

# FAO Disaster Risk Reduction Brief

## West Bank and Gaza Strip



March 2013

### Disaster Risk Reduction Framework: Four Integrated Pillars

Through its disaster risk reduction activities, the Food and Agriculture Organization of the United Nations (FAO) seeks to protect livelihoods from shocks, to make food production systems more resilient and more capable of absorbing the impact of, and recovering from, disruptive events.

**At the core of the Disaster Risk Reduction for Food and Nutrition Security Framework Programme are four integrated thematic pillars:**

#### **PILLAR 1 – ENABLE THE ENVIRONMENT: Institutional strengthening and good governance for DRR in agricultural sectors**

Pillar 1 seeks to support the enabling environment of member countries, with appropriate legislation, policies and institutional frameworks for disaster risk reduction for food and nutrition security in agriculture, livestock, fisheries/aquaculture, forestry and natural resource management, and to strengthen the institutional capacities to implement these.

#### **PILLAR 2 – WATCH TO SAFEGUARD: Information and early warning systems on food and nutrition security and trans-boundary threats**

Pillar 2 seeks to strengthen and harmonize food and nutrition security information and early warning systems to better monitor the multiple threats and inform decision making in preparedness, response, policy, advocacy and programming

#### **PILLAR 3 – PREPARE TO RESPOND: Preparedness for effective response and recovery in agriculture, livestock, fisheries and forestry**

Pillar 3 seeks to strengthen capacities at all levels in preparedness to improve response to, and recovery from, future threats to food and nutrition security, and to reduce their potential negative impact on livelihoods.

#### **PILLAR 4 – BUILD RESILIENCE: Prevention, mitigation and building resilience with technologies, approaches and practices across all agricultural sectors**

Pillar 4 seeks to address the underlying risks to food and nutrition security and build the resilience of livelihoods through the application of technologies, practices and approaches in farming, fisheries/aquaculture, forestry and natural resource management.

#### **CROSS CUTTING PRIORITIES**

The four pillars address disaster risk reduction as a whole; they are inter-dependent and mutually reinforcing. The Framework Programme promotes the integrated implementation of the four pillars for a more holistic approach, striving to maximize the synergies and complementarities between the pillars and hence the critical links between good governance, early warning, preparedness, mitigation and prevention. The four cross-cutting priorities of the Framework Programme are in-line with the core functions of FAO's Strategic Framework. They include:

- Capacity development
- Knowledge management and communication
- Strategic partnerships
- Gender equity

**KEY FACTS**

**Food Insecurity:** 20% in West Bank and 57% in Gaza (2012)

**Population:** 4 293 309 (2012)

**No. of refugees:** 1 885 188

**GDP per capita:** USD 2 670 (2011)

**Labour force by occupation:** agriculture 12%; mining and manufacturing 12%; services 38%; construction 14% (2011)

**Total land area:** 6 024 km<sup>2</sup>

**Total arable land:** 1 060 km<sup>2</sup>

**Life expectancy:** female: 73 years; male: 71 years

**Literacy rate:** female: 91.3%; male: 97.4%

**Human Development Index:** 110/182

(Source: UN; PCBS; ARIJ)

The crisis in the West Bank and Gaza Strip (WBGs) is often characterized as being predominantly human-induced. However, since 2011, environmental threats (trans-boundary animal and plant pests and diseases) as well as natural hazards (water scarcity, wind/rain storms, etc.) have further demonstrated the protracted nature of the situation faced by Palestinians.

**A Disaster Risk Reduction (DRR) approach for food and nutrition security continues to be the most suited for the protracted and complex nature of crisis in the WBGs.** The table below summarises the main risks in WBGs which are constantly monitored by FAO and partners.

RISK TYPE	DESCRIPTION
<b>Political</b>	<ul style="list-style-type: none"> <li>• War, civil unrest, casualties and destruction of farmers herders and fishers assets</li> <li>• Movement and access restrictions on goods and people</li> <li>• Limitations on natural resources access and management</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>• Changes in local and international prices</li> <li>• Palestinian Authority fiscal crisis and disbursement of wages</li> <li>• Employment</li> <li>• Private sector investment and consumer spending</li> <li>• GDP growth</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• Animal and plants pests and diseases (Red Palm Weevil, Food and Mouth Diseases and locust)</li> </ul>
<b>Natural</b>	<ul style="list-style-type: none"> <li>• Floods</li> <li>• Droughts</li> <li>• Earth quakes</li> </ul>

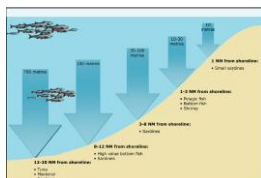
## GOVERNANCE FOR DRR AND EARLY WARNING SYSTEMS

FAO's DRR strategy spans from the highest policy level to its community and household level interventions in the WBGs. At the **policy level** FAO supports the integration of DRR concepts within the Ministry of Agriculture (MoA) to ensure good governance for DRR.

