm al-Fahem, Palestinian-Arab majority area in the State of Israel. She was recognized for the work *One Man's Leftovers Are Another Man's Treasures*. Noor was due to travel to Turin to take part in the Contemporary Art Week 2019, but due to her pregnancy, she decided not to travel. Her work was still exhibited at the 15th edition of Paratissima.

Q: Noor, the work you entered in the Let it Light! competition shows a window, a chair, and some plants. What do they represent?

A: That painting took me a year to complete. This was not a coincidence: it was my intention to work through all four seasons. Each (season) had a different effect on me, and my feelings are reflected in my work. The painting, which is a concentration of sentiment and dreams, shows the house I live in. I collected different types of plants to liven up the space and make it more livable. The chair, coffee table, carpet, and lamp are all objects that I found in the trash – I could not walk past them without taking them in. The chair has a strong connection to humans, who have to choose between stability and weakness. When I was working on the painting, a certain saying kept popping up in my mind: "One man's trash is another man's treasure." That is what inspired the title of the work.

Q: What does being a Palestinian artist mean?

A: For me, it means providing an image of my real life, or how I wish my life was. A combination of dreams and reality; happiness and pain. Being a Palestinian artist is like having a tiny missile and fearlessly launching it.

Q: What does art represent for you? Are you going to continue working in this field?

A: I graduated in fine arts from Al-Najah University in Nablus and took part in various exhibitions in Israel and the West Bank. Now, I teach art in a middle school in my hometown. I would say that art is something we can't live without. We will always need a source of solace, and that is often art. Creativity is the space where artifice happens. Being an artist requires a special ability to see things differently, because art is never born in stable conditions. That is why artists have to engage with an endless variety of themes.

THE
WALLED OFF
HOTEL

Paratissima

Yazan Abusalamah was born in 1993 and resides in Beit Sahour, close to Bethlehem. He came in third place in the Let it Light! competition thanks to an ink-on-paper painting sold to a British buyer for US\$700.

Q: Yazan, your work is called The Cycle. What did you want to represent?



■ *One Man's Leftovers Are Another Man's Treasures*, Noor Jabareen's painting on display at Paratissima 2019 (oil on canvas).



■ Yazan Abusalamah (center) shows an image of Handala during the workshop he led at Paratissima 2019.

A: I combined different elements connected to renewable energy. First, a turnstile, an instrument used by the Israeli occupation forces for security purposes (to restrict movement). It could be used differently: its continuous rotation could be a good way of generating energy! In the picture, you can see some Palestinians going through the turnstile, leaving one zone and passing those entering the zone, thereby generating renewable energy and water.

Then I depicted land and the olive tree, intangible energy resources by virtue of their renewable nature. These elements are closely bound to the identity and history of this land and are strongly connected to one another. Then the pendulum moved by dynamic energy thanks to a mechanism that generates rotating energy. A kneeling human figure is examining an example of nonrenewable energy (an engine). The kneeling position symbolizes our enslavement to the capitalist system, which prefers this kind of energy.

There is also a kite, a childhood memory: a simple toy that uses the wind for fun, or to venture into the infinite. There are forms of energy everywhere. I see them as vertical, horizontal, and circular lines linked to places, reflecting humans, and taking on different forms. They are not just water, wind, or light alone, but interconnected forces that represent hope, love, life, and progress. It is our job to see that they circulate, to offer a source of light in every sense.

Q: *At Paratissima 2019 you held a children's workshop inspired by Handala, a character created by the Palestinian cartoonist Naji Al-Ali. Why did you choose this theme?*

A: Because Handala is a child. Naji Al-Ali always draws him from behind; his thin hair is reminiscent of a hedgehog, using its spines as weapons. Handala is not chubby, happy, carefree, or spoiled. He is barefoot, like a kid in a refugee camp. His hands are clasped behind his back as a sign of his rejection of the solution represented by the American way of life.

