



Dalia
دالية

**Palestinian National Food Sovereignty
in Light of the Colonial Context**

By: Abdalaziz Al-Salehi

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By: Abdalaziz Al-Salehi

Reviewed by:

Saad Dagher | George Kurzom | Firas Jaber | Lina Isma'il

Coordination and Follow-up:

Lina Isma'il

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Dalia is a community-based organization that works on properly mobilizing and using all necessary local resources (financial and non-financial) to enable and create an independent and responsible civil society governed by transparency and accountability. Dalia believes in the Palestinian people's right to control their resources in order to achieve community development. This is realized through community-controlled grants to support creative and suitable civil society initiatives, particularly the efforts exerted by local communities to use and benefit from their available resources.

Our work is focused on four aspects that ensure the realization of comprehensive community development: local economy, environmental aspect, social aspect and cultural aspect. We also aim to promote community philanthropy in Palestine and the Diaspora because we believe that each individual of us has something to provide by contributing with our talents, resources and energy for a flourishing Palestine.

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Executive Summary

This research paper presented to Dalia Association aimed at focusing on “National Food Sovereignty in Palestine in Light of the Colonial Context,” which aimed at identifying the priorities of work on achieving national food sovereignty in light of the political – economic – social factors in Palestine, particularly in light of the deteriorating agricultural reality in Palestine (cultivation and husbandry) resulting from the Israeli colonial practices on Palestinian lands and seizing its resources on one hand, and the unclear vision amongst political actors and decision makers to empower and support the resilience of national food producers in Palestine on the other. That is not to mention the existing global context that seeks to commoditize food by focusing on quantity rather than quality and health to accumulate capital and entrench control over food, which will ultimately lead to controlling people.

Therefore, in light of the Palestinian reality in a colonial context, we must discuss the reality of agriculture and food production in occupied Palestine; explore developmental projects, particularly agricultural ones; and the importance of supporting smallholder farmers who constitute over 75.3% of total holdings in order to face the Israeli occupation’s policies that include land confiscation and use of resources. Particularly since it is a well-known fact that the higher percentage of the 570 million farms around the world are small family owned farms. Farms with an area less than one hectare* constitute 70% of total farms. They provide around 80% of total food production. It should be stressed that around 80% of impoverished people and people who suffer from food insecurity around the world live in rural areas, and that most impoverished people in the rural areas are small food producers. Over 80% of smallholding farmers in the world work in the local and national food market. The United Nations decided that the years 2018-2019 are the UN Decade of Family Farming in order to highlight what family farming means in a fast changing world. Now more than ever, the important role of family farmers is evident in eradicating hunger and forming the future of our food, that is not to mention the unique opportunities family farming presents to ensure food security, improve living standards,

¹ Palestinian Ministry of Agriculture: “Agricultural Sector Strategy: Resilience and Sustainable Development 2022-2017.” Ramallah-Palestine, p. 12.

*1Hectare equals 10 metric dunums

² Food and Agriculture Organization of the United Nations (FAO). “Towards Promoting Family Owned Farms”. 2014

³ Food Security Committee. “Connecting Smallholding Farmers with the Markets”. 2016, pp. 2-1. See the following link: <https://bit.ly/33bW71t>

better manage natural resources and achieve sustainable development, particularly in rural areas and the opportunities such areas present to realizing sustainable development goals.

To oppose the Israeli oppressive procedures, there are interventions supervised by the government, which are mostly limited and restricted. Such interventions did not have an actual impact in supporting Palestinian farmers or limiting colonial policies in areas(C). The government’s general policies were governed by Oslo Accords, and its spending and management of public funds on different sectors remains imbalanced and decreasing. The government claims to be seeking to promote the resilience of Palestinians in areas(C), however, the budgets allocated for the agricultural sector for example remain very low (less than 1% of the general budget) and has not been amended for many years. Moreover, some essential services, such as water and electricity were transformed into prepaid services in some areas, which increase the burden on farmers in rural areas. Furthermore, developmental interventions are limited and do not seek to support the agricultural sector or the resilience of farmers in their lands. Major investments in this field by the Palestinian Investment Fund, the private sector or attempts from international development agencies who fund private investment turned these farmers into workers at farms owned by businessmen.

With the emergence of the pandemic and the spread of COVID19-, and with the application of the emergency and public safety procedures in occupied Palestine, food security re-emerges as a main issue subject to collapse to this day at the Palestinian level. This requires from Palestinians at the level of decision makers, policy developers and individuals involved in the consumption and production process to reconsider and control the Palestinian food production process, particularly in light of great challenges that mainly relate to the colonization of Palestinian land. Published reports indicate that there might be 100 thousand new poor households in the West Bank and Gaza Strip according to the Palestinian Ministry of Social Development (MoSD). It was also noted by the Palestinian Central Bureau of Statistics (PCBS) that poverty rate will increase amongst larger households. The average household size in the West Bank and Gaza Strip is around five

⁴ FAO. “Presenting the UN Decade of Family Farming 2018-2019”. See the following link: <https://bit.ly/2Fp2eqX>

⁵ Ministry of Finance and Planning – the General Administration of the General Budget. “The General Budget Law of the Fiscal Year 2018”. p. 149

⁶ Al-Iqtisadi Newspaper Website. “As a Result of COVID19 ... 19- Thousand New Poor Families in Palestine”. Published on 19 April 2020. See the following link: <https://bit.ly/30KLXDX>

individuals, however, there are households with over 10 members, and such households are among the households most in need.

In this framework, the research paper addresses the importance of working on returning to the concept of national food sovereignty, which emerged through La Via Campesina as an alternative to the concept of food security in a conceptual attempt to clarify the difference between ending subordination and reliance, and keeping the status quo of being totally reliant in food production and making ends meet. The research then moves from discussing consumption to discussing consumption and production together, particularly since the concept of food sovereignty is defined as “the people’s right to healthy and culturally suitable food produced through environmental and sustainable methods, and their right to determine their own food and agricultural systems”.

General Indicators

In its latest assessments, the Palestinian Central Bureau of Statistics (PCBS) revealed that the number of Palestinians in the West Bank and Gaza Strip reached 5.1 million Palestinians. The population in the West Bank reached around 3.05 million, while the population in the Gaza Strip for the same year was estimated at 2.05 million. Palestinian society is still characterized as a young society, as the percentage of individuals in the age group (14-0 years) amounted to %38 of the total population in the West Bank and Gaza Strip as of mid2020-. This means that despite the great burden on the shoulders of Palestinians to maintain safety and security, and provide the different basic needs of their children, there is human capital available to invest in and empower to produce in different vital sectors, including agriculture and food production.

The poverty line for the reference household* in Palestine reached 2,470 NIS (around 671\$) in 2017, while the acute poverty line for the same reference household reached 1,974 NIS (around 536\$). The poverty rate

⁷ Martiniello, Giuliano. “Shifting the Paradigm: Towards Food Sovereignty – Theoretical and Practical Challenges”. – Economic and Social Rights Monitor in Arab Countries: Right to Food. Beirut: Arab NGO Network for Development. 2019, p. 127.

⁸ PCBS. “PCBS Presents the Conditions of Population in Palestine on the World Population Day”. July 11th, 2020, see the following link: <https://bit.ly/39aRFTb>

⁹ Ibid.

* According to PCBS, a reference household is composed of five individuals, two adults and three children.

amongst individuals in Palestine in the same year, based on the monthly consumption patterns, reached %14) %29 in the West Bank and %53 in the Gaza Strip). It was also revealed that %17 of individuals in Palestine suffer from acute poverty according to monthly consumption patterns (%6 in the West Bank and %34 in the Gaza Strip).¹⁰

With regards to unemployment in the West Bank and Gaza Strip, the number of unemployed individuals reached 336,300 in the first quarter of 2020 in the Gaza Strip and 125,000 in the West Bank. The discrepancy in poverty rates between the West Bank and Gaza Strip remains high, as the rate in the Gaza Strip reached %46 compared to %14 in the West Bank. In terms of gender, the poverty rates amongst males in the West Bank and Gaza Strip reached %21 compared to %40 amongst females.¹¹ It should be noted that the total labor underutilization reached 483,700 individuals, including 81,500 discouraged jobseekers and 15,600 in time-related underemployment.¹²

Unemployment amongst young graduates holding a diploma or higher degree reached %52 in the age group (29-19) years; %68 females compared to %35 males.¹³

The average expenditure of Palestinian individuals amounted to around 170 Jordanian Dinars (JD); 220.1 JD¹⁴ in the West Bank compared to 91.2 JD in the Gaza Strip, and the average monthly expenditure of the household amounted to 935 JD. Around %31 of the expenditure is on food, while official data revealed that the expenditure on transportation and telecommunication increased from %14.7 to %18.5 in 2017. The expenditure on paid cash transfers also increased from %3.5 to %7.6, and the expenditure on smoking (tobacco and cigarettes) increased from %4.6 to %5.4 of the average monthly expenditure. Expenditure on education also increased from %3.0 to %4.1¹⁵.

¹⁰ PCBS. “PCBS Presents the Conditions of Population in Palestine on the World Population Day”. July 11th, 2020, see the following link: <http://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=3774>

¹¹ PCBS. “PCBS Announces the Initial Results of the Labor Force Survey, the First Quarter (January-March 2020)”. Published on 31 March 2020. See the following link: <https://bit.ly/3hhClkO>

¹² Ibid.

¹³ PCBS. “PCBS Issues a Press Release on the Labor Force Survey Results for the Year 2019.” Published on 13 February 2020. See the following link: <https://bit.ly/33wfc5i>

¹⁴ PCBS. “Living Standards in Palestine 2017”. Published on 15 April 2018. See the following link: <http://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=3115>

¹⁵ Ibid.

The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) indicated that an estimate of 1.6 million Palestinians in the occupied Palestinian territory, or %32.7 of households, suffer from food insecurity, which is the result of increased unemployment rates, low household income and high living costs.¹⁶ Published reports indicate that there might be 100 thousand new poor households in the West Bank and Gaza Strip according to the Palestinian Ministry of Social Developments (MoSD). It was also noted by the Palestinian Central Bureau of Statistics (PCBS) that poverty rates will increase amongst larger households. The average household size in the West Bank and Gaza Strip¹⁷ is around five individuals, however, there are households with over 10 members, and such households are among the households most in need.

Work Methodology

The researcher follows a descriptive analytical approach in this study, because the study seeks to describe and explain the Palestinian reality and the elements relating to food and national sovereignty as well as connecting realities on the ground with the challenges and proposed solutions. The study also seeks to analyze related problems and issues through qualitative data collection tools from primary and secondary sources. With regards to primary sources, Dalia Association held five community convening “mujawarat” to address the concept of “Palestinian National Food Sovereignty in a Colonial Context”. It can be assumed that a convening at the research level is equivalent to a focus group, through which the researcher collects data during group interviews. The focus groups were divided based on specialization, as follows: academics, agricultural and environmental institutions, smallholding farmers, and environmental activists, initiatives and local councils working to achieve national food sovereignty and specialists in chemical-free farming and Agroecology. (40 participants). Secondary sources were different literature and statistical data relating to the concepts of food sovereignty, food security and the agricultural sector in occupied Palestine and the import/export activity in Palestine.

¹⁶ UN OCHA: “Food insecurity in the oPt: 1.3 million Palestinians in the Gaza strip are food insecure”. Published on 14 December 2018. See the following link: <https://www.ochaopt.org/content/food-insecurity-opt-13-million-palestinians-gaza-strip-are-food-insecure>

¹⁷ Al-Iqtisadi Newspaper Website. “As a Result of COVID100 ...19- Thousand New Poor Families in Palestine”. Published on 19 April 2020. See the following link: <https://bit.ly/30KLXDX>

It should be noted that Dalia Association held a dialogue (broad focus group) in 2018 entitled “The Role of Community Philanthropy in Realizing Food Sovereignty”, which resulted in several recommendations, including a research paper that addressed the concept from a Palestinian perspective and explores the challenges relating to it and possible solutions.

With regards to the research community, it is the Palestinian society in the West Bank and Gaza Strip, which are the areas the paper seeks to present the concept of “national food sovereignty” in light of the colonial context and all the relating elements.

The importance of this study is that it is focused on the existence of a unified front that proposes developmental Palestinian options that support the resilience of individuals in agricultural production (animal husbandry and cultivation), through highlighting the most successful experiences in Palestine within a colonial context. It also focuses on the elements that may impede this approach and how to address them.

Problem: Food Insecurity – Renewed Insecurity

The COVID19- pandemic exposed the fragility of the current global system on all fronts. The exposure in broad sectors such as health, education, security and food served as proof that there is a need to review internal and external policies of states and the regulations followed by those states. The price was paid by the most marginalized groups in those states. Although the pandemic has yet to pass, the World Bank noted that the baseline scenario projections predict the possibility of a decline of %5.2 in the global GDP in 2020, which would result in the worst depression seen by the world in decades.¹⁸ This also proves that states need to review the international trade system, which they rely on in providing food for their citizens from around the world. They also need to reconsider whether they are actually realizing the right of individuals to obtain food or seeking to profit at the expense of the rights of individuals.

This in turn would lead to an increase in the number of poor people around the world, particularly in countries that already suffer from high poverty rates in their populations. The impact will be evident on the unstructured/ informal sector (informal labor) and vulnerable groups within communities, such as working women and children.

¹⁸ World Bank Group. “Global Economic Prospects”, Flagship Report. June,2020 page 4.

According to the International Labour Organization (ILO), the spread of COVID19- has resulted in a decline in the number of working hours in the first quarter of 2020 by %5.4 compared to the last quarter of 2019. This means that around 155 million individuals lost their full-time jobs around the world.¹⁹ In the second quarter of 2020, the decline in the number of working hours is estimated at %14, which means that 400 million individuals lost their full-time jobs around the world. We must not forget that this information only addresses structured labor (mostly full-time jobs). If unstructured/informal labor is included, the numbers may double. According to the International Labour Organization and up to 2020, there are around 2 billion workers in unstructured/informal labor, who constitute %62 of workers around the world, %90 of total workers in countries with very low wages, and who are mostly females.²⁰

All the aforementioned data are crosscutting, and they affect and are affected by each other. Such key elements, such as low income and ability to possess social and economic protection tools, make countries with low income more susceptible to being impacted by the pandemic in terms of demand. The Food and Agriculture Organization (FAO) believes that there are two levels of risk in terms of trade relating to food and agriculture; countries with low income are more susceptible to face a spread of a virus and will be more impacted by it because they have more demand and need for food. Therefore, they are at risk in light of the pandemic. Meanwhile, countries that produce food and have a larger market share in marketing and selling foods and agricultural produce are countries of supply, and individuals in such countries who mostly have high income.²¹ By connecting this with the previously mentioned numbers and indicators, we can conclude that developing countries whose economy is still growing are the ones who suffer from need for food. This is attributed to many reasons, including international trade of food and the governing terms and conditions by the World Bank, International Monetary Fund (IMF) and the World Trade Organization (WTO) Agreements, not to mention the internal policies in those countries, which need to be revised to subsidize basic food products. The problem still remains in the subordination framework in the trade and food production process, and the gap in ownership of special technological techniques for this purpose, which cannot be provided by all producing communities and all workers in agricultural production (animal husbandry and cultivation).

¹⁹ International Labour Organization. "ILO Monitor: COVID19- and the world of work." Fifth edition – Updated estimates and analysis. 30 June 2020, Page 5-4.

²⁰International Labour Organization. "ILO brief: COVID19- crisis and the informal economy - Immediate responses and policy challenges". May 2020, please check the following link: <https://bit.ly/38UYto4>

²¹Committee for the Coordination of Statistical Activities. "How COVID19- is changing the world: a statistical perspective". May 2020, Page 34

This in turn increases the gap between producing individuals and by extension producing communities. Therefore, the discussion of the Food and Agriculture Organization of the United Nations (FAO) on levels of risk exposes the problem in the global trade and food production system, although this point was not explicitly mentioned. It is also important to note that the Food and Agriculture Organization of the United Nations (FAO) noted that the agricultural sector, which is considered the most important food source, suffers from a shortage of labor in most countries in the world, but mainly in countries with low income that depend on labor and where subsistence agriculture prevails. Therefore, the shortage in labor will have repercussions on food security.²²

Moreover, prior to the pandemic, there was a global food crisis that accompanied the global economic crisis in the years 2008-2007, which exposed the fragility of the global food trade system. This was reflected on millions of individuals around the world from impoverished populations in the majority of low-income countries. Countries with medium and high income were also affected by the crisis. The increase in the prices of food products was a real crisis, which resulted from many main factors: first, injustice in the global trade systems and long distances to transport food; second, increase in energy and food production input prices (electricity, water, fertilizers... etc.); third, the continued undermining of food production in low-income countries by saturating their markets with products supported by western capitalistic regimes; fourth, the exacerbation of monopoly over grains, seeds and the trade in other foods that is controlled by a handful of multinational corporations; fifth, the international financial speculations on the "future" food markets; and sixth, transforming forests and small agricultural lands to areas for the production of biofuel.²³

Such factors did not change much since 2008 and were not that different before the crisis in 2008. It has been ongoing ever since the modern global economic system has been established.

²² Ibid, page 35

²³Korzom, George. "National Sovereignty over Food". Ramallah: Maan Development Center, 2015, pp. 12-11.

