

MIDDLE EAST INITIATIVE

Time to Reboot: A Blueprint for the Palestinian Tech Sector

Creating the Global Palestinian Innovation Foundation

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About the Middle East Initiative

The Middle East Initiative at Harvard Kennedy School is dedicated to advancing public policy in the Middle East by convening the world's foremost academic and policy experts, developing the next generation of leaders, and promoting community engagement on campus and in the region.

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AP Photo/Majdi Mohammed



Palestinians programmers attend a Ramallah Startup Weekend workshop in the West Bank city of Ramallah.

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Wassan al-Sayyed, 17, uses a 3D glasses headset that is running the team's virtual reality game "Be a Fire Fighter" in the West Bank city of Nablus. (AP Photo/Nasser Nasser)

Executive Summary

Despite Israeli occupation and systemic governance challenges, the Palestinian economy faces a unique opportunity to build a thriving technology ecosystem. The current model of global philanthropy-driven tech development in the West Bank, however, is not working. Without a reboot, no progress is likely to be made.

As early as 2012, a Cisco report proclaimed that, “Palestine is on the brink of becoming the next high tech global hotspot.”¹ A decade later, this ambitious pronouncement remains unfulfilled. This paper outlines how international actors such as the US State Department can lead an effort, together with other key governmental and international institutions, to accelerate growth in the Palestinian tech sector. Long-term, the proposed model is intended not only to serve the Palestinian economy, but also to strengthen civil society, build state capacity, and facilitate regional collaboration.

We present a blueprint for rebooting the Palestinian tech ecosystem by creating a new entity—a champion for Palestinian technology—called the Global Palestinian Innovation Foundation (GPI). GPI takes its structure from the success of the US-backed Binational Industrial Research and Development Foundation (BIRD), largely credited with accelerating the development of Israel’s Startup Nation. This proposal is based on insights from primary market research, an extensive ecosystem mapping, a deep literature review and over 60 stakeholder interviews with key participants in the Palestinian, Israeli, and international technology ecosystems. Based on this research, we provide detailed schematics for how GPI can be set up and operated for maximum impact.

GPI will be independent, well-resourced and globally backed to drive changes in the West Bank and kickstart the Palestinian tech sector. GPI will invest in and derisk private sector projects, support multinationals setting up in the West Bank and promote academic collaboration between Palestinian and international universities for enhanced engineer training. It will also drive regional collaboration—mainly with the Gulf

¹ Cisco, “Cisco Pioneers Market Development Approach in Palestine” (2012): 3

states—leveraging the unique opportunities opened by recent political developments.

GPI's funding will build on the momentum of recent initiatives to support the Palestinian economy, for example the recent US Middle East Partnership for Peace Act (MEPPA) that commits \$250 million to local growth initiatives in the Middle East, the majority of which is expected to go to the Palestinian economy. The US Government, however, is not the only potential source of funds for GPI, and we also evaluate other public sources such as the Gulf countries, and the EU as well as “co-financing” models with the World Bank.

GPI will collaborate with the Palestinian Authority, but will be completely independent of the PA and act with internationally recognized standards of governance and transparency. A top-tier Advisory Board is needed, comprising international business leaders and successful executives from the Palestinian Diaspora. This will allow GPI to strengthen ties between the Palestinian Diaspora and the West Bank ecosystem—critically needed for ecosystem success.

Deepening collaboration with Israel will not be part of the formally defined charter of GPI. However, the combination of Palestinian tech ecosystem growth and the vitality of the Israeli technology scene are bound to create such collaboration opportunities. Additionally, given that GPI will be charged with championing the cause for Palestinian hi-tech, influencing Israeli policy in areas such as infrastructure and freedom of movement, will fall under the entity's purview

We envision that GPI may become a model for similar future entities in the West Bank to promote areas of health, education, and energy. It may become part of a longer term effort by the US and other supporting governments to strengthen Palestinian civil society and build state capacity.

The steps laid out in this paper, therefore, are only the beginning of a long journey that must occur in the economic transformation of the West Bank.

These proposals are not meant as a “solution” to the Israeli-Palestinian conflict nor to bring peace to the Middle East. Our hope, however, as Palestinian and Israeli authors working together, is that economic progress and collaboration will play some part in building the foundations of lasting trust between our peoples.

Key Recommendations

- Initiate a workgroup of key policymakers, academia, private sector leaders, NGOs, and international institutions from the US, West Bank, EU and Gulf Countries to build a detailed operational plan for GPI and to support its progress with ongoing policy analysis
- Create the Global Palestinian Innovation Foundation (GPI) as an independent champion for Palestinian high-tech, funded by an international consortium led by the US
- Leverage GPI to incentivize multinational corporations to operate in the West Bank, promote international academic collaboration that will improve engineer training quality, and promote collaboration between Palestinian tech companies with American and Gulf companies

How GPI Solves Key Obstacles in the Palestinian Tech Ecosystem

Obstacle	Description	GPI Response
Lack of Commercial Approach and Expertise	Current programs are too focused on social outcomes and not linked to viable commercial results	Incentivize and de-risk investments, and champion a business mindset, rather than philanthropic programs
Academia Lacks Business and International Links, Most Graduates not ready for high level employment	Palestinian universities teach outdated curriculums and do not interact with global businesses	Connect Palestinian academia to US institutions and financially incentivize joint academic programs, fund training programs by MNCs for new employees in the West Bank
Few MNCs in West Bank	Minimal MNC presence—mainly intermediated through outsourcing firms—reduces knowledge spillover	Incentivize international collaboration projects between Palestinian, US, and Gulf companies. Become a champion that rolls the “red carpet” for incoming MNCs
Brain Drain	Successful Palestinians often leave the West Bank, expatriate community not involved in supporting the local ecosystem	Create an Advisory Board with Palestinian diaspora to leverage talent abroad, create incentive plans for returning talent (similar to Israeli Innovation Authority)
Restrictions on Freedom of Movement	Israeli policy restricts freedom of movement in and out of the West Bank. Proposed Israeli regulation (February 2022) will make it hard for Palestinian diaspora to travel to the West Bank ²	GPI will leverage State Department contacts and strong international reputation to host global guests and lobby for improved travel flexibility for tech experts

² “Procedure for Entry and Residence of Foreigners in the Judea and Samaria Area,” published by Government of Israel, February 20, 2022, [Link](#).

Main Challenges / Risks in Creating GPI

Challenge	Description	Mitigation
Political Sensitivities	<ul style="list-style-type: none"> • High level of mistrust between Israeli government and Palestinian authority • Direct interaction with the Israeli state deters many Palestinians. • Palestinian Authority governance challenges reduces motivation by donors to support public economic initiatives 	GPI will be completely independent of the Palestinian Authority, but the PA and other will be invited to quarterly update meetings as members of Board of Trustees without any control of funds. No collaboration with Israel is planned for GPI's formal charter.
Financial Barriers	Palestinian tech ecosystem is replete with philanthropic financing from governments and donors, it is challenging to find commercial focused funding that will not come with limits on GPI's independence.	GPI aims to secure an initial three year funding commitment from the US State Dept with Gulf, EU and World Bank Support. Then, target getting an endowment to fund GPI in perpetuity alongside "co-financing" for GPI projects with e.g. the World Bank.
Israeli Collaboration	Many of the activities of GPI—both in its establishment and in its operation—will involve working with the Israeli government, whether to influence policy, or simply to allow GPI operations to occur. Historically, Israeli policy has often hindered such efforts in the West Bank.	GPI will have strong connections with the State Department that may help in advocating for flexibility by the Israeli authorities. GPI's focus on promoting the Palestinian economy is a stated aim of the Israeli government.
Operational Considerations in the West Bank	Key operational questions will determine the success or failure of GPI: geographical (e.g., whether tech to locate in a center such as Ramallah or Rawabi, or elsewhere); legal (e.g., difficulties in intellectual property protections).	GPI will be led by local experts with connections to the local community. This will counterbalance its global advisory board comprised of international tech leaders mainly from the Palestinian Diaspora, who can inform on international business norms.

Introduction

Unrealized Ambition: The Palestinian Tech Sector

Over the last 15 years, a rich body of literature has begun to recognize the huge dormant potential of the Palestinian economy.³ Active backing from international organizations, national governments, and NGOs has started the process of creating a true high-tech industry in the West Bank and Gaza. At the same time, intense international interest has caused unparalleled financial support for, and academic research into, the Palestinian tech sector. This interest is responding to energetic efforts in an economy that remains resilient despite the social, political, and economic challenges posed by occupation. Economic collaboration between Israelis and Palestinians, as one facet of these developments, has also been lauded as a positive step towards reducing conflict at a social level.