To prepare the workshop, I went to a market in Turin one morning. At a stall, I bought a couple of editions from an old collection of monographs about painters from the past. I was drawn to nineteenth-century paintings, which I used as a background during the workshop. The children who attended had to draw many little Handalas set among horses, castles, and lawns, and they too found the effect very amusing.

Salah Frookh was born in 1994 and resides in Ramallah. He presented an oil painting on canvas.

Q: *Salah, at the Let it Light! competition your work got a special mention. How did you find out about the project?*

A: I was in touch with Wisam Salsaa, director of The Walled Off Hotel in Bethlehem, and he suggested I participate. The Walled Off is much more than just a hotel. It is a building that speaks of the history of Palestine and gives us a voice to speak to the world through art, that of Banksy and Palestinian painters exhibited in the first floor gallery. The building also has a museum, where visitors can gain insight into everyday life in occupied Palestine.

Q: *Your work is called Feeling the Light. What did you set out to communicate?*

A: The painting shows two types of hands. The first, lit up, represent the hands of the sun, the eternal



■ Salah Frookh's work inspired by the COVID-19 virus.

engine that drives our daily lives. It is available to all completely free. The others, which are dark, represent people's hands. The hands of the sun are holding the human hands, forging a connection between the atoms of the galaxy and the atoms on earth. In addition to the fundamental role that the sun plays in the solar system, its light, heat, and energy are essential for our survival. We rely on the sun more than we can imagine. It is absolutely vital to our economic growth and the continuation of our civilization.

Q: I know that there are many art galleries in your town. What does living in Ramallah today mean for a young person?

A: For me, it's a blessing. I have always had the support of my teachers, who still encourage me to take part in competitions. I managed to create a network of connections with other artists and gallery directors in Ramallah. I also learned to communicate with customers and visitors and to express myself and promote my art. What makes Palestine special is the way it enriches my imagination. It provides freedom of thought despite the difficult social situation in the country.

Q: Did you visit Italy prior to the Paratissima Art Fair? What do you remember about Turin?

A: I did not, but of course I had heard of it because of its renowned art, architecture, and natural beauty. In Turin, I especially liked the museums and the statues in the middle of the squares. At Paratissima there were people from all over the world, all with the same love for culture. I would say that in the West there are a lot of people who love art and want to see artists and their work

Art is a tool to raise awareness. Let it Light! aimed to promote the work of Palestinian artists and at the same time raise awareness on such important issues as the protection of the environment and saving energy. The winners of the competition talk about their work and experience at Paratissima, the famous art fair that takes place every year in Turin.

in person. It happens less here and that is a pity because art is an opportunity for self-awareness, and it can broaden people's worldview. Therefore, during the pandemic, I painted a special picture and dedicated it to all the Italians.

Ahmed Yasin was born in 1995 and resides in Nablus. He graduated from Al-Najah University (like Noor Jabareen). He currently teaches in the Fine Arts Faculty there. He won the competition with the painting *It will light*, which sold for €1,750 during Paratissima 2019.

Q: Could you describe your painting?

A: It shows some cactus leaves on top of an old Israeli-brand radiator. The leaves represent the patience and resistance of Palestinians and their continuous attempts to find new sources of renewable energy, thus



■ *Nebulizer*, a piece by Ahmed Yasin, created by modeling a cactus leaf.

challenging the Israeli hegemony and monopoly over energy sources of any kind. The cactus has recently been used as a renewable energy source in some arid areas of the world.

Q: That's right: Opuntia Ficus Indica produces large amounts of biomass that can be used to make bioethanol, biodiesel, and biomethane. Therefore, you are familiar with the latest innovations in the field of renewables.

A: I'm just curious, and I had the opportunity to take part in various exhibitions around the world. In 2017, for example, my work was exhibited in Palermo, while in 2018 I took part in a workshop in Mexico City on the International Day of

Solidarity with the Palestinian People. I was in Tunisia, too... yes, I would say I'm very lucky.

Q: Cactus leaves are your signature motif. Are you solely a painter?