* An economic crisis that took place in 1929 throughout the thirties and early forties. It is considered the largest and most famous economic crisis in the twentieth century.

system and its connection to food production, we need to review a number of modern age food systems and their immediate connection to social justice and humanity. It can be said that such systems could be divided into 3 systems from 1870 to this date, as follows:

● **The First Food System (1930 – 1870):** It can be said that this period was the period of imperialism and industrial revolution. It can be classified as the first modern age food system. This system lasted from the late nineteenth century to the great recession. The import of food was connected to agricultural-industrial products from colonies to keep abreast with the industrial expansion in Europe.²⁴

● **The Second Food System (1940s-1970-s):** It is the period of the green revolution and the emergence of Arab Nationalism and the Cold War, which was based on cross-national restructuring of the agricultural sector and extensive production of meats and long-term foods as essential elements, as well as supporting agriculture in centers of the food production system (multi-polar world). The dominant global narrative required promoting the modernization theory in third world countries. The “Green Revolution” led by the United States was one of its important elements, which was considered at the time an exportable technological model.²⁵ Furthermore, most Arab states had gained their independence during this period, as such; food security was a recurring thought amongst decision makers in those states. This resulted in focusing on subsistence crops, land reform, aid, subsidizing prices, cooperatives and credit facilitation.

● **The Third Food System (1970s-present) “Neoliberalism in Food Systems”:** it can be said that the third food system complements the first and second systems. The third and current system is characterized by being based on the monopoly of major agro-food companies and corporations on the market and their enormous profits. It should be noted that the collapse of the “Bretton Woods” system in 1971, the oil and food crisis in 1974-1973, the collapse of international agreements on basic products in the seventies and including agriculture in Uruguay’s round of the General Agreement of Tariff and Trade have all resulted in establishing the World Trade Organization (WTO) in 1995. This was in parallel with separating agricultural advertisements from subsidization plans in the United States in 1996.²⁶ These are the main turning points that paved the way for the third food system, or as McMichael calls it the “Corporate Food System.”²⁷

²⁴ Riachi, Roland and Giuliano Martiniello. “The Integration of Political Economy of Arab Food Systems under Global Food Systems” – Economic and Social Rights Monitor in Arab States: Right to Food. Beirut: Arab NGO Network for Development, 2019, p. 109

²⁵Ibid, p. 111

²⁶Riachi, Roland and Giuliano Martiniello. “The Integration of Political Economy of Arab Food Systems under Global Food Systems” – Economic and Social Rights Monitor in Arab States: Right to Food. Beirut: Arab NGO Network for Development, 2019, p. 114

²⁷Ibid, same page

This all resulted in an increased speed in trading goods, which enabled such companies to profit through manipulating market prices, in which the producers received low profit margins. Furthermore, neoliberal policies paved the road for markets dominated by commercial-agricultural businesses, which is a structure dominated by a small number of corporations, from the production of the agricultural inputs of chemical industry and biotechnology to end-products of food. At the national policy level, this led to dismantling the support for smallholding farmers and rural aid, and with the free trade and investment relations, the southern hemisphere was transformed into a “global farm”.²⁸

In a recent joint report issued by FAO and other international organizations, it was revealed that the estimates before the COVID19- pandemic for the year 2019 were that 690 million people (%8.9 of the total world population) suffer from malnutrition. It was foreseen that the number would reach 840 million by 2030, and with the spread of the virus, the number would be higher than expected in 2019, from 83 million to 132 million new cases in 2020.²⁹ Another recent report issued by the Global Network against Global Crises revealed that in 2018, there were over 820 million people in the world suffering from malnutrition, over 700 million of whom suffered from extreme levels of food insecurity. Meanwhile, there are an addition 1.3 billion people who suffer from moderate levels of food insecurity.³⁰ A report issued by OXFAM revealed that the spread of COVID19- increases the hunger crisis, particularly in areas that already suffer from hunger. It also contributes to creating new areas that suffer from hunger around the world. The report revealed that it is expected that 12,000 people die daily³¹ from hunger resulting directly from the spread of the virus due to its repercussions on production and purchasing capacity around the world. This exacerbates the situation for millions of individuals who already suffer from the effects of climate change, inequality and the fragile food system. The report also noted that major food producing global corporations have distributed in January 2020 around 18 billion dollars of profits to shareholders, which is one tenth of what the UN said it needs to end the hunger crisis.³²

²⁸ Ibid, same page

²⁹Food and Agriculture Organization of the United Nations and other organizations. “The state of food security and nutrition in the world” – In Brief. 2020, Page 7.

³⁰ Global Network Against Crises. “Global Report on Food Crises”. 2020, Page 11

³¹ Oxfam International. “THE HUNGER VIRUS: HOW COVID19- IS FUELLING HUNGER IN A HUNGRY WORLD” - OXFAM MEDIA BRIEFING. 9 July 2020, please check the link: <https://cutt.ly/Mp37pjy>

³²Ibid

* The Universal Declaration of Human Rights, ratified and published in accordance with UN General Assembly resolution No. 217a (iii) dated 10 December 1948.

* General Comment No. 1999) 12) – The Right to Sufficient Food: article (11) of the International Covenant on Economic, Social and Cultural Rights. To view the full comment, please visit the following link: <https://bit.ly/3h6jpr1>

This context and these indicators lead us to raising important questions on the justice in distribution and production with relation to food. They bring us back to article (25) of the Universal Declaration of Human Rights*, which stipulates that "everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services...". This also reminds us of the General Comment No. 12 of 1999,* as well as goal one and two of the Sustainable Development Goals, which are to eliminate poverty and eliminate hunger respectively. The key question raised based on this would be, where are we now in terms of achieving all these conventions? Are the Sustainable Development Goal still listed as achievable goals?

The Colonial Context and the Reality of Agricultural Production in Palestine

The aforementioned indicators reveal the existence of great burdens on Palestinians in achieving safety, security and the different basic needs of all people in occupied Palestine. However, this does not negate the possibility of having human capital that could be directed and empowered to produce in different vital sectors, including agriculture and food production, in light of the colonial context and without wavering our right as Palestinians in our constant struggle to obtain our basic resources and to end colonization.

The total area of the West Bank and Gaza Strip is 6,023 million dunums*, and the area of land used in agriculture is approximately one fifth at 1.2 million dunums or %20 of the total area of the West Bank and Gaza Strip, %90 of which is in the West Bank and %10 in Gaza Strip.³³

However, the political territorial division imposed by the Oslo Accords enables Palestinians to use only %17 of the West Bank for the agricultural sector. The total area classified to have high or intermediate agricultural value is about 2,072 dunums and comprise %37 of the West Bank. Palestinians only utilize 931.5 dunums, equivalent to %17 of the total area of the West Bank. Israeli procedures are a key reason why agricultural land is not utilized in the West Bank, as areas "C" constitute over %60 of the West Bank and are still under full Israeli control, in which the occupation denies many farmers from reaching, cultivating or farming their lands.³⁴

* A dunum is 1,000 m²

³³ Palestinian Ministry of Agriculture. "The Agricultural Sector Strategy: Resilience and Sustainable Development 2022-2017", p. 10

³⁴ PCBS. "Press Release on the 43rd Anniversary of Land Day". Ramallah, Palestine, 2019. See the following link: <https://bit.ly/2KFG0kY>

In the Gaza Strip, despite the "Israeli retreat" in 2005, through which the Israeli settlements there were returned to Palestinian sovereignty, the occupation's government still prevents farmers from accessing their lands in the area known as "The Buffer Zone" or "Access Restricted Areas (ARA)". This area is located along the eastern and northern borders of the Gaza Strip with Israel and with a depth ranging between 150m to 1km.³⁵ The area of agricultural land in the buffer zone, which is not fully utilized due to lack of access or are used for low feasibility crops due to the risks of being targeted by the Israeli army, is estimated at 62 km² at least, which is around %40 of land used for agriculture in the Gaza Strip.³⁶

Moreover, agricultural – food production inputs in the West Bank and Gaza Strip are controlled by the occupation to this date. Palestinians mainly rely on water extracted from groundwater sources, which constitutes %77 of the total water available. The amount of water pumped out of aquifers (the eastern aquifer, the western aquifer and the north-eastern aquifer) in the West Bank amounted to 99 million m³ in 2018. The main reason for not using surface water is the Israeli control over the Jordan River and preventing Palestinians from using valley water.³⁷ It is worth noting that the average consumption of Palestinian individuals of water remains lower than the globally recommended minimum of 100 Liters per capita per day; the Palestinian individual's average daily consumption of water is around 87 liters per day as a result of the Israeli control over more than %85 of Palestinian water sources.³⁸ Furthermore, %22 of the water available in Palestine is purchased from "Mekorot", Israel's national water company. The Israeli government's procedures limit Palestinians' ability to utilize their natural resources, particularly water, and force them to compensate the shortage by purchasing water from the Israeli water company "Mekorot". The amount of water purchased for household use reached 85.7 million m³ in 2018, which amounts to %22 of the available water that reached 389.5 million m³, 3 million m³ of which came from Palestinian springs, 274.2 million m³ from groundwater and 4.1 million m³ desalinated drinking water.³⁹

³⁵ Palestinian Ministry of Agriculture. "The Agricultural Sector Strategy: Resilience and Sustainable Development 2022-2017", p. 10

³⁶ Ibid, same page.

³⁷ PCBS. "PCBS, the Palestinian Water Authority (PWA) and the Palestinian Meteorological Department (PMD) Issue a Press Release on the Occasion of World Water Day and World Meteorological Day". Published on 22 March 2020. See the following link: <http://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=3690>

³⁸ Ibid.

³⁹ Ibid.

Previously, the National Policies Agenda mentions that the occupation continues to extract around %80 of Palestinian water sources in the West Bank. Therefore, Palestinians have a chronic shortage in water, as the individual's share of water does not exceed 79 liters per day, which is much lower than the minimum standard as adopted by the World Health Organization of 100 liters per individual per day.⁴⁰ With regards to water for agricultural purposes, the amount does not exceed 150 million m³ annually (60 million m³ in the West Bank and 90 million m³ in Gaza Strip), which comprises %45 of the total water consumption. This is directly reflected on the limited development prospects in irrigated agriculture, which can play an important economic, social and political role in rebuilding the Palestinian economy.⁴¹ Water constitutes %14 of the cost of production inputs in the agricultural production process⁴², however, water is the least available out of all production inputs, even though it is the least costly. Water is the main element to revive the agricultural process, and it should be noted that irrigated agriculture is focused in the Gaza Strip, as it occupies %68.9 of the total cultivated area in the Strip. In the West Bank, however, irrigated agriculture does not exceed %7.4 of the total planted area in the West Bank.⁴³

With regards to water for agricultural purposes, the amount does not exceed 150 million m³ annually (60 million m³ in the West Bank and 90 million m³ in Gaza Strip), which comprises %45 of the total water consumption. This is directly reflected on the limited development prospects in irrigated agriculture, which can play an important economic, social and political role in rebuilding the Palestinian economy.⁴⁴ Water constitutes %14 of production inputs in the agricultural production process in terms of cost⁴⁵, however, water is the least available out of all production inputs, even if it is the least costly. Water is the main element to revive the agricultural process, and it should be noted that irrigated agriculture is focused in Gaza Strip, as it occupies %68.9 of the total planted area in Gaza Strip. In the West Bank, however, irrigated agriculture does not exceed %7.4 of the total cultivated area in the West Bank.⁴⁶

⁴⁰ Palestinian Council of Ministers. "National Policies Agenda 2022-2017 Citizens First". P. 4

⁴¹ Palestinian Ministry of Agriculture. "The Agricultural Sector Strategy: Resilience and Sustainable Development 2022-2017", p. 12

⁴² Applied Research Institute-Areej. "Palestinian Agricultural Production and Marketing: Reality and Challenges". Executive summary, March 2015, p. 25

⁴³ PCBS. "The Publication and Analysis of Agricultural Census Data". Ramallah: Palestine, 2010. p. 11

⁴⁴ Palestinian Ministry of Agriculture. "The Agricultural Sector Strategy: Resilience and Sustainable Development 2022-2017", p. 12

⁴⁵ Applied Research Institute-Areej. "Palestinian Agricultural Production and Marketing: Reality and Challenges". Executive summary, March 2015, p. 25

⁴⁶ PCBS. "The Publication and Analysis of Agricultural Census Data". Ramallah: Palestine, 2010. p. 11

Agriculture in Palestine is divided according to irrigation sources. There are irrigated crops but not sufficiently advanced, as they require special techniques. There is also rain-fed agriculture, which relies on annual rainwater and is the dominant form of farming in Palestine. It should be noted that the productivity of one dunum of land that is used for irrigated agriculture is 22 times the productivity of one dunum used for rain-fed agriculture; 4,783kg per irrigated dunum compared to 221kg per rain-fed dunum. This comparison by itself demonstrates the importance of irrigated agriculture for its impact on increasing productivity and improving and sustaining farmers' income, which logically explains the constant need for water for agricultural purposes.⁴⁷ During his campaign in the end of 2019, Netanyahu announced his intent to annex the Jordan Valley and C areas to be included officially in the borders of "Israel". In 2020, the occupation government again announced its intent to annex the Jordan Valley and areasC, as such, it is officially announcing these territories as part of the occupation's state. These lands have been occupied since 1967, and they became under Israeli administrative and security control after Oslo Accords. In doing so, Israel is usurping %85 of historic Palestine. This step would terminate any possibility for Palestinians to control their food production, particularly since the Jordan Valley is considered a natural greenhouse with enormous capacity for agricultural production. It also transforms Palestinians into consumers of food sources completely from the occupation, and transforms Palestinians from producers to cheap labor at agricultural settlements in the Jordan Valley.⁴⁸

Furthermore, Netanyahu's statements regarding the annexation are part of the US administration's efforts to apply the "Deal of the Century", which they consider to be a vision towards a final solution in the peace process they propose. Such a peace process makes Palestinian territories merely scattered communities rather than a single unit able to produce. (See map 1)

⁴⁷ Social and Economic Policies Monitor. Series of papers on Palestinian local production and detachment from the "Israeli" economy, paper no. (4): Cultivation in Palestine, 2019, p. 8

⁴⁸ Aljazeera.net "Jordan Valley: the Latest Annexation Plans ... get to know the stages of the Israeli occupation expansion with maps". Published on 6 July 2020. See the following link: <https://bit.ly/2OS36Wx>

Map (1): The leaked map of the shape of the West Bank and Gaza Strip if annexation takes place and the "Deal for the century" According to Current USA Administration – check the link.



Palestinian Decision Making Policies and Agriculture

With regards to Palestinian policies, we notice that the agricultural sector's budget is the lowest compared to the different other sectors. In 2018, the budget did not exceed %1 of the total governmental budget. The Palestinian government allocated 102.039 million NIS for the Ministry of Agriculture's budget out of 5.8\$ billion. In 2017, the Ministry of Agriculture's budget was 98.857 million NIS, and 89.214 million NIS in 2016, while other sectors have the larger share of the Palestinian Authority's budget.⁴⁹ For example, the General Administration of the General Budget distributes the budget to four main sectors: the governance sector, infrastructure sector, economic sector and social sector. The governance sector alone receives 7.772 billion NIS, which is around %47 of the budget. This sector includes the President's Office, PLO institutions, the Council of Ministers, the Ministry of Interior, the National Security, the Ministry of Finance and Planning and the Ministry of Justice.⁵⁰ The economic sector, whose development would reflect the government's developmental approach and interest in increasing development, only receives %2 of the general budget at 387 million NIS (Ministry of Agriculture, Ministry of National Economy, Land and Water Settlement Authority, and the Land Authority).⁵¹

This demonstrates that there are no real developmental plans to increase Palestinian production, particularly in industrial and agricultural sectors. The Palestinian government's budgets were not different in the years 2020-2019 as the state of emergency was declared this year.

The Ministry of Agriculture (MoA) has developed a number of strategies for the agricultural sector, including the Agricultural Sector Strategy "Joint Vision" for the years 2013-2011, "The Agricultural Sector Strategy – Resilience and Development 2016-2014", and "The Agricultural Sector Strategy: Resilience and Sustainable development 2022-2017". These strategies addressed a number of priorities and strategic goals that were based on the outcomes of technical committee reports, consultations, farmer needs and sectoral and cross-sectoral policies.