At present, however, despite significant financial support, the economic situation on the ground leaves much to be desired. The World Bank describes the “substantial amounts of financial assistance from the international community,” which has helped support the ecosystem, but also notes that “this growth model is not sustainable and aid cannot continue to substitute for a poor business environment.”⁴ At the same time, the Palestinian Ministry of National Economy characterizes Palestinian tech sector as in the “activation phase,” with few startups and resources.⁵

The reasons for the relative stagnation of the Palestinian tech sector, despite large-scale international support, are relatively well studied. As early as 2013, the World Bank noted that “Private sector companies must help increase the resilience of the [Palestinian] economy, contributing to its growth in a sustainable manner that creates long-term employment.”⁶ As

3 N.B. for the purposes of this Article, the authors refer to the economy of the West Bank and Gaza, as the “Palestinian economy,” and those living within it as Palestinians, while Israeli citizens of Palestinian origin are referred to as “Israeli Arabs.” Our interviews have found divergence on how each group prefers to self-identify, and we recognize the imperfections in any label.

4 World Bank, “Project Appraisal Document on a Proposed Grant in the Amount of US\$13 Million from the Trust Fund for Gaza and the West Bank to the Palestinian Liberation Organization” (2018): 13

5 World Bank, Innovative Private Sector Development, Assessment of Palestine’s Startup Ecosystem (2021): 19

6 The Portland Trust, *Beyond Aid: A Palestinian Private Sector Initiative for Investment, Growth and Employment* (2013): 4

reported by the World Bank, the key strengths of the tech ecosystem are talented people, with highly educated founders (85% having a university degree and 27% with graduate degrees) who enjoy large access to mentors and skill-building such as accelerators or coding bootcamps. Despite this technical support, however, founders tend to be young and with little international experience, meaning technical skills rarely translate into “commercial acumen.”⁷ What this means for the Palestinian economy is twofold. Firstly, Palestinian founders struggle to achieve commercial success without the business links necessary to find clients and business partners. Secondly, multinational presence in the West Bank remains muted. Without these two key elements—homegrown, experienced talent or external investment—the avenues to growth of tech in the Palestinian economy remain limited. In addition, the lack of an effective champion for Palestinian tech combined with the perceived operational risk discourage major international tech employers from bringing jobs to the West Bank.

“Despite the high levels of educational attainment of founders, the skillsets of founders and teams are still perceived as being problematic for investors. Based on interviews with existing financiers, the experience and balance of teams in the West Bank and Gaza is an area requiring improvement as is the ability to meet due diligence requirements to qualify for financing”

—The World Bank, *Tech Startup Ecosystem in West Bank and Gaza* (2018)⁸

A Novel Approach

We believe that there is now an opportunity to make good on the potential of the Palestinian tech sector. New programs announced by the US government and Congress, as well as an Israeli government motivated to support Palestinian economic development, present a unique moment to take us out of this paradigm.

7 The World Bank, *Tech Startup Ecosystem in West Bank and Gaza* (2018): 14

8 The World Bank, *Tech Startup Ecosystem in West Bank and Gaza* (2018): 14

In this paper, we present a novel approach to developing the Palestinian economy. We focus on leveraging US-funding possibilities, for instance the US government's new Middle East Partnership for Peace Act (MEPPA) to create a technology ecosystem “champion” that will de-risk the Palestinian tech sector for private sector development. This champion will also build bridges to the world and make Palestinian entrepreneurship more internationally focused through business-oriented activity.

One key target for this new entity will be to bring multinationals to operate in the Palestinian economy, both because of the direct positive effects on employment, capital inflow, and government revenue, but also because of the dramatic indirect advantages it will have in upskilling the Palestinian workforce to become more international facing.

Our Research

In writing this paper, we have engaged in three broad areas of research. Firstly, we have interviewed over 60 market participants, including both Palestinian and international entrepreneurs, policymakers, investors, and business leaders (Appendix III details the interviewing process). We have spoken to senior tech executives and private sector representatives in the region and internationally. Because international policy has always been so crucial to the Palestinian economy, we have also interviewed international bodies such as the World Bank, and key US policymakers with decision-making power over America's Middle East policy. Our key focus in these interviews has been to understand the extent of the current opportunity, what has not worked and why (i.e., what are the challenges facing the Palestinian economy). These insights form the basis for diagnosing which policy measures are implementable today to shape and improve the reality on the ground. Throughout our conversations two questions guided our interviews: how can we encourage more multinational companies to operate in the West Bank and Gaza, and what would foster more Palestinian startups to not only be established, but also thrive.

Our second main area of research has been an ecosystem “mapping,” including a detailed analysis of the 40 largest and most influential

organizations active in promoting Arab entrepreneurship and technology involvement in the Israeli and Palestinian tech ecosystem. We have spoken to staff, funders and beneficiaries to create a picture of who is active in this space, their aims, their theories of change and the challenges they face. This mapping not only informs our policy recommendations, but also presents a new and unique tool for market participants to understand their ecosystem. This research is presented in full in Appendix II of this paper.

Finally, we have conducted an in-depth literature review of the many working papers, policy documents, academic studies, and popular media sources that analyze this subject, and have distilled how their insights fit into our original research. Because many of the authors of these papers—the World Bank, national governments, Israeli and Palestinian public bodies—are also the largest funders of programs in the area, deep engagement with the problems they bring up is crucial in order to present practical solutions that will actually be implemented and achieve impact.

The intended audience of this paper is multifaceted. At a first level, we address policymakers, particularly in the United States and at multilateral institutions. There are relatively straightforward policies that, based on our research, could hugely improve the effectiveness of existing funding programs. At a broader level, we aim to provide ecosystem participants with the information and tools they need to succeed.

It is also worth considering the scope of our research, and the differentiation that exists within the West Bank and Gaza and Israel's Arab sector, with overlapping cultural identities, economic realities, and practical histories. While our policy suggestions are mainly concerned with Arab residents within the West Bank, i.e., those within the jurisdiction of the Palestinian Authority, both our research interviews and our policy suggestions deeply engage with Palestinian residents of East Jerusalem. East Jerusalemites, who themselves are not a homogenous group, occupy a unique situation, holding Israeli ID cards and residency, and in some cases either Jordanian or Israeli passports. In Israel, East Jerusalemites are largely regarded as Israelis, and in the West Bank and Gaza as Palestinians with semi-full rights. Unlike Arab Israelis, however, East Jerusalemites can register companies in their names directly at the Palestinian Ministry



Wassan al-Sayyed, 17, right and Massa Halawa, 16 run the team's virtual reality game "Be a Fire Fighter" in the West Bank city of Nablus.

of National Economy. Simultaneously, unlike West Bank residents, they can also register companies in Israel. For our purposes, we consider East Jerusalemites as eligible beneficiaries of our proposed policies.

Politics, Philosophy and Economics

No economy exists in a vacuum. We, the authors, recognize that the economic situation of the West Bank and Gaza cannot be divorced from the political constraints of the Palestinian Authority, nor from the realities of Israel's military control. This paper seeks neither to elide nor to embed what we view as the untenable situation faced by Palestinians daily. Our aim instead is threefold. Firstly, we present practical measures to improve the lives of all in the area, whether Israeli or Palestinian. Secondly, we aim to connect the Palestinian economy to the world, supporting innovation and business expansion. Finally, by giving proposals to enhance the Palestinian tech ecosystem, we expect to indirectly increase economic cooperation between Israelis and Palestinians, we aim to indirectly build trust, encouraging both sides to take risks for peace. In this, we draw on empirical literature that shows how exposure to economic collaboration causes Israelis to be more supportive of the peace process,⁹ and more generally, how increased contact between heterogenous groups can change behavior to reduce discrimination.¹⁰ Likewise, the more Palestinians see cooperation with Israel as leading to progress, rather than relying on a stagnant political process, the more hope there is for a just long-term solution.

9 Jha & Shayo, Valuing Peace: The Effects of Financial Market Exposure on Votes and Political Attitudes (2019)

10 Scacco & Warren, "Can social contact reduce prejudice and discrimination? Evidence from a field experiment in Nigeria" (2018):654

Key Insights

Through dozens of interviews with Palestinian public and private sector leaders, one thing became abundantly clear: the reason the Palestinian tech sector has not developed is not for lack of trying, or lack of financial support. As the CEO of one of the West Bank's largest tech companies put it: he has “witnessed at least three strategic visions” and “hundreds of days have been spent on [creating plans].”

No Lack of Bootcamps, Accelerators & Mentoring: Commercial Opportunities Needed

From our strategic mapping, it is clear that many qualified and resourced organizations are at work in the West Bank. Our in-going research assumption was that “capacity building” programs such as accelerators, bootcamps and mentoring programs could help build the Palestinian founder base for a future startup ecosystem. This hypothesis was not supported in our findings.