This initiative includes the provision of technical support for strategic planning; FAO supported the MoA to develop the Agriculture Sector Strategy and Plan of Action (2011-2013). When it comes to translating words into action, FAO draws on its global experience and takes advantage of best practices across the world. For instance experts are mobilized to develop an agriculture insurance policy in WBGs and to improve information gathering on marine life in Gaza.

The extent to which humanitarian and developmental interventions are effective is highly dependent upon the ability to correctly **diagnose and understand the core causes of food insecurity**. FAO is working with the MoA to harmonize food security information and systematically monitors threats that can put food producers and consumers at risk. The aim of this exercise is to be able to forecast the intensity of shocks and give an **early warning** to policy makers, farmers and other key stakeholders. Wide range of communication products are systematically released to inform action and monitor risks.

## Food Security Information for Action



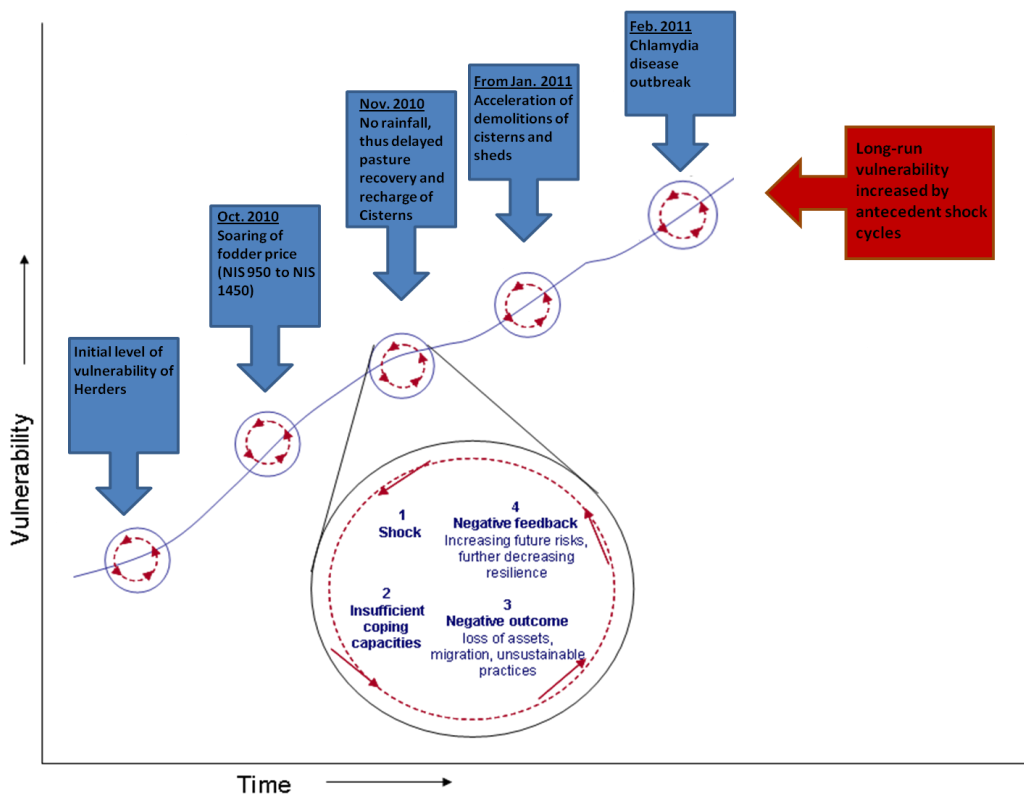
- ✓ Socio-Economic Food Security Survey
- ✓ Released annually and provides macro level of information on Food Security trends in the West Bank and Gaza Strip
  
- ✓ Food Security Watch
- ✓ Released on a monthly basis and monitors key political, economic, environmental and natural risks
  
- ✓ Livelihood profiles (herders, farmers, urban farmers and mixed )
- ✓ Updated every three years and provides information on the characteristics of key producing groups, their geographic location and monitors their resilience overtime to shocks
  
- ✓ Rapid Food Security Assessments once major shocks occur
- ✓ Conducted as needed
  
- ✓ In depth technical reports on the livelihood implications resulting from access and movement restrictions

## WHAT DOES RISK MEAN IN PRACTICAL TERMS?

### The example of herders in the West Bank

Vulnerable communities are susceptible to various types of shocks. Understanding the relationship between the type of shocks and implication on the lives of these communities is essential for policy makers and humanitarian actors alike.