⁴⁹ Ministry of Finance and Planning – the General Administration of General Budgets. "The General Budget Law of the Fiscal Year 2018". P. 149

⁵⁰ Ministry of Finance and Planning – General Administration of the General Budget. "Citizens Budget – Fiscal Year 2018", p. 13

⁵¹ Ibid, same page

The strategic goals for the agricultural sector are: first, on the resilience of farmers on their land and the continuation of their farming activities; second, to efficiently and sustainably manage natural resources in the Palestinian territory; third, to have a legal, suitable and comprehensive institutional framework and trained and qualified human resources that contribute to ending the occupation and establishing a Palestinian state; fourth, to increase and improve the productivity of farming and animal husbandry to realize food security; fifth, to improve the infrastructure and agricultural services; sixth, to increase competitiveness in the local and international markets; and seventh, for the agricultural sector to be fully prepared to assist in realizing the requirements for establishing a state.⁵² With regards to supporting the resilience of farmers as a goal, the strategy adopted a number of policies that support the resilience of farmers on their lands, such as rehabilitating what has been destroyed by the occupation and supporting farmers affected by Israeli violations. This would be realized through assisting smallholder farmers and fishermen in the Gaza Strip, assisting farmers of crops for export, rehabilitating the destroyed agricultural infrastructure, providing agricultural production inputs, supporting farmers affected by the wall, providing incentives and support for farmers near settlements, and assisting in the mapping of the damages and violations based on international law.⁵³ The second policy adopted for the same strategic goal is to support and protect marginalized categories, particularly smallholding farmers, impoverished people in rural areas, women and Bedouins. This is achieved through intensifying projects that provide a variety of income sources, increasing projects that increase employment and empowering women in the agricultural sector.⁵⁴ The Agricultural Sector Strategy for the years 2016-2014 was not much different from its predecessor. It maintained the adopted vision in light of the review of results of the Agricultural Sector Strategy 2013-2011, which means that the strategic goals remained as they are. However, a number of indicators were developed, which the strategic goals seek to achieve, mainly to increase the area of cultivated land by %13 by the end of 2016 compared to 2013.⁵⁵ In the National Policies Agenda 2022-2017 "Citizens First", the seventh Palestinian government included agriculture in its national policies in the third component of the Agenda, which is the sustainable development component, as a means to "Improve Agriculture and Develop Rural Communities" as stated in the title.⁵⁶

⁵² Palestinian Ministry of Agriculture: "Agricultural Sector Strategy – Joint Vision 2013-2011". July 2020, pp. 26-25. See the following link: <https://bit.ly/2M2lBal>

⁵³ Ibid, pp. 28-27

⁵⁴ Ibid, pp. 29-28

⁵⁵ Ministry of Agriculture. "Agricultural Sector Strategy – Resilience and Development 2016-2014". pp. 18-17. See the following link: <https://bit.ly/2ZrKznO>

⁵⁶ Palestinian Council of Ministers. "National Policies Agenda 2022-2017: Citizens First", p. 35

The government also included in the National Policies Agenda "Building Palestine's Future Economy" as a key intervention in developing the productivity of the Palestinian economy by focusing on industry, agriculture and tourism. A second intervention is to attract and encourage local and foreign investment by focusing on the construction, tourism, agricultural, energy and Information & communications Technology (ICT) sectors.⁵⁷ In the tenth national priority "Resilient Communities", the government set a national policy entitled "Revitalizing Agriculture and Strengthening Rural Communities", and it has set policy interventions for this purpose. These were increasing the productivity of animal husbandry and cultivation and developing value chains and another intervention is to protect and support farmers in at risk and marginalized areas. These policies complement the policies developed by the Ministry of Agriculture in its Agricultural Sector Strategy "Resilience and Development 2022-2017", which includes similar strategic goals. However, it was drafted differently and included policy priorities.⁵⁸

Despite all these policies, goals and plans, the overall agricultural sector is still suffering an evident decline. The agricultural sector's contribution to the GDP has declined from %36 in the 1970s to around %25 in the 1980s. The percentage was %13 in the early 1990s and continued to decline to reach %8.2 in %6.1 ,2000 in 2009 and around %3 in 2017.⁵⁹

⁵⁷ Ibid, p. 37

⁵⁸ Palestinian Ministry of Agriculture: "Agricultural Sector Strategy: Resilience and Sustainable Development 2022-2017", p. 31

⁵⁹ PCBS. "Key National Accounts Indicators in Palestine for the Years 2016-2015". Please see the following link: <https://bit.ly/2xpSS7q>

Figure (1): The contributions of the Agricultural Sector, Forests and Fishing to the Palestinian GDP during the years 2000-2017



A study prepared by the Union of Agricultural Work Committees (UAWC) entitled "A Study on the National Policies in the Agricultural Sector", revealed after reviewing the agricultural legislations (laws, laws by decree, regulations and special instructions) that there is contradiction between the legislations regulating agricultural work in Palestine. These legislations also contradict with the Basic Palestinian Law, which is equivalent to a constitution. Therefore, some legal provisions are unconstitutional and are subject to nullification.⁶⁰ The review also uncovered legislative confusion and no respect for the legal rules regulating the promulgation of legislations in terms of legislative hierarchy, such as the case with some instructions issued by the Minister of Agriculture, which should be issued as regulations by the Council of Ministers, like the agricultural risk assessment and the compensation mechanism based on it.⁶¹

⁶⁰ UAWC. "Study on the National Policies in the Agricultural Sector". Ramallah: Palestine, September 2019, pp. 8-7

⁶¹Ibid,p. 8

That is not to mention the conflict in jurisdiction between the Ministry of Agriculture (MoA) and the Palestinian Water Authority (PWA) regarding water resources (particularly water resources on private property), the lack of some regulations that contribute to the enforcement of some legislations, the legislative confusion regarding specialized agricultural councils and the lack of a regulation on the formation of the Consultative Agricultural Council. Moreover, agricultural legislations overlook women, particularly in rural areas, and an agricultural monitoring system is not adopted. In addition to the generalization of the goals of special laws which intersect with the goals of the Law on Agriculture. This makes the evaluation of the implementation of these special laws, by the Risk Prevention Fund, a difficult process. Furthermore, the concept of providing compensation for natural disasters is non-obligatory and is considered voluntary aid by the fund rather than mandatory compensation. There are also concerns that agricultural insurances be transformed into a service provided by the private sector, which increases the cost for farmers.⁶² This was all clarified in the study in terms of the legal and legislative aspect, which means that the Palestinian legislator must conduct an in-depth review of legislations relating to the agricultural sector. Accordingly, this issue needs to be considered as a priority in order to achieve the social and economic justice Palestinian farmers seek.

Agricultural Production Inputs

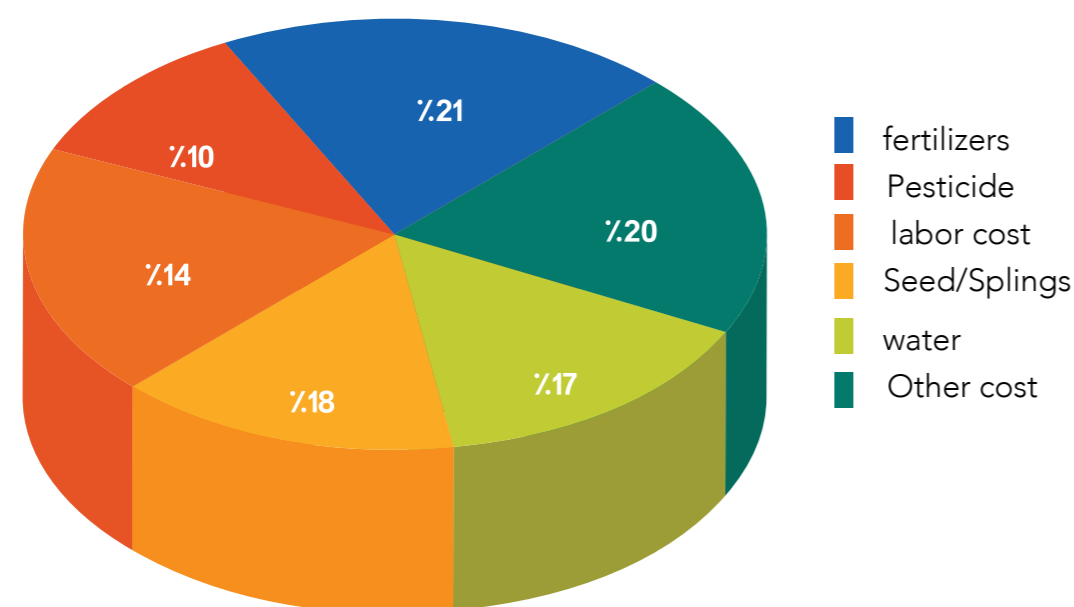
As mentioned earlier, water constitutes %14 of the cost of production inputs in the agricultural production process. It is ranked fifth in terms of the cost of production inputs, as the highest is fertilizers at %21, followed by pesticides at %20, then labor at %18 and seeds and seedlings at %17 (See figure 2).⁶³

⁶² Ibid, pp. 9-8

⁶³Applied Research Institute – Areej. "Palestinian Agricultural Production and Marketing: Reality and Challenges". Executive Summary, March 2015, p. 25

However, all agricultural production inputs are considered costly for Palestinian farmers in the production process. With regards to water for example, apart from the shortage of water due to the occupation's control over it, there is a problem relating to Palestinians' management of water resources available for them for farming. We could find numerous sources for other agricultural production inputs, but there are no sources for water other than those controlled by the occupation or available aquifers, whose quality is no longer the same due to pollution and increased salt levels resulting from geological and climatic changes.. The extraction of water and the calculation of its costs as an input includes the energy element needed for the extraction (pumping water), which differs based on the depth and size of the well and whether the pump is operated by fuel, electricity or solar power.⁶⁴

Figure (2): The Cost of Agricultural Production Inputs in Palestine*



Apart from the occupation's control over water sources, the major problems relating to water are as follows:

● **No Unified Pricing and Poor Distribution of Water:** the lack of unified pricing for water between the different Palestinian districts, as well as the discrepancy between areas in terms of water sources created a state of poor distribution and injustice, which has negatively impacted farmers in terms of production costs. ⁶⁵

⁶⁴ Union of Agricultural Work Committees. "Study on National Policies in the Agricultural Sector". Ramallah: Palestine, September 2019, p. 84

*This figure is taken from previously mentioned study "Palestinian Agricultural Production and Marketing: Reality and Challenges" prepared by Applied Research Institute, p. 25

⁶⁵Ibid, p. 85

● **Lack of Tariff on Water Consumption for Farming:** there is no national tariff system to determine the consumption value of water for farmers in Palestine, which means there is a lack of policies that seek to achieve justice and encourage Palestinian farmers to increase their agricultural production. The pricing of a cubic meter (m³) of water for agricultural use differs based on the source of water.⁶⁶

●**Water for Agriculture between Private Ownership and Control over Farmers:** There is a lack of legislations and policies that regulate the water sector in Palestine. Legislations are outdated and norms are prevalent in regulating this sector. One key problem is the historic ownership of the land and the water resources extracted on it by certain families, which resulted in creating a major crisis in the agricultural sector. Although the Palestinian legislator stipulated that aquifers are public property*, it is not applied on the ground.⁶⁷

With regards to fertilizers, which are the most costly among all agricultural production inputs, they deplete Palestinian farmer's financial resources and are directly connected to the occupation's market and terms, particularly chemical fertilizers.⁶⁸ Farmers can access a large range of fertilizers and pesticides, as there are numerous supply warehouses around the West Bank. Moreover, there is easy access to prohibited products available at stores and to the black market, which increases farmers' ability to access dangerous and illegal materials. The use of pesticides in the West Bank has been considered excessive in recent years.⁶⁹

As for animal feed, a paper issued by the Social and Economic Policies Monitor noted that the Palestinian government has the capacity to establish animal feed factories (and silos), which would reduce the cost of animal feed that reaches around %59 of the total production requirements and is the most costly. This would reduce the cost, increase profit, and would ultimately reduce the cost of the end products for Palestinian consumers.⁷⁰

⁶⁶ Ibid, p. 86

*Underground water is not the property of who extracts it, because it is not only from their land. It is formed underground through an aquifer or spring that is located in the land. Therefore the water does not come from the land of the person extracting it.

⁶⁷Ibid, p. 91

⁶⁸ Ministry of Agriculture. "The Agricultural Sector Strategy – Resilience and Development 2016-2014". Ramallah: Palestine, p. 9

⁶⁹ Palestinian Farmers Union (PFU). "Policies Regulating Agricultural inputs in the West Bank". Page 17

⁷⁰ Social and Economic Policies Monitor. "Animal Feed Production – a series of papers on Palestinian local production and detachment from the Israeli economy". Ramallah: Palestine, 2019.

The high cost of production inputs is one of the key problems facing the agricultural sector in Palestine. It impacts the profit margin for farmers. The results of a research prepared by the Applied Research Institute - Jerusalem (ARIJ), reveal that the prices of production inputs are rising significantly as a result of the fluctuation in currency rates, increasing fuel prices and the control of merchants on fertilizers and pesticides, which increases their control over the prices of fertilizers and pesticides.⁷¹ In a study issued by the Union of Agricultural Work Committees on "the National Policies in the Agricultural Sector" revealed that the Ministry of Agriculture, in the strategies and plans it drafts, is fully aware of the issue of unregulated pricing of production inputs and its importance. However, the ministry did not take any steps to address this issue and the problems relating to the rise in the prices of production inputs and requirements, either by finding alternatives or encouraging local manufacturing of production inputs.⁷²

Palestinians Refraining from Agriculture as a Result: What Can be done?

All the above mentioned factors have made it harder for Palestinians to practice farming, as there is the occupation, control over materials and agricultural inputs, poor management and lack of intent to address the current problems. However, there are other social and economic factors that contributed to this, such as the opening new labor markets (such as working at settlements and in Israel). Moreover, with the establishment of the Palestinian Authority, new services sectors and investments came to prominence that recruited Palestinians for work, contributing to the shift from agriculture. Furthermore, there is no real protection for Palestinian farmers, particularly smallholding farmers whose land is at risk of being confiscated by the occupation, and who face difficult economic conditions. With this in mind, smallholding farmers are also particularly vulnerable when it comes to receiving their fair price for their products. A factsheet issued by the Social and Economic Policies Monitor (Marsad) revealed that the process of selling the products of smallholding farmers to the market, either for export or in the local market, goes through several phases in terms of pricing.

⁷¹Applied Research Institute – Jerusalem (ARIJ). "Palestinian Agricultural Production and Marketing: Reality and Challenges". Executive Summary, March 2015, p. 26

⁷² Union of Agricultural Work Committees. "Study on National Policies in the Agricultural Sector". Ramallah: Palestine, September 2019, pp. 10-9

The product is purchased from the smallholding farmers at an initial price by intermediaries, who resell it for the price they determine after having calculated the transportation of the products or, in some cases, adding other inputs such as packaging. The product is then sold in the central market at the price determined by the intermediary to be later distributed at stores and sold at the retail price for end users, or exported abroad.⁷³ The profit of intermediaries sometimes reaches over %300 of the initial selling price by farmers.⁷⁴ This is evident in the sales of basic products such as tomatoes, cucumbers and eggs. In this framework, Marsad presented a number of recommendations, including the importance of developing and activating an agricultural strategy that includes sustainable grounds for agricultural production that serves Palestinian farmers and the Palestinian market through generous governmental support; activating the Risk Prevention Fund; redistributing market shares in Palestine in order for local consumption to be the main target; in addition to other recommendations in the same context.⁷⁵

Going back to general data, the percentage of workers in the agricultural sector was %14 in 2010. It declined to around %6.7 in ⁷⁶ 2017 (See figure 3). Agricultural activity recorded the lowest average daily wage at 73 NIS in the West Bank and 21 NIS in Gaza Strip⁷⁷ Meanwhile, the average daily wage in the private sector reached 93 NIS in the West Bank and 45 NIS in Gaza Strip. The construction activity recorded the highest daily wage in the private sector at 104 NIS in the West Bank and 42 NIS in Gaza Strip, followed by the services activity at 103 NIS in the West Bank and 78 NIS in Gaza Strip.⁷⁸

⁷³Social and Economic Policies Monitor. "Factsheet – From the Farmer to the Consumer: Profit for Intermediaries". February 2020, p. 3

⁷⁴Ibid, pp. 4-3

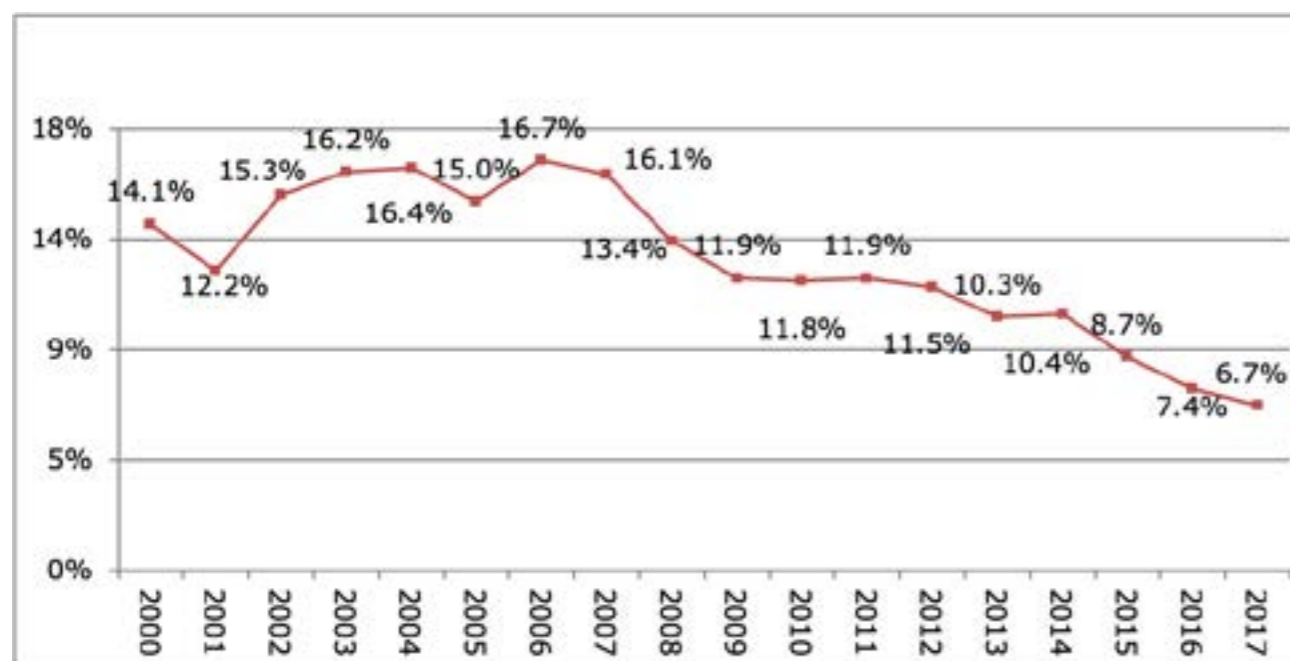
⁷⁵Ibid, pp. 5-4

⁷⁶PCBS. "The Percentage of Workers in the Agricultural Sector, Forestry and Fishing of Total Workers in all Sectors in Palestine based on Region and Gender, 2017". Please see the following link: <https://bit.ly/2KUtbUY>

⁷⁷ PCBS. "Reality of Workers in Palestine in 2018 on the Occasion of International Labor Day". See the following link: <https://bit.ly/2YPljf8>

⁷⁸Ibid.