Our mapping showed an abundance of programs such as coding bootcamps that teach West Bank Palestinians basic technical skills. These programs exist in parallel to universities in the West Bank that Tomer Simon, Chief Scientist at Microsoft, describes as “at the level of the Technion,” i.e., the technical expertise of just the very top layer of the Palestinian graduates is on par with that of their Israeli counterparts. What isn't working, however, is that bootcamps fail to establish mutually beneficial partnerships with players in the local technology ecosystem and do not prepare participants for international business. They fail to prepare the majority of the thousands of STEM graduates per year for international level tech jobs. As the World Bank has noted, “it is crucial for the coding bootcamps providers to build partnerships with large IT companies or small and medium enterprises, as the goal of the coding bootcamps is to help trainees find jobs after graduation.”¹¹

¹¹ Kwon, Cao, An, “Research on the training model of high-tech talents based on the support of public sector” (2019): 279

With regards to accelerators, our research corroborates the World Bank's conclusion that "accelerators in the West Bank and Gaza do not seem to be able to support the ecosystem in a meaningful way. On the one hand, accelerators are not producing the quantity of startups that might be expected, a typical function in maturing ecosystems in need of increasing the pool of startups that can advance to the next stages of development. On the other hand, while accelerators may be producing some quality startups, these do not seem to be sufficient for investors."¹² In conversation with entrepreneurs "on the ground," many had been through several accelerator programs, with multiple different ideas, and despite some receiving funding, the level of commercial actualization is near zero. One of the main challenges of the accelerators that we identified is their support base, i.e., nonprofits, meaning the programs are geared towards pleasing social supporters, rather than business success.

The final pillar of support often extended to West Bank entrepreneurs is mentorship. Previous studies have found that in the West Bank and Gaza, ~40% of founders received mentorship with a median of two mentors. As one study notes, however, "mentors [...] do not seem to be very effective in supporting startups."¹³ This again fits with our first-hand research, where a limited number of mentors and entrepreneurs support one another, but without the necessary knowledge base and expertise on the needs of the global markets. Such mentorship therefore rarely leads to concrete business progress.

These findings indicate that what is needed in the West Bank, as opposed to more supposed capacity building, are commercially driven opportunities in the private sector. This could come from the presence of MNCs, or from bilateral links to American, Israeli or Gulf businesses. Indeed as Yadin Kaufmann has noted, the Gulf presents a natural opportunity for Palestinian entrepreneurs as "Arabic-language Internet content has not kept pace; start-ups have only recently begun to supply the sorts of sites and services in."¹⁴ Bringing startup services to a relatively underexplored

12 World Bank, Project Appraisal Document on a Proposed Grant in the Amount of US\$13 Million from the Trust Fund for Gaza and the West Bank to the Palestinian Liberation Organisation (2018): 4

13 World Bank, Project Appraisal Document on a Proposed Grant in the Amount of US\$13 Million from the Trust Fund for Gaza and the West Bank to the Palestinian Liberation Organisation (2018): 17

14 Kaufmann, "Startup Palestine: How to Start a West Bank Tech Boom" (2017): 4

Arabic-language market could thus present a natural and timely market for domestic Palestinian firms. It is worth noting that several World Bank programs target such work, for example TechStart, which “builds the capacity of Palestinian firms, strengthens demand from international buyers and investors, and stimulates the absorption of high-tech knowledge in the ecosystem.” Nonetheless, our research has found that such programs have not yet made a difference on the ground in the West Bank, or to the perception of the Palestinian economy abroad for MNCs and Palestinian diaspora.

The Brain Drain Is a Catch-22 for Palestinian Tech

A second major problem we identified in the Palestinian tech ecosystem, alongside the lack of international and commercial focused support programs, is the Brain Drain. In the West Bank, a lack of jobs creates a “Catch-22”; with no jobs, experienced professionals in the Palestinian diaspora do not want to return, but with a shortage of experienced workers, international employers do not want to set up shop. The shortage of senior, experienced technology employees is a crucial barrier for ecosystem development. From our research, we see that the most successful engineers and entrepreneurs aspire to emigrate, and thus increase their economic prospects. At the same time, successful Palestinian diaspora leaders, for example in the United States, are unwilling to return to the West Bank citing both restrictions (e.g., on freedom of movement) and the lack of economic prospects. It is important to note that these feelings coexist along deep ties to the Palestinian homeland, and a desire amongst the diaspora to “give back,” but that these feelings can rarely be realized in situ.

The narrative of successful Palestinian engineers and entrepreneurs being deterred from returning presents a stark contrast to the tech story of Israel. The high-level of success enjoyed by Israeli companies in markets such as the United States has often been attributed to the return of seasoned Israeli professionals from careers in international markets. During the initial stages of ecosystem growth, it can be extremely helpful for an ecosystem to send its daughters and sons to learn from international markets, but the local

ecosystem must be vibrant enough to win them back, and in some cases incentive programs to lure talent back into the ecosystem are very valuable.

International Links Are Missing

Linked to the lack of commercial-focused opportunities for young graduates in the West Bank is the lack of international links, both in businesses and academia. Many of our respondents told us that starting at university, they lacked opportunities to interact with international professors, or local teachers with experience of the outside world. In part because of the brain drain, and in part because of Israeli policy restricting freedom of movement for Palestinian universities, graduates in the West Bank, while well-trained, do not have experience in the working culture or technology of international companies. This both disincentivizes MNCs from establishing locally, and creates huge barriers to the commercial success of entrepreneurs. As Ofek & Weiner note in the *Harvard Business Review*, the difference here between outsourcing companies and full-time employees can have drastic spillover effects. They quote Tad Brockway, Corporate Vice President of Microsoft, who was also interviewed for this paper: “for MNCs, employing a software engineer through a vendor rather than doing so directly would most likely have them working on relatively narrower projects, typically not in the most interesting and stimulating core parts of the technology.”¹⁵

More Private Sector and Less Public Intervention

Perhaps the most striking and universal of the insights from our interviews was the recurring critique of the region’s public sector actors. The bureaucracy and institutional weakness of governance in the West Bank has led many market participants to grow fatigued of current solutions intermediated either by government, international organizations, or NGOs. The

¹⁵ Ofek & Weiner, “Israelis, Palestinians and the Technology Bridge Between Them: A Work in Progress” (2020): 7

message of most Palestinian private sector actors can be summed up as: support private sector directly and not through the public sector.

Many Palestinian and international market participants noted that the single greatest “gamechanger” for the Palestinian economy would be the permanent full-time presence of a large multinational in the West Bank, for example Google, Apple, or Microsoft. This is for several reasons: overcoming the critique that the West Bank lacks international business links, while also offering perhaps the most public tool to combat the brain drain. The most important point being the “trust statement” in the Palestinian economy and Palestinian talent, driving more MNCs to invest. At the same time, multinational companies could also act as a natural “Bridge” between the Israeli and Palestinian economies, including engaging Israeli Arabs.

More broadly than bringing MNCs to the West Bank, in our research we encountered a much larger critique of societal norms in the West Bank, whereby private enterprise is often excluded from dialogue, in part due to the preponderance of not-for-profit international actors. One instance of this is in academia, which has almost no collaborations with businesses. For example, one Palestinian CEO critiqued the “minimal interaction [academics] have with international companies,” noting that without functions such as sabbatical years in business environments, “Palestinian professors don’t have practical experience, they have only theory.”

Arab Israelis as a Bridge between Two Peoples

Throughout our interviews we heard the idea that Arab citizens of Israel can bridge relations between Palestinians and Israelis. By linking the Palestinian economy with Israel’s, many interview subjects characterized Arab Israelis as “an acceptable path/means to accept support from Israel,” e.g., lectures in universities or connections to international markets through Arab Israeli professors and executives. This idea has its basis in academic literature, where recent research has focused on the cultural links between Arab Israelis and Palestinians because of “the dual identity group’s potential to act as a possible gateway between the groups that represent

the respective sources of the dual identity.”¹⁶ Our research found many obstacles to Palestinians working with Israelis, chief amongst them being accusations of “normalization,” i.e., furthering and entrenching Israel’s military occupation by creating economic incentives for it to continue. Anecdotally, this cultural dissuasion from high-tech collaboration between Israelis and Palestinians is extremely strong; in one NGO, “50:50 Startups,” that works to create equally co-owned startups between Jews and Arabs, many Palestinian participants hid their involvement for fear of retribution.

For two reasons, we have found that Arab Israelis could successfully leverage Israel’s economy for the West Bank while also not abetting the charge of normalization. From the Palestinian side, Arab Israelis are often perceived as “acceptable” to work with, and business with them is considered, according to our interviewees, akin to the 150,000 Palestinian laborers who cross the border into Israel every day, i.e., making a living, rather than profiting from the occupation. At the same time, in the words of Zada Haj, an Arab Israeli entrepreneur and graduate of 50:50 Startups, Arab Israelis are also much more effective at creating such partnerships, as “people can explain in [our] own language.”

