Food Security Risk for Israel

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On Dec 16th, 1966 the UN General assembly adopted The International Covenant for Economic, Social and Cultural Rights[1]. This covenant ensures the rights to fair and just work conditions and an adequate right of living. Article 11 of the covenant defines adequate food as part of an adequate right of living. Israel adopted this covenant in 1991. Rome, 1996, the term Food Security was defined by United Nations’ Committee on World Food Security to mean that all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their food preferences and dietary needs for an active healthy life[2]. This definition of food security was adopted by the Israeli government in 2007.

**Budgeting Food Security**

Still, the term food security in Israel is associated with poverty and food insecurity[3]. Even more than that, there is little if any discussion about Israel’s food security as a nation and none about nutrition security. With all the wars and military confrontations, one would think that Israel should have adopted a food security program years ago, but it has still not happened. Currently, there is no real plan for food security and no government official to spearhead this and in addition, the various government offices are tending to the food insecurity gap and at the most, are trying to minimize the gap. Each office works independently with its own plans and financing[4]. Funding for food security is divided between different offices. The Ministry of Education budgets the School Lunch Program at NIS 650 million[5] ($191 million USD for the academic year 2019/20). This program is a national and a universal program where any child can receive a meal at school if his parents pay the minimal fee required by law. Another Food Security program is run by the Ministry of Welfare and Social Services, funding a national program for food security in 2022 at an overall cost of NIS 100 million[6] ($29 million USD) to support 26,500 families living in poverty, dire food insecurity and in the lowest income bracket.

**Israel as an Economic Island**

Food in Israel comes from three sources[7]. (1) Local agriculture and manufacturing; (2) Import; and (3) Emergency food supplies. Food security must be attained through a balance between the three sources. Israel is an “Island” country with little or no trade with its bordering countries. Some are at a state of war, and some are at peace, but a fragile one. Therefore, being an “island”, Israel cannot afford to jeopardize its food security by increasing its reliance on food import, primarily arriving by sea. A healthy combination will use all three sources efficiently, allowing for different types of risk management. A healthy combination will allow for food security at times of military conflict where the risk of import is greater and at times of agriculture disaster where import is essential to cover for lost agricultural products. Consider the “Great Famine”[8] in Ireland 1845-1850. Over 1 million people died of starvation and another 1.5 million fled the country. All resulting from a plant pathogen that killed the potato crops that were the major food source and provision of calories at that time. Israel must plan ahead and be prepared for this type of crisis and other unexpected ones. It is not only about maintenance of the country and population but in this case, Israel’s entire existence depends on it.

A few months ago, as part of a larger plan to lower the cost of living in Israel, the Ministry of Agriculture initiated a reform plan[9] which involved enlarging the import quotas of fresh produce to Israel. The basic assumption for this reform program is that competing import will force local market prices of fresh produce down and this in turn will drive farmers to reduce their prices, utilize their resources better and thus lower the cost of living. What the plan did not consider was the additional benefits that farming in Israel provides such as security, preventing land squatters and more. In an uncharacteristic development, the farmers in Israel united and tried to oppose this plan stating the obvious importance of farming in Israel for the food security of its citizens and highlighting the other benefits of farming that were not taken into account in the plan. The crisis that ensued between the farmers and the government, for the first time in Israel’s history, initiated a conversation regarding Israel as an economic island and food security. The farming community claimed and rightly so, that at times of military crisis supply chains will be jeopardized, especially those that rely on import by sea. A real example of this was brought to the foreground with the Russia-Ukraine war[10]. As Russia and Ukraine are both exporters of grain the conflict between them brought their export business to a standstill. Israel, as an importer of grain, saw the prices rising quickly with no way to soften the blow. Countering the international embargo placed on them, the Russians shut down the supply of gas to Europe[11]. Consequently, prices of energy rose all over the world which impacted most, if not all, industries and is continuing to contribute to the global inflation we are currently experiencing. The counter side of the grain import issue is that Israel, as an exporter of carrots[12] and beets to the Russian and Ukrainian markets, experienced sudden and tremendous surplus that the local Israeli markets could not handle. This excess was created due to the embargo placed by the West on trading with Russia and the economic pressure applied, resulting in the waste of thousands of tons of fresh export quality produce.

