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# PROMISING PRACTICES

Agroecological Lessons from El Salvador and Nicaragua





## Acknowledgements

The work and achievements as set out in this publication would not have been possible without the support, commitment and energy of the SCIAF partners, community-based organisations, and programme participants in El Salvador and Nicaragua. We would also like to thank the European Union and the Big Lottery Fund, whose financial support made the programmes and publication possible.

## Partners

### SCIAF

The Scottish Catholic International Aid Fund (SCIAF) is the official overseas aid and development charity of the Catholic Church in Scotland. SCIAF works in 15 countries in Africa, Asia and Latin America, helping people of all faiths and none to overcome hunger, poverty, war and natural disasters. Inspired by the Gospel, our mission is to help the poorest free themselves from poverty and overcome injustice so they can survive and thrive.

### CANTERA

CANTERA is a Nicaraguan NGO with 30 years experience in improving critical awareness and advocacy, to promote sustainable rural communities in drought hit areas of the country. CANTERA promotes care and environmental protection, agroecological production and holistic wellbeing. Its mission is to contribute to gender equity, spirituality, strengthening of identities and capacities that improve the quality of life of the most vulnerable sectors of rural and urban society.

### FEDICAMP

FEDICAMP is a Nicaraguan civil society non-profit organisation, made up of six local associations located in the Departments of Estelí and Madriz. FEDICAMP promotes sustainable rural development through agroecology and the sustainable management of natural resources, in order to improve the quality of life of Nicaraguan families.

### CVX

Solidarity CVX (formerly known as the Jesuit Service for Development - JDS) is a Salvadoran NGO that provides accompaniment to rural families to transform their production processes to a sustainable agriculture approach. Its purpose is to contribute to the construction of a dignified life in rural communities, through sustainable agriculture, a solidarity economy, community organisation and popular communication.

### CESTA

CESTA is the Salvadoran representative of Friends of the Earth International. A leading NGO in El Salvador, specialising in environmental issues, sustainable agriculture, climate change, solid waste and water management, and promoting the human rights of people with disabilities. All their work gives priority to vulnerable groups such as disabled people, youth, small-scale farmers and rural communities. The mission of CESTA is to contribute to strengthening a movement for justice and the environment that promotes the sustainability of El Salvador.

### COMUS

COMUS is an NGO formed by organisations of small-scale farmers in the department of Usulután in El Salvador. Created during peace negotiations in El Salvador, COMUS supports the transition from conflict to peace, and provides livelihood options for rural communities. They are experts in sustainable agriculture and local marketing, and are leaders in the small-scale production of coffee and basic grains, and agroindustrialisation of coffee.

# Foreword

For more than 30 years SCIAF has been proud to support farming communities in El Salvador and Nicaragua to overcome the challenges they face, so they can survive and thrive. During this time the main problems have evolved from conflict and its aftermath, to being on the frontline of climate change and the damage this brings to vulnerable communities.

Since 2014 SCIAF, with the support of the Big Lottery Fund and the European Union, has worked with five partners in two holistic programmes to develop community governance, increase agroecological production, provide and share skills, knowledge and practice in farming methodologies, and build youth participation and leadership. These ambitious programmes have worked simultaneously in El Salvador and Nicaragua, enabling participants from similar contexts to learn from each other.

Central to the work has been the desire to empower participants to apply what they have learnt and make new practices their own. Sustainable solutions and sustainable methodologies underpin the work and progress made, ensure that such practices continue, and help farmers change and modify to improve their crops and ensure a resilient future.



The 21 promising practices presented here are proven to work. They have been used and recommended by the most vulnerable producers and their families. They have helped these families make their lives healthier and more food secure by providing additional food, and helping them withstand the challenges of greater climate variability and extreme weather. We all hope that sharing this learning will help and encourage others who are also on the journey to build sustainable and resilient livelihoods that support both people and our planet.

**Alistair Dutton**, Director SCIAF

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# Introduction and methodology

From 2014 to 2018 SCIAF and its partners implemented two inter-related programmes in Central America. A **Big Lottery** funded programme 'Agro-ecological Based Food Security – El Salvador and Nicaragua' and the European Union funded 'Young Rural Technicians promoting Sustainable Communities through Agroecology in Nicaragua'.

