CENTRAL AMERICA

Nicaragua

Context

In Nicaragua, the agricultural sector accounts for about 20% of GDP, 30% of employment and 25% of export revenues are linked to coffee growing, with the vast majority of the 30,000 producers owning lots of less than 5 hectares. The ideal area for Nicaraguan coffee trees is between 700 and 1700 metres, but the local increase in temperature and reduced rainfall over the last century are changing the contours of the area, accentuating the invasion of coffee rust, which is already having a major impact on production and lowering bean quality. The coffee zone includes several departments supported to implement better agricultural practices and a conversion of coffee plantations to cocoa production in order to avoid a drop in production and projected national economic losses that could reach around $75 million in 2050 (81% drop in production).

Stakeholders

The NICADAPTA project (2014-2019) is a project co-financed by the International Fund for Agricultural Development (IFAD, a specialised agency of the United Nations), the Adaptation for Smallholder Agriculture Programme (ASAP) and the Central American Bank for Economic Integration. There are 100,000 small producers involved in the project, which focuses on three areas: (i) convert coffee plantations into cocoa production and/or implement reorganisations to ensure production, (ii) strengthen institutions to support small producers and (iii) build capacity in project management, monitoring and evaluation. The regional authorities are involved, as well as the Association of Cooperatives of Small Coffee Producers (CAFENICA), which brings together 12 cooperatives at the national level.

Methodology

The project has involved several research institutes (Nicaraguan Institute of Territorial Studies (INETER), Nicaraguan Institute of Agricultural Technology (INTA), Institute of Agricultural Protection and Health (IPSA)), which made it possible to work on climate services on a regional scale and provide strategic information on climate projections related to coffee and cocoa production. An alert system (SAT) has also been installed. A Project Management Unit (PMU), composed of several stakeholder leaders involved in the project, was mandated to monitor and evaluate progress in the field.

VULNERABILITIES

CLIMATE IMPACTS:

• Increase in the propagation area of coffee rust;

• Increased droughts, especially during El Niño periods;

• Loss of canopy (and biodiversity) and shaded areas essential for coffee trees.

ECONOMIC IMPACTS:

• Decreased production and quality of coffee beans;

• Dependence on market price volatility;

• Impacts on the national economy dependent on agriculture and therefore on climate variability;

• Loss of controlled origin certifications.

SOCIAL IMPACTS:

• Impacts on food security and income of small producers;

• The drop in coffee prices between 2000 and 2003 led to a 10% increase in poverty;

• Risks of increased social protest and destabilisation of the country.

ADAPTATION ACTIONS

Small coffee producers can adapt by 1) changing their practices, 2) diversifying their production or 3) migrating their production (to altitude or other areas). A large part of the area currently used for coffee trees can be converted into other agricultural production, including cocoa production. Although also exposed to climate impacts, cocoa plantations are more resilient and the market value of these products is high. For the rest of the territory that cannot be converted, options for non-agricultural economic diversification are being considered rather than high-altitude migration that would have negative impacts on forests, biodiversity or the water cycle.

Various actions have been taken to ensure agricultural income for small coffee producers:

• Diversification of production to ensure alternative incomes;

• Incentive to produce in a cooperative in order to benefit from the solidarity of the structure:

- Loans and financial assistance

- Exchanges of good practices

- Support in providing workers and materials

Other strategies aim to better contain the impacts of the market and exports:

• Strengthening long-term collaboration of supply and export chain actors;

• Establishing collective and shared strategic investments in production;

• Creating eco-labels (organic, fair trade) to increase the added value of products;

• Enhancing competitiveness in the global market.

Finally, several practice changes, where possible, are implemented:

• Use of varieties that are more resistant to heat and drought;

• Development of (micro)irrigation systems and vegetation cover (shade);

• Use of optimised climate services, particularly on the development of agricultural pests;

• Optimisation of agronomic and marketing practices.

Strengths of the approach

- Strong support for small producers in the process of adapting their productions;

- Support is provided in a consistent manner with other regions and on a national scale;

- Long-term and generalisable management and project practices throughout Central America.

Limits of the approach

- Production conversions require a long-term period before they are profitable (10-15 years);

- Changes in agricultural practices take several years (habits, vegetation cover);

- The current coffee supply chain is not sufficiently structured and prepared for reorganisation.

SOURCES

• Läderach J. H. et al. (2010). Mesoamrican Coffee: Building a Climate Change Adaptation Strategy

• IFAD (2014). Adapting to Markets and Climate Change Project (NICADAPTA)

• IFAD (2018). Nicaragua Supervision Report

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