The average age of an Israeli farmer is 59 (2017) and currently, there are fewer younger farmers than ever. Less than 1% of all employees in Israel work in agriculture, the lowest in the OECD[13] . The glamor of the high tech industry and a fast exit track with promise of millions of shekels is drawing the younger generation into other jobs and away from farming. The daily routine of a farmer, waking up before dawn, toiling in the fields, tending to the plants in inclement weather and celebrating the ripe produce is no longer considered an attractive profession in 2022 Israeli society. Continued regulation on manpower, water quotas and rising energy costs make the work of the Israeli farmer extremely demanding and challenging. Drone based picking, AI assisted watering systems, and satellite imagery of farmland is far more appealing to the younger generation than the farming work itself. The impact of these changes could be disastrous for the future existence of Israel not only in terms of food security but also to the general security of the state. Significant farming is done on the borders of the country and the presence of farmers, and their staff working every day sends a message of security that is seen by Israel enemies. Additionally, the famers prevent land squatters from claiming government owned land as their own. With The Israeli government owning 93% of the land in Israel and only 7% being privately owned, the farmers are providing an invaluable service[14].

**Israel at War and Military Tension**

On June 5th, 1967, the Six Day War broke out between Israel and its neighboring countries. Prior to the beginning of the war, there was a substantial waiting period in which those countries demonstrated their strength and resolution. On April 17th the Egyptian government passed a resolution to close the Straits of Tiran[15] to any Israeli merchant shipping inbound and outbound reinstating the blockade on the port of Eilat that was lifted after the failed Musketeer Operation (1955). Blocking the Straits of Tiran and the blockade on the Port of Eilat was effectively halting Israel’s economy by cutting off the trade routes with the Far East. Israel could not afford to be extorted economically and made a move to release the blockade and open the Straits of Tiran before any other country.

Between 1953 and 1967 Israel, Jordan, Syria and Lebanon were fighting over water rights[16]. The northern rivers of Hatsbani and Banyas were the focal point of the conflict with Lebanon while the Yarmuch river was the source of conflict between Israel, Jordan and Syria. The war included multiple raids into neighboring countries and aggression from all sides. Shelling was frequent to a point that living in these areas of conflict became hazardous and sniper fire in the fields was frequent.

These are only two examples of the fragile and vulnerable situation in Israel and its reliance on local natural resources for food security, even though not within her borders. The question of water was, and to an extent still is, an issue in Israel, but desalinating plants and different types of recovered water now provide more than 50% of the demand for water in Israel. The issue of water in the Middle East is not to be overlooked. It is part of the peace treaty between Israel and Jordan and allows for a defined amount of water to be funneled to Jordan. It is an important piece of food security and for general security overall. With a decisive plan, and with understanding the significance of water for the sustainability and future of Israel as an independent country, the government resolved a threat to Israel’s existence and at the same time this resolute and decisive plan also solved an important aspect of food security in Israel. Israel’s water supply is now completely self-sustainable.[17][18]

Relying upon merchant shipping and other countries for food import places Israel in a weak position that will always require high defense costs. In just this year (2022) alone the Hizballah, a paramilitary terror organization, based in Southern Lebanon sent three attack drones targeting Israel’s gas rig in the Eastern Mediterranean Sea[19]. If it were not for the INS (Israeli navy ship) Eilat posted at the area and an F16 fighter jet, these attack drones would have caused not only serious damage and loss of life at the gas rig but also a significant impact to Israel’s economy and self-sustaining energy programs. At a time of a larger scale military conflict, Israel will need to protect its merchant shipping fleets which might be targeted by enemies. This defense will take away from Israel’s military power or require more costly defense forces to protect its supply lines. Even without threatening the merchant shipping vessels, an international boycott or a non-intervention policy of exporting counties might put food supply in Israel at a risk we cannot afford. In 1973 OPEC (Organization of the Petroleum Exporting Countries) imposed an oil embargo on the US and several other countries that support Israel[20]. The implications of this embargo caused spiraling costs of gas in the United States, extreme shortages and rationing in Israel. The impact of energy costs across all users almost brought the world into a recession. The United States response to the embargo was to develop its own oil resources with a goal to become independent of oil import. Israel’s unique geo-political situation calls for a similar solution to food security. Israel must develop a self-sustaining food security program that will be independent, as much as possible, from any import thus minimizing the risk and dependency on international food resources.