This is an introductory overview of the aims, approach, achievements and challenges of each programme, the context in both countries, and the key agroecological promising practices that emerged. As a result of the work an accompanying agroecology 'toolkit' has been produced to promote experience sharing and replication of good practices that can be disseminated beyond the context and timespan of the programmes. This includes across programme participants and partner organisations, at a local as well as an international level. The toolkit comprises 21 promising practices with written and visual information on each, a step-by-step description, and details such as the materials and inputs needed for a particular practice, cost, and implementation schedule. The toolkit contains two different formats: **20 laminated educational posters**, similar to a flip chart, for repeated use by facilitators to train groups of 10 – 15 farmers, leaders and community animators/ facilitators. Each poster may be used separately and includes bespoke illustrations. The posters are accompanied by a series of **21 technical brochures** containing more detailed methodological and technical information about the practice for the trainer.

The toolkit can be added to over time, as new good practices (including from different regions) are included. The lessons learnt can also reach and be of practical benefit for wider international audiences, such as SCIAF partners, networks and sister agencies.

Throughout both programmes, experiences were collected through national and international exchange events, activities, and the

implementation of agroecological practices, experimentation, local innovations, farmer-to-farmer learning and replication of experiences. The most successful practices were identified and documented in more depth through externally contracted research, field work, interviews with programme participants and validation through testing with partners and communities.

This introductory summary chapter is available in Spanish as well as English, in print and electronic formats. Printed laminate posters have been produced in Spanish while the technical brochures are available in digital format in Spanish.

**To download the digital documents select 'books and publications' at: <https://www.sciaf.org.uk/get-involved/resources>**









# Overview of context in Nicaragua and El Salvador



**Nicaragua** remains the poorest country in Latin America, after Haiti. It ranks 124 out of 188 for human development (UNHDI, 2016) with 45.6% of people living in multi-dimensional poverty. Access to services is a daily challenge and inequality levels are high, in particular between rural and urban populations and in relation to income distribution. Poor agriculturalists, indigenous people, youth and women are disproportionately disadvantaged and marginalised. 42.2% of land in Nicaragua is used for agricultural purposes and agriculture is the main source of employment for the rural population.

**El Salvador** is the smallest and most densely populated country in Central America. Despite progress following the protracted civil war of the 1980s and a reduction in inequality levels, the country remains highly susceptible to increasing criminal violence and street gangs particularly amongst youth. Low growth has resulted in high poverty levels with a recent increase in urban poverty; 41 % of households live below the poverty line (World Bank, 2015).

Common to both countries, rural farmers rely on small parcels of land to produce food and earn a livelihood. Often this can be found in remote, eroded land with low fertility. Vulnerability to drought, hurricanes, deforestation, soil erosion and earthquakes is high: Nicaragua ranks fourth and El Salvador 15th on the Global Climate Risk Index (GermanWatch, 2017 for countries most at risk of climatic impacts from 1996 to 2015).

Whilst there have been significant advances on gender equality both in El Salvador and Nicaragua in recent decades, progress is undermined by patriarchal, social/cultural norms and institutional practices that disadvantage and discriminate against women. In Nicaragua this transpires into women's limited access to decent work, credit, and limited control and ownership of land. In El Salvador, disparities between urban and rural areas in terms of access to education, health services, employment, and access to credit has a disproportionate impact on rural women. Sexual and gender-based violence remains a key problem in both countries.





## Programme aims, focus and strategy

A programmatic approach was taken to design and implement two inter-related programmes in El Salvador and Nicaragua. Both programmes have been mutually supporting in their aims, outputs and achievements. The common approach is based on agroecology, which as a starting point guarantees food security, improves the resilience of small-scale farmers to climate change, and healthy production.

Likewise, lobbying and improving the capacities of community leaders, young people and their groups to motivate change and manage solutions to their needs, participation and visibility of women in community life and decision-making, promoting gender equity and local ownership so that programme participants are protagonists of their own development.