Figure (3): The Relative Distribution of Workers Aged 15 Years and Older in Agricultural Activities in Palestine: 2000-2017

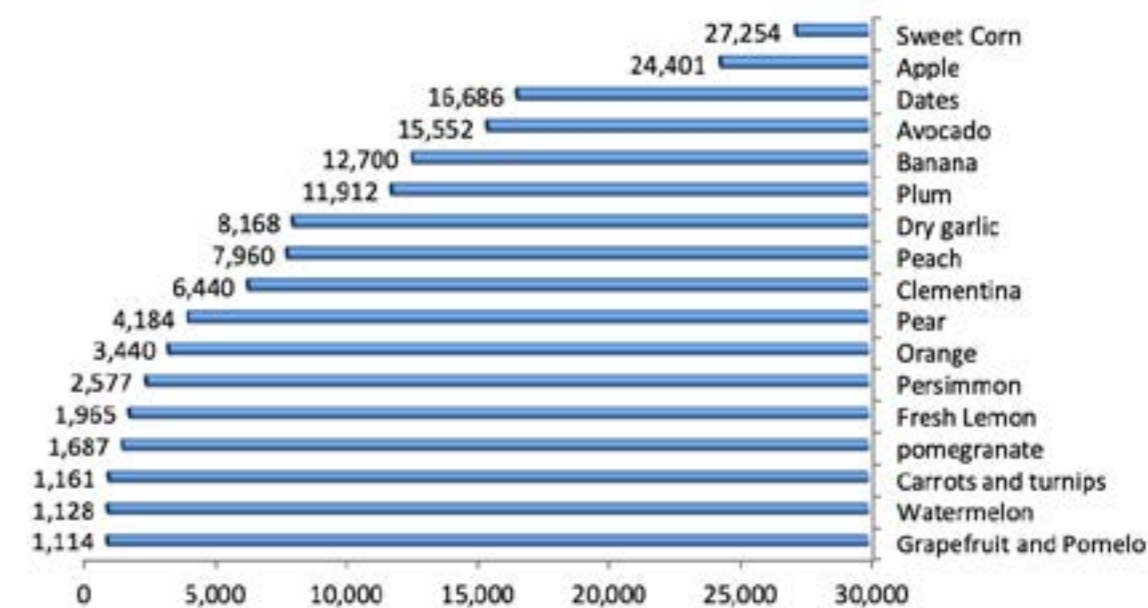


These numbers demonstrate that work in other sectors has become more feasible economically for Palestinians than working in the agricultural sector. Moreover, since 1970s, opening the labor market in Israel has contributed to people turning away from agriculture, which is the case to this date. With the arrival of the Palestinian Authority and the financial investments along with it, a large number of people moved to working in its institutions and the projects brought for the Palestinian context in Oslo contributed greatly and directly to marginalizing Palestinian agriculture. A study published by the United Nations Conference on Trade and Development (UNCTAD) entitled "The Besieged Palestinian Agricultural Sector" mapped a number of recommendations, including relying on the strength of the agricultural sector and the opportunities available in it, encouraging the Palestinian Authority and donors to invest in the sector, the urgent need for establishing a Palestinian bank for agricultural development, improving the breeds of cattle, animal feed and field crops, allowing unimpeded access to areas(C), compensating the impact of using the occupation's currency and exchange rates, and protecting the environment.⁷⁹

⁷⁹UNCTAD – United Nations Conference for Trade and Development. "The Besieged Palestinian Agricultural Sector". 2015, pp. 42-37.

All these recommendations would have been good had there been any response to them. The weak Palestinian capacities as well as the policies of the occupation, which is considered the main impediment, stand in the face of their implementation in the near future. Therefore, the problem remains as it is and requires new solutions to be adopted by Palestinian policy makers, social movements and NGOs. There is also a main problem in the proposal that adopts supporting the resilience of farmers if we look at Palestinian exports and imports with relation to the agricultural sector. A paper published by Marsad revealed a huge gap in exports and imports from/to and through Israel. Agricultural imports are six times more than exports, with a deficiency of 298.1\$ million. Researchers at Marsad believe that this deficiency can be divided into two types: first, some products are difficult to produce locally due to the limited availability of lands, climate, materials and agricultural inputs, as well as elevated costs, such as the case with corn, avocado and apples; second, there is no intention to invest in products whose production can be expanded locally, such as corn, which can be planted in the plains of Tubas and Jenin, as well as garlic, dates, bananas, citrus fruits, plums, prunes and pomegranates. These are examples of the most important agricultural products⁸⁰ (see figure 4). Therefore, the priority in supporting farmers is to consume their products of corn, dates, bananas and garlic, and encourage them to plant what is being imported from the occupation to replace it with national products.

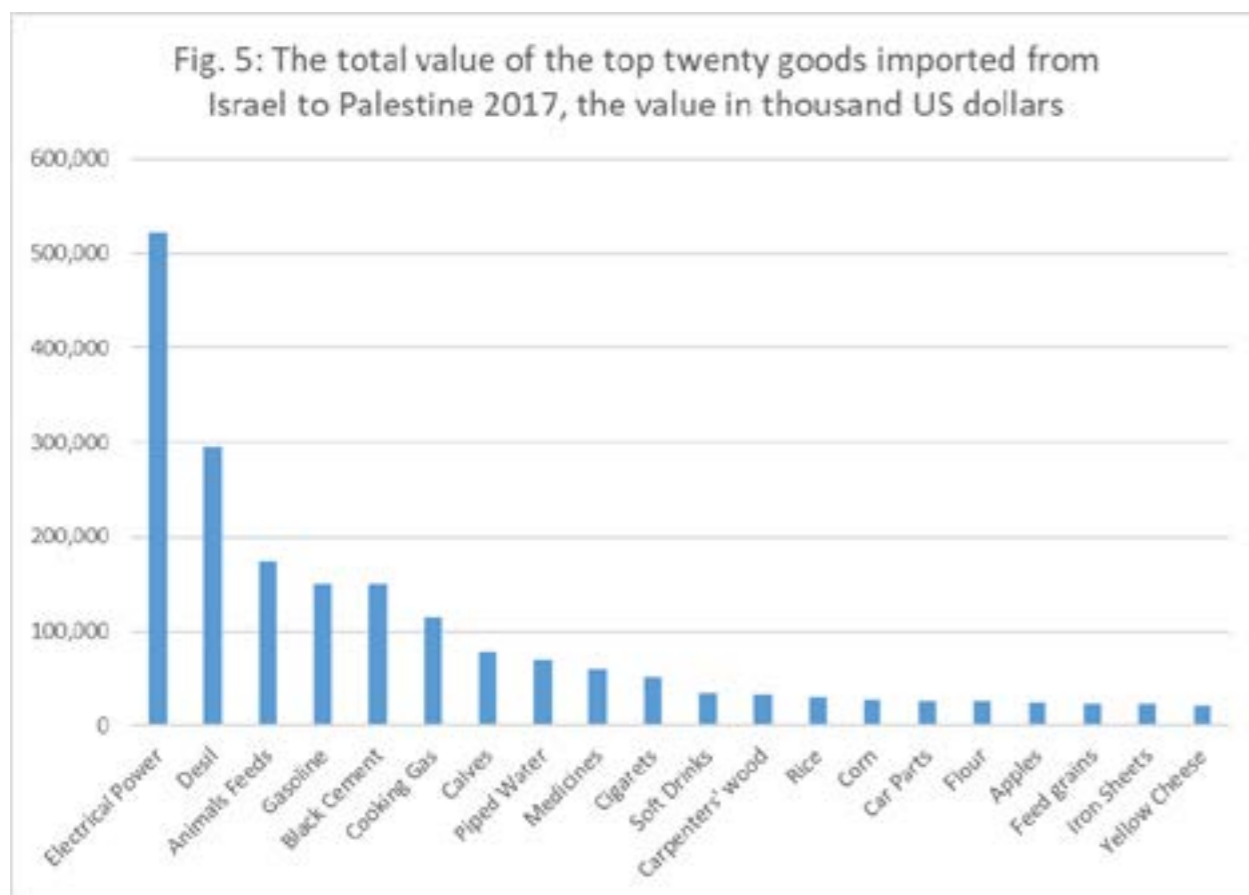
Figure (4): Most Important Palestinian Imports* from Israel of Fresh Agricultural Products in terms of Value in 2017 (in Million USD)



⁸⁰Social and Economic Policies Monitor. "a series of papers on Palestinian local production and detachment from the Israeli economy – Paper No. (4): Cultivation in Palestine". 2019, p. 6

(*)PCBS, 2019, External Trade Statistics, Ramallah-Palestine. Data does not include Jerusalem, which was forcibly annexed by the Israeli occupation after the occupation of the West Bank in 1967. This is not only reflected on imported plant products, as a previous paper by Marsad revealed that Palestinian merchants import 90-70\$ million worth of beef annually. Palestinians also spend around 200\$ million on the import of animal feed. That is not to mention the import of 23\$ million worth of dairy products*, and 20\$ million worth of yellow cheese. The government, private sector and agricultural organizations can invest in these sectors⁸¹ (see figure 5)

Figure (5): The Top Twenty Products Imported from Israel to Palestine in 2017
(in USD)



*Marsad issued a paper on the dairy and cheeses sector entitled "A Series of Papers on Palestinian Local Production and Detachment from the Israeli Economy – Paper (5): Production of Dairy Products and Cheeses in Palestine". See the following link: <https://bit.ly/3i0S3Y0>

⁸¹ Social and Economic Policies Monitor. "a series of papers on Palestinian local production and detachment from the Israeli economy – Paper No. (1): Local Production as a First Step". 2019, p. 2

(*): PCBS 2019, External Trade Statistics, Ramallah-Palestine. Data does not include Jerusalem, which was forcibly annexed by the Israeli occupation after occupying the West Bank in 1967. The Palestinian Farmers' Union noted in a position paper entitled "Reviving the Right to Tax Refund from the Animal Wealth Sector in Palestine" that livestock plays a major role in the national economy and is estimated to be %40 of total agricultural production in Palestine. The production of meat is estimated at 3,394 tons of beef, 10,440 tons of sheep meat and 8,406 tons of goat meat per year. The production of dairy products is estimated at 123,098 tons a year. This production covers a large portion of local consumption. The livestock sector is also important for the household economy, as it constitutes a main or secondary source of income for households.⁸² In light of the indicators presented in this paper and the description of the Palestinian reality under occupation, it is only natural to believe that the battle for self-determination with the occupation is still ongoing and that Palestinians have been robbed of their natural resources that govern food production inputs and patterns in Palestine. Subordination and attachment to the occupation's economy has become direct. Therefore, how can Palestinians build a liberation approach to food production in light of these factors? How can they visualize the Palestinian agricultural economy after independence? How do they best address the current crisis? It may be difficult to find the answers for the first and second questions, however, the answer to the last question might be a prospective introduction to the future vision of the Palestinian reality in terms of control over production, the subsequent control over resources and building an independent and free national economy. This paper, however, discusses the best model to address the crisis from a conceptual perspective that is established in reality. This paper addresses the difference between "food security" as a concept and "national food sovereignty" as a concept, the elements of each and the best model to address the current crisis in Palestine while taking into consideration economic, social, health and environmental dimensions. The paper also reviews Palestinian literature in this regard and the mechanisms implemented in Palestine to serve as an all-embracing paper that proposes an alternative option to the existing context.

⁸² Abdulkareem, Nasr. "Reviving the Right to Tax Refund from the Animal Wealth Sector in Palestine: Economic and Financial Effects – Position Paper". Ramallah: Palestine, Palestinian Farmer's Union. August 2017, p. 10

Food Sovereignty VS. Food Security

Since it emerged in the 1970s, the concept of food security has seen many developments related to pure economic and quantitative dimensions as well as the changes integrated in relation to rights, humanitarian and qualitative aspects. The definition of food security adopted during the World Food Summit in 1996 is the most circulated definition, as it takes into account the important development in understanding the different dimensions related to this concept: "Food security exists when all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."⁸³ Rome Declaration on World Food Security addresses and simulates the policies of signatory states⁸⁴, and obligates them to the following:

- Ensure an enabling political, social, and economic environment designed to create the best conditions for the eradication of poverty and for durable peace, based on full and equal participation of women and men, which is most conducive to achieving sustainable food security for all;
- Implement policies aimed at eradicating poverty and inequality and improving physical and economic access by all, at all times, to sufficient, nutritionally adequate and safe food and its effective utilization;
- Pursue participatory and sustainable food, agriculture, fisheries, forestry and rural development policies and practices in high and low potential areas, which are essential to adequate and reliable food supplies at the household, national, regional and global levels, and combat pests, drought and desertification, considering the multifunctional character of agriculture;
- Strive to ensure that food, agricultural trade and overall trade policies are conducive to fostering food security for all through a fair and market-oriented world trade system;
- Endeavour to prevent and be prepared for natural disasters and man-made emergencies and to meet transitory and emergency food requirements in ways that encourage recovery, rehabilitation, development and a capacity to satisfy future needs;

⁸³ Mahjoub, Azzam and Munther Balgheith. "Right to Food and Food Sovereignty – background paper to the Arab Monitor report". – Economic and Social Rights Monitor in Arab States: The Right to Food. Beirut: Arab NGO Network for Development. 2019, p. 50

⁸⁴ World Food Summit. "Rome Declaration on World Food Security". 1996. See the following link: <https://bit.ly/39BI75i>

- Promote optimal allocation and use of public and private investments to foster human resources, sustainable food, agriculture, fisheries and forestry systems, and rural development, in high and low potential areas;
- Implement, monitor, and follow-up this Plan of Action at all levels in cooperation with the international community.

These terms are governed by international trade agreements and the political conditions of states, who have no balance between them in terms of power and potential, which extends the gap from an international one at the level of governments to a local one at the level of communities. Moreover, states heed to giant and multi-national corporations with regards to food trade and control over global markets. Now, in light of the pandemic, which is considered the largest global crisis, there are expectations that a massive number of households could face food insecurity because the concept of food security is constructed on the basis of trade laws and relations between countries (review the Problem chapter in this paper).

In light of the practice that followed the World Food Summit held in 1996 and the continued crises and policies that do not meet the requirements of achieving food security, farmer, feminist, environmental and developmental movements concerned with the topic met again in Nyeleni in 2007, where the concept of food sovereignty was developed in its current form in order to bring back to the table the core value of achieving food security and its political dimension. It was presented as an alternative concept to the technical concept "food security" and the related practices that made this concept a key element in neoliberal discourse and policies that result in commoditization of food systems, the destruction of local agricultural systems, changing of local food patterns, oversaturation policies, promotion of unsustainable agricultural practices, the use of chemical pesticides, the use of genetically modified seeds and products, and much more. All of this contradicts the intention behind the Declaration.⁸⁵ The concept of food sovereignty emerged in the 1990s and was launched by farmers' social movements on the occasion of the World Food Summit in 1996, a year after the establishment of the World Trade Organization. It was presented as an alternative to the neoliberal policies as a more successful tool to combat poverty and combat the international capitalism's dominance over trade and agricultural system in the globalization context. ⁸⁶

⁸⁵ Ni'ma, Adib. "The Right to Food: Conceptual Framework and Practical Solutions for the Civil Society" – Economic and Social Rights Monitor in Arab States: The Right to Food. Beirut: Arab NGO Network for Development. 2019, p. 23

⁸⁶Ibid, p. 51

The term refers to the right of peoples and nations to control their food systems, markets, production methods, dietary habits and environment. In 1996, La Via Campesina*, a cross-national umbrella for farmers' organizations around the world, defined food sovereignty as 'the right of each nation to maintain and develop its own capacity to produce its basic foods respecting cultural and productive diversity'.⁸⁷ It also emphasized that food sovereignty is "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.»The World Food Summit of 1996 defined food security as "Food security exists when all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."⁸⁸

It is worth noting that the concept of food sovereignty emerged in the Civil Society Organizations' Forum held in parallel with the official summit (World Food Summit), which expresses a more radical position from CSOs compared to the official-governmental summit. It should be noted that both concepts -food security and food sovereignty-are mainly based on international legislations that stipulate that food is a fundamental human right, and that it is only natural for it to be included in a series of stipulated rights. As such, the concept of food sovereignty focuses on several elements as follows:⁸⁹

1. The right to free choice for every country to its own agricultural policies;
2. Protecting smallholding farmers from the damaging impact of international trade;
3. Preventing market oversaturation practices;
4. Challenging the structural change of global prices;
5. Commitment to sustainable agriculture principles; and
6. The right to reject unsuitable practices or technologies and genetically modified products.