**Food Security at times of Crisis**

Food security in times of crisis should be one of Israel’s top priorities. The recent COVID pandemic impacted food security in Israel at all levels of the population. The poor suffered the most with reduced and in many cases, even no ability to access food. Public transportation was very limited at the height of the pandemic and this had a severe impact on the most in need. While others could use private vehicles to reach supermarkets, many who rely upon public transportation to do their shopping were hindered by the COVID regulation allowing much fewer people in a bus or on the train. Other solutions such as home delivery from supermarkets were unavailable to the poor due to higher prices of food online, absence of credit cards as a form of payment nor access to the internet. While some found help through neighbors working together to assist the less fortunate tenants, others, such as the elderly had a harder time securing or procuring food. No systematic approach was brought forward in how to deal with this issue, and local food pantries stepped up to fill the gap left by the government. 2 months into the pandemic, the government with support from the IDF (Israel Defense Forces) and the country’s larger food aid organizations, delivered boxes of food to only elderly people who met their qualifications[21]. Even then, the lists were inaccurate, addresses were incorrect and the food delivered was for general purpose and not the most suitable for the elderly. For the first 2 months of the pandemic, the food pantries fended for themselves with no government assistance or leadership. Funds were only made available through philanthropy and corporate contributions.

In 2005 Hurricane Katarina struck Louisiana and left hundreds of thousands of people without food or water. Access to food and water was extremely limited and the first to arrive to New Orleans were food bank trucks from neighboring states. This represents the power of food banks, to act as first responders in a crisis and to arrive on site immediately. The government is not as agile as food banks are and in order to allow for immediate food support in areas of crisis, food banks must be deployed as part of the crisis management. Governments must prepare for this and have funding and pre-authorized plans ready for implementation. FEMA (US Federal Emergency Management Agency) quickly learned about the work of the food banks and added them to their crisis management plan[22]. Today, most foodbanks in the United States receive federal and state support to maintain a required level of food in their warehouses. Food stored for emergencies can be made immediately available anywhere in the US[23]. Israel is a country where unfortunately crises arise almost every year, most of them military in nature, but not exclusively. Israel is located on the Syrian-African rift and is prone to earthquakes. Although earthquakes cannot be predicted at this time, plans should be in place for their repercussions. Food and clean water will be a major challenge with broken supply chains everywhere. Food security for those impacted by such a disaster will require an immediate response from the authorities. Firstly, clean and fresh water and afterwards, nourishment. The food pantries that deliver food on a regular basis, in normal days, will be the best equipped to care for most people. They know their clientele and have accurate addresses and contacts. Relying on local food pantries to supply food at times of crisis is essential. Not even local welfare offices have all the required information, not to mention manpower and volunteers to mobilize when disaster strikes. At the height of the COVID pandemic, local welfare offices made an attempt to manage the food distribution to all of those in need. Some organized food markets, others tried to coordinate food deliveries with local food pantries or find immediate solutions for those requiring food assistance. Unfortunately, understaffed and with their routine work on top of the crisis management, welfare staff collapsed from fatigue and could not manage the food security issue on top of their already demanding jobs. A food security crisis should and can be planned for well in advance, executed by a formal government organization such as the Israeli Council for Food Security.