There is no common definition of agroecology, and in reality it is an approach to sustainable agriculture that adapts to local contexts. The concept is based on a set of principles and practices to enhance the resilience, ecological, socio-economic and cultural sustainability of farming systems. It is a holistic approach that considers human, environmental and societal dimensions.

The overall aim of the 2014 – 2017 **Big Lottery** funded programme was for vulnerable rural populations in El Salvador and Nicaragua to improve their income and food security through sustainable food production and active participation in the development and implementation of food security policies.

### Specific results and targets:

1. Rural agricultural families increase the use of agroecological production methods, contributing to improved diets, higher incomes and greater resilience to extreme climatic events, through greater availability of diversified food and improved mitigation capacity.
2. Farmers organisations, women's groups and grassroots community organisations strengthen their links at national and international levels, leading to greater adoption of agroecological production methods through greater opportunities for exchange of experiences between communities.
3. By strengthening the capacity of local leaders (50% women), rural communities increase their participation in the development of local and national policies related to food security and sustainable rural development, leading to policies that better reflect the needs and priorities of rural communities.

### Programme participants:

3,343 small-scale farmers, community animators, local leaders and youth.

The overarching aim of the 2015 – 2018 **European Union** funded programme was for rural youth to become 'agents of change' by promoting

productive and sustainable communities through agroecology, and a more effective participation in the construction and monitoring of local and national level public policies. A network of young people successfully increased their skills in agroecology and participation in their communities through a practical-theoretical course accredited by the National Agrarian University of Nicaragua.

### Specific results and targets:

1. 700 farmers and their families increase their levels of production and income in a sustainable manner, through the support of a network of young promoters.
2. 50 local leaders (50% youth and women) are actively involved in the construction of local and national policies related to sustainable rural development.

### Programme participants:

700 small-scale farmers and their families, local leaders and youth.









# Key challenges



## Environmental vulnerability and climate change

Common to both programmes has been environmental vulnerability and the impact of climate change. The results of a study (Centro Humboldt, 2016) involving programme partners concluded that Nicaragua has been going through the deepest environmental crisis in its recent history. Triggered by two main factors: the inadequate management of environmental and natural resources promoted by an extractive and predatory production model, and the adverse effects of climate change perpetuated by the 2014 to 2016 El Niño phenomenon. For both programmes in El Salvador and Nicaragua this manifested as severe drought, floods and irregular rains that have caused losses in basic grains, seed bank stores, resources invested, outbreaks of pests, and food insecurity. This has contributed to the search for economic alternatives which has, in turn, created new dilemmas (selling livestock, firewood and economic migration).

## Migration

Migration, either temporary or permanent, affected social cohesion and programme implementation as community members, in particular youth, left in search of work. This situation was exacerbated by the drought and particularly affected youth, including some participating in the intensive agroecology course.

## Insecurity in El Salvador

The country is very vulnerable to civil and social insecurity, and increasing criminal violence and juvenile street gangs. This has contributed to the disintegration of community cohesion, and resulted in fatalities of youth, some of who participated in community projects, as well as posing added risks to partner technical staff.







# Achievements and promising practices



Both programmes have shared common achievements. The external final evaluation report for the Big Lottery programme concluded that food security, availability, diversity, quality and nutrition had improved; as had community organisation, the quality of management and advocacy. In terms of agroecology the programme had been found to promote a continuous process of learning, experimentation, implementation and reflection. The training had contributed to a more integral, diversified and sustainable vision of agroecological production.

An external report for the European Union programme categorised it as 'innovative' in terms of methodology, application of good practices, and the way in which the programme has promoted resilience and the development of local capacities. Key promising practices highlighted include the successful incorporation of youth to promote community led sustainable agriculture, the establishment of a climate monitoring network for early warning, analysis and decision-making, use of social networks for campaigns and environmental awareness-raising,

ecological brigades: <https://www.facebook.com/haciendoECO2016/>.

The 21 agro-ecological practices for both programmes can be grouped into three key categories:

## A. Promising agroecological practices

### 1. Soil conservation

#### 1.1 A-frames and slope contours:

Soil and water conservation work first requires the use of an 'A frame', a tool that allows you to plot contour lines on a slope so that work can be developed on the same level.