A: No, I use a whole range of different media: sculpture, installations, theatrical performances, drawings, comics, photography, video, computer graphics, and of course paintings. I also love Arabic calligraphy.

Interviews were gathered by Gianpiero Toso, an official of the International Cooperation and Peace Office of the City of Turin, who can be reached at gianpiero.toso@comune.torino.it.



Fadi Kattan



Dr. Fadi Kattan holds a PhD in accounting from the University of Bradford in the United Kingdom. He started his accounting career as a student at Bethlehem University where he earned his first degree in the profession. In addition to the academic qualification, Dr. Kattan has also earned several professional certifications in accounting, auditing, and finance. He has been the Dean of the School of Business Administration at Bethlehem University since 2002.

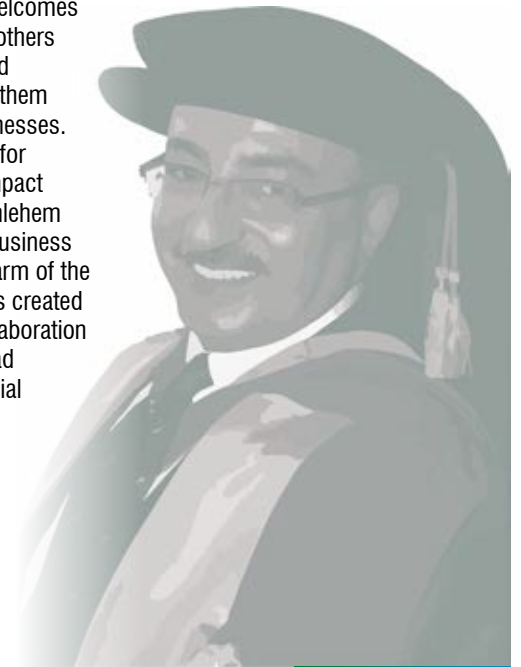
Dr. Kattan is the founder and director of the master's program in cooperation and development (MICAD) offered at the Shucri Ibrahim Dabdoub Faculty of Business Administration of Bethlehem University. This program has added great value to the faculty, which has especially benefitted from Dr. Kattan's excellent network of professionals and educators around the world, many of whom have come to Palestine to participate in the program, helping to educate young Palestinians. Dr. Kattan realized that even with the addition of the MICAD program to the faculty offerings, a third pillar of development was still missing: the public sector. This reality led him to initiate a new master's program to be offered by the faculty in 2021. The new program focuses on governance and administration in the public sector (MGAPS). The faculty now completely covers the development triangle – the private sector is covered by the business and accounting programs, the public sector is covered by the new program, and nongovernmental organizations and developmental agencies are the focus of MICAD.

In addition to his role as the main lecturer in the accounting department at Bethlehem University, Dr. Kattan is a member of several international accounting professional bodies, including the AICPA, the IIA, and the IMA. Along with his expertise in the field of accounting and finance, Dr. Kattan has also lectured in the field of development and the role of the private sector in sustainable development, not only at Bethlehem University but also at universities in other countries such as Italy, Nepal, and Ethiopia.

Dr. Kattan serves as a member of several boards of various institutions in Palestine. His experience in local business and institutions led him to recognize the importance of establishing a nontechnology business incubator at Bethlehem University (BBI). He works on merging academic education with real-world scenarios in Palestine. The business incubation activity offers significant help to young people, and for this reason, the BBI welcomes university graduates and others with smart ideas that need some support to convert them into real sustainable businesses. In many cases, the ideas for businesses with social impact are supported by the Bethlehem University Yunus Social Business Center, which is another arm of the faculty of business. It was created by Dr. Kattan through collaboration with Professor Muhammad Yunus, a Bangladeshi social entrepreneur, banker, economist, and civil society leader who was awarded the Nobel Peace Prize (2006) for founding the Grameen Bank and pioneering the concepts of microcredit and microfinance.

