



Agriculture

in the West Bank and Gaza

ANERA

Improving Lives in the Middle East

Since 1968

ANERA Reports
on the ground in the Middle East

Volume 1

INTRODUCTION

Agriculture is an important cultural tradition vital to the economy of the West Bank and Gaza. Farming families have been a part of Palestinian life for thousands of years. They not only provide communities with food and jobs, they are a source of pride and a means of self-sufficiency.

From drier and drier seasons to ever-changing political obstacles—both physical and bureaucratic—farming families of the West Bank and Gaza face major challenges to their way of life and their livelihoods, but they are responding every day with resilience and creativity. Their survival through sustainable solutions is good for the planet, helps the local economy, and feeds families.

THE WEST BANK

The West Bank experienced limited economic revival in 2009, but its residents continue to face financial hardships and sub-standard living conditions. Israeli-imposed restrictions on movement have disrupted commerce and labor flow. Access to land and resources, along with import and export restrictions, remains a problem.¹ The International Labor Organization (ILO) has noted that settlement activity isolates the West Bank from East Jerusalem and impedes economic growth in the area.² Unemployment officially stands at 19 percent, but this does not take into account the number of underemployed workers, such as those who rely on unpaid family labor or seasonal agriculture.³

Agriculture in the West Bank makes up five percent of the GDP and employs 12 percent of the labor force.⁴ The separation wall running through the West Bank isolates thousands of families from their land, threatening food security and the already fragile economy.⁵ Nearly one fifth of West Bank agricultural land is inaccessible.⁶ West Bank farmers face challenges not only in the realm of production, but in marketing as well. Restrictions on movement and delays at checkpoints make it difficult for goods to be competitive in outside markets. However, farming cooperatives provide a way to strengthen the agricultural sector, bringing farmers together to improve marketing practices.

The West Bank	Gaza
50% of farms are smaller than 2.5 acres	90% of farms are smaller than .5 acre
Average farmer's wage is \$12.70/day	Average farmer's wage is \$6.90/day

THE LIFE OF A WEST BANK FARMER

Farmers in the West Bank grow olives, citrus and stone fruits, grapes, vegetables, herbs, and wheat.⁷ Most farms are small—50 percent are less than 2.5 acres. With the exception of wheat, all crops are harvested manually as harvesting machines are not available. Although 55 percent of West Bank farmers own their land, it is often fragmented by the wall, which prevents farmers from fully reaping the land's benefits.⁸

Many farmers belong to one of the 184 cooperatives in the West Bank, which give them access to mechanized farming implements and trucks for shipping their produce.⁹ Smaller-scale farmers are likely to move their produce to market on donkey-drawn carts.

Farmers typically distribute fruits and vegetables through low-cost daily markets, but certain crops, like tomatoes, cucumbers, zucchini, and eggplants, supply the Israeli market. Very few products are re-exported from Israel, but recently some cherry tomatoes, bell peppers and some fresh herbs reach markets in European and Arab countries.¹⁰

The average daily wage of West Bank farmers amounts to about \$12.70, compared to \$18 in other sectors.¹¹ Farming is the core of the Palestinian lifestyle and culture, even though it is not a lucrative or reliable way to earn a living.



Gaza strawberries

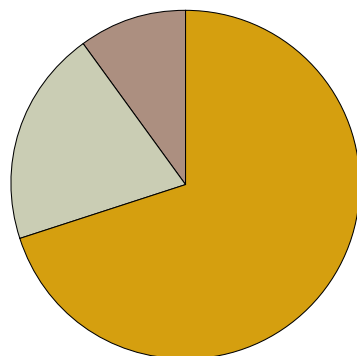
GAZA

The three-year-old blockade by the Israeli government is crippling Gaza's economy and is a huge deterrent to productive enterprise. As a result, it forces Gaza residents to depend on foreign aid and the tunnel (from Egypt) economy for basic goods and income. Without the flow of goods, materials, and labor, Gaza's factories are forced to close. As B'tselem indicates, Israel controls the crossing of people, goods and air space as well as territorial waters, the tax system, and population registry. In addition, as part of the blockade, Israel reduced the fishing area off the coast from 12 to three nautical miles.³ Dramatic increases in sewage pollution have further reduced the catch.