**Climate and Technology**

With a temperate climate most every piece of produce can be grown anywhere in the country. In 2019, Israeli agriculture grew almost 5.0 million tons of produce[24], in 2020 Israel imported food and a total cost of $3.9 billion.[25] The precariousness of Israel as an import country intensified through the weakening of local food manufacturing which may have dire consequences for the future on Israel’s ability for self-sustainability. Israel must look at the broader picture of food security. With future climate changes and their effects on the weather, the impact of inclement weather on agriculture will result in food shortages that perhaps not even import can adjust. Moreover, Israel is well known on a global scale as an exporter of agriculture technology. For decades the Vulcany Institute[26], the development arm of the Ministry of Agriculture, has been at the forefront of new state of the art technology that increases yields, develops genetically altered produce that is less suspect to pathogens and many more inventions. Just recently, a treaty was signed between the US, India, United Arab Emirates (UAE)[27] and Israel to support each other in creating technologies with the first being a technological solution for India to achieve national food security. Israel is the owner of the technology and can implement it quickly if such a plan or directive existed. A country that will be self sustainable in terms of food, food secure, will adjust better to changes and will be able to feed its citizens. Solutions for food security can be used as a trigger for cooperation and a conduit to peace.

**Food Waste**

Every year, Israel discards approximately 2.5 million tons of food[28]. The impact of this waste is profound. 70,000 tons of gasoline, 180 million m3 of water, and 1 million dunam of land are just a few of the resources invested into what became this excess and then eventually thrown away. The resources required to grow this surplus have a negative impact on the environment, estimated at a value of NIS 3.4 billion ($1 billion USD). Overall, food manufacturing is a harmful process for the environment. If it was not for creating food, we would probably be petitioning our government to close down this manufacturing process. The increased number of food insecure people in Israel represents a crisis with an economic value of NIS 3 billion ($878 million USD) annually. The current surplus that is discarded is worth over NIS 21 billion ($6.2 billion USD), 35% of all food in Israel, and even if only half of it is only suitable for human consumption, we are still throwing away more than three times the amount required to achieve complete food security in Israel. Moreover, food rescue presents a leverage of at least 1:4. For every $1 invested in food rescue $4 worth of food can be rescued. This type of leverage does not exist in any other businesses and although it does not translate into cash, it has many economic, social and environmental benefits. It is imperative that these be addressed by the Israeli government. Achieving food security for all its citizens should be a high priority goal for any government. In Israel, it is realistic to achieve. The size of Israel lengthwise from tip to tip is a 6-hour drive at moderate speed, at its narrowest point, 20 minutes. The climate in Israel is temperate which allows for growing food year-round in most locations all over the country. This gives Israel a tremendous advantage in reaching national food security. Collecting excess produce in any location throughout Israel is made possible due to its size. Discarding quality agricultural produce is not a necessity, it can all be rescued and used for the welfare of all citizens. Israel has a 2% population growth annually[29]. In a recent study commissioned by the Ministry of Agriculture it is estimated that by 2050 the population growth by itself will require 5.7 million dunams of agricultural land, compared to 4.2 million dunams available to the farming community in 2022, 1.5 million dunams more than in 2021. According to the Leket Israel 2020 Food Waste and Rescue Report, 35% of all produce grown in Israel ends up as waste. In effect, Israel has enough fresh produce to feed its citizens in 2050 without adding a single dunam to agricultural land.