Dr. Kattan works closely with young Palestinians to help them pave their career path into the professional world of accounting, auditing, and finance. In addition to his role as lead trainer in the preparation of these young professionals for international examinations, he is also a major contributor to the materials used by internationally recognized professional educational institutions that offer review courses internationally. He has worked in the field of professional education for over thirty years.

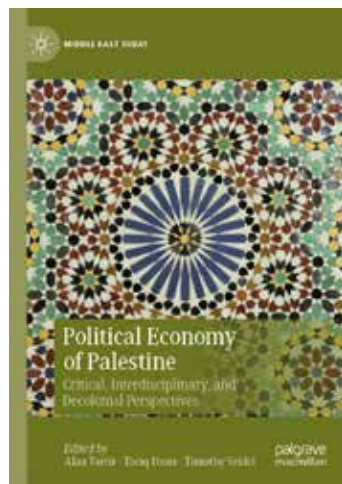
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Political Economy of Palestine

Critical, Interdisciplinary,
and Decolonial Perspectives



Edited by Alaa Tartir, Tariq Dana, and Timothy Seidel

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The recently published *Political Economy of Palestine: Critical, Interdisciplinary, and Decolonial Perspectives*, edited by Alaa Tartir, Tariq Dana, and Timothy Seidel, makes the important argument that an approach to economics that does not consider the political – a de-politicized economics – is inadequate to understanding the situation in occupied Palestine. It outlines a *critical interdisciplinary* approach to political economy that challenges prevailing neoliberal logics and structures that reproduce racial capitalism, and explores how the political economy of occupied Palestine is shaped by processes of accumulation by exploitation and dispossession from both Israel and global business, as well as from Palestinian elites. It also explores a *decolonial* approach to Palestinian political economy that foregrounds struggles against neoliberal and settler colonial policies and institutions, and aids in the defragmentation of Palestinian life, land, and political economy that the Oslo Accords perpetuated, but whose histories of de-development over all of Palestine can be traced back for over century.

Political Economy of Palestine is organized in three parts. Following an introduction by the editors, Part I, “Contextualizing Palestinian Political Economy,” offers an in-depth analysis and an overall framing to critical dimensions in the realm of political economy in Palestine. Tariq Dana explores Israeli strategies and policies in the Occupied Palestinian Territories (OPT) since 1967 that shaped the Palestinian political economy through pursuing economic domination and economic pacification. Ibrahim Shikaki investigates the political economy of dependency and class formation in the OPT from 1967 to the present day. Furthermore, Timothy Seidel examines settler colonialism and argues that a decolonial approach to political economy in occupied Palestine gives attention to enduring indigeneity and the role of land in the struggle for autonomy, sovereignty, and self-determination.

Part II, “Political Economy of Integration, Fragmentation, and Inequality,” presents courageous and highly original analyses that aim to rethink Palestinian political economy. Walid Habbas problematizes West Bank-Israel economic integration through Palestinian interactions with the Israeli border and permit regimes, and Ahmed Tannira examines the political economy of the Gaza Strip under Hamas rule. Hebatalla Taha addresses the invisibility of Palestinian citizens of Israel in prevailing analyses on Palestinian political economy and discusses this through the prism of neoliberal contestations, Israeli capitalism, and class formation. Shir Hever ends Part II with a proposal to shift the analysis and the methodological framework towards

addressing the one-state reality of apartheid and the accompanying inequality and discrimination.

Part III, “Political Economy in the Absence of Sovereignty,” explores multiple sectors (such as foreign aid, security, fiscal, and waste and its infrastructures) and their interaction with the sphere of political economy in the absence of sovereignty. Catherine Chiniara Charrett begins by examining the Gaza Strip and the political economies of indigenous (non)futures. Jeremy Wildeman and Alaa Tartir offer a conceptual framing for the political economy of foreign aid in the OPT, and Anas Iqtait extends the analysis to investigate the political economy of the Palestinian Authority and the economic architecture of the Oslo Accords through a fiscal control lens. The political economy of intervention and securitized ordering in the OPT is another critical element in understanding the existing complex dynamics and is discussed by Tahani Mustafa. Sophia Stamatopoulou-Robbins explores Palestine’s political economy from the point of view of the materialities, valuations, and circulations of wastes such as sewage, garbage, debris, and the infrastructures and spaces through which they circulate.