There are 10,879 livestock holders in the West Bank. Between October and February 2011 they experienced a series of shocks; soaring fodder prices, followed by low rainfall season, acceleration in demolition of their assets and finally a Chlamydia outbreak in February 2011. Each shock cycle triggered a set of coping mechanisms some of which were negative. For instance the sharp increase in fodder prices for a continued period of time led to the sale of productive assets and reduction in households' expenditure on education of children, especially of girls. If no - or untimely - response is provided to these communities, their level of vulnerability increases and the probability of them falling under the poverty thresholds increases.



### PREPAREDNESS AND RESILIENCE BUILDING

The West Bank and Gaza Strip are characterized with the multiplicity of actors in agriculture. FAO works closely with its partners to streamline and integrate Food Security assessment, and examine the available technologies to reduce the time-lag between the assessment and response in cases of emergencies. FAO WBGs strongly supports a decentralized approach to capacity development. As the information flows from the field to the centralised offices in Ramallah, the focus of training and capacity development of MoA field staff is essential measure of preparedness.

Through a set of interventions, since 2002 FAO has been redressing the main driver of risk. **Addressing Water Scarcity** is one of the main focuses of FAO's work in WBGs. Rainwater harvesting cisterns, community level water reservoirs and grey waste water treatment units were established to reduce vulnerability to water scarcity. Fluctuations in international input prices have major consequences on Palestinian farmers and herders. To improve their **Terms of Trade**, FAO has been supporting the development of a more productive livestock sector by increasing the amount of available rangeland (reduce exposure to fodder price fluctuation), disseminate good livestock practices through the establishment of model farms and promote crop diversification and shift to higher value crops. In partnership with the MoA, FAO has been addressing **pests and diseases** by development either through emergency vaccination campaigns or the strengthening the diagnostic capacity of the veterinary department and laboratories.

### PROMOTING RESILIENT CITIES - THE CASE OF GAZA

Agricultural livelihoods and food security for the 1.6 million Palestinians in the Gaza Strip have been devastated by the ongoing blockade since June 2007, only partially eased in June 2010 and 2012. Gaza is one of the most densely populated areas in the world, with 4 500 people per square kilometre. It is estimated that it will increase from its current population of 1.6 million people today to 2.1 million people by 2020, resulting in a density of more than 5 800 people per square kilometre (UNCT, 2012). Infrastructure, electricity, water, sanitation, municipal and social services are already not keeping pace with the needs of this quickly growing populace (UNSCO, 2012).

#### Urban agriculture as a response to food insecurity



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Since 2011 FAO has provided 550 rooftop and backyard gardens in Gaza. FAO also piloted aquaponics systems.

Aquaponics is a vertical rooftop or backyard gardens connected to a fish tank. This integrated production system, capitalizes on the synergies between aquaculture (fish farming) and horticulture (vegetable or fruit growing), and can work where there is no land, no space and where resources are scarce.

Waste water from the fish tanks is used to irrigate the vertical rooftop gardens, and acts as an organic fertilizer, increasing vegetable and fruit production without the need of chemical fertilizers. On the other hand, vegetable waste products are used to feed the fish. Aquaponic systems are an inexpensive source of animal protein and vitamins and thus greatly improve the diets and health of vulnerable households.

The first tomato harvest from a rooftop aquaponic unit  
@FAO/Christopher Somerville

### HOW CAN WE BE SURE THAT OUR INTERVENTIONS BUILD RESILIENCE?

FAO WBGs office developed a tool to quantify the concept of resilience.