**Government and Law**

The Israeli Council for Food Security was established in 2011. [30] As defined by the founding law of the council, its mission is to “promote nutritional security for all citizens of Israel in the spirit of human dignity and equality, justice and decency”. Article 5(1) of the same law stated that “the council will advise the Minister (of welfare and social services) in policies regarding nutritional security including plans to provide nutritional security for all the population in the short and long term.” In actuality, the council has no budget, no power to enforce and has not reported to the government since its inception and as required by law. When studying earlier revisions of the same law, it is evident that law makers did differentiate between food insecurity and food security. Article 6 of the first revision (2010) calls for a five-year plan to reduce food insecurity. In the same article there were even hints for partial solutions such as government control of food rescue. Upon reviewing the protocols of the Knesset (Israel Parliament), the Welfare and Health Committee, that was assigned to discuss the law pre resolution, law makers and officials presiding at the meetings were discussing the law in the context of food insecurity. This was also the framework of the law as brought forward by Members of the Knesset (Parliament Members) when examining nutritional security. The final version of the law excluded many of the items that could make this council powerful and strategic. When the council did convene, it dealt with food insecurity for people living in poverty and never addressed the issue of Israel’s food security. Even today, with a new council that was just recently appointed, the council in its discussions focuses on food insecurity and not food security or nutritional security. It is arguable whether the council should report to the Minister of Welfare and Social Services as this ministry is not a strategical one that can handle the real issue of food security in Israel. Still, the law governing the work of the council is explicit and states nutritional security for all of the population. Should the council or government aspire to deal with food security for all levels of Israeli society, it certainly has the law to support its action. The challenge is in reporting. Nutritional and food security should be strategically discussed and as such should be controlled by the Prime Minister’s Office and the National Security Council. Unfortunately, only when there are existential threats to Israel, will nutritional and food security issues gain traction, develop plans and implement actions with a strategic look at the future of Israel.

**Food Security vs. Nutrition Security**

Food Security is a wide term that incorporates many responsibilities and ideas. One of the most important is achieving nutritional security. While the word food is broad and includes any safe and consumable substance, nutritional security narrows the label food to only healthy foods that support the building blocks of our body. Empty calories that do not support building blocks of the body such as sugar, oil, salt, and processed foods are a significant contributor to obesity and its derivative diseases such as diabetes, cancer and cardiovascular illnesses. It is estimated in Israel that the health cost for poor nutrition caused by bad eating habits amount to over NIS 20 billion ($5.9 billion USD) annually. The impact to the economy in GDP terms is 1.4%[31]. Nutritional security is important in order to define the requirements of food supported by the government in normative times as well as in times of crisis. It also should dictate what the balance should be between import/self-manufacturing and food reserves. But not only that. A nutritional and healthy country is also a country that has less sickness as a whole and more productivity due to a decrease in sick days. It is also a county with less mental illness and depression associated with obesity and other diseases. Israel’s Ministry of Health recommends the Mediterranean diet as the heathiest one. The diet consists of a majority consumption of vegetables and fruit over meat. As Israel is importing most of its meat, this is another consideration to take into account when deciding about self-sustainability and an island state versus import and being dependent on foreign foods.

**Summary**

Food security is a growing and imminent threat on Israel and other countries in the world. Special attention should be taken in countries that are “island” countries and others that are dependent on import of food, but not only food. History shows us that economic pressure can lead to a crisis even in countries that are economically strong, if they are reliant on single external resources without flexibility. A healthy combination of self sustainability and import, with a planned emergency food storage will allow adjustment to almost any crisis the country might face. Climate change will force us to change the way we think about food and where and how we grow it. What used to be in the past might not be what will be available in the future in terms of location of growth and also the amount grown. This is a major threat to countries all over the world and governments must take action and elevate food security to a higher priority in risk management. A country that will plan and execute the plans will have an advantage on others and will probably feed its citizens better. Nutrition is most important when making decisions of food security. Unproper nutrition will lead to additional health costs and although on the short term it may be a solution to supply any food and less expensive food, on the longer run the health cost associated with sickness and disease will see much higher costs. Education is key, from early childhood, continuing to adulthood. Crisis’s in the future are unavoidable and whether they are local or global they will happen. Without proper sustenance for those impacted by the crisis the number of unnecessary casualties will increase.

Food and clean water are the most important sustenance required for our continued survival on this planet. Each government should develop its own plan to maintain adequate supplies of food. Governments all over the world should cooperate in a joint effort to utilize the available food in a way that it will be consumed in the most healthy and economical way in order to feed the current as well as next generations.

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