From the Israeli side, empowering Israeli Arabs to build bridges also seems to be within the scope of current government policy ambition, and thus an achievable target. According to a representative of the Israeli Ministry of Economy, the current Israeli government is expressly interested in the development of Israel’s Arab sector, and thus economic development programs that link Israeli Arabs to Palestinians may receive the backing of the Israeli administration.

It is, however, worth noting that even without a “Bridge” of Arab Israelis, cooperation between Israelis and Palestinians is frequent, for example in carpentry, construction, agriculture and other low value-add industries. The focus of this proposed bridge is thus not only peer-to-peer connection, but rather to make sure such contact can extend to tech in order to help promote the Palestinian tech ecosystem.

¹⁶ Levy, Saguy, van Zomeren & Halperin, “Ingroups, outgroups, and the gateway groups between: The potential of dual identities to improve intergroup relations” (2016): 1

Policy Recommendations

Despite severe challenges, the Palestinian economy has proven resilient and entrepreneurial. Based on our stakeholder discussions, we confidently state that there is a unique and timely opportunity to accelerate the growth of a tech ecosystem in the West Bank. As our Key Findings have shown, however, throwing money at the issue will not do any good. Without careful consideration, the hundreds of millions of dollars already approved by the US Congress will face the same fate as previous funding initiatives, i.e., disappearing into the public and non-profit sectors of the West Bank and Gaza with little measurable impact or accountability.

Initiatives such as the recent US Middle East Partnership for Peace Act (MEPPA) show international resolve to support the Palestinian economy. MEPPA, however, as well as many other similar programs, focuses on peer-to-peer work, aiming at social goals and deepening regional social ties. While such efforts are important and commendable, our research shows a need for more commercially driven support to create an independent and self-sufficient Palestinian economy. We believe that financial support, both potentially from MEPPA but also much wider sources, should be used to build a new entity, structured using insights from other successful ecosystems, but adapted to fit the unique challenges of operating in the West Bank. We call this initiative the Global Palestinian Innovation Foundation (GPI).

In this section we propose the structure, governance and potential financial resources for GPI. We then give a phased timeline and detailed policy guidance for the new entity focusing on expanding action in three areas: private initiatives, international links, and ecosystem championing.

GPI Structure and Funding

GPI has its origins in another innovation success story: the US / Israeli experience of the Binational Industrial Research and Development Foundation ([BIRD](#)). This idea builds on one proposed by Yadin Kaufmann,

who has noted that “BIRD played a key role in propelling Israel into becoming the “Start-Up Nation.” As Ofek and Weiner note, this “laid the foundations for the economic component of the Bill that was introduced to the House and Senate floors in 2019.”¹⁷

Many of the proposals in this paper model themselves on BIRD, using insights from its success. GPI, however, must go further than BIRD, which focused solely on supporting individual research projects with the US, and also aim for regional collaboration with Gulf states as well as take the role of the globally accepted champion for Palestinian high-tech. GPI should be independent of the Palestinian Authority, but have the funding and stature of a public entity with the backing of the American government, Gulf states, and the Palestinian Diaspora. GPI will fund and incentivize globally connected initiatives, champion the needs of the technology ecosystem, and drive the expansion of international links for the Palestinian business and academia.

GPI, however, must go further than BIRD. First, unlike BIRD, GPI will target regional collaboration for the Palestinian economy as well as the US, especially with the Gulf states that are a natural target market for software and applications developed in the West Bank. Given the political complexities, it is not in our recommendations to have direct collaboration with Israel as part of GPI’s key objectives, but we expect that any progress made on Palestinian tech will *de facto* generate dividends in opportunities for Israeli-Palestinian collaboration, even if not targeted *de jure*. Second, GPI must take a championing and international promotion role beyond that of BIRD, for example marketing to MNCs, global academic institutions, Palestinian diaspora, and private sector investors the opportunities in the Palestinian tech economy.

As discussed, one immediate opportunity for GPI comes in availability of funding as symbolized by MEPPA. Under a “MEPPA” funding model, we would propose a target allocation of \$10M for the first three years via the appropriations of the US International Development Finance Corporation (DFC) or another source (e.g., State Department, USAID). This would

¹⁷ Ofek & Weiner, “Israelis, Palestinians and the Technology Bridge Between Them: A Work in Progress” (2020): 11

be partially matched by a combination of UAE, Saudi, World Bank, and Palestinian Diaspora funding for an additional \$6M. This would complete a \$16M, 3 year budget for GPI. By comparison, BIRD's initial funding was a \$120M endowment paid by the Israeli and US government in equal share, generating a similar annual budget. Longer term, an endowment model may be preferable for GPI, as it provides full autonomy and long term perspective, but we propose to start with an initial three year budget in order to optimize for feasibility and speed.

Similar to BIRD, GPI will have an independent Board of Governors, but with 10 instead of 6 members: a Chair from the US State Department; 1 member from the US Department of Commerce; one member from the US Treasury Department; one representative of the donating Gulf States and 1 member from one of the other financially supporting entities, complemented by five successful business leaders / entrepreneurs with global experience, ideally some from the Palestinian Diaspora. All non-governmental members will need to be approved by a majority of the five governmental representatives.

In addition to the formal board, GPI will set up a global Advisory Board for its operations that will aim to become a de-facto Advisory Board for the whole Palestinian Tech ecosystem. For more ceremonial purposes, an additional Board of Trustees will be set up to participate in every event supported by GPI. This Board of Trustees will have representatives of all supporting governments: US, Gulf, EU—as relevant—as well as several representatives from the Palestinian Authority—ideally from the Palestinian Ministry of Finance, Palestinian Monetary Authority, Ministry of Entrepreneurship and Empowerment, and the Higher Council for Innovation and Excellence in Palestine. This forum will allow the existing PA entities to have a seat at the table and reap some of the rewards of GPI successes without reducing the complete financial independence and transparency, which is crucial for GPI's effectiveness and reputation.

For monitoring and evaluation, GPI will publish an annual report that will openly share information on projects, returns, as well as analysis of the Palestinian technology ecosystem. In doing so, GPI will create value similar to the Startup Nation Central entity in the Israeli ecosystem, which is

often viewed as a resource by international investors. This will also enhance GPI's reputation as the champion of the Palestinian tech ecosystem.

As can be seen in our innovation mapping (Appendix II), there is an extensive ecosystem of existing organizations, NGOs and capacity-building programs. In addition, the West Bank and Gaza and Israel play host to a large set of international public sector embassies, chambers of commerce and development agencies. It will be a further job of GPI to connect with these players, and utilize their skills, expertise and resources to further support the mandate of expanding private sector tech participation in the West Bank.

As is discussed at several points in this paper, GPI is intended to work with the Palestinian Authority, but will be both financially and operationally independent. This is for several reasons, including efficiency, a desire to empower the private sector, and due to political sensitivities with Gulf governments stemming from the failure of previous public sector initiatives in the Palestinian Territories. From a United States perspective, it is important to note that such a structure is likely to allow compliance with the United States' Anti-Terrorism Clarification Act of 2018, commonly referred to as the Taylor Force Act. This act stopped all US economic aid to the Palestinian Authority conditional on the cessation of payments to the Martyrs Fund, including the killers of US citizen Taylor Force. One of the important work streams of the planned workgroup, to be set up to explore operational details of GPI, will be legal and compliance aspects of GPI's work, including these issues.

Tabular Summary of GPI

Name	Global Palestinian Innovation Foundation (GPI)	Binational Industrial Research and Development Foundation (BIRD)
Funding	<p>Initially \$16M Grant for 3 years of operation to be budgeted:</p> <ul style="list-style-type: none"> • Year 1: \$2M • Year 2: \$4M • Year 3: \$10M <p>\$10M from US, \$4M from Gulf States and \$2M from Palestinian donors or World Bank</p> <p>Following the first three years, an endowment model will be targeted.</p>	\$120M Endowment (\$60M US Govt, \$60M Israeli Government)
On-Going Revenue	Appropriated budget in first 3 years, eventual endowment, supplemented by returns from projects	Returns from projects and endowment returns
Governance	<p>10-member Board of Governors: 5 US and funding government representatives (e.g., Saudi, UAE) and 5 international private sector experts</p> <p>Advisory Board with global tech leaders</p> <p>Ceremonial Board of Trustees with representatives of PA and other governments with no decision making power</p>	6-member Board of Governors: US & Israeli Government Representatives
Funding Uses	<p>Provide 50% funding as repayable grant (upon commercial success only) to:</p> <p>New MNC R&D and team training initiatives in West Bank; US/Palestinian tech collaboration; regional collaboration;</p> <p>Support costs of international academic collaboration</p> <p>Fund program to bring back talent from Palestinian Diaspora</p>	Provide 50% funding as repayable grant (upon commercial success only) to US/Israeli R&D tech ventures

Name	Global Palestinian Innovation Foundation (GPI)	Binational Industrial Research and Development Foundation (BIRD)
Championing functions	Push for infrastructure progress, mobility for entrepreneurs, inclusion, database of high-tech activity, access to data for R&D Create Palestinian Global Advisory Board, engage Palestinian Diaspora	None
Policy Focus / Mandate	Champion high-tech Derisk and incentivize Investment Internationalize ecosystem, regional and US collaboration	US/Israel collaboration
Sources of Credibility	Backed by US Govt., Gulf States, and Palestinian Diaspora	Backed by US & Israeli governments



Abeer Abu Ghaith, the first female high-tech entrepreneur in the West Bank, who set up an internet employment brokerage and software development firm.

