Young Palestinian Beekeepers

By Yara Dahdal

Palestinian society is predominantly young. According to the Palestinian Central Bureau of Statistics, youth comprise around 30 percent of the population, 38.1 of whom are adolescents aged 15 to 19 and 61.9 percent aged 20 to 29.[i] Therefore, investing in youth will undoubtedly lead to innovation, economic growth, sustainability, and prosperity. The unemployment rate among Palestinian youth has skyrocketed since the outbreak of COVID-19, reaching to 39 percent, with more than half of the unemployed holding scientific degrees (diploma or higher).[ii] Many readers may argue that the COVID era is behind us, but the global mindset has changed permanently and transitioned towards a greener lifestyle, also demanding a more skilled, locally oriented labor force.

Beekeeping is ideal to fulfil both these trends. Unfortunately, the Palestinian beekeeping sector is underdeveloped. Currently, only around 2,000 individuals work in this field, owning about 85,000 beehives. But there is a very high potential for growth and expansion: Palestinians consume around 1,000 tons of honey annually, with an average intake of 175 grams per capita, which is much lower than the global average consumption (250–300 grams/year).[iii] Moreover, depending on the season, Palestinian beekeepers produce only around 400 tons of honey annually, which tends to be less than half of what Palestinians consume per annum. Regretfully, the Palestinian market is flooded with poor-quality, cheap imported honey. No official statistics estimate the national production of other related bee products such as propolis, beeswax, pollen, royal jelly, bee bread, or venom, even though they have high nutritional, medicinal, and economic values.

Bees are magical creatures! Not only do they produce one of the sweetest, most nourishing syrups in the world, not to mention other medicinal and nutritious bee-related products, they are also responsible for pollinating 35 percent of the world's crops. Moreover, bees deliver one of the most familiar ecosystem services, as they provide regulating, provisioning, and cultural functions.[iv] The regulating functions include pollination and biodiversity conservation. Provisioning functions comprise the production of bee-related products and sustainable conservation solutions. And cultural functions cover api-tourism and other related sciences. In a recent study, conducted between 2005 and 2016, scientists found a 25 percent decrease in the number of bee species worldwide compared to before 1990.[v] This decline, particularly if not halted, threatens food security and ecosystem services.

Innovation happens when a good idea is entrusted to the right individuals, supported by the proper theoretical bases, and combined with good practices. This is the story of our young beekeepers. In October 2021, eight fresh graduates from the Jenin and Tubas governorates, 50 percent of whom are females, embarked on a journey in apiculture. These young beekeepers have academic backgrounds in veterinary medicine, agricultural engineering, and biotechnology. The program is implemented by Nature Palestine Society and funded by the Palestinian Affairs Unit at the

Participants learning to differentiate between colony members (queen, workers, and drones). Photo by: Anton Khalilieh.

Islam Daghlas explaining to the participants the components of a beehive. Photo by Anton Khalilieh.

The participants with Nature Palestine Society's team at the end of the theoretical sessions.

American embassy. It comprises four main stages: theoretical workshops, practical training, microfinancing, and mentoring.

During the theoretical workshops, the innovative young beekeepers were familiarized with bees and their behavior, beehives and their components, the management of apiaries, the diseases and enemies of honeybees, the raising of queen bees, beehive multiplication, and the extraction of honey and other bee-related products. Moreover, cross-sectoral topics such as the effect of climate change on apiculture, the marketing of bee-related products, and the relevant Palestinian legislation that governs this vital sector were studied as well. The participants have completed their first practical training session that focused on maintaining bee colonies through the harsh winter seasons. As spring is approaching, practical sessions will intensify to prepare the participants for handling their own apiaries. Once the young beekeepers are ready, they will be given a few beehives each to start their own venture. Mentoring activities will accompany them throughout the year, providing guidance and recommendations for best practices.

Introducing new beekeepers into the Palestinian market aims to reduce unemployment among youth, empower women, encourage local production and the adoption of a greener economy, support the livelihood of less fortunate families, and improve environmental ecosystem services through bee pollination. This will elevate the Palestinian socio-economic situation as well as Palestinian well-being and food security.

The young Palestinian beekeepers are encouraged to further develop the apiculture sector in Palestine and increase the knowledge and skills they have gained, especially when it comes to solving modern problems that the area faces, such as urbanization and climate change.

The participants with their tutor Islam Daghlas fully equipped to embark on the practical session.

We have faith that the program's participants will be ambassadors of change in the apiculture sector and encourage other youth to join them on this journey.

The International Labour Organization forecasts that the green economy will create 24 million jobs globally by 2030, while the Palestinian market needs to develop around 72,000 new jobs annually by the same year.[vi] Consequently, there is plenty of room for green, innovative new job opportunities. So we advise all Palestinian youth out there: Dream big, dream green, invest in bees.

Dr. Yara Dahdal holds a PhD in water desalination and wastewater treatment and postdocs in both water contamination and science diplomacy. Currently the projects manager at Nature Palestine Society, she is an active member of the Scientific Basis Task Force at Cyprus Institute's East-Mediterranean and Middle East Climate and Atmosphere Research Center. She can be reached at yara@naturepalestine.org.

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[i] Press Release, "International Youth Day," Palestinian Central Bureau of Statistics (PCBS), August 12, 2017, available at https://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=2048; this figure must include youth aged 15 to 19 because they are part of the official and unofficial labor force, particularly in the Palestinian agriculture sector.

[ii] Statistics, "The impact of COVID-19 pandemic on the Palestinian labour market in 2020," PCBS, April 29, 2021, available at https://www.pcbs.gov.ps/site/512/default.aspx?lang=en&ItemID=3979.

[iii] A. Borowska, "Production, consumption, and foriegn trade of honey in Poland in the years 2004 to 2015," Warsaw University, 2016; and A. Jha, "Natural honey: At the tip of the beehive," Trade Promotion Council of India, 2020.

[iv] Sunil Aryal, "Ecosystem Services of Honey Bees; Regulating, Provisioning, and Cultural Functions," Journal of Apiculture 35(2), 2020: 119–128.

[v] Eduardo E. Zattara, "Worldwide occurrence records suggest a global decline in bee species richness," One Earth 4(1), 2021: 114–123.

[vi] Youssef Courbage, "Palestine 2030 Demographic Change: Opportunities for Development," UNFPA Palestine, 2016.