#### 1.2 Ditches, and organic and inorganic barriers:

To stop water and wind eroding soil in fields, especially if they have a steep gradient, it is necessary to establish barriers, whether organic or inorganic, and dig infiltration ditches.



### **1.3 Individual terraces for fruit trees:**

These terraces are small round platforms, two meters in diameter, built on land with up to a 60% gradient. They ensure good tree development, greater infiltration of rainwater, conservation of moisture and reduction of soil erosion.

## **2. Water conservation**

### **2.1 Bio-filters:**

Grey water from household bathrooms (showers and sinks) and laundry rooms in the countryside is wasted because it is contaminated by cleaning products. The bio-filter is able to decontaminate this water and make it useful for watering plants and trees.

### **2.2 Drip irrigation:**

An easy to manage system with quick installation. It increases resilience to climate change as it helps mitigate irregular rainfall and is used to plant during the dry season.

### **2.3 Reforestation of water recharge areas:**

The water recharge areas are the parts of a hydrographic basin where rain and surface water are collected: part of the water infiltrates into the ground and part of it runs-off into streams and rivers.

## **3. Seed conservation**

### **3.1 Community seed banks:**

Having stocks of basic grain seeds, at a community level, is a guarantee of greater food security, especially in times of drought.

### **3.2 Improvement of native corn:**

Due to the free pollination of its flowers, the corn plant is easy to cross-pollinate with other plants. Phenotypic selection is the oldest, simplest and cheapest method of crop improvement. It is the visual selection of corn based on physical and phenotype differences between plants.

## **4. Crop management**

### **4.1 Seedlings produced in tunnels:**

Ensures healthy and strong plants in the first weeks of their development and can reduce field losses from 40% down to just 10%. This is achieved by transplanting seedlings that have started their development in a tunnel.

### **4.2 Community greenhouse:**

Cultivation in a greenhouse guarantees production throughout the year, and vegetables, fruit trees, herbs, and medicinal and ornamental plants are protected from adverse conditions such as the climate or an attack of pests. Water consumption is also reduced.

### **4.3 Family vegetable gardens:**

By producing most of the food consumed by their families, the farmers are assured available, healthy food in sufficient quantity, and save money as they don't have to buy produce from the market.

## **5. Production of inputs**

### **5.1 Production of solid fertiliser:**

Making fermented organic fertilisers is the process of decomposition of organic waste by micro-organisms. This produces a stable material known as bokashi (organic fertiliser), able to fertilise plants and nourish the earth at the same time.

### **5.2. Bio-fermented fertiliser:**

Bio-fermented products are liquid organic fertilisers that can be produced with local naturally occurring micro-organisms obtained from a process of fermentation and the decomposition of organic matter.

## **6. Farm diversification**

### **6.1 Crop diversification:**

The diversification of a field or farm is a good measure of mitigation of climate change for a farming family and takes advantage of the space available for planting different types of crops so that the family has food and produce available to sell at different times of the year.

### **6.2 Energy parcels:**

By planting fast-growing trees families can guarantee firewood and charcoal for today and tomorrow, without the need for future deforestation.

**6.3 Production of homemade concentrate for chickens:** The preparation of these concentrates provides a more balanced feed for poultry to keep them healthy and producing eggs and meat to meet the demand for good quality food for the family.



## B. Field methodologies

### 1. Community exchanges

Learning from others and being convinced by other farmers of the benefits of certain practices is part of the farmer-to-farmer philosophy.

### 2. Farmers' school and experimentation

Farmer experimentation consists of testing the best practices, and putting the teaching and learning from training workshops into practice.

### 3. Farm maps

Mapping a farm with a climate change adaptation approach is the first phase of transforming a conventional field. It helps to analyse crops and their yields, and to make decisions on where to improve first.

## C. Community leadership

### 1. Leadership and advocacy course

A training course that aims to equip community leaders with basic methods to organise and empower the rural sector in order to carry out local advocacy work.

### 2. Ecological brigades

Teaching children to take care of nature and recycle or treat rubbish properly is essential to have clean and healthy communities.



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