*An international movement that gathers millions of farmers, smallholding farmers, medium holding farmers, persons who do not own land, rural women and youth, indigenous peoples, immigrants, and agricultural workers around the world. In its concepts, the movement defends the agriculture of farmers for food sovereignty as a means to promote social justice and dignity, and it greatly opposes agriculture led by corporations, which destroys social relations and nature.

⁸⁷Martiniello, Giuliano. "Shifting the Paradigm: Towards Food Sovereignty – Theoretical and Practical Challenges". – Economic and Social Rights Monitor in Arab Countries: Right to Food. Beirut: Arab NGO Network for Development. 2019, p. 127.

⁸⁸ Mahjoub, Azzam and Munther Balgheith. "Right to Food and Food Sovereignty – background paper to the Arab Monitor report". – Economic and Social Rights Monitor in Arab States: The Right to Food. Beirut: Arab NGO Network for Development. 2019, p. 51

⁸⁹ Ibid, o. 23

Some criticize the concept of food sovereignty as a concept that establishes as state of self-cochlearization and that in light of the current global context and the globalization of production, food sovereignty cannot create a state of positive interaction among states.⁹⁰

However, this is not the purpose of this concept; the concept aims at highlighting the importance of focusing on overall and sectoral policies that allow the enforcement of the right to food for all within a developmental, sustainable and human rights context.⁹¹ In other words, the literal reading of the term might lead some to believe that the purpose of it is only country-level sovereignty, however, so long as individuals and peoples have freedom in decision making, it would not be possible to have a decision to self-cochlearize; sovereignty here is to reach a state of balance on multiple levels :⁹²

1. Balance between the production of food nationally and providing it through fair trade;
2. Balance between the needs of food producers and consumers;
3. Balance between the internal economic cycle of producing, trading and exchanging food and the regional and international cycle;
4. Balance between food trade and its local production and consumption
5. Balance between meeting dietary needs at the lowest possible cost and unsustainable agricultural practices*, which threaten the sustainability of the right to food for future generations.

As described by Dr. Ahmad Al-Nobani once discussing sovereignty in Palestine:

"Without sovereignty and liberation of the country, there cannot be sovereignty over food. However, this does not mean that there should not be any attempts to realize sovereignty, even if it is partial, over our food and production as a form of resistance. Anything we produce practically would mean stopping its import from the occupation, as such, supporting boycott of and detachment from the occupation, and making the occupation pay a higher price. Despite all the contextual and subjective determinants, this does not mean that we do not perform our role in producing food. This has a major economic dimension in order to exit "the romantic framework". The process is not easy at all. I would like to focus on the production of food from animal husbandry and cultivation, despite commoditizing land as a dangerous approach and the increase in land prices, which led many to trade in land, I am fully convinced that we can achieve self-sufficiency in one way or another. Small agricultural land can support the household economy: beekeeping, poultry farm, raising a number of sheep...etc. Such farming does not require large areas of land.

⁹⁰ Ibid, p. 26

⁹¹ Ibid, same page

⁹² Ibid, p. 27

*This means extreme intensification of agriculture, overuse of agricultural land and subjecting it to commercial logic, irrationalized use of pesticides, fertilizers and genetically modified products, and the destruction of traditional agricultural patterns and the related knowledge...etc.

Such areas are available despite their scarcity, therefore, our ability to produce our food is possible, but we must turn away from romanticism. Going back to land has a cost. Thus, we need to focus on the economic aspect of the experience. People evaluate the experience on an economic basis, however, handling land is not evaluated from a pure economic perspective, there is also a humanitarian, national, environmental and resistance perspective as well.”⁹³

In an in-depth discussion on food sovereignty, the strengths and weaknesses in agriculture and environment must be renewed in this field. International organizations in general, financial and economic institutions such as the World Bank and International Monetary Fund, and even UN Agencies did not address the concept of food sovereignty. They addressed and still use the concept of food security. International organizations in general have relations with and connections to the global food industry and major agribusiness corporations that control many global markets. Such organizations adopt the concept of food security that is originally created by corporations, particularly those concerned with agrochemicals. Such corporations focus on people’s right to import food but not necessarily produce it, as such, increasing the subordination of the global south to the industrialized north. Accordingly, this approach is based on increasing people’s imports and their subordination to those who control production.⁹⁴

There is a major contradiction and conflict between the two concepts “food security and food sovereignty”, as they are contradictory models with different approaches, pillars and principle. The concept of food sovereignty emerged to challenge the distortion and misguidance of the concept of food security.⁹⁵ Therefore, it is only natural for governments and states to be engaged in this equation imposed by international organizations and that regulates the world trade movement, which is governed by the interests of major corporations either directly or indirectly.

In light of the colonial context Palestinians live in, one must focus on the concept of national food sovereignty as a fundamental need, particularly considering the political situation controlled and drawn by the occupation and the related socioeconomic context. We must think of practicing sovereignty over our food as Palestinians to challenge the occupation and its practices of confiscating our resources and continued attempts to promote our subordination to it, without relinquishing our natural right to fight for all our rights as an occupied people to end the occupation.

⁹³ From Ahmad Al-Nobani’s intervention in convening No. 1 – held on 27 July 2020.

⁹⁴ From George Kurzum’s intervention in Convening No. 1 – held on 27 July 2020.

⁹⁵ Ibid.

Ahmad Al-Sourani says: **“there is a global and regional discussion currently, which calls for abandoning the approach of food security and moving towards the concept of national food sovereignty. It is being discussed at a number of global and regional networks, which presents a broad platform for organizations to formulate strategies to implement the concept of food sovereignty and lobby for its adoption. Understanding and dismantling the system of foreign aid is an important introduction towards understanding participatory community funding and using it as a model. This is a challenge facing each and every organization currently facing an unprecedented state of institutional exposure due to reliance on international funding. However, there are important margins of international funding which holds a solidarity dimension that could be magnified and utilized to spread the Palestinian human rights discourse. That is not to mention the need to increase reliance on developing mechanisms for participatory community funding and sharing institutional resources between organizations in a supportive manner, which also has a role in affecting policies at a national level and with relation to funding.”**⁹⁶

It should be noted that the United Nations General Assembly adopted a resolution on 17 December 2018 relating to the rights of peasants and other people working in rural areas. The declaration stressed on the rights of indigenous peoples and on the existence of several factors that make it difficult for farmers and other workers in rural areas to practice their freedoms, such as freedom of expression and defending their human rights. The declaration also acknowledges that residents of rural areas face increasing difficulty in obtaining land, water, seeds and other natural resources.⁹⁷ Therefore, the General Assembly adopted 28 articles that maintain the rights of peasants and other people working in rural areas, such as fishermen and indigenous residents of rural areas, from all age and societal groups, to maintain their production, resources, culture and land. It also stipulates on their protection from forcible displacement.⁹⁸

This means that there is international consensus on protecting smallholding farmers and indigenous owners of land who work and cultivate lands.

⁹⁶ From Ahmad Al-Sourani’s intervention in Convening No. 2 – held on 29 July 2020.

⁹⁷ United Nations General Assembly. “The UN Declaration on the Rights of Peasants and other People Working in Rural Areas”. Seventy third session, item 75(b) of the agenda, 17 December 2018, pp. 3-2

⁹⁸ Ibid, pp. 20-5

Food Sovereignty in Palestine

The Palestinian context cannot be separated from the global context. What is happening in the world in different contexts is also happening in occupied Palestine in a compounded manner. If we take all known economic indicators regarding the level of self-sufficiency for different crops and compare them to the 1980s, up to Oslo Accords period and to this date, we find that the rate of self-sufficiency has declined severely. The same applies for the area of cultivation and variety of crops. As previously mentioned in this study, labor in agriculture is also declining tremendously and agriculture's contribution to the GDP has also dropped severely. Moreover, some crops that do not depend on local production inputs are brought from Israel or imported from other countries and then reproduced and manufactured for marketing purposes, which creates statistical errors pertaining to production.⁹⁹ There is a lot of literature that addresses food sovereignty at the Palestinian level and literature has noted that it is possible to achieve it through political and societal will, even under occupation. The most prominent literature to address this issue is George Kurzom's book on "National Sovereignty over Food", in which many chapters address the practice of food sovereignty in light of occupation, food sovereignty for an economy of resistance, and organic agriculture and explanations relating to it. Kurzom also discusses the nine key elements of food sovereignty:¹⁰⁰

1. The goal of any local and national agricultural policy should be food self-sufficiency, meaning that farmers in the country must produce most of the locally consumed food.
2. It is the right of people and the different segments of society to determine their food production and consumption patterns, taking into account rural and production diversity, and not to allow such patterns to be subject to unregulated international trade.
3. The main consideration in the food production and consumption process must be the welfare and benefit of farmers and consumers alike, and not the profit of major business owners and agribusiness corporations.
4. The national food systems must produce healthy and high quality food for the local market that is cohesive with the local heritage and culture. This means avoiding artificial fast food and readymade international standards for processed food. It also means rejecting the approach that considers food simply another commodity or one of the elements of the global agricultural industry.

⁹⁹ Ibid

¹⁰⁰ Kurzom, George. "National Sovereignty over Food". Ramallah: MA'AN Development Center, 2015, pp. 13-12

5. Balance must be revived between agriculture and industry; between rural and urban areas, and reverse the current approach of agricultural subordination to industry and branding cities as elite, which resulted in leaving rural areas in distress and the destroys agricultural economies. This is, to a great extent, the result of the occupation's plundering of land and natural resources.

6. Putting an end to the control of corporations and proxies over agricultural lands, particularly the establishment of joint industrial, commercial and agricultural businesses with the occupation (the so called cross-border industrial zones), with the objective to import for the profit of a handful of brokers, proxies and beneficiaries from economic subordination to the occupation. Through a real agricultural reform program, governmental agricultural land must be redistributed to those who cultivate it.

7. The practice of agricultural production must be mainly through smallholding farmers, cooperatives or public sector facilities. The distribution and consumption of food must be governed by fair pricing that takes into account the rights and welfare of farmers and consumers alike. This means to basically eliminate the oversaturation policy practiced by Israeli companies and other international corporations by over saturating the local market with their agricultural products, which are artificially cheap. This results in a constant destruction process of smallholding farmers. This national agricultural approach also implies the importance of protecting local food production, producing and storing a reserve of strategic grains and encouraging easy agricultural loans and other forms of support to motivate reclaiming the country's national capacity to produce food.

8. Opposing agricultural practices based on genetic engineering, and the so-called "Green Revolution" that intensifies the use of chemicals, because monopoly over seeds serves the interests of commercial profit agendas of corporations, and because such agriculture is not environmentally sustainable.

9. The traditional and local agricultural techniques hold an enormous amount of knowledge, wisdom and skills passed down for generations. They embody the development of the great balance that existed between humans and their surroundings. Therefore, developing agricultural techniques to meet local social needs must take into account the balanced traditional practices as a starting point instead of relinquishing them and considering them outdated.

From these nine elements that Kurzom identified in food sovereignty, we can deduce that this process has several dimensions revolving around the economy, the sociopolitical context, health, and environment, which can be summarized in the following table:

Table (1): The Dimensions of National Food Sovereignty

Component	Dimensions
Economic	<ul style="list-style-type: none"> •Achieving food self-sufficiency (local production must be consumed locally) •The key consideration is the benefit for all, farmers and consumers •Agricultural production must be by smallholding farmers, cooperatives or public sector facilities. The distribution and consumption of food must be governed by fair pricing that takes into account the rights and welfare of farmers and consumers alike.
Sociopolitical	<ul style="list-style-type: none"> •The right of individuals to determine the pattern in food production and consumption, while taking into account rural and production variety. •Challenging international trade patterns imposed on individuals. •Detachment from the monopoly and control over seeds, which serves the commercial profit interests of corporations. •Reviving the balance between rural and urban areas, because the current situation destroyed agriculture economies. •Putting an end to the market oversaturation policy practiced by Israeli companies and other international corporations by over saturating the local market with their agricultural products, which are artificially cheap. This results in a constant destruction process of smallholding farmers. •Reviving the cultural heritage through traditional cultivation and local farming techniques, which hold an enormous amount of knowledge, wisdom and inherited skills. They embody the development of the great balance that existed between humans and their surroundings.

Component	Dimensions
Health	<ul style="list-style-type: none"> •Producing healthy and high quality food that is cohesive with local heritage and culture, and stay away from foreign foods (fast food, etc.)
Environmental	<ul style="list-style-type: none"> •Rejecting agriculture that is based on genetic engineering and the so called "Green Revolution" that intensifies the use of chemicals.

The Elements of Food Sovereignty in Palestine

The issue of food sovereignty in Palestine has long been a problematic issue with relation to the form of sovereignty under occupation, and whether it is valid to discuss food sovereignty in light of the occupation's control over production inputs. However, this question brings us back to the definition of food sovereignty, which is "every state's right to maintain its ability to produce and develop their basic foods, as such, respecting cultural and production variety."¹⁰¹

Although Palestinians still do not have their own state, and although the occupation is still plundering all resources and production inputs, Palestinians have the capacity to identify, develop and control their food production and avoid subordination to the market, particularly the occupation's market. Moreover, it is possible to start working on practicing food sovereignty, which does not contradict with the existing situation, while stressing that this does not mean that Palestinians relinquish their rights and struggle to reclaim their lands and resources.

¹⁰¹ Martiniello, Giuliano. "Shifting the Paradigm: Towards Food Sovereignty – Theoretical and Practical Challenges". – Economic and Social Rights Monitor in Arab Countries: Right to Food. Beirut: Arab NGO Network for Development. 2019, p. 127.

This paper does not only stress on the possibility to practice food sovereignty, but it proposes that food sovereignty is a top national necessity. In light of the increasing Israeli occupation control and exploitation of land, it is important to adopt an economy of resistance that is detached from subordination to the occupation and major corporations that have monopoly the market. However, it should always be in mind that this serves to support the resilience of farmers, individuals and, by extension, the society, and not in order to adapt with the conditions imposed by the occupation and moving on without Palestinian demanding their rights to the land and its resources. Some might wonder about the roles of individuals in the society to realize food sovereignty, even if those individuals have no production resources, but this paper recognizes the importance of consumption from smallholding farmers who produce clean products as a key element in realizing some form of sovereignty. Belief in the idea itself and adopting it is the realization of the concept of sovereignty. As Saad Dagher, an agroecology expert and activist in Palestine says **“national food sovereignty is a practice, and practicing one’s right does not require permission. We do not need permission from anybody to practice our right. On the other hand, we cannot abandon the notion due to lack of sovereignty over land and water, and turn food sovereignty into a futile discussion. Thus, it would be beneficial (in this context) to overlook the existence of the occupation in order to think of possibilities generated from freedom. Food sovereignty is practicing the right to produce food in the manner we desire, the form suitable for us and using the inputs suitable for us... Our role as actors is to set a strong foundation for this movement in order to transition to advanced practical steps in achieving food sovereignty.”**¹⁰²

¹⁰² From Saad Dagher’s intervention in Convening No. (3) – held on 15 August 2020.

Community Support (Producer and Consumer)

In his book «National Sovereignty over Food”, George Kurzom stresses that in order to ensure clean, healthy and environmental agricultural production, groups of consumers can organize the process of purchasing agricultural produce directly from local-organic farmers. Kurzom presents models on this, including a personal experience of his in this regard.¹⁰³ He also notes that in the approach aiming to establish food sovereignty, it is possible to encourage the planting of crops that can withstand heat and adapt to local environment, as well as provide early produce before the beginning of the drought season and its impact on crops, in addition to needing very little water (certain types, such as peaches, apricot, nuts... etc.).¹⁰⁴ There also needs to be work on encouraging the cultivation of traditional crops or new types that withstand heat, require little care and achieve economic, health and environmental benefits for farmers. This process must be fully regulated from different dimensions; a dimension that regulates the relationship between producers in terms of complementing their production and having a variety of products to cover all regions as well as the exchange of expertise and tools. Another dimension to regulate the relationship between producers and consumers is to create a balance between supporting smallholding farmers financially to promote their resilience and providing consumers with good quality agricultural products. In light of regulating this relationship, this production system would become a reality, as the network of relations creates a different pattern of trade and a parallel and alternative network to existing markets imposed on individuals, which would gradually support in detachment from those markets.

¹⁰³ Kurzom, George. “National Sovereignty over Food”. Ramallah: MA’AN Development Center, 2015, p. 27

¹⁰⁴ Ibid, p. 29

However, there are initiatives and networks that practice agroecology and work on exchange models to replace the market model. They have shared principles and values, and food sovereignty the ultimate goal they seek to achieve. Some of these include Om Sleiman Farm (Bil'in Village), the Humanistic Farm (Mazare' Al-Nobani Village), Mulataqa Al-Sharaka Al-Shababi (Youth Partnership Forum), Sharaka: Community Initiative for the Preservation of Agricultural Heritage (volunteer group), Turmusayya Village Agricultural Committee, Al- Amal Agroecological farm (Raboud Village), Qira Village Council, Mashjar Juthour,, Palestine Heirloom Seed Library, Manjala (Art, culture, and agriculture: an initiative to reconnect the farming with Palestinian culture), Al-Fallah farm (Kufur Ni'ma village), Khallet Al-Ain (Aroura village), among many more. It can be said that their media ally is Afaq Environmental Magazine. There is also the Palestinian Agro-ecological Forum", which seeks to act as an umbrella for all community initiatives relating to agroecological farming. As an approach, Palestinians are tending to use agroecology due to the general political and economic context. This form of farming, other than being environmentally friendly and very healthy, depends on the lowest costs in the production process, and relies on the locally available natural resources.. It should be noted that there is an extension of La Via Campesina in Palestine through the office of the coordination committee of the movement in Palestine. The Union of Agricultural Work Committees hosts the movement and is the acting coordinator in Palestine and the MENA region.