Finally, Professor Sara Roy reminds us in her concluding chapter that knowledge production is itself a form of resistance, making the role of the intellectual a part of resistance. Professor Roy’s conclusion underscores the book’s themes on critique as an act that historicizes, offering powerful stories that foreground the erasures and the logic of elimination central to settler colonialism, and the

book's decolonial approach that understands this work as both a material and an epistemic project.

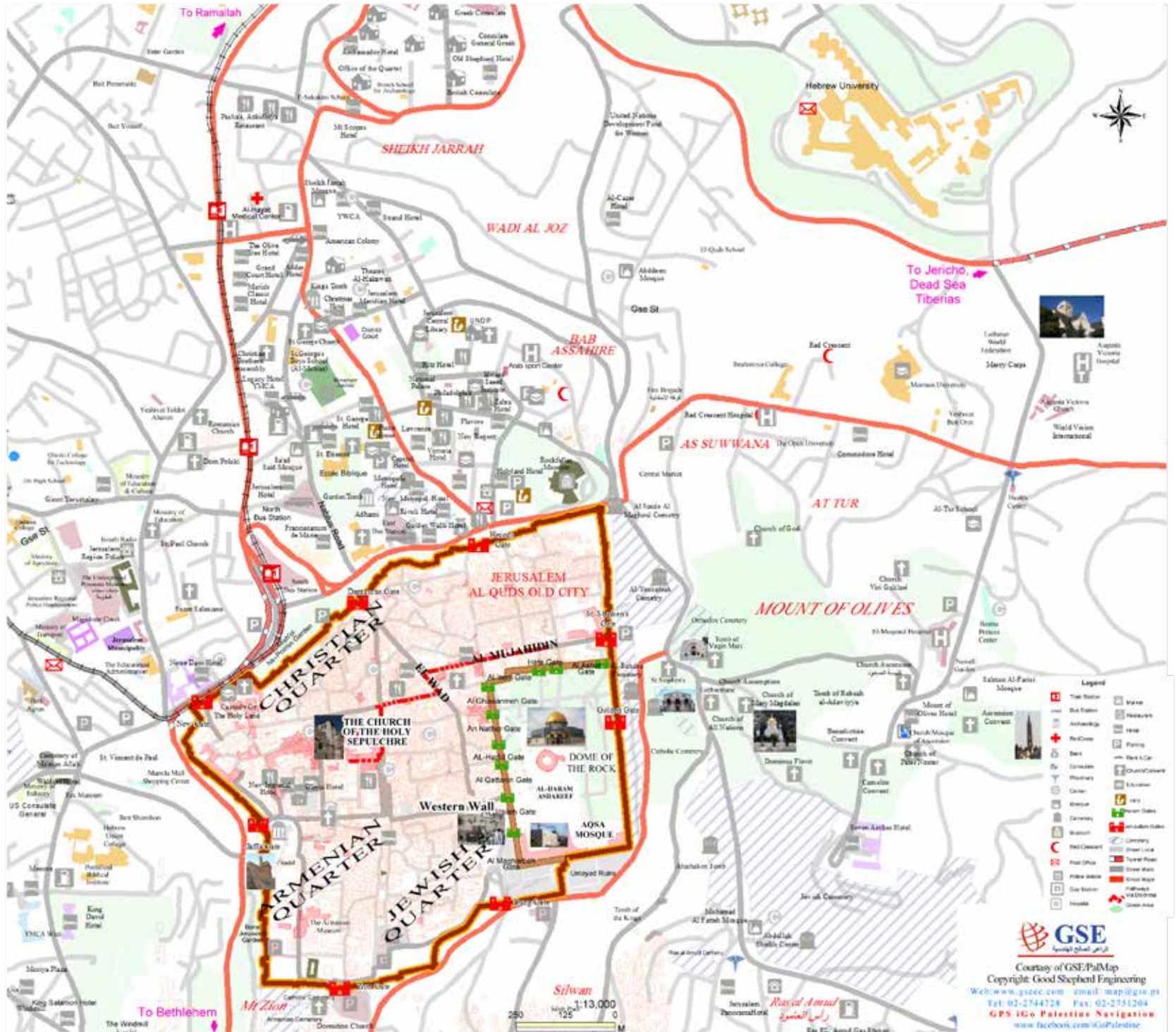
The contributions to this volume make the case that critical, interdisciplinary, and decolonial perspectives provide a more robust framework for understanding the political economy of occupied Palestine, and signals a commitment to a politics of solidarity with the popular struggles in Palestine and around the world. Ongoing developments in the region demonstrate once again the failures of "economic peace" and the need for such a politics of solidarity that a critical political economy approach takes.