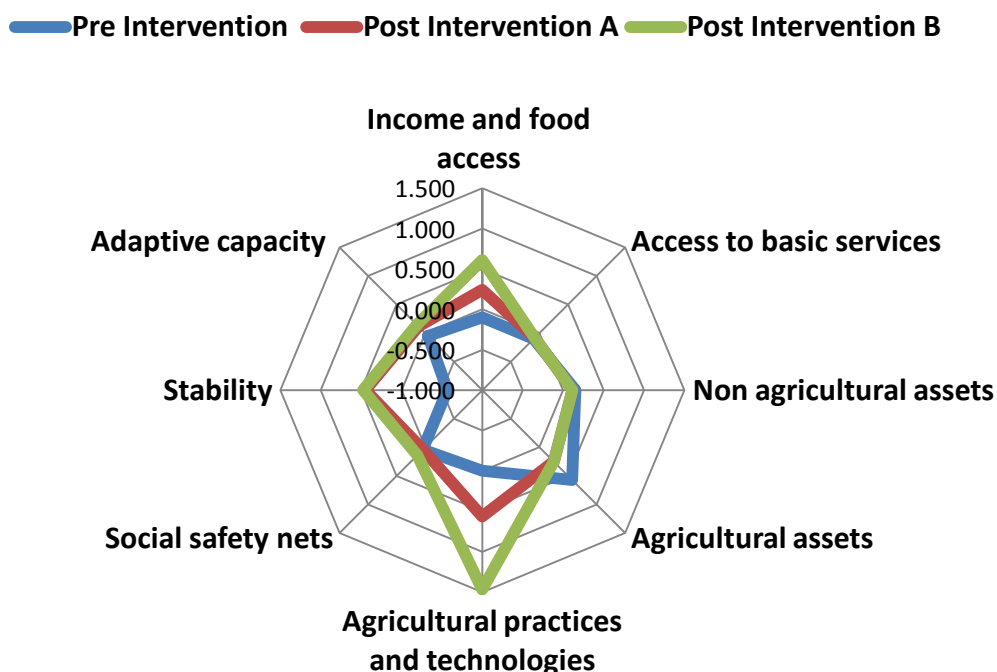
The resilience tool provides a framework for understanding the most effective combination of short and long term strategies for lifting families out of cycles of poverty and hunger. It is based on the principle that the factors that make households resilient to food security shocks must first be understood, and then strengthened. The resilience framework looks at the root causes of household vulnerability instead of trying to predict how well households will cope with future crises or disasters. It also considers how household food security links to the entire food system.

Factors that make households resilient to food security shocks and stresses include:

- income and access to food;
- assets such as land and livestock;
- social safety nets such as food assistance and social security;
- access to basic services such as water, health care, electricity, etc.;
- households' adaptive capacity which is linked to education and diversity of income sources; and
- the stability of all these factors over time.

These factors are combined into an index which gives an overall quantitative "resilience score". The score clearly shows where investments need to be made to further build resilience. **By using this quantitative approach, decision makers can objectively target their actions and measure their results over time.**

#### EXAMPLE OF THE RESILIENCE TOOL



## Summary of the FAO Disaster Risk Reduction interventions

### 1/ ENABLE THE ENVIRONMENT:

Institutional strengthening and good governance for DRR

- Agriculture Sector Strategy and Plan of Action (2011-13) - technical support (conceptualizing, drafting, monitoring progress and final evaluation)
- Development of Agricultural insurance policy
- Integrate DRR into MoA Strategy and support MoA to establish links with stakeholders on the national level (DRR platform)
- Capacity development of MoA staff (Central and Directorate levels)

### 4/ BUILD RESILIENCE:

Prevention, mitigation and building resilience

- Addressing water scarcity: community reservoirs, rainwater harvesting cisterns, grey water treatment
- Improving Terms of Trade: develop productivity of livestock sector, crop diversification and shift to higher value crops (reduce exposure to risk)
- Promoting resilient cities: urban agriculture activities

Four integrated thematic pillars

### 2/ WATCH TO SAFEGUARD:

Information and early warning systems on food and nutrition security and trans-boundary threats

- Organize and harmonize food security information (risks monitoring)
- Communication products to inform action: Food Security Watch, SEFSec, livelihoods profiles, resilience analysis and risk mapping
- Examine the possibility of launching IPC in oPt to improve links between analysis and response

### 3/ PREPARE TO RESPOND:

Preparedness for effective response and recovery in all agricultural sectors

- Integrate assessments
- Examine tools to reduce the time lag between assessment and response
- Decentralized approach to HR training and capacity development (director level)

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FAO WEST BANK AND GAZA STRIP