Proposed Phased Approach

We propose that the creation of GPI will be executed in three phases:

Phase 1: Setup

- Create Business/Academic/Government Workgroup:
 - Create a multi-disciplinary workgroup of academic, business, and government expert that will add more details to the proposed plan
 - Workgroup will follow the progress of GPI and provide analytic support and proposed policy updates as GPI develops
- Secure Funding Commitment:
 - US financial commitments will be led by the State Department, e.g., DFC / USAID budget from MEPPA or alternative sources
 - The State Department will lead interaction with Gulf States—mainly UAE and Saudi Arabia—to appropriate their share to expand regional collaboration
 - Private donations of \$2M will be initiated by US Palestinian Diaspora (e.g., through entities such as PalTechUS)
- Set up GPI Governance:
 - Nominate Board members: governments nominate public sector representatives, business leaders chosen in consultation with US State Department
 - Board will nominate a search party for a CEO, based in Ramallah, to build an operational plan for board approval

Phase 2: Initial Operation Phase

- Initial Ecosystem Funding:
 - Similar to BIRD, after a year of setup and planning, GPI will issue a call for projects to receive up to 50% in risk sharing grants
 - These projects will all be reviewed for business viability as:
 - Joint projects between Palestinian and American or Gulf companies
 - Joint Academic projects between Palestinian and US Academia with training models that can be funded by Social Impact Bonds
- Initial Policy Advocacy:
 - Initiate activities as a champion of Palestinian high-tech, leveraging State Department contacts to push for approvals for easier transportation and 4G/5G communication networks as initial “low hanging fruits”

Phase 3: Long-Term Operation

- **Funding:** Continuously expand for-profit activities and raise additional funding, with a target to raise \$100–\$200M in endowment funding to secure long-term operations
- **Championing:** Focus on championing and attracting a leading MNC (e.g., Intel, Google, Apple) to open a site in the West Bank
- **Diaspora:** Deepen relations with the Palestinian Diaspora including incentive plans to bring back Diaspora experts to the West Bank
- **Data:** Publish reports annually on the state of the Palestinian ecosystem
- **Scope:** Explore the potential possibility of expanding the activity of GPI towards Gaza—pending political viability

Specific Examples of GPI Activities

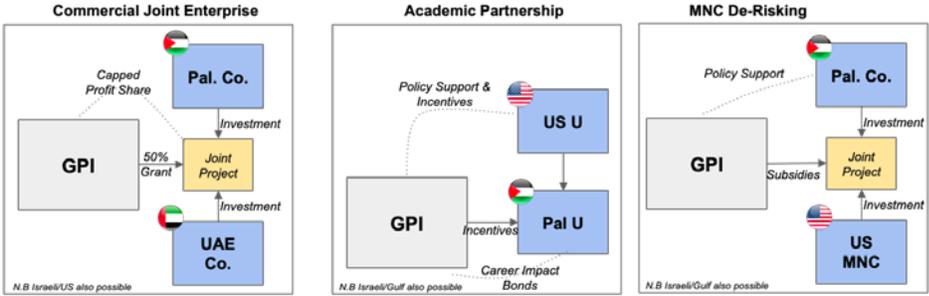
Below are three examples of GPI projects that would significantly impact the West Bank tech ecosystem.

First, financial support for a **Commercial Joint Enterprise** between a company in the West Bank and a firm in the UAE. This follows the “BIRD” approach, where GPI would underwrite 50% of the costs of setting up a joint

enterprise, and would be paid back by receiving a profit share, capped at 150% of the original investment. An example might be an Abu Dhabi-based financial firm setting up a back-office technology branch in Ramallah, in order to develop trading systems. This could also be done in a “co-financing” model with institutions such as the World Bank, who already have large on-the-ground programs offering financial incentives to the private sector.

Second, policy and financial support for an **Academic Partnership** between a university in the West Bank and a university in the United States. This might take the form of sponsoring for professors from Yale University to come teach at Birzeit University, or for students from An-Najah National University to study for a semester in Stanford University. Alternatively, there may be funding for direct research collaborations, for example between Master’s and PHD students. The policy support here could take the form of lobbying the Israeli government to allow permits (both for Palestinians leaving, and internationals to come to the West Bank). Financial returns for GPI may be targeted through Career Impact Bonds.

Third, policy and financial support for **MNC de-risking**. For example, funding focused training programs by the MNCs for new employees to help overcome perceived capacity gaps of some of the graduate engineers. While the incentives offered by GPI, at least in the short to medium term, are unlikely to be the deciding factor in whether companies such as Microsoft, Google or Apple set up permanent offices in the West Bank, from our interviews with key leaders in these firms, we see that such programs are often an indicator for how MNCs view their government partners. This links to the policy support role of GPI—both on the Israeli and Palestinian side, much work needs to be done liaising between private sector and the government, particularly in the West Bank on issues such as legal protections, labor laws, infrastructure, etc. to increase the chances of MNC presence in the West Bank.



GPI Policy and Actions

We propose that GPI, once created, will take immediate action on key policies that directly contribute to quick ecosystem development. These actions will be in three main policy tracks:

1. **Champion High-Tech:** Literature tells us that creating a tech ecosystem in peripheral countries with a small domestic market requires a strong champion. Such a champion does not currently exist in the West Bank. As the Danish government wrote: “The Palestinian National Authority has taken very few initiatives to develop the startup ecosystem to encourage innovation and entrepreneurship. This is evident from the lack of new regulations, institutional framework, infrastructure and networks to support startups.”¹⁸
2. **De-risk and incentivize investments:** One main factor holding back private investment in the West Bank are the financial risks. Given how crucial such investments are, however, both in direct impact and in positive externalities, it is critically important to incentivize such decisions by de-risking through instruments such as grants and guarantees.
3. **Internationalize the Palestinian economy:** As we have seen, the lack of linkages between the Palestinian economy and the world critically limits the ability of the ecosystem to flourish. Therefore, GPI should connect Palestinian academia to the world, bring in MNCs and leverage the Palestinian Diaspora.

Champion High-Tech

Analysis of technology ecosystems in Singapore, Taiwan, Ireland and Israel shows that a key success factor is having an effective champion to promote coordination between investors, academia, and business with regards to policy. In many cases, this champion is a semi-independent governmental entity.¹⁹ In Israel, for example, the Israel Innovation Authority has an annual budget of over US\$600M to promote the startup ecosystem, give grants, and advocate for high-tech growth in government decisions, laws, and treaties.

18 Core Associates for Royal Embassy of Denmark, “Assessment of the Legal and Regulatory Framework for Startups in Palestine: Gaps and Recommendations,” (2021): 8

19 Breznitz, Dan, *Innovation in Real Places: Strategies for Prosperity in an Unforgiving World* (2021)

Palestinian girls work on a computer at the refugee camp in Jalazoon, Palestinian Territories.



Credit: Rainer Jensen/picture-alliance/dpa/AP Images

For GPI, a key policy path will be representing high-tech while having the political capital to drive implementation. The involvement of the US State Department and US academia will be leveraged to attract a top-tier Board of Governors and Advisory Board, crucial to securing “soft” power. The policy areas advocated for will include:

- **Improving Infrastructure:** Critical for a functioning ecosystem are infrastructure capabilities. Appendix I lists specific proposed infrastructure areas on which GPI will focus..
- **Inclusion:** Throughout our stakeholder interviews, many subjects mentioned the importance of inclusion in Palestinian high-tech, especially empowering female entrepreneurs, engineers, and market participants. In such a small ecosystem, leveraging the entire workforce is essential, as is the global signaling of inclusion initiatives vis-a-vis international partners and funders. GPI should give enhanced funding and higher ranking to projects with women entrepreneurs or managers as a way to incentivize such inclusion—similar to what is done by innovation supporting bodies in the USA and Israel.
- **Data:** A key resource for any ecosystem is data, both about the players operating in the ecosystem and the structural data points required for advanced algorithmic and machine learning modeling (AI). GPI will lobby for making such data freely available. In addition, similar to the function performed by Startup Nation Central in Israel, GPI will own, constantly update, and publicly share a database of all tech stakeholders in the West Bank.