Agriculture in Gaza has also been hit hard by the blockade on exports and imports. A total of 46 percent of agricultural land in Gaza is inaccessible or unusable due to destruction of land during "Operation Cast Lead" and by the "security buffer zone" along Gaza's northern and eastern borders with Israel.¹⁴ The blockade restricts the import of agricultural materials like fertilizers, as well as building materials for irrigation and water wells, desperately needed to rebuild Gaza's infrastructure.¹⁵ The labor force employed by farming dropped from 12.7 percent in 2007 to 7.1 percent in 2009.¹⁶

Bolstering the agricultural sector would create new jobs, feed communities, and improve the quality of life for thousands of Gaza residents, even if it means starting on a smaller scale, such as planting household gardens.

Gaza's Industrial Establishments¹²



70%: closed since 2007
 20%: operating at 10% capacity
 10%: operating at 20-50% capacity

THE LIFE OF A GAZA FARMER

Entering the fourth year of the blockade, the restriction of imports and exports has had a devastating effect on the lives of farmers. Many farmers have given up, as their success depends on whether they will be allowed to export their goods.

In Gaza, 90 percent of farmers have less than half an acre of land. The standard crops are citrus fruits, vegetables, and strawberries – all harvested by hand.¹⁷ Because Gaza has been under blockade, exports have not been allowed. In the past, when farmers were able to export carnations and strawberries to markets in the Middle East and in Europe, income from farming could support a family.

Now, farmers either sell their produce to local stores or suffer losses. Many farming families simply produce enough for their family to eat, since growing large quantities does not pay off financially. The average daily wage for a Gaza farmer amounts to \$6.90.¹⁸

The Buffer Zone

- 73 percent of households near the buffer zone live below the poverty line, compared to 42 percent of Gaza as a whole.
- The buffer zone contains 29 percent of Gaza's arable land
- 50 percent of people living near the buffer zone reported losing their livelihoods since the year 2000.



CHALLENGES TO SUCCESSFUL FARMING

WATER SCARCITY

Challenges

Seventy percent of the water available to Palestinian communities in the West Bank and Gaza is used for agriculture.¹⁹ The World Health Organization recommends 60 liters of water per capita each day to maintain general health, hydration and cleanliness. An estimated 50 percent of Palestinians in the West Bank and Gaza survive on less than 30 liters of water per day.²⁰ The average person in developed countries uses 500-800 liters of water per day. Difficulty for Palestinians in the West Bank lies in a lack of access to local and underground water reserves. In Gaza, underground reserves are quite salty and there is a lack of materials for building irrigation and water collection/sanitation systems. Agricultural work is therefore dependent on rainwater supplies, which, due to increasingly unpredictable seasons, is not a stable source of water.

Ways That Farmers are Coping

Farmers in the West Bank and Gaza are employing new strategies to improve their methods of water usage and maximize what little water is available. Their solutions include improving and introducing rainwater collection systems (ground cisterns, pools to collect water from greenhouse roofs), using plastic coverings to minimize evaporative water loss, and introducing irrigation systems (mainly drip) that have the highest water use efficiency. Some open water distribution canals have been replaced by closed piping systems. Farmers are also collaborating by linking communities into the nearest available reserves and creating more agricultural cooperatives related to water usage.

ANERA modernized the largest spring in the West Bank, Ein al-Sultan in Jericho, by connecting it to an advanced water distribution and irrigation system that serves more than 940 farming families. The system saved 30% of the spring waters, which were lost through leakage and evaporation from the previous open-canal system.

A water users' cooperative maintains the irrigation system and ensures that farmers are charged a fair rate for usage.

The Ein al-Sultan Spring Irrigation project helped set a standard for how to best introduce, develop, and manage a new irrigation system.



This farmer in Qalqilia, West Bank, is harvesting thyme. She belongs to an agricultural cooperative that has been moving away from harvesting perishable crops such as tomatoes to crops that have a longer shelf-life in order to cope with farm-to-market challenges.

