



Climate Change: Voices of small producers

LATIN AMERICA 2015





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Cover photo: Anna Paula Diniz (DoDesign-s)
Other pictures: sent by each cooperative.
We thank the photographers.

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Grupo San Isidro . Coffee . Colombia . [PAGE 5]

Cooperativa Mi Fruta . Dried Fruit . Chile . [PAGE 9]

Cooperativa CoopeVictoria . Sugar Cane . Costa Rica . [PAGE 11]

SOPPEXCCA . Coffee . Nicaragua . [PAGE 15]

Banelino . Banana . Republica Dominicana . [PAGE 18]

“As we take care of forest reserves, we have learned to detect the bird species in our coffee-growing area, and we began to increase our awareness of global warming and climate change.”

Aydee Solano- Member
GRUPO SAN ISIDRO . COFFEE . COLOMBIA



Introduction

This year, small producers' organizations in Latin America and the Caribbean have experienced the effects of climate change in a number of different ways. First of all, the rapid spreading of diseases such as coffee rust in coffee fields in southern Mexico, Central America and Peru has diminished productivity in the region and increased production costs. In Brazil, drought and intense sun when coffee berries are being formed, followed by heavy rains during the drying period for the berries, have reduced the quality and size of coffee berries. Intense winds in the Caribbean and Colombia led to the loss of a portion of this year's banana harvest. And in Costa Rica, sugar cane production was affected by drought, with high temperatures, followed by torrential rains.

These are only some examples of the challenges faced by small producers who, despite adversities, are making efforts and implementing strategies to adapt to climate change effects.

This document summarizes some of the experiences shared by producers who belong to the Latin American and Caribbean Network of Fair Trade Small Producers and Workers (Coordinadora Latinoamericana y del Caribe de Pequeños Productores y Trabajadores del Comercio Justo — CLAC). The aim is to illustrate the reality confronting farmers from different countries and representing different products, as well as some of their successful experiences in adapting to climate change. CLAC represents organizations that are democratically-organized within Fairtrade; oversees their strengthening and development; facilitates assistance to their members; promotes their products and their values; and works to influence various social, political and economic entities.

This document was developed as part of CLAC's activities designed to identify, promote and publicize the good practices associated with climate change that are carried out by small producers in the Americas. We hope this publication illustrates small producers' strength and capacity for change, and that the cases presented serve as a point of reference and motivation for other small producers.

All the producers' organizations mentioned in this document are Fairtrade certified and sell their products under the Fairtrade seal. Fairtrade standards promote sustainable development through sound agricultural practices that guide farmers in mitigating climate change impact and implementing adaptation measures.

“With the purchase of reserves and their conservation, we have been able to guarantee water for our communities, and we have learned to increase our awareness around taking care of water.”

Carlos Francisco Tovar . Member and Lider
GRUPO SAN ISIDRO . COFFEE . COLOMBIA



Coffee

Location: COLOMBIA
Huila department
Sub-region: Acevedo municipality
Vereda San Isidro
Organization: Grupo San Isidro
www.cafesanisidro.com.co
Number of members: 82
Land area: 600 hectares

Producers, ecosystem and climate change

The San Isidro Group is located in a very mountainous topographical region where coffee is grown at different altitudes ranging from 1,630 to 1,900 meters above sea level. High-quality coffee is produced in harmony with nature.

Coffee-growing requires special conditions for assuring high-quality production and productivity. From the time coffee plants are planted, water availability is essential for seed germination and plant growth. When plants enter into their productive stage, it is important to have healthy soil conditions free of pests and diseases, together with sunshine and optimal temperatures. Sun exposure can be regulated through the use of shade-producing plants, primarily native species and/or live barriers that help to increase biodiversity.

Due to human activity, the region has been affected by deforestation around water sources, and the expansion of the agricultural frontier, which has led to a deterioration in environmental conditions, changes in rainfall patterns, and longer periods of drought.

Forest burning has increased in recent years, affecting the region's environmental balance and creating more susceptibility to climate changes.