De-risk and Incentivize Investment

Central to GPI's mission is promoting high quality tech employment. Crucial to this are measures that will catalyze private sector investment and bring with it jobs:

- **Creating a Business Mindset:** Actors such as the Palestinian Authority, internationally backed local employment initiatives, and West Bank businesses receive significant support in donations. Funded initiatives included incubators, accelerators, training programs and equipment. Unfortunately, these initiatives have shown little impact on the share of high-tech in the PA's economy, which has been stagnant at about 1% of GDP. Many stakeholders we interviewed shared that these nonprofit and public sector actors incentivize programs that please donors, but do not create viable sustainable business models. Indeed, over 40% of the ecosystem enablers are from international community such as INGOs, governmental and semi-governmental foreign bodies.²⁰ As the firm Enabel Consulting noted: "The Ecosystem in Palestine remains a donor-oriented system," and "causes duplication of work and limits new opportunities related to sector development."²¹ To change this mindset, GPI funding will focus on for-profit initiatives through risk sharing and capital matching, including commercial R&D projects, Venture Capital, Career Impact Bonds, political risk / export risk insurance, but not philanthropy. Similar to the BIRD model, all initiatives should be supported in a matched funding model.
- **De-risk investments:** In most cases, GPI will provide half the financing, with a for-profit business or bank funding the other half. Furthermore, most projects should commit to paying back the funding support with nominal interest upon project success, thus enabling the budget growth in the long term.

Internationalize the Palestinian Economy

Clear from the vast majority of our stakeholder interviews was the need to enhance international collaboration in the Palestinian economy. A key function of GPI will be to drive this movement towards globalization:

20 ICEP, The International Conference on Entrepreneurship in Palestine ICEP 3.0 (2022): 13

21 Enabel Consulting, Mapping of Innovation Hubs in Palestine (2020): 20

- **Internationalize Academia:** The West Bank has three times the number of engineers per capita compared to the US, and this educated workforce should be a resource for tech employers. The firms, entrepreneurs and investors we interviewed, however, noted that most graduates do not get up-to-date training on the latest technologies and coding languages, or the requisite soft skills to excel in the high-tech market. Some top local universities have started to take steps to build internship programs and update their syllabuses, but one of the most effective ways to promote the quality of education and to signal to global employers is collaboration between Palestinian and top global universities—e.g., the Ivy plus group in the US. This could be done via joint academic programs, subsidized by GPI until they can become self-sustaining e.g., through Career Impact Bonds. This builds on initiatives found in our ecosystem mapping: e.g., MIT trains young Palestinians in code writing with the MEET initiative; Notre Dame collaborates with Palestinian teams in East Jerusalem. These programs focus on training in hard skills, soft skills and creating global connections for their students. Ideally GPI would provide an international credential to such graduates for signaling value.
- **Bring in MNCs:** Bringing MNC activity into the West Bank will be a key policy target for GPI. Attempts by executives with Palestinian links in Cisco, Microsoft and others to initiate a Palestinian research entities have not been successful to date, in part because of the lack of local champion support which GPI will provide.

One notable success story has been Nvidia, the chip manufacturer that acquired Israel-based Melanox for \$7B, employing about 200 Palestinian engineers and creating a full local presence in the West Bank. MNCs often receive support, tax breaks, subsidies and a “red carpet” treatment in more geopolitically uncertain environments, and GPI subsidies and policy lobbying with both Israel and the PA would play this role in de-risking and incentivising MNC investment. This could be combined with some level of political risk insurance e.g., from international partners and a nod of support by the State Department, lobbied for by GPI

- **Leverage the Strong Palestinian Diaspora:** The brain drain is a concern for many of the stakeholders we interviewed, particularly in light of difficult living conditions, instability, and occupation in the West

Bank. GPI will not be able to change these conditions, but can take two key value-creating steps:

1. Initiate programs that connect successful Palestinian Diaspora members to the local ecosystem as investors and advocates. To date many members of the Palestinian Diaspora have been reluctant to be connected to the Palestinian Authority, and by association, public projects. GPI incentivizes such connections and collaboration with key Diaspora members;
 2. GPI could provide focused unique grants to prominent Diaspora members that are considering temporary or long-term relocation back to the West Bank similar to such grants being given by the Israeli Innovation Authority
- **Leverage the Israeli Startup-Nation:** The geographical and economic proximity of Israel's "startup nation" economy presents a complex issue. On the one hand, Israel is an occupying force limiting transportation, mobility, freedom, imports, and more. On the other hand, Israel is a tech powerhouse in dire need of technology talent, and could provide extensive knowhow creating successful technology ventures, with huge potential value to the Palestinian economy. In fact, most interviewed



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Ramallah skyline

Palestinian stakeholders contend that Palestinian tech has little chance to succeed without leveraging Israeli tech. Simultaneously, Israel is seen by many Palestinians as an oppositional force with whom any cooperation creates unacceptable normalization. We propose that GPI will not have collaboration with Israel as one of its headlined goals. Instead the published goals should focus on collaboration with the US and Gulf states as the most valuable markets and partners. However, since many of the US entities that will collaborate with firms in the West Bank, have operations in Israel, the Israeli—Palestinian collaboration will become a non-promoted byproduct.

- In this context, there is a special opportunity for Arab Israelis, i.e., Palestinian citizens of Israel—sometimes called '48ers. In most cases, Arab Israelis are accepted by both Israelis and Palestinians as legitimate partners. A growing number of Arab Israelis are participating in the Israeli tech ecosystem, including Arab Israeli professors that are experts in technology being invited to teach at Palestinian universities. Several Arab Israeli entrepreneurs have founded companies in the West Bank. In fact those Arab Israeli entrepreneurs who see the Arab speaking world as their primary market prefer to position their initiatives as coming out of the West Bank as that is often more appealing to the Arab world. In addition, some venture funds in the West Bank create a three way collaboration with Arab Israelis, Palestinians and the Gulf—bringing in tech expertise, working hands, and funds respectively. Finding the right ways to support projects that include Arab Israeli entrepreneurs and Palestinian entrepreneurs may be an important financial and bridge building opportunity acceptable to all that should be further reviewed by GPI.

Conclusion

This paper has identified a clear opportunity to improve the Palestinian economy by promoting a productive high-tech sector within the West Bank. The Palestinian high level of education, the potential for global financial support and the opportunity to be a technology gateway to the Arab speaking world are all attributes that could support the growth of such an ecosystem. In the face of such possibility, however, are deep challenges including the Israeli occupation, which limits freedom of movement and capital, the challenging governance of the Palestinian Authority, and the political complexity with regards to collaboration with Israel. Many attempts have been made by NGOs and governments to promote high-tech in the Palestinian economy. These initiatives, however, though successful in creating early interest, have not made significant impact. In order to transition the Palestinian economy from dependence on philanthropic support to being self-sustaining, a change in mindset is required.

Throughout this paper, we have presented our findings based on extensive ecosystem mapping and stakeholder interviews. Our recommendation for the creation of a well-funded and well-networked champion—GPI—the Global Palestinian Innovation Foundation—to drive international collaboration, improve business focused training and advocate for key policy measures, is designed to overcome the many challenges we identified. Recent political developments such as the Middle East Partnership for Peace Act, show the current commitment from funders to accelerate progress towards a self sustaining Palestinian economy. Leveraging such funding opportunities, GPI will catalyze change and growth in the economy by incentivizing regional collaborations, bringing major businesses to operate in the West Bank and initiating cross-border collaboration in academia that will improve workforce readiness. In this mix of funding and advocacy, outside of the official Palestinian Authority channel, GPI is a new model for enhancing Palestinian civil society and empowering self governance capacity which may be replicated in the future in the fields of energy, health, and finance.

Creating a high-tech economy in the West Bank will not solve the Israeli-Palestinian conflict nor bring peace to the Middle East. That, however, is not our aim. High-tech is a creator of wealth, educational opportunities, and civil society structure. Its growth is intended to improve the standard of living in the West Bank, boost civic engagement, and potentially create a common language of technology between Palestinian and Israeli entrepreneurs. As Israeli and Palestinian authors with significant experience working together across the boundaries of conflict, that is what we aim for.



AP Photo/Nasser Shiyoukhi

Some of the first female high-tech entrepreneur in the West Bank, talk to other Palestinian women in the village of Dura.

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Appendix I—GPI Infrastructure Policy Advocacy

This appendix gives a summary of specific infrastructure topics GPI will address in its function to champion the growth of the Palestinian tech ecosystem:

- **Legal:** Multiple stakeholders whom we interviewed have reported that the Intellectual Property laws and regulations governing commerce within the West Bank do not meet the standard desired by international businesses. The Jordanian Trademark Law No. 33 of 1952 is the primary law governing the mechanism of trademark registration and protection in the West Bank, which dates from before the Israeli occupation, while significant work on other areas such as tax is also needed. Progress has been made in areas such as company law and foreign direct investment, but further work and advocacy is needed for global entities to do large scale business in the West Bank.
- **Transportation:** As an occupied territory, transportation in and out of the West Bank is slow and cumbersome. Most points of entry are controlled by Israel, in part in conjunction with Jordan. Tech businesses generally require less equipment to be moved in and out than heavy industry, and following the COVID pandemic, much work can be done remotely. However, outgoing travel for business meetings, conferences, and exchange visits as well as incoming visits by academic experts and international business executives are crucial and must be made easier.
- **Communication:** Reliable high-speed internet is critical to modern business and this presents a clear opportunity for effective pro-growth intervention. Most challenging is the cellular communication network which is 2G-3G due to Israeli government limitations.