FARM-TO-MARKET ISSUES RELATED TO EXPORTATION

Challenges

Export of produce is critical to improving the earning potential of farmers, but in the West Bank and Gaza there are major farm-to-market challenges. Fresh vegetables and fruit are perishable and must be delivered within a few days of harvesting to the end user. Produce often goes bad during the exportation process due to delays at the border and inadequate cold storage facilities. Impractical exporting options create a surplus of produce in the local West Bank market, driving prices down and making it harder for farming families to make a profit.

Gaza cooperatives used to export cut flowers and strawberries through contractual agreements with Israeli exporting companies for European consumption. Gaza now has additional challenges since export has been virtually eliminated after the blockade, and farmers are forced to sell only within Gaza's borders.

For farmers in both the West Bank and Gaza, these challenges make an income from farming unpredictable and undependable.

Ways That Farmers are Coping

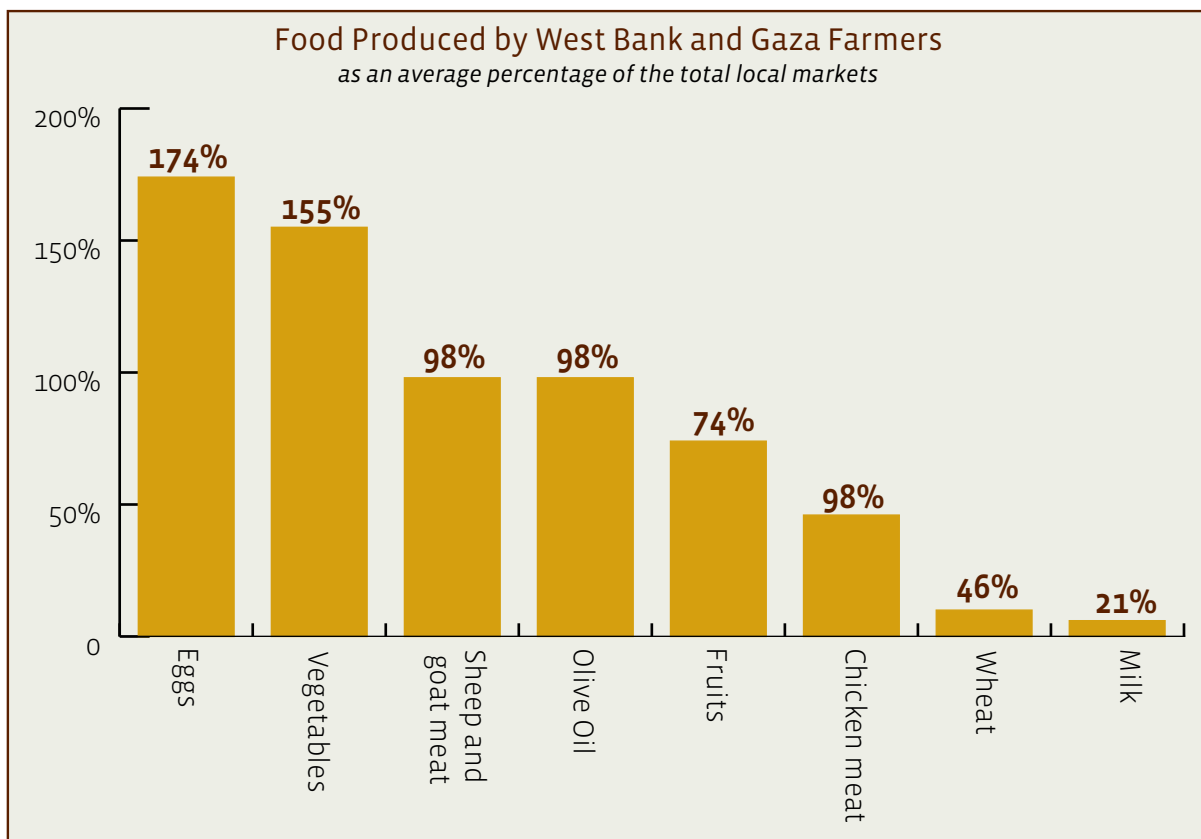
Due to cumbersome border procedures, farmers are working around obstacles by diversifying their crops to minimize risks; one crop may compensate the loss of another. Some farmers have shifted to produce that can be processed or have a longer shelf life, such as sun-dried tomatoes, thyme and dates. The construction of farm-to-market access roads can also help farmers reduce production costs and improve the quality of produce, consequently increasing competitiveness in the export market

Gaza faces far greater restrictions, the solutions are often limited to individual families learning home gardening and livestock-raising good practices. Until the borders open and the economy operates more freely, a family's first priority is creating a stable and healthy way of feeding themselves, and eventually moving away from relying on food aid.

