



Food & Nutrition Security Solution: Resilient Food Systems

The Challenge

- + Of the 805m smallholders, 791m live in developing countries (representing 13.5% of the total population in developing countries).(1)
- + 2.2b live on less than \$2 per day and spend 50-80% of their income on food, which makes them vulnerable to food price volatility.(2)
- + A population predicted to be 9.6b people by 2050 will require double today's food availability.(3)
- + 32 percent of all food produced in the world is lost or wasted, which when converted into calories, equates to a global food loss and waste amounting to approximately 24 percent of all food produced.(4)
- + There are 500m smallholder farmers that produce more than 80% of food consumed in the developing countries.(1)
- + Women contribute up to 60% of the labour for food production but gain few of the benefits of land ownership and are marginalised in household decision-making around income and asset distribution.

Agriculture accounts for 40% of employment globally but at the same time is responsible for 70% of fresh water usage

and at least 30% of greenhouse gas emissions.

- + People who depend directly on agriculture have to respond to long-term changes in weather patterns and the immediate impact of extreme weather events including droughts and floods.

The opportunity

Traditional agricultural practices, poor productivity and high food loss/waste, coupled with a historical lack of investment in rural development, inequitable land tenure systems, and gender and income disparities have contributed to 805 million people still being food insecure.

With the increasing effects of climate change, economic shocks, volatile food prices and pressure on natural resources, there is a real risk of even more people sliding back into food insecurity.

SNV has developed and implements a robust approach supporting rural development programs to respond to the diverse needs of rural poor in achieving food security and more resilient food systems.

1) FAO 2014. State of World Food and Agriculture.
<http://www.fao.org/publications/sofa/2014>

2) World Bank 2014. <http://www.worldbank.org/en/topic/poverty/overview>

3) United Nations 2014 Department of Economic and Social Affairs,
<http://bit.ly/1FnSDH0>

4) Lipinski, B. et al. 2013. "Reducing Food Loss & Waste." <http://bit.ly/1kmWB9L>





Resilient Food Systems

Sustainable food production, reduced loss & waste of food, informed decision making, markets for the poor & better governance



Evergreen farms

- > Smart seed and crop management
- > Integrated soil and pest management
- > Integrated agro-forestry systems
- > Better water use
- > Energy for agriculture

Reduced food loss & waste

- > Reduce post-harvest losses
- > Enhance food preservation techniques
- > Improve food storage facilities
- > Develop more efficient supply chains
- > Facilitate access to markets (1)
- > Reduce food waste
- > Waste to worth (3)
- > Promote food safety

Informed decision making

- > Needs assessment of rural households
- > Decision making and planning in farm and livestock management
- > Gender and youth empowerment (4)
- > Vocational training
- > Mobile technologies to access information on markets
- > climate smart agriculture and climate early warning systems
- > Plan for diversified agricultural systems

Market systems development

- > Market linkages and incentives
- > Commodity value addition
- > Commercial business services
- > Market-driven input models
- > Markets 4 Poor systems facilitation

Pro small-holder governance

- > Reinforce institutions and policies for extension, food storage and trade
- > Support land rights and land tenure security for small-holder farmers
- > Support local business hubs for appropriate service delivery and finance
- > Promote community based mechanisms for climate adaptation (2)
- > Evidence based policy making

(1) Delivered in collaboration with SNV Sustainable Markets, (2) Delivered in collaboration with SNV Climate Smart Agriculture
 (3) Delivered in collaboration with SNV Renewable Energy, (4) Delivered in collaboration with SNV Gender & Youth in Agriculture

The Solution

A review of global hunger and malnutrition shows that progress in hunger reduction at the global level has continued, but that household food security remains a challenge.

Barriers to resilient food systems leave many households vulnerable to external shocks and caught in a cycle of poverty and income disparity. Our Resilient Food Systems solution directly impacts household food security, addressing four interrelated pillars:

- Adaptive and sustainable food production.
- Zero loss or waste of food.
- Informed decision-making at household level.
- Better governance and public policies in favour of smallholder farmers.

It is an innovative and holistic approach, which draws on best practice in agriculture, resilience, post-harvest technologies and supply chains, market linkages, gender, and local public institution building.