Palestinians drive near the Qalandia checkpoint between Jerusalem and the West Bank city of Ramallah. A pair of new mobile apps hopes to help Palestinians navigate their way around snarled traffic. (AP Photo/Majdi Mohammed)

Appendix II—Ecosystem Mapping

Name	Type	Activity	Target Audience	Goal	Geography	Funding Model	Comment
50:50 Startups	Accelerator	Create Startups	Entrepreneurs	Coexistence Examples	All	Private Donors, Dutch government	An incubator for equally owned tech ventures by Palestinian and Israeli entrepreneurs.”
ADIO	Cross-Border	Links to Arab Countries	Startups	Peer-to-Peer	Regional	UAE government	Abu Dhabi Investment Office’s first overseas bureau...which is in Tel Aviv. “The office in Tel Aviv will focus on facilitating connections between innovation-focused companies.”
Al Bawader	Investor	Fund Startups	Startups	Economic Development	Israel	Israeli government	(Arabic for “early signs”), earmarked solely for investments in Israel’s Arab community. The funding is unlike anything before seen in the Middle East. The Israeli government has put money into Al Bawader, as have individual Israeli Jews, Israeli-Arabs--and Palestinians. Peres zealously guards investor names and even the names of some of the Arab companies they’ve invested in.
Amelia Investments	Investor	Fund Startups	Startups	Economic Development	Regional	Private Sector	“Amelia Investments is a private equity fund creating economic opportunities throughout the Middle East region. Founded by Nechemia (Chemi) Peres and Assaf Shariv, Amelia is uniquely positioned to leverage Middle East markets amidst a dynamic political environment. Amelia spurs growth and development by providing capital, professional support and mentoring to entrepreneurs and joint ventures that further regional collaboration and economic opportunity. Located throughout the Middle East, Amelia-supported initiatives are diversified by geography, industry sector and stage. Our investment focus includes infrastructure, agriculture, communications, financial services, health services etc. Markets include Israel and the Palestinian Authority, Jordan, Egypt, Turkey, the Arabian Gulf among others.”

Name	Type	Activity	Target Audience	Goal	Geography	Funding Model	Comment
Appleseeds	Training	Train Palestinians	Professionals	Economic Development	Israel	Official NGO	"Appleseeds is an Israeli nonprofit that was founded in 2000 with the aim of bridging Israel's growing Startup Nation to underserved communities in Israel's social and geographic periphery. Appleseeds promotes digital equality in Israel by developing and implementing programs in the areas of technology, employment, and life skills. Through its team of 250 professional instructors, Appleseeds works across Israel, from Kiryat Shmona to Eilat, reaching some 80,000 beneficiaries annually."
Axsos Academy	Bootcamp	Train Palestinians	Students	Economic Development	West Bank	Palestinian government	an intensive coding boot camp for aspiring software developers in the West Bank town of Ramallah. The original four-month training had to be postponed several times due to the coronavirus pandemic. Among the 2,500 people who applied from all over the Israeli-occupied West Bank and the Gaza Strip, only 43 made it into the first cohort.
Cisco—GTAP	Bootcamp	Train Palestinians	Professionals	Economic Development	West Bank	Private Sector	Train IT employees to become Cisco Expert Certification CCIE
Cisco—MytecC	Training	Train Palestinians	Students	Economic Development	Regional	Private Sector	Providing highschool students with training to understand IT and computing tools and work processes
Cisco—Tamkeen	Training	Train Palestinians	Startup Companies	Economic Development	West Bank	Private Sector	holistic management training program intended to prepare company to compete in global market
DANA Accelerator	Accelerator	Create Startups	Startups	Coexistence Examples, Economic Development	Regional	Private Donors, Private Sector	DANA is an Abu Dhabi based accelerator that supports women-led startups in desert tech, including sectors of AgriTech, water solutions, food security, waste management, and renewable energy through regional collaboration, innovation mentorship, impact community, and investment. The program emphasizes the importance of diversity in innovation, supporting women from the MENA region generating unique sustainable solutions, and creating a cross-border community of empowered private sector leaders.

Name	Type	Activity	Target Audience	Goal	Geography	Funding Model	Comment
Hasoub	Network	Train and build network for Arab Israeli Entrepreneurs	Professionals	Economic Development	Israel	Private donors, Israeli government	Grass roots organization that supports and trains Israeli Arab Entrepreneurs and Tech investors
Infinity Labs	Bootcamp	Train Palestinians	Professionals	Economic Development	Israel	Private Sector	Infinity Labs offers software-related training, coaching, consulting, and research and development services. The company will offer its bootcamp in Ramat Gan in the greater Tel Aviv area, and in northern port city Haifa.
Intel Tech Forum	Network	Create Jobs	Professionals	Economic Development	Israel/ Palestine	Private Sector	Intel's efforts are more robust. Like Cisco, it is working to improve the Palestinian IT sector, and it has established meet-ups--its Tech Forum in March brought 60 Palestinian and Israeli entrepreneurs together. Its Jerusalem office offers hope for what a Middle East of the future could look like: At the "coffee corners" on some floors the Israeli and Palestinian men look almost interchangeable, and they mix amicably with Christians and Druze, burka-clad Arab women and wig-donning ultra-Orthodox women, the latter of whom Intel is increasingly recruiting into its workforce.
ITWorks	Training	Train Palestinians	Professionals	Economic Development	Israel	Israeli government	Itworks is a non-profit organization that works to narrow employment gaps and promote diversity in Israel's booming high-tech industry. By collaborating with global and local tech companies who wish to benefit from a diverse workforce, we help rising talents from disenfranchised social sectors apply for open employment positions, integrate into cutting-edge organizational environments, and experience on-the-job success.

Name	Type	Activity	Target Audience	Goal	Geography	Funding Model	Comment
Kav Mashve	Bootcamp	Train Palestinians	Professionals	Economic Development	Israel	TBD	Kav Mashve is an Israeli non-profit organization which promotes equal employment opportunities for Arab university graduates within the Israeli business sector. The organization was founded in 2007 by Mr. Dov Lautman, who was a prominent Israeli industrialist and a recipient of the Israel Prize for Life Achievement, in conjunction with the Manufacturers Association of Israel.
Ma'antech	Network	Create Jobs	Professionals	Economic Development	Israel	TBD	Cisco has formalized this by creating a 35-company coalition, Ma'antech ("together" in Arabic), comprising everyone from IBM to Israel's Bank Hapoalim, with the stated goal of creating jobs for Arab tech workers. So far, though, Cisco is the only one to put money into it
MEET	Program	Co-existence	Students	Peer-to-Peer	Israel/ Palestine	Private Donors	"Founded at MIT in 2004, Middle East Entrepreneurs of Tomorrow (MEET) brings together young Israeli and Palestinian leaders to create positive change through technology and entrepreneurship. MIT student instructors teach computer science and entrepreneurship over the summer and during the January winter session (IAP)."
MISTI	Training	Train Palestinians, Co-existence	Professionals	Peer-to-Peer, Co-existence Development	Regional	Private Donors	MIT International Science and Technology Initiatives (MISTI) is partnered with several organizations building business, educational, science and technological bridges between Israelis and Palestinians, as well in and between other regions.
Neve Shalom							
NGT3	Accelerator	Create Startups	Entrepreneurs, Startups	Economic Development	Israel	Israeli government	NGT3 brings new opportunities while remaining rooted in Nazareth, the largest Arab city in Israel's Galilee. We start and fund early-stage companies, primarily in innovative medical devices and life sciences, and encourage Arab and Jewish entrepreneurship