Gaza Carnations

Each year, Gaza has the potential to export 55 million carnation flowers, one of the few goods that are competitive in outside markets. However, last winter only 25 percent of the total pre-blockade potential was exported (OCHA). In 2008, carnation farmers lost about US\$6.5 million because of the blockade (Oxfam).

ANERA hired workers in Gaza to clear agricultural plastics from fields, which are sent to a recycling factory to be turned into plastic pipes for irrigation and electricity. Building supplies are not allowed into the region, so Gaza residents have to make creative use of what they have available. Pictured is a farmer whose land was cleared.



Source: Palestinian Ministry of Agriculture, Department of Statistics and Planning

AGRICULTURAL IMPORTS

Challenges

With the introduction of greenhouses in the 1970s and 1980s, farmers began practicing on a larger scale, increasing the need for fertilizers and pesticides. However, farmers face challenges because agricultural imports are restricted or not permitted. Many fertilizers, for example, are prohibited from import by Israeli authorities. Non-lethal, quality pesticides are also not available. Sustainability is an issue as farmers resort to cheap, chlorine-based fertilizers, which are known to increase the soil salinity and accelerate soil degradation. The blockade on Gaza raises additional concerns, such as the inability to import materials for building greenhouses or pipes for irrigation.

According to UNRWA, 25 percent of West Bank residents and 56 percent of Gazans do not have adequate access to food supplies. Most people rely on food imports, which are vulnerable to border restrictions and rising global food prices. This aggravates a number of health problems, causing the World Health Organization (WHO) to express concern at the rising rates of malnutrition and anemia in the Palestinian Territory.²¹ Although import limitations remain an issue for food security, a revitalized agricultural sector would help alleviate this problem.

The Wild Boar Problem

Wild boars are ravaging Palestinian farmlands in the West Bank. Cut off from their habitats by the Separation Wall and bypass roads, the boars are moving closer to Palestinian villages in search of new food. There are also allegations of Israeli settlers releasing the pigs to help the “biodiversity” of the area. These boars are a threat to farmers, not only because they are aggressive to humans and animals, but because they can destroy crops and uproot small trees. Because Palestinian farmers are not allowed to carry guns, they are unable to defend themselves and their land against the pigs. Many are avoiding growing certain crops, like tomatoes, out of fear that they will be attacked.

Ways That Farmers are Coping

Farmers in the West Bank and Gaza are dealing with import restrictions in several ways. In the West Bank, many farmers are forming cooperatives and adhering to strict standards of the “Global GAP” (Global Good Agricultural Practices) that discourage the use of chemicals. Gaza residents are turning to ingenious ways to recycle material to build much-needed greenhouses and irrigation networks. In addition, Palestinian farmers are turning to sustainable and self-sufficient agricultural practices like composting to turn organic waste into a resource for healthy soil, reducing reliance on fertilizers. They are also exploring Bio Gas to produce methane in order to rely less on imported fuel.



Photo on left:
Wholesale market
ANERA is currently
constructing near
Tulkarem, West Bank.

Photo on right:
Wholesale market
ANERA built in 1985
near Hebron, West
Bank. The market
continues to thrive
25 years later.

SOME EXAMPLES OF ANERA'S AGRICULTURE WORK

For more than four decades, ANERA has worked with farmers in the West Bank and Gaza to improve marketing, reduce production costs, introduce new crops, modernize irrigation, strengthen cooperative-based production, and improve packing and grading facilities. ANERA's major sources of funding for agriculture work have been the U.N. International Fund for Agricultural Development, the U.S. Agency for International Development, ACDI/VOCA, and private donors.

FRUIT AND VEGETABLE WHOLESALÉ MARKETS

ANERA is constructing wholesale markets in Tulkarem and Jericho, West Bank. The 1,000-square-meter markets give farmers a place to sell their produce directly to consumers.