Moreover, there is the Palestinian Environmental NGOs Network - Friends of Earth Palestine (PENGON). It is a body that coordinates between different Palestinian NGOs working in the field of environment. It seeks to serve Palestinian environmental issues through coordinating efforts between member organizations and building the capacities these organizations, as well as promoting relations within the network and with other local and international organizations.¹⁰⁵

These initiatives, unions and networks could fall under a networking process to work on a broader scale with regards to the food production process. This is where the work of these initiatives and bodies matters the most. Collective work and networking are the source of their success, and they are good tools to market food products throughout the different geographic areas in Palestine. Non-profit corporations might be suitable bodies to promote them.

¹⁰⁵ Palestinian Environmental NGOs Network's Website. See the following link: <https://bit.ly/2DR4wyQ>

As such, one must look with greater focus on productive agricultural cooperatives, as the cooperatives model is work and production. However, it is a different type of work and production from private property and class exploitation. It is based on voluntary work and democratic humanitarian relations that seek equality and self-sufficiency without any exploitation or even social class hierarchy as a key condition and central value in administrative and cooperative work and performance. ¹⁰⁶ Adel Samara believes that cooperation and development by popular protection have conditions without which no cooperative effort would succeed, the most important of these conditions are as follows:¹⁰⁷

- The presence of awareness and the culture of cooperation culture, a collective culture and awareness of the necessity of work and production. In other words, cooperative ideology results from understanding the importance of cooperation in resistance.
- For the practice to be a manifestation of the ideology, a member of a cooperative must contribute to the project either through investing effort for the needed cooperative work on the ground and maintaining its structure and social role, or through financial contribution as much as possible, in compensation for mental and physical effort.

Farming Methods Depending on Local Resources and Chemical Free Inputs

In the previous heading, the concept of "Agroecology" was frequently mentioned. Agroecology is an agricultural method that takes into consideration the natural systems in production. This method aims at maintaining soil balance and maintaining a high percentage of organic material and beneficial microorganisms in the soil. That is not to mention maintaining biological variety in farms and ensuring that production is healthy and at a lower cost (production inputs). Agroecology is characterized by: ¹⁰⁸

- Depends on the elements of the environment to produce healthy food.

¹⁰⁶ Samara, Adel. "Cooperatives / Popular Protection: Reform or Undermining of Capitalism". 2018, p. 38

¹⁰⁷ Ibid, p. 57

¹⁰⁸ Dagher, Saed. "Publication Entitled: Environmental Agriculture". Ramallah-Palestine, MA'AN Development Center, 2019

- The process is complete through natural elements by using plant and animal waste (the remnants of crops and herbs to feed animals, production of compost*, soil coverage, and the use of animal waste to fertilize the soil).
- Not using agricultural chemicals and genetically modified crops.
- Maintaining and increasing the fertility of soil by preventing the use of chemicals and adding natural fertilizers.
- Companion planting, relay cropping and continuous cropping are some of its important foundations.
- Reducing plowing and weeding and ultimately stopping plowing altogether.
- Crop diversification in the farm and avoiding monoculture (cultivation of one crop).
- Maintaining a dignified life for agricultural workers.

The brief definition of Agroecology is an application of environmental concepts and principles in the design and management of many aspects of sustainable ecological (environmental) agricultural systems: agroecology is a scientific discipline that includes a comprehensive study of agro-ecosystems, including human and environmental elements. Agroecology is a set of principles and practices to enhance the resilience and ecological, socio-economic and cultural sustainability of farming systems. Agroecology is a movement that pursues a new way of considering agriculture and its relationships with the society.¹⁰⁹ In a publication entitled "Agroecology", Saad Dagher says that in recent decades, Agroecology spread widely around the world. It has become known in many Arab states and in occupied Palestine because the Palestinian environment was subject to different threats, a significant part of which is caused by the occupation. However, there are some damages caused by Palestinians themselves, such as chemical agriculture, which has dangerous effects on the health of individuals. Chemical agriculture is considered a costly production pattern (consumes chemicals worth one third of the production inputs). This pattern can be abandoned by replacing it with Agroecology that saves farmers from the high costs of production and avoids the risks of causing chronic diseases.¹¹⁰

The approach of Agroecology and its adoption is an important matter and is technically applicable, however Palestinians, particularly farmers, need to increase knowledge in this field.

*Natural fertilizer

¹⁰⁹ Silici, Laura. "Agroecology: what is it and what it has to offer?". IIED Natural Resources Group. 2014, Page 4

¹¹⁰ Dagher, Saad. "Publication Entitled: Environmental Agriculture". Ramallah-Palestine, MA'AN Development Center, 2019

Saad Dagher defines Agroecology as "The agricultural philosophy and practical application that consider the laws of nature and ecosystems, care for all forms of life on earth, work harmoniously with the surrounding environment without damaging its elements (soil, air, water, biodiversity, human beings) and lead to the renewal of life and its elements to produce healthy food for human beings and animals". In light of the dominance of major corporations monopolizing the food and agricultural sector and market, it must be noted that there are pockets of good and sustainable agroecological practices and democratic struggles advocating for local right to food and land. They emerged as an act of resistance to confront the challenges imposed by the neoliberal agricultural restructuring.¹¹¹ There are live examples of this in the West Bank, as there are groups of smallholding local Palestinian farmers who work on promoting Agroecology in cooperation with a number of institutions and civil society organizations (officially and unofficially regulated). They are working to reduce the deterioration of land by using a mechanism for land reclamation to maintain the fertility of soil and ensure higher production, which is done through land rehabilitation and reclamation of mountain areas to turn them into agricultural lands.¹¹²

There are also several models across the region in Lebanon, Tunisia, Syria, Egypt, Morocco, Algeria and many Arab states that have successful models in agroecological production. This all comes in the framework of challenging and resisting the imperial dominance regime controlling the global food market.

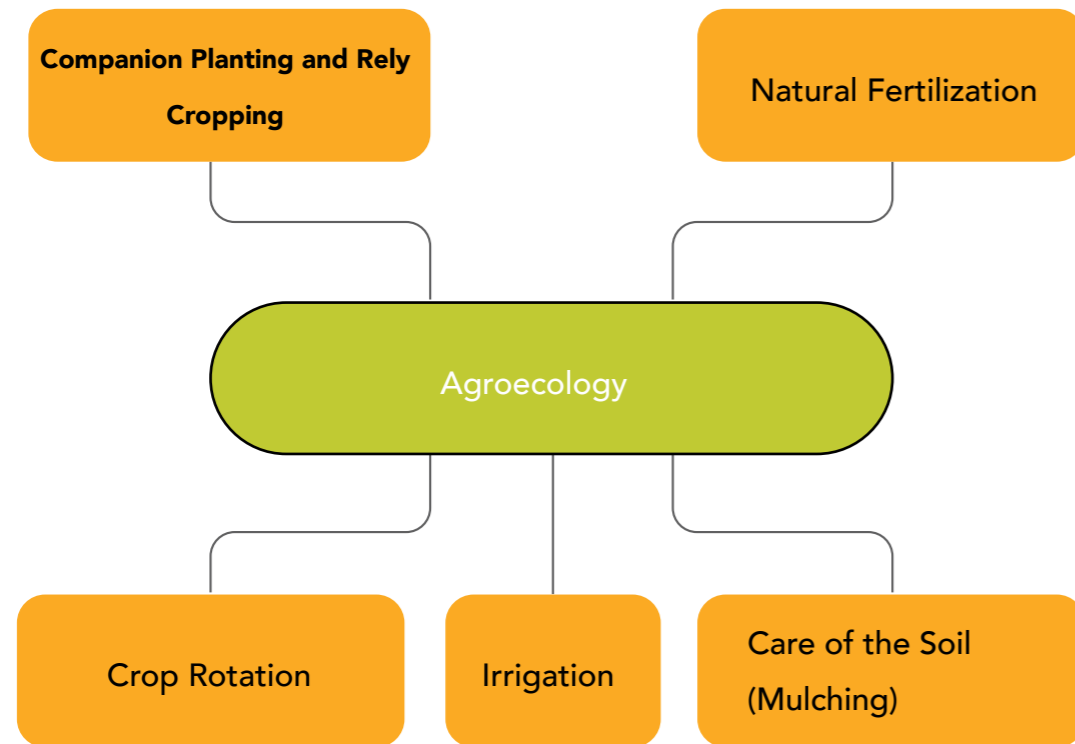
Agroecology depends on several components such as fertilization, irrigation method, maintaining the humidity in soil, farming techniques (companion planting and relay cropping) and crop rotation¹¹³ (see figure 6). All these components and elements include numerous methods and steps to ensure their success and to reap enormous results, healthy and profitable food, and most importantly fulfill the national dimension (the relation of people with the land).

¹¹¹ Martiniello, Giuliano. "Shifting the Paradigm: Towards Food Sovereignty – Theoretical and Practical Challenges". – Economic and Social Rights Monitor in Arab Countries: Right to Food. Beirut: Arab NGO Network for Development. 2019, p. 130.

¹¹² Ibid, same page.

¹¹³ Dagher, Saad. "Publication Entitled: Agroecology". Ramallah-Palestine, MA'AN Development Center, 2019

Figure (6): The Components of Agroecology (based on Local Resources and Chemical Free Inputs) and its Elements*



- Fertilization affects the spread of agricultural diseases. The increase in nitrogen chemical fertilization disrupts the balance in plant carbohydrates and proteins, which increases its sensitivity and, as such, susceptibility to disease. The balance in the elements through natural fertilization has an important role in protecting from diseases.
- With regards to irrigation, there needs to be balance in the handling of plants. Not irrigating plants for long periods leads to weakening them, and excessive irrigation increases the sensitivity and susceptibility to disease. Agriculture depending on local and chemical free resources is concerned with how to naturally maintain the humidity of the soil.*

*The figure was derived from «Agroecology» publication by the expert Saad Dagher.

- Soil is the most important resource in agriculture, therefore, the use of chemicals that kill the soil's beneficial microorganisms and worms must be avoided. Eliminating them would disrupt the balance in the soil and weaken its ability to provide nutrients to plants. Soil can be maintained through the use of organic materials, covering it with hay to maintain its humidity, reducing plowing and balanced irrigation in the evening.

- Agroecology and relay cropping: in agroecology, relay cropping is implemented in a scientific manner to benefit from the available land and water, and for crops to protect each other. A good design of relay cropping would guarantee the success of environmental farming.*

- Crop rotation is the successive planting of different crops on the same land.*

The Palestinian Agroecological Forum was launched in occupied Palestine in 2018. The forum's main objective is to spread awareness on Agroecology in the Arab World in General and in Palestine in light of the existing challenges. The forum's activities started by focusing on water retention and harvesting, a very important issue in light of the scarcity of water and inability to access water resources. The water retention activity was carried out in partnership with "Manjala" initiative in 2019 in Mazare' Al-Nobani Village and several other areas in Palestine, with the aim of slowing down the rain water runoff and in order to percolate in the soil and have it retained in the land, and eventually feed the underground water aquifers. This requires simple techniques such as building terraces, mini-dams and planting trees. Another activity started with collecting seeds to create "Seed balls", which are mud balls containing seeds that are thrown in the mountains with the purpose of creating food corridors that contain local seeds. The forum also implemented several activities to support Palestinian households to transfer to agroecology through organizing workdays in the field to build raised beds using agroecological techniques. The strong relation between agroecology and food sovereignty must be emphasized as it is how the latter can be achieved through simple practices, and the reality is that food sovereignty cannot be achieved without having resources and production inputs (water, seeds, land). There is also relative scarcity in land, with limited space available for smallholding farmers. Local seeds are somewhat available but they need to be increased. As for water, work can be done to rationalize and save water through simple techniques, which the forum is trying to implement as a practice.¹¹⁴

*Implemented in Agroecology, in addition to drip irrigation, covering the land with a 25-15cm layer of hay to maintain humidity and using natural compost the increases the soil's ability to retain water.

*Some companion plants strengthen each other, others combat some fungi, others act as insect traps. Leguminous plants strengthen nitrogen in the soil.

*Crop rotation contributes to building organic matter. The diversification in plant consumption of the elements of the soil from different depths creates balance in the soil. This helps in preventing diseases. It is important to mention that legume in the crop rotation cycle adds nitrogen to the soil and organic matter for subsequent crops.

¹¹⁴From Mohammad Khweira intervention in Convening No. (3) – held on 15 August 2020.

As Mohammad Khweira, a Palestinian agroecological farmer explain **“Agroecology can achieve food sovereignty through extensive work, such as initiatives in the Environmental Agriculture Forum to establish seed libraries that are shared with existing farms in neighboring villages, such as “Om Sleiman” farm in Bil’in and “Al-Ya’s” farm in Saffa. The majority of production sources used by the forum, which it is trying to root, are basically inputs available for all. Local seeds can be easily increased, but reliance on improved or hybrid seeds makes it difficult to achieve food sovereignty. They make us depend on other types of seeds, which we would need to purchase from monopolizing corporations such as Monsanto that was able to control many farmers in India”**¹¹⁵

Water Harvesting and Retention Landscape

A convening implemented by Dalia Association in 2018 resulted in several recommendations, mainly how to benefit from and implement traditional knowledge (ex: stone fencing) through the required natural and human resources to implement them. In the convening, there was consensus among the participants that to confront the water problem in Palestine, due to the occupation’s control over Palestinian water resources (aquifers, springs, etc.), there needs to be a discussion on water harvesting practices and ways to utilize unused water in Palestine. An output from the convening was that in the West Bank, the average rainwater reaches 6 billion m³. Our need in the West Bank reaches 1.2 billion m³. Therefore, there is an excess of rainwater that is not utilized. Accordingly, there needs to be an effort to utilize rainwater that is mostly wasted or flows to the sea and rivers that Palestinians cannot access.¹¹⁶ It can be said that water harvesting is the collection, transfer, storage, management and use of surface water from rain and the water of seasonal flooding in valleys for different production purposes. The main objective of water harvesting is to collect rainwater, maintain the humidity of soil and prevent agricultural soil erosion.

¹¹⁵ Ibid.

¹¹⁶ From the outputs of a convening held by Dalia Association in September 2018 entitled “The Role of Community Philanthropy in Achieving Food Sovereignty”.

We can summarize the key principles of water collection (water harvesting) as follows:¹¹⁷

- Always start from higher ground to lower ground where the water flow stops.
- Using many small water barricades is better than using a few large ones.
- Selecting the easiest and most efficient points for implementation.
- Water seeps into the ground where it is blocked, therefore increases the fertility of soil.
- Connecting between several techniques is better than depending on a single technique.
- Water harvesting in lower grounds and valleys is better than in higher grounds.
- Imitate nature (such as digging horizontal lines).

The process of collecting rainwater for example, is an original Palestinian tradition. Water has long been collected from the roofs of houses and stored in cisterns for household and agricultural use (particularly in Palestinian rural areas). We can find cisterns in many houses, regardless whether or not they were connected to water networks.¹¹⁸

The collection of rainwater from houses’ rooftops (before it reaches the ground), for the purpose of household use, guarantees preventing the contamination of water from the contaminants in the soil. That is not to mention that the obstruction of water falling from a high place facilitates the collection process, increases quantity and reduces water lost on the ground and in the soil.¹¹⁹ Several studies noted the importance of considering wastewater treatment and increasing the efficiency of available water. With the lack of a tariff system for agricultural water in the West Bank and Gaza Strip, alternatives must be found to reduce the gap in need among smallholding farmers. There are attempts and efforts in this regard, as there are desalination plants and wastewater treatment plants in the West Bank and Gaza Strip.¹²⁰ Studies show that Palestinians can benefit from 70 million m³ of wastewater for agricultural purposes, with proper consideration health standards.¹²¹ Accordingly, there needs to be more openness towards this option, without relinquishing the right of Palestinians to their natural resources. However, the idea of treated water still requires work for people to accept it and at least use it in agriculture. This is also a key priority set by the Ministry of Agriculture in the strategic objectives of the agricultural sector and policy priorities.¹²²

¹¹⁷ Kurzom, George. “Water Harvest: Techniques and Applications”. Ramallah-Palestine: MA’AN Development Center, pp. 3-2

¹¹⁸ Ibid, p. 3

¹¹⁹ Ibid, same page.