Name	Type	Activity	Target Audience	Goal	Geography	Funding Model	Comment
OGS	Accelerator	Create Startups, Co-existence	Entrepreneurs	Peer-to-Peer	Israel/ Palestine	Private donors	“Our Generation Speaks (OGS) is a Boston-based three-month summer fellowship program and incubator where emerging Israeli and Palestinian leaders create high-impact ventures. In OGS, fellows can expect to build for-profit and non-profit ventures. The journey begins with idea development and team formation and culminates in seed funding allocation for a select group of teams. The fellowship includes a world class seminar program and top-notch mentorship program. OGS has already supported over a dozen of such ventures since its inception and invested over \$1.2 million in them. Our ventures, in turn, have raised over \$2 million in external funding.”
Phoenix Capital	Investor	Fund Startups	Startups	Economic Development	Regional	Private Sector	a tie-up between OurCrowd and Abdullah Al Naboodah’s business development unit.
PIP	Internships	Create Jobs	Professionals	Economic Development	Israel/ Palestine	Private donors	“The Palestinian Internship Program (PIP) provides young Palestinian professionals with work experience placements at leading Israel-based companies, especially in the fields of tech and finance. Founded by Yadin Kaufmann in 2014, PIP has so far completed five cycles of internships comprising 39 interns and 25 companies including leading multinationals such as Intel, Thomson Reuters, HP Indigo and Teva, as well as a number of start-ups and venture capital firms.”
PMP	Mentorship	Mentorship	Students, Professionals	Peer-to-Peer, Economic Development	Israel/ Palestine	Private donors	The Palestinian Mentorship Program (PMP) connects exceptional Palestinian Tech Entrepreneurs and mid-level Palestinian executives with experienced mentors in the United States, Europe, Israel, and elsewhere. PMP launches a new Mentor/Mentee cycle every 6 months. Each cycle consists of Orientation Sessions and a Matching Process, followed by biweekly one-on-one Mentor/Mentee “meet-ups” (mainly remote), and skills-building workshops. Mentors meet with their Mentee over 6-12 months, with a focus on addressing specific jointly-identified challenges

Name	Type	Activity	Target Audience	Goal	Geography	Funding Model	Comment
Presentense							
Project Rails							
Rawabi Tech Hub	Tech Hub	Train Palestinians, Create Jobs	Professionals	Economic Development	Palestine	Private sector	Many people are unaware of the fertile cooperation taking place between Palestinian software engineers from Gaza City, Ramallah and Rawabi, in the West Bank, and Israeli high-tech companies, which are beginning to benefit from the experienced and inexpensive workforce of their neighbors. Such Israeli companies employ 20,000 people from India and Ukraine at present, while just over the border, an hour by car from Tel Aviv, is a substantial pool of skilled workers who can help ease the labor shortage in Israel's high-tech industry.
Sadara	Investor	Fund Startups	Startups	Economic Development	Palestine	Private sector	In 2008, he founded Sadara Ventures, the first venture capital firm to target the Palestinian tech sector exclusively
Scale-Up Velocity	Bootcamp	Train Palestinians	Professionals	Economic Development	Israel	Israeli government	Scale-Up Velocity develops high-end impactful initiatives and solutions for Israeli high-tech's human capital challenges. We partner with leading high-tech companies, academic and training institutions, government agencies, nonprofits and philanthropies to build programs and models that increase and improve the supply of talents to Israel's tech sector. Our initiatives range from practical, hands-on coding bootcamps geared towards talent from untapped communities, to drafting policy recommendations for government agencies and senior decision makers looking to tackle the shortage in human capital within Israel's tech sector. Scale-Up Velocity is closely affiliated with Start-Up Nation Central, an independent non-profit working to build bridges to Israeli innovation and strengthen Israel's innovation ecosystem.

Name	Type	Activity	Target Audience	Goal	Geography	Funding Model	Comment
Seeds of Peace	Program	Train Palestinians, Co-existence	Students	Economic Development	Regional	Private donors	Seeds of Peace now works primarily with young Egyptian, Israeli, Jordanian, and Palestinian leaders. The program begins at our Camp in Maine, where Middle East campers discuss core elements of the conflict, including the origins of the Zionist movement, the Holocaust, the Nakba, the Occupation, fear of violence, and fear of others, as well as terrorism, racism, and other drivers of oppression.
Siraj Capital	Investor	Fund Startups	Startups	Economic Development	Palestine	Private sector	"Siraj Fund Management Company (SFMC) is the first Palestinian private equity fund manager. SFMC's first private equity fund, Siraj Palestine Fund I, was launched in 2011, with a value of \$90 million USD. SFMC is currently raising capital for its second fund, Siraj Palestine Fund II, with an initial closing expected in Q3 2019, also valued at \$90 million USD."
Starting Up Together							
Startup Negev							
Takwin	Investor	Fund Startups	Startups	Economic Development	Israel	Private sector	"Takwin is a venture capital fund and incubator, making early-stage investments in hi-tech companies run by Arab entrepreneurs in Israel. We nurture the startup spirit in the Arab Israeli communities and empower Arab entrepreneurs to build successful companies. Founded by Imad Telhami, Takwin is a unique and first-of-its-kind cooperative venture between Israel's two largest funds—Pitango (run by Chemi Peres) and JVP (run by Dr. Erel Margalit). We are the first VC located in the northern region of Israel, and Takwin Labs is the first venture infrastructure created for northern entrepreneurs and startups."
Tamkeen	Training	Train Palestinians	Managers	Economic Development	Israel/ Palestine	Private sector	Palestinian CEOs and mid-level managers being coached by Israeli Jewish tech experts. The Cisco subcontractor conducting the sessions—aptly named PosiTeam—has conducted close to 100 days of trainings since 2011—for 70 Palestinians from 24 different companies

Name	Type	Activity	Target Audience	Goal	Geography	Funding Model	Comment
Tech2Peace	Bootcamp	Train Palestinians, Co-existence	Students	Economic Development	Israel/ Palestine	Private foundations, Dutch government	“is an independent initiative, created and conducted by a young staff of students and volunteers. Our aim is to run High-Tech and peace-building seminars, focused on creating a lasting positive relationship between young Israelis and Palestinians.”
Techniclinic	Training	Train Palestinians	Professionals	Economic Development	Israel/ Palestine	Private Company	Techniclinic is the first and still the only tech company in Jerusalem with the aim of leveraging the educational and economic situations for Palestinians in Jerusalem, by bringing more job opportunities for them at the Israeli and Multinational hi-tech companies. We want to stop brain drainage and create jobs in Jerusalem.
The Hybrid	Accelerator	Fund Startups	Startups	Economic Development	Israel	Israeli government	“is the most far-reaching, in-depth program for early-stage ventures led by Arabs in Israel. We are the go-to program for Israel’s most promising startups, acting as their gateway to the core of the Israeli Hi-tech sector and worldwide. We are passionate about finding the next generation of leaders and companies, who will reshape how we perceive the most trivial of things. We are entirely equity and profit free.”
Tsofen	Training	Train Palestinians	Professionals	Economic Development	Israel	US government, Private donors, Israeli government	High Technology centers is a nonprofit organization whose mission is to promote the integration of Israel’s Arab Citizens into the hi-tech industry as a means of promoting economic development, reducing poverty, high value job creation in Arab urban centers and integration of Arab citizens into Israel’s civil society.
UK Israel Tech Hub	Network	Train Palestinians	Professionals	Economic Development	Israel	UK government	Projects within the Arab community and acts as the liaison for the emerging Arab tech sector, by connecting business opportunities in the UK and enhancing the assimilation of the Arab community in the high-tech ecosystem. Additionally, Sami is in charge of the ArabtechPort, an online platform that aims to empower Arab entrepreneurs by offering tools to learn, connect and go global. A self-motivated and independent individual with proven digital marketing, relation building and open-source research skills. Aspires to break-through communication barriers and bring people together.



Palestinian programmers attend a Ramallah Startup Weekend workshop in the West Bank city of Ramallah. Local entrepreneurs say their unique circumstances, including years of experience coping with Israeli travel restrictions, have fostered a creative spirit conducive to the entrepreneurial high-tech world.

Appendix III—Research Methodology

In total, the authors conducted 65 interviews in the research for this paper. While these were heterogeneous, in general, the format followed a set path in order to gain maximum insight from the participants and not prejudice the results of the interview. All interviews were conducted over Zoom and lasted 30–60 minutes. For approximately half the interviews, two of the authors were present, for the other half, only one author attended.

The interviews began with a general discussion of the subject's background, and in cases where appropriate, a description of GPI and what the organization objectives would be. The three following questions were then posed:

- Do you think there has been strong growth in the Palestinian tech Ecosystem, and if so, what has caused it, and if not, what has not gone well?
- What do you think are the main initiatives to support the Palestinian tech ecosystem at the moment, and how do you assess their efficacy?
- What do you think could be done to encourage the growth of the Palestinian tech sector, specifically with regards to encouraging Multinational Corporations (MNCs) to locate in the West Bank and with regards to the success of domestically grown Palestinian startups?

Once this background information had been gathered, the interviews then either continued with a discussion of the subject's experience in the matter, or moved on to a discussion of the GPI proposal. For those with whom we discussed GPI, we focused on the following questions:

- Do you think GPI addresses the issues you have identified in the Palestinian tech sector: if so how, if not, why not?
- What do you imagine to be the key challenges to setting up GPI, whether political, operation, financial, legal, etc.?
- What are similar initiatives you have seen, either in the West Bank or elsewhere, that could be instructive in helping make GPI as effective as possible?

Some interviews then continued into a further detailed discussion based on the subject's expertise and experience.



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