LAND RECLAMATION AND ENVIRONMENTAL PROTECTION

With \$1 million, ANERA implemented a drought mitigation program in Hebron. The initiative reclaimed 100 previously unfarmed acres and renovated 40 Roman cisterns that benefit herders in grazing areas of the eastern slopes of Hebron.

In 2008, ANERA completed terracing projects to reclaim marginal land, prevent soil erosion and preserve moisture. Approximately 50,000 square meters of terraces were constructed using local labor. Land reclaimed by terracing was planted with fruit trees, grapevines and wheat.

MARKET ACCESS ROADS

During the past decade, ANERA has constructed more than 100 kilometers of agricultural market access roads throughout the West Bank. These roads have facilitated farmers' access to agricultural land while improving the quality of produce that gets to market.

AGRIBUSINESS AND FOOD SECURITY

Between 2007 and 2008, ANERA implemented a \$1 million food security project that strengthened the capacity of five cooperatives serving 350 farmers in the northern Jordan Valley.

MICROCREDIT

With assistance from IFAD, ANERA established a loan program that has been active since 1995. It has provided credit to thousands of farmers in the Jordan Valley and fishermen in Gaza for the development of small and medium enterprises, particularly those related to marketing and processing agricultural products.

HOUSEHOLD FOOD SECURITY

In response to the ongoing blockade of Gaza, ANERA has begun several projects aimed at improving household food security. These include delivery of chickens to more than 500 families for egg-harvesting; employment of workers to revitalize farmlands polluted by plastic agricultural waste; and initiation of the Household Gardening Program, which will supply 100 families with materials and coaching in planting techniques, water harvesting, small animal husbandry and composting.

CONCLUSION

Agriculture plays a vital role in the region's future with its direct effect on the economy of the West Bank and Gaza and its important place in the roots of Palestinian society and culture. Palestinians are coping in creative ways every day despite the challenges to establishing a livelihood or any sustainable economic activity based in agriculture. Whether the challenge lies in water scarcity, soil degradation, or blockade restrictions, Palestinian families implement innovative and collaborative approaches to living off the land.

ANERA has been committed for over 40 years to supporting projects that expand agricultural practices for the very survival, health, and self-sufficiency of communities throughout the West Bank and Gaza. Investing in agriculture not only provides much needed immediate relief to families struggling with poverty and inaccessibility to food and water, but also establishes roots for long term economic growth.

ENDNOTES

- 1 CIA World Factbook
- 2 UN News Center
- 3 World Bank, 2008
- 4 CIA World Factbook
- 5 World Food Program <http://www.wfp.org/node/3465>
- 6 IFAD
- 7 USAID, 2002
- 8 USAID, 2002
- 9 Palestinian Central Bureau of Statistics <http://www.pcbs.pna.org/DesktopModules/Articles/ArticlesView.aspx?tabID=0&lang=en&ItemID=610&mid=10956>
- 10 USAID, 2002
- 11 Palestinian Central Bureau of Statistics <http://www.pcbs.pna.org/DesktopModules/Articles/ArticlesView.aspx?tabID=0&lang=en&ItemID=610&mid=10956>
- 12 Worldbank and Paltrade, 2009-2010 - <http://siteresources.worldbank.org/INTWESTBANKGAZA/Resources/Dec09-Jan2010.pdf>
- 13 B'Tselem
- 14 "Farming without Land, Fishing without Water: Gaza Agriculture Sector Struggles to Survive," OCHA, 2010
- 15 Palestinian Ministry of Agriculture, Palestinian Hydrology Group, and Land Research Center (Jerusalem)
- 16 OCHA, 2010
- 17 USAID, 2002
- 18 Palestinian Central Bureau of Statistics <http://www.pcbs.pna.org/DesktopModules/Articles/ArticlesView.aspx?tabID=0&lang=en&ItemID=610&mid=10956>
- 19 IFAD
- 20 USAID, 2010 <http://www.usaid.gov/wbg/wri.html>
- 21 IRIN

ANERA

Improving Lives in the Middle East

Since 1968

ANERA Headquarters
1111 14th Street NW, #400
Washington, DC 20005
+1-202-266-9700
anera@anera.org
www.anera.org