The SNV approach offers a range of interventions that will be specific for each context, but which will be underpinned by the following:

- Promoting sustainable agricultural practices such as access to quality inputs, strengthening market linkages, integrated soil and pest management, improved water and soil conservation, scaling-up farmer-led extension services and building resilience into smallholder farming systems.
- Reducing loss or waste of food by reducing the impacts of post-harvest pests and diseases, enhancing food storage and preservation, increasing the efficiency of supply chains, facilitating access to markets, converting waste to worth and promoting food safety e.g. reducing aflatoxins in maize

The Delivery

SNV's key experts in Agriculture, Food & Nutrition Security work in collaboration with SNV's strategic partners:

- Committee on World Food Security (CFS)
- Global Forum for Agricultural Research (GFAR)
- International Centre for Tropical Agriculture (CIAT)
- International Food Policy Research Institute (IFPRI)
- International Fund for Agricultural Development (IFAD)
- International Institute for Economic Development (IIED)
- International Land Coalition (ILC)
- International Livestock Research Institute (ILRI)
- Inter-réseaux Développement Rural
- Royal Tropical Institute (KIT)
- World Agroforestry Centre (ICRAF)
- Relevant National Programmes

Zero Hunger Challenge Targets

- All food systems are sustainable
- Zero loss or waste of food
- 100% increase in smallholder productivity and income
- 100% access to adequate food all year round
- Zero stunted children under two years old

Zero Hunger Challenge 2014
www.un.org/en/zerohunger

- and nuts; temperature control in dairy produce etc.
- Facilitating informed choice by farmers through access to information on markets, climate smart production technologies and climate early warning systems using innovative electronic extension and mobile technologies.
- Empowering women and youth in food production, processing and marketing.
- Sustaining land rights of, and land tenure security mechanisms for smallholder farmers.
- Brokering for public and private investment to raise agricultural productivity.
- Generating an evidence base to inform policies and legal frameworks that enable sustained progress in food security.

The Impact & Outcomes

SNV's impact indicators include the number of:

1. People (women, men) with food security.
2. Farms and firms with improved productivity (quality, quantity).
3. People (women, men) with increased income.
4. Clients who have improved productivity of the targeted farms and enterprises.
5. Clients delivering appropriate agricultural services to targeted farms and small/medium enterprises.

Outcomes:

1. Increased capacity of smallholder farmers, especially women and youth, to practice sustainable agricultural production.
2. A reduction in food loss through the introduction of innovative technologies in post-harvest handling and processing; together with more efficient supply chains and market linkages.
3. Robust and adaptive food security strategies developed at household, community and national levels.
4. Impacts of external shocks mitigated.
5. An enabling environment for improving food security created.

Value for Money

SNV's overall value-for-money for this solution is €50 per beneficiary (based on SNV's current project portfolio).

A selection of SNV projects targeting Resilient Food Systems:

Donor	Title	Country	Beneficiaries
Dutch Embassy	Kenya Market-led Horticulture Program (HortImpact)	Kenya	75,000
EU	Integrated Food, Nutrition and Income Security Programme For Binga and Hwange Districts	Zimbabwe	85,000
Dutch Embassy	Kenya Market-led Dairy Program	Kenya	35,000
IFAD	Project for Agricultural Development and Economic Empowerment (PADEE)	Cambodia	90,000
USAID	Graduation with Resilience to achieve Sustainable Development (GRAD) in Ethiopia	Ethiopia	65,000
Comic Relief	Empowerment of Women Smallholders in the Rice Value Chain in Tanzania	Tanzania	160,000
Enhanced Integrated Framework (EIF) Programme	Trade and Investment Project for Enhanced Competitiveness of Zambia's Apiculture Sector (TIPEC-ZAS)	Zambia	90,000
AusAid/DFAT	Sowing the Seeds of Change - Community Based Climate Change Mitigation Through Sustainable Rice Production (SSC/SRI Project)	Vietnam	6,400
SIDA	Gouvernance Locale Démocratique Phase III	Mali	105,000
World Bank	Reconstruction and Rehabilitation of the Agriculture sector in Equateur Province (PARSSA)	DRC	19,000
DGIS/World	Enhancing Food and Water Security for Rural areas	Kenya	10,000
DANIDA	Food Security Rural Agro Restocking	Zimbabwe	160,000
EU	Enhanced Community Resilience to Drought through Innovative Market Based Systems (KRDP Lot I)	Kenya	27,000
USAID	ENSURE II Development Food Assistance Programme	Zimbabwe	140,000
IFAD	Inclusive Business Model to Promote Sustainable Smallholder Cassava Production	Laos, Cambodia, Vietnam	2,000
DGIS	Mau Mara Serengeti Sustainable Water (MaMaSe) Initiative	Kenya	10,000
AGRA	Improving Food Security and Incomes of Smallholder farms - Pigeon Pea/Maize	Mozambique	70,000
EU	Enhanced Community Resilience to Drought through Innovative Market Based Systems (KRDP Lot 2)	Kenya	47,000
SDC	Lao Upland Rural Advisory Services	Laos	5,000
Alicorp	National Quinoa Programme	Peru	200
Bill & Melinda Gates Foundation	Procurement Governance for Home-Grown School Feeding Program	Ghana, Mali & Kenya	250,000