Climate change has affected harvests. Excessive rainfall diminishes production. And when summer and the dry season are prolonged, coffee berries are attacked by pests and diseases. The health of crops depends on the state of ecosystems. Efforts by producers must be combined with those of neighbors and the overall community, since solutions to these problems depend on joint actions at the regional level. Water contamination, deforestation and the lack of environmental awareness have been the main problems in this region.

Proposal developed by producers

Since its beginnings, the San Isidro Group has been committed to environmental conservation and sound agricultural practices. One of the main actions has been to guarantee water sources for our members and our crops. We have worked to establish coffee systems in harmony with nature, to establish shade coffee-growing systems with forests and food-producing trees. Miller Olaya, the organization's director, comments the following: "Together with our members and with assistance from the municipal government, we currently own more than 200 hectares of protected forest. With this reserve, our intention is to connect fragments of forests, and allow the protection of rivers and semi-mountainous areas in the zone. With support from various institutions, we have conducted studies of fauna and flora in these protected forests, and through these studies, we have identified a remaining Black Oak tree (a species endemic to the region) and various endemic bird species."

The actions carried out have served to bring together groups of young people, who are sons and daughters of our members and neighbors in the region, and who have been involved in awareness-raising processes and research studies on the territory's resources. Thus, we currently have a number of groups of children and young people who are bird watchers and guides, and there is an eco-tourism trail intended for environmental education.

This process has spanned over three decades. Through the initiative of the San Isidro Group's founders, efforts have been focused on protecting and conserving forest fragments and water sources. The Group has managed to work with its own resources, with the sale of fair trade coffee and other projects, leading to the purchase of hectares of forests. This is considered to be an important step forward, although it is not sufficient to mitigate the impact we are experiencing from climate change.

The project involves 80 member families and another 700 families living around the area where our work is focused. In the forest protection zone, it has been possible to assure the constant availability of water, even in dry periods (five natural springs feeding into five aqueducts). With the projects carried out, soil quality has been improved, and this has led to greater productivity and quality in coffee production. Also, attacks by pests such as the coffee berry borer have been significantly reduced.

In addition youth groups are currently actively involved in production and conservation processes in the region. Actions involve educational centers, and work to motivate children and young people through actions designed to protect the region's environmental resources. This has clearly been a result that can be observed currently, to continue in the future.

Looking ahead

The organization anticipates becoming more effective in processes focused on awareness-raising and on disseminating environmental education among neighbors, farmworkers, schools and the community in general. We will continue to promote the efficient use of water, the improvement of soil through organic fertilizers, and the establishment of family vegetable gardens to improve our members' sustainability. We will continue to train young people in the use of alternative energies and gradually decrease the use of polluting energies. And we will continue investment initiatives, with the purchase of new land plots, to increase water protection and reserve areas.

Producers, ecosystem and climate change

The Mi Fruta Cooperative produces table grapes and raisins. The decision to produce raisins was made as a way to diversify production, diminish dependence on a single product, add value to products, and work with a less-perishable product to thus reduce the risks associated with exportation.

Table grapes are the main export fruit in Chile. They are highly perishable, complicating post-harvesting handling and storage.

Members of the Mi Fruta Cooperative are located in the Los Andes, San Esteban and Santa María townships of the Los Andes province in the Valparaíso region. This sector is located in the Aconcagua River Basin characterized by a warm Mediterranean climate and a prolonged dry season. Rainfall in the autumn and winter months measures over 400 millimeters. In the summers, temperatures are high, especially in the valley's

most closed-off areas. Warm, dry air masses descend from the mountains, increasing temperatures in the basin area to above 34°C, reaching 40°C in 2014.

Increased temperatures, prolonged drought periods and diminishing soil quality are affecting crop productivity and increasing production costs, making production less profitable for small producers.

Climate change has affected the region, and especially table grapes, since temperatures have increased drastically during the harvest season, making post-harvest handling of the grapes more difficult. In addition, a period of drought has extended over the last five years, affecting the risks involved, and consequently, productivity.



GRUPO SAN ISIDRO . COLOMBIA

Dried Fruit (Raisins)

Location: CHILE

Region V, Los Andes province

Sub-region: Aconcagua Basin

Organization: Cooperativa Mi Fruta

www.mifruta.cl

Number of members: 28

Land area: 170 hectares

Proposal developed by producers

The cooperative has worked along three primary lines of action: improving and protecting soil, improving producers' technical capacities, and diversifying production, using the sun as an alternative source of energy for drying the grapes.