Professor Laleh Khalili (Queen Mary University of London) says that the *Political Economy of Palestine* "offers exciting new vistas into Palestinian political economy," and Professor Ray Bush (University of Leeds) calls it "the 'go to' collection of timely essays committed to liberation and decolonisation. A fabulous yet daunting read." Professor Adam Hanieh (SOAS) writes, "This brilliant book brings together some of the most innovative and critical work on the political economy of Palestine today. A fascinating collection that makes a valuable contribution to our understanding of the Palestinian struggle - past, present, and future." And Professor Mandy Turner (University of Manchester) points out, "Edward Said wrote: 'We cannot fight for our rights and our history as well as future until we are armed with weapons of criticism and dedicated consciousness.' This book provides both."



Palestine Road Map





Go Green

According to the daily newspaper *Corriere della Sera*, on August 11, 2021, Syracuse, a city on the southeast coast of the island of Sicily, recorded Europe's hottest-ever temperature. The mercury rose to 48.8°C. In early July this year, temperatures hit 49.6°C on Canada's Pacific coast, a region not previously known for its hot weather, and I am sure there are heaps of other examples of record-breaking temperatures being registered all over the world. "Fires Rage Around the World," *The Guardian* wrote on August 9, and delved into the details of fire catastrophes in Turkey, Greece, Italy, Russia, the United States, and Canada. On August 12, a total of 69 fires were burning in the mountainous Kabylie region of Algeria. The fires were some of the worst in the country's history amid a heatwave that is sweeping across North Africa.

As if that were not enough, since July 12, 2021, several European countries have been affected by severe floods that have caused death and widespread damage. It started with the United Kingdom, then the floods affected river basins across Europe. Austria, Belgium, Croatia, Germany, Luxembourg, the Netherlands, Switzerland, and Italy witnessed unprecedented floods, but Belgium and Germany suffered the most. "It's one of the greatest natural disasters our country has ever known," said the Belgian Minister of Home Affairs. A German senior official described the floods in his country as "devastating." In Belgium and Germany, the floods are estimated to have cost up to €2.55 billion in insured losses alone.

In the wake of a report recently published by the Intergovernmental Panel on Climate Change (IPCC), the UN Secretary-General António Guterres said that the report was nothing less than "a code red for humanity. The alarm bells are deafening, and the evidence is irrefutable." The report basically warns of increasingly extreme heatwaves, droughts, and flooding, in addition to the possibility of a key temperature limit being broken in just over a decade. Scientists say a catastrophe can be avoided, however, if the world acts fast. They add that there is hope that deep cuts in emissions of greenhouse gases could stabilize rising temperatures.

This is why we need a sustainable ecology. This is why we need to move to clean and renewable energy, convert waste to energy, consider the environment when we build, sustain our cities, and basically "go green," meaning "to pursue knowledge and practices that can lead to more environmentally friendly and ecologically responsible decisions and lifestyles, which can help protect the environment and sustain its natural resources for current and future generations." (<https://www.thrall.org/special/goinggreen.html>)

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Long Live Palestine!

Sani Meo
Publisher



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