¹²⁰ Union of Agricultural Work Committees. “Study on National Policies in the Agricultural Sector”. Ramallah-Palestine: September 2019, p. 91

¹²¹ Ibid. p. 92

¹²² Palestinian Ministry of Agriculture. “Agricultural Sector Strategy – Resilience and Sustainable Development 2022-2017”, p. 31

Local Seeds

Seeds are the most important element in achieving food sovereignty. The natural selection of seeds, their preservation and having the ability to reproduce them is a matter of utmost importance to break free from monopolizing corporations. In the West Bank, there are successful efforts to this date in creating local seed banks that supply environmental farmers with the needed heirloom seeds. For example, there is the Alternative Seeds Bank created by the Union of Agricultural Work Committees (UAWC). UAWC established the first local seeds bank in 2003 as a culmination to the efforts to protect local seeds and has continued this work for over ten now. The bank is achieving great progress in farming in the southern areas of the West Bank (Hebron and Bethlehem Districts) and the Gaza Strip, because farming in those areas depends mainly on rainfed rather than irrigated agriculture. These local heirloom seeds are more appropriate for production in those areas, as they are not genetically modified and are naturally selected, which results in good quality products. UAWC provides those seeds for minimal prices to smallholding farmers and female farmers in Palestine.¹²³ There are currently around 40 types of local vegetables that are maintained in the local seed bank in Hebron, and there are new types, particularly medical and wild herbs that are supplied to UAWC's seeds bank to produce and preserve them as a national heritage.¹²⁴ There is also a local seeds bank in Al-Khader established by the Palestinian Agricultural Relief Committees (PARC) in 2010. It is an extension to the Local Seeds Development Program started by PARC in 1992. Additionally, MA'AN Development Center established a seeds bank in 1993 in Marda, Salfit, which was destroyed by the Israeli army in 2001. The Applied Research Institute-Jerusalem (ARIJ) also has a local seeds development program for field crops such as wheat, barley and legume. At an individual level, Vivien Sansour launched an initiative to revive local seeds that had almost disappeared in the occupied West Bank,*due to the severe damages to the Palestinian agricultural sector caused by the occupation through forcibly depriving Palestinians from accessing their lands, water resources and the market.¹²⁵ Vivien Sansour named her initiative "Palestine Heirloom Seed Library". Saad Dagher also started establishing the popular seeds bank for local seeds in Eastern Bani Zaid (Mazare' Al-Nobani Village) to increase the production of local seeds and distribute them among farmers for free.

¹²³ From Mo'ayad Bisharat intervention in Convening No. (2) – held on 29 July 2020.

¹²⁴ Ibid.

*See the film «Palestinian Queen of Seeds» on the following link: <https://bit.ly/32Kowvp>

¹²⁵ Martiniello, Giuliano. "Shifting the Paradigm: Towards Food Sovereignty – Theoretical and Practical Challenges". – Economic and Social Rights Monitor in Arab Countries: Right to Food. Beirut: Arab NGO Network for Development. 2019, p. 130.

Abdul Ghani Hamdan explains that **"local seeds are essential for food sovereignty. How can we discuss food sovereignty while neglecting local seeds?! Genetically modified seeds exist to control peoples and starve them; they cannot be developed through farms and lead to neglecting local seeds leading to their extinction."**¹²⁶

A journalistic report entitled «Local Seeds are the Key to Food Sovereignty... Humble Efforts to Revive them ahead of Global Corporations' Control» noted that local seeds can be reproduced and improved from one season to the next, from one generation to the next. Therefore, they lead directly to liberating farmers and the Palestinian society from food subordination to the occupation and the monopolizing seeds and agrochemical corporations controlling agricultural inputs (pesticides, chemical fertilizers, water... etc.).¹²⁷ The same report notes that 'Sharaka: Community Initiative for the Preservation of Agricultural Heritage' had launched an event in 2017 that aims to highlight the risks ahead of Palestinian seeds, the existence of which is in the hands of a small group of old farmers, persons and associations that maintained them in a personal effort. In an activity held by Sharaka at Al-Bireh Cultural Center's square in the center of the city, a number of farmers, local producers and volunteers gathered and presented their cultural foods and some original seeds that were no longer able to compete with the enormous power of multinational corporations.¹²⁸

Therefore, there is a growing movement in the West Bank that supports this approach and focuses on it. There are also Palestinian experts whose individual experiences can be beneficial and circulated as models for the natural selection of seeds. These kinds of actions can lead to detachment from subordination to unhealthy and monopolized sources that control the market for their benefit.

¹²⁶ From AbdulGhani Hamdan intervention in Convening No. (1) – held on 27 July 2020.

¹²⁷ Al-Taweel, Firas. "Local Seeds are the Key to Food Sovereignty... Humble Efforts to Revive them ahead of Global Corporations' Control". Report published in Afaq Environmental Magazine in December 2017. See the following link: <https://bit.ly/3jwi6XC>

¹²⁸ Ibid

Challenges

In reviewing literature of sources and references that address the agricultural sector in the West Bank and Gaza Strip, the problem of food security and the opportunities to achieving national food sovereignty; and in going back to the interventions in the convening implemented by Dalia Association, several challenges emerged that face all those interested in realizing the concept of national food sovereignty, including smallholding farmers, specialists and researchers and decision makers in the West Bank and Gaza Strip. Following are the most important challenges:

Colonization Practices

The colonization is still plundering Palestinian land, particularly that which can be used to produce Palestinian food and practice national food sovereignty, in order to eliminate all means towards achieving any form of detachment from subordination. The occupation has almost full control over areas(C), which constitute 3,375,000 dunums. Agricultural land used by the occupation in areas (C) reaches 2,642,000 dunums, which constitutes %76.3 of areas(C). The remainder of the land is controlled by Israel for “security purposes”, which increases the difficulty for Palestinians to have sovereignty over them. The total area of areas (A) is around one million dunums and areas (B) around 1,035,000 dunums. The area classified as “other” reaches 250,000dunums and includes (natural reservations, J1 and H1 in Hebron, and unclassified areas). In 2018, the Israeli occupation confiscated around 508 dunumsof Palestinian land, in addition to usurping hundreds of dunums of Palestinian owned land to expand Israeli checkpoints and establish military outposts to protect settlers.¹²⁹ (See Map 2)

Map 2: (A), (B) and (C) based on Oslo Agreement – OCHA Website



¹²⁹ PCBS. “Awad Presents the 43rd Anniversary of Land Day in Numbers and Statistics”. Ramallah-Palestine, published on 28 March 2020. See the following link: <https://bit.ly/2F5yJLn>

In the Gaza Strip, as previously mentioned in the study, the occupation imposes a “buffer zone” or “Access Restricted Areas (ARA)” along the borders with Israel with a width in certain cases exceeding 1,500 meters along the eastern borders of Gaza. As such, the occupation is controlling around %24 of the Gaza Strip’s area which amounts to 365 km². That is not to mention that in the wars on the Gaza Strip in the years 2008 and 2014, with the continued attacks to this date, enormous agricultural areas estimated at 50,000 dunums and 34,500 dunums respectively have been destroyed along with almost complete destruction of the infrastructure, irrigation networks and agricultural wells. Around %75 of agricultural land was destroyed and targeted several times, particularly around the area known as “Access Restricted Areas (ARA)”. Moreover, the agricultural sector was targeted in several ways; among them is the aerial spraying of chemical pesticides on agricultural lands along the border as well as the opening of dams east of the Gaza Strip, which resulted in the flooding of agricultural lands. In January 2020, vegetable crops on an area of 2,000 dunums were destroyed as a result of aerial chemical spraying resulting in losses estimated at 1.25\$ million by the Ministry of Agriculture. The opening of dams in the same period resulted in losses estimated at 500\$ thousand and the destruction of 920 dunums of lands cultivated with vegetables according to the Ministry of Agriculture’s Reports.¹³⁰ Israel controls all aquifers in Palestine, as well as all flowing surface water that reaches or flows from the Jordan River. The occupation only shares two aquifers with the Palestinians (the Northeastern Aquifer and the Western Aquifer).¹³¹ The occupation also denies Palestinians the right to use the Jordan River water since 1967, which is estimated at around 250 million m³ annually.¹³² The same goes for the besieged Gaza Strip. Gaza consumes 220-200 million m³ of water annually (around %98 from the Coastal Aquifer and %2 purchased from the Israeli company Mekorot). The aquifer is fed with 45 million m³ of rainwater in addition to 55 million m³ from other sources, such as lateral flow and irrigation water. The annual deficiency in the aquifer is 110 million m³ annually according to the Palestinian Water Authority. It was noted that the annual agricultural use is estimated at 90 million m³, while domestic and industrial use ranges between 130-110 million m³.¹³³

¹³⁰ Ziadeh, Saed Eddin and Ali Wafi. “The Importance of Food Sovereignty in Gaza in Light of COVID19- Pandemic”. Palestine – Palestinian NGOs Network: Project for Advocating Environmental Rights in Gaza Strip During COVID19- Pandemic – 19 September 2020.

¹³¹ Union of Agricultural Work Committees. “Study on National Policies in the Agricultural Sector”. Ramallah-Palestine: September 2019, pp. 78-77

¹³² PCBS. “PCBS and the Palestinian Water Authority (PWA) Issue a Joint Press Release on the Occasion of World Water Day 2019/03/22”. Ramallah-Palestine, Published on 21 March 2019. See the following link: <https://bit.ly/3ilkEry>

¹³³ Ziadeh, Saed Eddin and Ali Wafi. “The Importance of Food Sovereignty in Gaza in Light of COVID19- Pandemic”. Palestine – Palestinian NGOs Network: Project for Advocating Environmental Rights in Gaza Strip During COVID19- Pandemic – 19 September 2020.

Tayseer Mheisen says “the first step in my opinion is to work on developing shared concepts based on the Palestinian context. When the concept of food security emerged, it was based on the fundamentals of human security, which is a complete unit for development. It does not achieve development, but it is an important condition towards achieving it. On the other hand, signs of human rights work started as a reaction to impact the balance of power, which has a special importance in the Palestinian context. Food sovereignty means emancipation from neoliberal policies and liberation from the colonial pattern that created the concept of colonial agriculture that controls Palestinian food sources. It is part of the occupation’s economy. Subordination is simply the opposite of sovereignty.”

The Palestinian Central Bureau of Statistics (PCBS) noted that the main reason behind the limited use of surface water is the Israeli occupation’s control over the Jordan River and preventing Palestinians from using valley water.¹³⁴

It is worth noting that the average consumption of Palestinian individuals of water remains lower than the globally recommended minimum of 100 liters per day (the Palestinian individual’s average daily consumption of water is 87 liters per day) as a result of Israeli control over %85 of Palestinian water resources.¹³⁵ Furthermore, %22 of the water available in Palestine is purchased from “Mekorot”, which belongs to the occupation state. The Israeli government’s procedures limit Palestinians’ ability to utilize their natural resources, particularly water, and force them to compensate the shortage by purchasing water from the Israeli water company “Mekorot”. The amount of water purchased for household use reached 85.7 million m³ in 2018, which amounts to %22 of the available water that reached 389.5 million m³, 3 million m³ of which came from Palestinian springs, 274.2 million m³ from aquifers and 4.1 million m³ desalinated drinking water.¹³⁶ It should be noted here that the fish wealth fell victim to the sanctions imposed by the occupation against the besieged Gaza Strip. The area allowed for fishing reaches 6 to 9 miles at best, and is decreased to 3 miles in most times based on the political situation in the Gaza Strip. The international legal limit allowed for fishing is much larger. These restrictions prevent Palestinian fishermen in Gaza Strip from using the available fishing space based on Oslo Accords – despite being prejudiced against Palestinian fishermen – which allows fishermen a space of 20 miles for fishing.¹³⁷ As in most cases, the maximum allowed area is 6 miles, Palestinian fishermen are denied the use of %70 of the allowed space based on Oslo Accords. When the occupation decide to reduce the space to 3 miles, fishermen are denied the use of %82 of the allowed space based on Oslo Accords.¹³⁸

¹³⁴ PCBS. “PCBS, the Palestinian Water Authority (PWA) and the Palestinian Meteorological Department (PMD) Issue a Press Release on the Occasion of World Water Day and World Meteorological Day”. Published on 22 March 2020. See the following link: <https://bit.ly/2OPhIGx>

¹³⁵ Ibid.

¹³⁶ Ibid.

¹³⁷ Palestinian NGOs Network. “Factsheet: Gazan Fishermen... Collective Punishment under Occupation and Continued Resilience”. Palestine: July 2019, p. 2.

¹³⁸ Ibid, p. 1

As Dr. Nabil Abu Shammalah explains **“unfortunately, there are over 3000 fishermen in the Gaza Strip fishing in a very limited space. According to Oslo Accords, the fishing space should be 21 miles, which is reduced to 9 miles and sometimes 6 miles. Sometimes it is even reduced more, which affects food security in the Gaza Strip and impacts the marine environment, as there would be excessive fishing due to the limited space and the large number of fishermen, which depletes marine environment.”**¹³⁹

Selling and Marketing: Israeli and Foreign Markets/Intermediaries

The biggest challenge facing Palestinian farmers is the chaos in the Palestinian market resulting from the oversaturation policy followed by Israeli and foreign companies. The local market is oversaturated with subsidized foreign and Israeli products whose market price does not reflect the actual production cost, as they are subsidized by their governments. The essential national agricultural approach should in this case protect local food production, which contradicts with the current governmental approach that adopts free market policies. Heading towards achieving food sovereignty is considered a popular protection of farmers and a means for developing a direct relationship between producers, consumers and farmers. There are many producing smallholdings in the West Bank and Gaza Strip, but smallholding farmers’ fears are whether they have the ability to market and sell their products.

The regulation of the market between smallholding farmers and intermediaries “brokers” can be considered one of the major challenges that decision and policy makers must take into account. The prices in the market have a large profit margin for the intermediary who acquires the agricultural products produced by smallholdings. The intermediaries currently control market prices. Therefore, smallholding farmers face injustice, as the society considers them the beneficiaries of the profit, while in reality the profit goes to the intermediary. They also face injustice when their product in some seasons is not promoted because of the greed of intermediaries in many cases, particularly since Israeli products of the same kind over saturate the market and compete in prices.

¹³⁹ From Nabil Abu Shammalah’s intervention in Convening No. (1) – held on 27 July 2020.

Nisreen Qawwas explains that **“although some locations consider marketing a major problem that causes concern for farmers, although Agroecology produce high quantities of seasonal and diverse types of food, but on the ground, we notice that the consumer is craving for such toxin-free agricultural products. Despite the difficulties farmers face, we as an association (YWCA) have not seen such difficulties. On the contrary, marketing was very good. At YWCA, Agroecology is introduced as a solution that could be resorted to in the communities where we work in order to achieve development and employ labor force, particularly unemployed youth. We found that women are more interested in learning and applying practices relating to farming depending on local and chemical-free resources, particularly in the age group -20 30. The case is the opposite amongst men, as older men showed high level of interest to learn such approaches. Most of those who continue working in accordance with the agroecological approach were women.”**¹⁴⁰

It is important to note that there are challenges facing initiatives, cooperatives and active individuals in the field of farming, mainly networking between each other. This challenge faces all those who adopt national food sovereignty and seek to achieve it, because achieving it requires collective efforts that would meet the objectives of smallholding farmers in marketing, selling and exchanging with consumers.

Protection Policies

The reviewed literature and interventions in the convening sessions by Dalia Association revealed that there are shortcomings in national policies with regards to supporting the agricultural sector. The budget allocated for the agricultural sector still does not meet the minimum requirements to support this sector. The agricultural sector’s budget is the lowest compared to the different sectors. In 2018, the budget did not exceed %1 of the total budget (as previously mentioned in the study).

Moreover, the lack of protection policies relating to production inputs, including justice in pricing agricultural water as there is no unified and clear pricing, the lack of protection in the market from hybrid and genetically-modified seeds that destroy agricultural land, as well as the lack of protection in the market from chemicals that increase quantity at the expense of quality.

¹⁴⁰ From Nisreen Qawwas’s intervention in Convening No. (2) – held on 29 July 2020.

That is not to mention that the protection means and systems, such as the Risk Prevention Fund and the Palestinian Institution for Agricultural Loans, still need to provide better services, and still need actual activation in light of the context the farmers are going through. These are all challenges ahead of Palestinian decision makers to take serious steps in this regard, provided that such steps are in the interest of smallholding farmers, because they constitute the majority of Palestinian farmers, and not capital holders. The real challenge ahead is related to protection; the return of individuals to land and their relation with it. The current Palestinian socioeconomic scene in the West Bank and Gaza Strip presents cities as a main front for marketing, to the extent where rural areas are marginalized and their residents are obtaining agricultural products from city centers. The challenge lies in returning the current scene to its natural state in occupational division between the cities and rural areas.

We also need to address the issue of fertilizers, which constitutes a real challenge. Fertilizers are the most costly of agricultural production inputs. They financially deplete Palestinian farmers and are directly connected to the Israeli market and determinants, particularly chemical fertilizers.¹⁴¹ There is also room for farmers to access a variety of fertilizers and pesticides, as there are numerous supply warehouses around the West Bank. Moreover, there are alternatives for prohibited dual use products available at stores, and easy access to the black market increased farmers' ability to access dangerous and illegal materials. The use of pesticides in the West Bank has been considered excessive in recent years.¹⁴² There is also a challenge relating to protecting the health of individuals. The Palestinian Ministry of Health's annual report of 2019 revealed that the top ten causes of death in Palestine include cardiovascular diseases as the number one reason at %29.9, cancer at number two (%15.5), diabetes at number three (%12.1) and strokes at number four¹⁴³ (%11.3). The pattern of food consumption is considered a main factor in increasing the percentage of these diseases. Looking forward to a society free of chronic diseases is an important challenge and requires paying attention to food and consumption patterns. Apart from the protection policies that must be implemented by official bodies, it is important to note that there is an almost complete absence of the role of Palestinian political factions in this regard (i.e. protection), as there is no clear vision on the plans and strategies for the resilience of individuals economically and socially in recent years. This place creates a reality of a regulatory void in popular work.