A soil improvement program was carried out, based on diagnostic assessment including the identification of soil types, interventions and training for producers in sound management practices. Based on this work, practices such as incorporating organic matter and producing compost have been implemented.

In order to diversify production and decrease dependence on a product as fragile as table grapes, producers opted to produce dark raisins. The use of sun-drying means only solar energy is required and no additives are needed to preserve the raisins. The golden raisins that are common in the market require a treatment with sulfur dioxide in order to maintain their characteristic color, and are thus not considered natural raisins.

When sun-drying grapes to produce dark raisins, they are placed on plastic screens in open fields and left to dry during a period of 15 to 20 days. After the drying process is completed, the raisins are washed and stems are removed, and then they are weighed and packaged. This natural product has a high value in countries such as England and Italy.

Looking ahead

The organization received external funds for implementing the project, but it considers both producer training and soil improvement to be activities that should be carried out on an ongoing basis. The organization continues to operate, but needs funds to expand soil improvement efforts in line with the impact study conducted.



COOPERTIVA MI FRUTA . CHILE

Sugar Cane

Location: COSTA RICA

Alajuela province

Sub-region: Western area of Costa Rica

Organization: CoopeVictoria Cooperative

www.coopevictoria.com

Number of members: 3,024

Land area: 3,869 hectares

Producers, ecosystem and climate change

CoopeVictoria was created in 1943 and was the first cooperative in Costa Rica. The cooperative's members produce sugar cane at low-altitudes (800 meters above sea level) and coffee at high-altitudes (1,200 m.a.s.l.).

Sugar cane is a crop that requires well-defined, stable seasons. Variations in rainfall and drought patterns alter the normal development of sugar cane, leading to decreased capacity for concentrating sugars and thus lower yields in sugar cane production. These variations also result in minimal contrast between daytime and nighttime temperatures. When rainfall is scarce, plants cannot develop adequately, and heavy rains concentrated in only a few hours lead to erosion and flooding, since the soil has limited capacity for absorbing the amounts of water received.

Another way that climate change is affecting producers is that the variability in climate conditions has caused an increase in diseases. An average increase of more than 2.5 °C in the last four years leads to permanent stress on the crops, and the erosion caused by heavy rainfall in a period of only hours becomes uncontrollable in some land plots.

All of these changes have caused a decrease in productivity, leading to reduced income and diminished profitability from sugar cane, negatively affecting producers and neighboring communities.

Proposal developed by producers

CoopeVictoria members are aware that climate change is everyone's responsibility, and consequently, they are carrying out various activities to reduce greenhouse gas emissions. These activities include the management and re-use of wastes produced through sugar cane processing, and the production of biodiesel.

The cooperative processes 170,000 tons of sugar cane every year, generating tons of organic wastes such as sludge and ash, which are then used in making organic fertilizer, given to all the cooperative's members at no cost.

In 2015 the cooperative contributed over 4,000 tons of organic fertilizer to its members, thereby reducing the application of chemical products in their fields and preventing the contamination of the community's rivers.

Producers have also developed a program aimed at protecting water sources and reducing emissions provoked by the use of fossil fuels. Cooperative members, members of local communities and schools all participate in implementing this project, which consists of recycling used vegetable oil and animal fats produced in kitchens in homes and businesses. These oils are typically deposited in the communities' sewer systems. Currently, over 6,000 liters of used oil is processed every month, producing about 5,000 liters of biodiesel. Biodiesel is used by cooperative members and also in the cooperative's machines. Recycling this oil prevents the contamination of 60 million liters of water per month, since one liter of used oil contaminates 10,000 liters of water.

The used oil recycling project is based on educating the community, which is essential in obtaining the used oil and treating it adequately, thus generating clean energy (biodiesel). Recycled used oil generates income that makes it possible to continue educational collaboration and provides an economic incentive to participating schools for their efforts in collecting the used oil and serving as a center for receiving used oil, thereby assuring the project's sustainability. Greenhouse gas emissions have been reduced. In addition, over 30 educational centers in local communities have become involved in the "Water Guardians" program, together with various local aqueducts that administer the water supply in the area.

Looking ahead

The CoopeVictoria Cooperative views the efforts it makes to protect the environment as having enormous value. Nevertheless, these efforts are insufficient in confronting the climate change effects that our producers are already experiencing. The opening to change behavior patterns is an important step forward. Producers will also have to get prepared to invest in drainage systems and irrigation systems, in strategies for pest control, and in soil conservation actions, to better confront climate effects. The cooperative is seeking financing for carrying out projects in preserving forests, protecting water sources, promoting agro-forestry systems, and promoting the natural regeneration of natural buffer zones.



COOPEVICTORIA . COSTA RICA



Coffee agroforestry systems to produce high quality beans and preserve the natural resources.

Fairtrade farm in Nicaragua

Coffee

Location: NICARAGUA
Jinotega department
Sub-region: Acevedo municipality,
Vereda San Isidro
Organization: SOPPEXCCA
www.soppexcca.org
Number of members: 650
Land area: 2.450 hectares

Producers, ecosystem and climate change

The SOPPEXCCA Union of Agricultural Cooperatives was established in 1997 and has been carrying out a model based on democratic participation and sustainability, with a special focus on participation by youth.

The producers in the region where SOPPEXCCA is located have observed that areas previously suitable for coffee-growing are no longer so, due to changes in the climate. As a result of the adverse conditions, some farmers have stopped growing coffee and have had to look for production alternatives.

As a result of human activity, the region has been negatively affected by deforestation around water sources, the burning of forests and the expansion of the agricultural frontier, which have together caused deterioration in environmental conditions and increased producers' susceptibility to climate changes.

SOPPEXCCA members grow coffee in semi-mountainous areas characterized by 30-40% slopes and a high degree of susceptibility to erosion, which has increased with the heavy rains. Higher temperatures, prolonged dry periods and uneven distribution

of rainfall have also affected coffee's flowering cycles, coffee bean development, and in general, the productivity of coffee plants, negatively affecting the region's farming economy. The stress suffered by coffee plants has led to an increase in insect and fungus attacks, and primarily coffee rust, which devastated coffee fields in the region in 2013.

Proposal developed by producers

In response to the problems confronted, SOPPEXCCA has been promoting and implementing practices that are contributing to diminishing climate change impact on families. This organization works in a number of different areas, including the implementation of sound agricultural practices in coffee-growing; food production and alternative sources of income; caring for and restoring natural resources; and education in and production of alternative energy sources.

The organization promotes organic production with minimal dependence on external inputs, and conventional coffee production with minimal use of phytosanitary products, which are only used at specific times and on the basis of results from sampling of diseases and infestations.

Due to the devastating effects from coffee rust, the organization supports members with funds for renewing coffee fields. Currently, coffee fields have been renewed in over 350 hectares, benefitting 354 producers. Also, the organization has three demonstration plots in which 11 coffee varieties are being evaluated for their adaptability, growth, tolerance to pests and diseases, cup quality and productivity.

To diminish erosion, increase water filtration in soil, and increase the availability of organic matter, coffee and cacao fields have been established within an agroforestry system, using forest vegetation that is energy-producing, wood-producing and nitrogen-fixing, and banana and fruit (including cacao) trees. With this production system, farmers grow a number of products in their land plots that generate additional income for their families. With the aim of diversifying production even more, and promoting families' food sovereignty, the organization also promotes corn and bean growing and family vegetable gardens, in order to enhance the availability, access and consumption of fresh vegetables

To increase water harvesting and the recharging of water sources, micro-reservoirs have been constructed in members' fields. With these works, producers who previously lacked appropriate infrastructure can now use the water harvested for agricultural and domestic purposes. Efforts have also been made to reduce water contamination from coffee processing, by building wet processing plants and individual processing units in which the pulp generated as waste is used to produce organic fertilizer for greenhouses.

The organization has also promoted the use of bio-digesters adapted to kitchens, to decrease the use of firewood in cooking, the pressure on forests and the release of carbon dioxide into the atmosphere.