¹⁴¹ Ministry of Agriculture. "Agricultural Sector Strategy – Resilience and Development 2016-2014". Ramallah-Palestine, p. 9

¹⁴² Palestinian Farmers Union (PFU). "Policies Regulating Agricultural inputs in the West Bank". Page 17

¹⁴³ Palestinian Ministry of Health. "Annual Health Report – Palestine 2020". Ramallah-Palestine, June 2020, p. 56

Lack of Knowledge and Experience

This is one of the main issues that decision makers and farmers themselves face. The current agricultural approaches and production patterns, in terms of cultivation and animal husbandry, might lead to filling the market with an excess in production. However, on both the short and long term, these agricultural patterns of production destroy the land and existing means of production. This mainly occurs due to the excessive use of chemical fertilizers and pesticides and processed production inputs like hybrid and genetically modified seeds. That is not to mention the lack of public awareness on water harvesting and rainwater collection as storage methods to avoid losing such water through flooding and surface flow, which leads to erosion and damage to the soil. This is not only limited to decision makers, NGOs and development organizations in the West Bank and Gaza Strip that implement agricultural projects for development are also part of this problem. These projects, introduce agricultural production methods that do not consider the Palestinian context, and the ecosystem and natural resources, for which we will pay the price later. Achieving benefit over a short period of time must not prevent looking forward to the future. Thus, projects must be directed towards achieving national food sovereignty. Challenges may also be due to the agendas imposed by foreign aid, which may have a different approach than that of Palestinians. Responsibility here does not only lie on producers and persons who adopt policies, consumers also inadvertently fall for the trap of destructive consumption patterns that destroy their health and sectors at the expense of other sectors. Therefore, collective awareness needs to be raised at all levels. As such, one of the key challenges is the current culture on production and consumption, thus increasing awareness and knowledge in this regard is vital.

Moreover, all these issues have collectively contributed to damage to the cultural heritage in agricultural production, both animal husbandry and cultivation. It is also a challenge to revive this heritage that has some form of independence and in many ways fulfills national sovereignty. Furthermore, there are challenges related to the limited sharing of experience, expertise and knowledge at the level of initiatives, cooperatives and individuals active in the field of agriculture. This is as important as marketing, networking and building a base.

Recommendations

The first convening session entitled “The Role of Community Philanthropy in Achieving Food Sovereignty” conducted in 2018, came out with a number of recommendations relating to knowledge production with relation to food sovereignty (raising awareness), the role and responsibility of policy makers and legislators and the role of community support (mutual relations between actors) in achieving this. In 2020, based on the literature review and the four new convening sessions, they resulted in a number of recommendations that are crosscutting with those presented in the first convening. However, they cover more ground with relation to techniques and specific steps that may be adopted towards achieving some form of food sovereignty. The recommendations were presented by academics, agricultural and environmental institutions, smallholding farmers, and environmental activists, initiatives and local councils working to achieve national food sovereignty and specialists in chemical-free farming and Agroecology. They place the responsibility on all active bodies to achieve national food sovereignty in light of the colonial context. The recommendations were grouped in several components as follows:

Increasing Knowledge Production

- Reviving the relationship between Palestinian individuals and land, particularly since the relationship should be leaning towards investment in land agriculturally and not only commercially. This can be done through organizing field activities that simulate the existing reality to focus on the importance of having a relationship with the land. This is achieved through policy makers and active NGOs and grassroots organizations as follows:

1. Incorporating curricular and extracurricular activities in schools with relation to natural farming that depends on local and chemical-free resources, as well as water harvesting techniques and local seeds in order for future generations to view food in Palestine from a national sovereignty perspective.
2. Spreading information and developing the necessary communication tools for more exposure to smallholding farmers and their locations to facilitate access to them and their products.

3. Allocating budgets for productive agricultural research that serves smallholding farmers and healthy agricultural production (cultivation and animal husbandry).

4. Working on increasing the establishment of agricultural schools in the West Bank and Gaza Strip, particularly in the Jordan Valley, which is considered a natural greenhouse and the food basket of Palestine, provided that such schools adopt traditional / natural farming methods that depend on local resources.

5. Establishing a national agricultural library that provides persons interested in achieving the principle of national food sovereignty with sufficient knowledge and the resources they need.

- Cross-sectoral developmental plans and policies adopt an agricultural approach that depends on local resources and does not use chemicals in any form in the production in order to reach an agricultural economy of resistance that works on detachment from the occupation. This would increase awareness in this framework by guiding agricultural workers towards natural farming that depends on local resources and does not deplete resources like the policies of “market oversaturation” that seek production in high quantity at the expense of the quality and health and the environment and depends on external agricultural inputs (imports) that increase subordination in production.

- The transfer of knowledge from smallholding farmers and activists, who have adopted the principle of national food sovereignty and use agricultural techniques that depends on local and chemical-free resources and who have sufficient knowledge in water harvesting and the protection and cultivation of local seeds, to other farmers in order to mainstream the techniques and ideas that support the principles of food sovereignty.

- Considering health in the food consumption and raising awareness in this regard, particularly in light of the extremely high numbers of chronic diseases in occupied Palestine. This is achieved through raising awareness through school curricula, bylaws on consumption (Ministry of Education and bodies concerned with consumer protection), and other methods.

Policies for National Food Sovereignty

- Reconsidering the budget allocated to supporting farmers by policy makers and government bodies, and allocating higher budgets to smallholding farmers because supporting the agricultural sector and its resilience depends on farmers. There must also be a focus on the following:

1. Increasing support for smallholding farmers (cultivation, animal husbandry, and mixed agriculture) financially and with counseling; activating agricultural insurance strongly; activating the Risk Prevention Fund; and socioeconomic empowerment of smallholding farmers. It is also necessary to reconsider establishing social/agricultural banks (banks for the poor).
2. Focusing on smallholdings in budgets to reflect strategic plans and policies.
3. Increasing exemptions for smallholding farmers, including facilitating the legal procedures for the registration of cooperatives.
4. Focusing on the animal wealth and mixed smallholdings (cultivation and animal husbandry), in order to improve the economic conditions of smallholding farmers directly and tangibly.
5. Activating urban and semi-urban agriculture in cities and around them, while maintaining the main role of rural areas in agricultural production.

- Prioritizing the products of smallholding farmers. Encouraging this practice would be through official and adopted policies as well as national, institutional and individual efforts. Encouraging smallholding farmers to plant what is currently being imported from and through the occupation to replace it with national products. This would not only be reflected on vegetable and fruit imports, but also on beef, cattle, eggs, milk and even cheese, which Palestinians spend hundreds of millions of dollars annually.

- Holding dialogues and working with official and active bodies to address and regulate the prices of agricultural production inputs efficiently in order to realize greater social justice amongst farmers. Furthermore, natural farming techniques that depend on local and cost efficient resources must be considered and supported by policy makers and NGOs working in the field. This can be done through:

1. Activating and emphasizing the Consumer Protection Law.
2. Developing tax refund policies as soon as possible for production inputs (cultivation and animal husbandry).
3. Encouraging cooperatives projects to provide production inputs.
4. Encouraging natural farming that depends on local and chemical-free resources (less costly inputs).
5. Identifying and regulating the prices of animal feed through increasing storage capacity (constructing silos) for animal feed and grains to promote the resilience of the animal production sector.
6. Paying attention to pastures and encouraging the cultivation and production of animal feed.
7. Facilitating the establishment of community farms by municipalities and local councils.

- Policy makers and developers of government programs must work extensively on prioritizing the available water sources, wells and springs and allocating sufficient resources for the development of agricultural production through:

1. Rehabilitation of water resources in a broader scale to cover the work of smallholding farmers geographically, and protecting the areas surrounding springs and preventing excessive construction there.
2. Working more on water harvesting (harvesting rainwater in the soil and feeding aquifers) through creating pools to collect rainwater (agricultural reservoirs), encouraging the reclamation of land in order to prevent erosion (agricultural techniques to preserve water), and making contour trenches to prevent erosion and collect water in the soil.
3. Developing a special law on agricultural water tariff that favors smallholding farmers.
4. Obligating real-estate owners who seek building permits to dig water cisterns.
5. Working extensively on addressing wastewater treatment and utilizing it for natural farming that depends on local resources.

- Reconsidering “Waqf lands” and its potential use for agriculture and considering who is benefiting from them. This could be done through:

1. Activating the distribution of Waqf lands on smallholding farmer youth and women for the production of diverse and healthy food as well as reducing unemployment.
2. Encouraging natural farming that depends on local resources in areas (C) and lands at risk of confiscation from the occupation.

- Supporting strategic crops and agricultural products by all official bodies, NGOs and consumers, through:

1. Identifying lands suitable for strategic products (e.g. wheat) and providing technical and financial support to ensure their success.
2. Protecting local products, such as oil, dates and watermelon by imposing higher taxes on foreign and Israeli products and encouraging Palestinians to consuming local products.
3. Using local heirloom seeds.

- Protecting smallholding farmers from the exploitation of intermediaries “brokers” in marketing, who purchase products at a very low cost from smallholding farmers and sell them for high profit in the market. Executive bodies (customs police for example) must protect Palestinian farmers from market oversaturation with Israeli and foreign products and must also protect consumers from the greedy merchants. In both cases, the lack of protection reflects negatively on smallholding farmers in marketing their products.

- Supporting movements adopting agroecological and traditional farming by the Ministry of Agriculture and NGOs. They need to support smallholding farmers and not large-scale farmers. Resilience essentially means the resilience of smallholding farmers who face great challenges from the occupation and harsh economic conditions. Therefore, this category must be prioritized by the Ministry of Agriculture, particularly since small farmers and smallholdings (ten dunums and smaller) constitute %75.3 of all agricultural holdings.¹⁴⁴

- Adopting production that depends on local and chemical-free resources by the Palestinian Ministry of Health and organizations working in the field. Encouraging such production through campaigns and recommendations to the Ministry of Finance and policy makers to increase allocated funds for primary health and awareness programs relating to the consumption of healthy food. Primary health mainly addresses individuals’ food consumption, which draws a future vision of the health of individuals in the society. In addition to the Ministry of Health’s responsibilities, the following must be considered:

1. Establishing a cooperative laboratory to test and monitor food products.
2. Implementing awareness raising campaigns on the importance of healthy food through medical centers.

¹⁴⁴ Palestinian Ministry of Agriculture. “Agricultural Sector Strategy: Resilience and Sustainable Development 2022-2017”. Ramallah-Palestine, p. 12

- Adopting laws and policies that regulate the sale of land and ownership laws, which transform agricultural lands to non-agricultural lands. The Environment Quality Authority, the Ministry of Agriculture and the Ministry of National Economy may adopt such policies with the support of NGOs working in the field. The classification of agricultural and industrial zones must be reconsidered by relevant authorities.

- Supporting all active bodies in mapping the violations of the occupation in the occupied Palestinian territory, including assault against lands, farmers and fishermen. Working on developing a broad media plan in order to deliver this information to the world. There also needs to be continuous networking with international social movements that seek to achieve justice for peoples, based on international conventions and treaties, mainly the United Nations Declaration on the Rights of Peasants and Other Workers in Rural Areas adopted by the United Nations General Assembly in December ¹⁴⁵ .2018

Community Support for National Food Sovereignty

- Work must be done to establish a strong network and base between actors who seek to achieve food sovereignty. It is not enough to say that the exchange of expertise is the purpose, there also needs to be a mutual relationship at the levels of production and consumption. Producers need to find people who support their products through consumption. This relation has a good core, but it needs clearer and broader regulation. This network can mainly be activated by the relevant bodies that adopt the concept of national food sovereignty, including the Palestinian Food Sovereignty Coalition (with all its members), active community based on grassroots organizations, initiators and smallholding farmers. Unified effort is needed, which would ultimately result in a movement that achieves the required purpose using all available means. This can be realized through the implementation of activities in the following sequence:

1. Forming a joint committee consisting of the different concerned bodies, organizations and actors to launch strategic plans and a vision for this purpose.
2. Increasing volunteering activities and joint and popular markets, and encouraging consumers and producers to revive them in all areas of the West Bank and Gaza Strip, which would ensure direct exchanges between consumers and producers.

¹⁴⁵ United Nations General Assembly. “The UN Declaration on the Rights of Peasants and other People Working in Rural Areas”. Seventy third session, item 75(b) of the agenda, 17 December 2018.

3. Allocating the available modern tools and techniques for communication, networking and mobilization to achieve the concept and principle of national food sovereignty.

4. Working on coordinating and ensuring a variety of products between initiatives and cooperatives in order to avoid overproduction. The work of animal wealth farms, which are considered important economic and production resources, must be coordinated throughout the different areas in the West Bank and Gaza Strip.

- Cooperatives must be established based on the principle that work is done while fully understanding its importance. The practice must be social at its core, and contributions to the collective work can be either through financial or physical contributions:

1. The leadership of cooperatives must be by practicing farmers. This is a very important issue, as the land belongs to those who farm it. Leadership of farmer cooperatives must be by actual farmers.

2. Depending as much as possible on ones-self in establishing cooperatives and avoiding foreign funding sources that oppose the principle of national food sovereignty. Work on establishing cooperatives based on the need and not funding opportunities.

3. Ensuring and regulating a cooperative relationship between cooperatives within the framework of achieving national food sovereignty through a reference bylaw for cooperatives on which all cooperatives who seek to achieve food sovereignty agree.

- Community support, including initiatives, farmers and consumers who adopt the principle of food sovereignty, must work towards cultivating every available space. This can be achieved without waiting for any policy or signal from anyone by:

1. Using public lands (Waqf and governmental lands) and by youth and women initiatives to work and produce in, which would reduce unemployment and increase local production.

2. Rehabilitating water springs, using wells and opening agricultural roads in order for everyone to participate in ensuring the reduction of gaps and elimination of injustice in obtaining local resources between active individuals.

3. Coalitions, initiatives, NGOs and grassroots organizations must work with local councils to present participatory opportunities to make use of land in rural areas, particularly since local councils can play a major role in providing agricultural space, through the following:

1. Working on planting unused lands for the benefit of residents in rural areas.

2. Planting road sides with yielding/fruit trees and activating urban agriculture, which has an economic value that the "less fortunate" can benefit from.

3. Through discussions and planning with municipal and local councils, facilitating the establishment of community farms.

4. Forming an agricultural committee in every village (circulate the idea in all rural areas).

5. Providing the supporting infrastructure for agriculture (full interventions) to cover the largest number of farmers (water networks, agricultural roads, farmers' markets...) and use them to support natural farming that depends on local resources.

6. Working collectively to form a popular base that protects farmers' lands and the local production tools and inputs.

Practical Techniques to Achieve the Principle of Food Sovereignty

- Implementing natural farming methods that depend on local and chemical-free resources, and ultimately reaching to the adoption of Agroecology as a philosophy and practice, (includes both cultivation and animal husbandry), through:

1. Producing and using local heirloom seeds by farmers (reach a state of self-sufficiency with relation to seeds by creating popular seed houses for each farmer).

2. Applying water harvesting techniques and utilizing spring water for agriculture.

3. Maintaining the soil physically and biologically through terracing and the use of natural resources as production inputs.

4. Recycling natural elements by using plant and animal waste (the remnants of crops and herbs to feed animals, creating manure, covering the soil, animal waste can be used to fertilize the soil).

5. Using solar power in food production.

- With regards to local heirloom seeds, there needs to be work on a larger geographic distribution of the branches of national/local seed banks and the seeds library at the national level in order to facilitate access for all farmers.

- Maintaining the humidity of soil naturally through:

1. Covering the soil with plant remnants.
2. Increasing organic material by using manure and dry weeds.
3. Building Sanasel (stone terraces).
4. Covering soil surface and plant roots with straw.

- Avoiding the use of agrochemicals and genetically modified crops, and stopping the use of artificial animal feed immediately. Fertilization with chemical fertilizers leads to the spread of agricultural diseases, and artificial animal feed affects the health value of animal wealth. Increased nitrogenous chemical fertilization disrupts the balance in plant carbohydrates and proteins, which increases its sensitivity and increases the chances of diseases. On the other hand, the balance of elements through natural fertilization has an important role in protection from diseases. At the soil level, chemicals that destroy the soil and kill microorganisms and worms must be avoided. Killing these microorganisms would disrupt the balance in the soil and weaken its capacity supply plants with nutrients. Soil can be maintained by using organic materials, covering it with hay to maintain its humidity, reducing plowing and balanced irrigation in the evenings.

- Establishing a compost production unit jointly between cooperatives.
- Applying companion planting relay cropping and continuous cropping techniques (including diversification in agricultural production and avoiding mono-crop farming), and working on this through geographic distribution is one of the key practices to adopt; relay cropping is implemented in a scientific manner to benefit from the available land and water, and for crops to protect each other. A good design of relay cropping would guarantee the success of agroecology, taking into account crop rotation, which is the successive planting of different crops on the same land.

- Reducing plowing and weeding and ultimately stopping plowing. Successful models must be circulated in this regard and focus on the benefits of reducing plowing, which reduces costs as well.

- Practicing food sovereignty through adoption of agroecology principles and practices, and properly raise cattle and livestock, which takes form on many levels in producing communities; it is vertical from the household, to the village to the national level, and horizontal in terms of the exchange and complementary relationships.

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- Saed Dagher's intervention in Convening No. (3) – held on 15 August 2020.
- Mohammad Khweira intervention in Convening No. (3) – held on 15 August 2020.



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