In terms of education, annual environmental education campaigns are conducted in communities, with participation by local students and farmers. The campaigns are focused on trash collection and cleaning up and conserving water sources. To this end, forest plants are distributed for reforesting areas around natural springs and water flows, and didactic materials are also distributed.

With the objective of making information accessible for timely decision-making, climate stations have been established in 11 communities. Information is gathered by farmers and their children, who transmit the data by cellphone to SOPPEXCCA's technical coordinator for entering into digital systems and analyzing.

Looking ahead

The organization hopes to expand the number of families benefitting from improvements in infrastructure for water harvesting (currently, 51 works are in progress), which is the biggest need identified by families.



Banana

Location: DOMINICAN REPUBLIC

Linea Noroeste region

Sub-region: Valle Occidental,
near Yaque del Norte River

Organization: Banelino

www.banelino.blogspot.com.co

Number of members: 290

Land area: 1.448 hectares

Producers, ecosystem and climate change

Banelino, the Ecological Banana Association of the Linea Noroeste region was created in 1996, with the objective of creating an entity to guarantee the sale of bananas throughout the entire year, with fair prices that allow producers and their families to live with dignity, with fair treatment of workers, and with ongoing assistance to community rural development.

Banelino's member producers are located in the Dominican Republic's Northwest Region where a semi-arid tropical climate predominates. Due to the enormous need for water, it is necessary to use irrigation to produce bananas in the region.

In recent years producers have suffered an intense drought, high temperatures, abrupt changes in humidity and temperature, and an increase in the intensity and frequency of winds and tornados. Despite the dry conditions in the region, bananas are planted in the river valleys, which are vulnerable to flooding. During high-humidity periods, high temperatures increase the incidence of pests and diseases.

Major climate variations have caused damages, primarily in terms of low production and destruction and high levels of stress in plantations. Low production limits income generation for families, since producers are forced to invest more economic resources in crop and land preparation in order to diminish climate change effects, and in rehabilitating plantations following natural events.

In order to counteract the effects of the drought, producers have found it necessary to invest in water pumps to irrigate their plantations, thus increasing production costs to cover the purchase of equipment, maintenance, fuel and operations personnel.

Strong winds are one of the phenomena currently affecting banana plantations the most, bending leaves and breaking the foliar lamina, which impedes the circulation of the plants' sap and the plants' capacity for photosynthesis, thus affecting the quality of the cluster of bananas.

Proposal developed by producers

Banelino has implemented a biodiversity program within banana plantations, creating diversified demonstration plots that include other crops such as citrus fruits, cacao, avocado, cherries and soursop.

The association has worked toward the acquisition of irrigation pumps for producers located in the regions that are most vulnerable to drought. It promotes the use of live barriers to serve as windbreaks. It has promoted the use of covering vegetation and the incorporation of organic matter to protect soil, and in this way, prevent or correct erosion.

Technical methods are accompanied by awareness-raising activities and ecological education on taking care of the environment, promoting biodiversity and seeking alternatives for climate change adaptation.

Together with the country's Ministry of Agriculture, Banelino is implementing a crop renewal program, using in vitro plants and stimulating the use of plants with greater resistance to climate change effects.

In order to generate climate data for monitoring climate change and planning adaptation actions for preventing disasters, five meteorological stations have been established at strategic points in productive zones.

Looking ahead

The main challenge is to make agricultural production more efficient, despite ongoing climate change effects, and to guarantee the quality of products offered to consumers, in order to increase producers' income and improve their quality of life and that of workers, their families and communities. These types of actions must be disseminated and replicated in many other banana organizations that are affected by similar circumstances.



BANELINO . DOMINICAN REPUBLIC

*“There are things that
are up to God,
but in Banelino,
we are getting prepared.”*

Ramón Medrano. Member
BANELINO . BANANA
DOMINICAN REPUBLIC



A large field of young coffee plants in a nursery under a black shade net. The plants are densely packed and show various stages of growth, with some leaves appearing green and others showing signs of stress or damage, such as yellowing and browning. The background is a dark, textured black netting that filters the light. The overall scene is a vast expanse of young coffee seedlings ready for transplantation.

Sowing
seeds
for the
future