Hand in Hand Initiative: Building Resilience in the Dry Corridor and Arid Zones of the SICA region

October 2024

In coordination with:

An initiative led by:

Regional programmatic proposal and investments

Integrated water solutions

Anticipatory action, food security and nutrition, and livelihood recovery

Economic development of rural territories

Dry Corridor and Arid Zones Resilient Program

Resilience and adaptation to climate change

Transition to sustainable agricultural systems

MSME´s and digital ecosystems

Digital soil mapping

Agricultural zoning of climate risk

Strengthening of ARI in R&D

Section 1: Progress

Investment mobilization, political incidence and implementation

Political incidence

- LVII Summit of Heads of State and Government (June 2023): backing and expansion from 4 to 8 countries
- High-level dialogue for the consolidation of alliances, El Salvador - July 2023.
- Special high-level event at the 38th LARC, Guyana, March 2024Presentation at the "II Regional Dialogue on Amazonian Bioeconomy and Inclusive Rural Transformation", Brazil, August 2024.
- With the World Bank, development of a subregional investment instrument *Multiphase Programmatic Approach (MPA)* including national and SICA region proposals prioritized by HiH

Resources mobilized

13.7 million USD

Implementation

Agricultural zoning of climate risk	• Climate, soil and crop databases compiled and standardized in 3 countries • Protocols for data collection, reporting and analysis developed and agreed upon
Digital soil mapping	• Soil sampling design, establishment of physical and digital sample repositories, and improvement of soil and fertilizer laboratories • Training program in soil mapping
MSME´s and digital ecosystems	• Characterization of 640 MSMEs in 7 countries • 721 companies organized in face-to-face and/or virtual marketing spaces
Strengthening of ARI in R&D	• Workshop to discuss the demands and offers of the ARI of the subregion in the use of agroclimatic and agronomic information • Meetings of the CAC Technical Group on Research, Technology, Transfer and Innovation, with CIAT and EMBRAPA
Integrated water solutions	• Complete review and update of the investment note, with components on water resources planning and investment in water supply solutions

Section 1: Progress

Complementary resources

Co-financiers + Governments countries

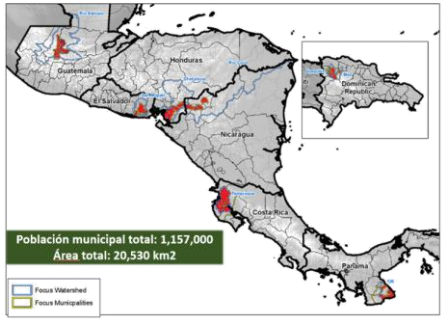
Flagship Project in 7 countries, 5 million USD

Promoting the restoration of productive ecosystems in the Central American Dry Corridor

CABEI – Ecosystem-Based Adaptation Program for the Dry Corridor and Drylands of 7 Countries, 268 million USD

Governments countries

Pilot areas



Reclima – El Salvador 128 million USD

Increasing climate resilience measures in the agroecosystems of the dry corridor

Relive – Guatemala 67 million USD

Resilient Livelihoods of Vulnerable Smallholder Farmers in Maya and Dry Corridor Landscapes

Section 1: Progress

Articulation of new investments - Integrated water solutions (5/5)

Basin governance to the sea

- Donor
- Large transboundary marine ecosystems: safeguarding marine and freshwater resources. In formulation
- Expected duration: 5 years (2025-2030)
- Amount: **19.3 million USD** (negotiation)

Components

- Policy and institutional framework
- Integrated watershed management (plans, capacities, governance)
- Innovative technologies and financing
- Knowledge management and learning
- M&Assessment, and adaptive management

Strategic basin capabilities

- Donor:
- Prioritized basin territories: water security (availability)
- Duration: 1.5 years (June 2025)
- Amount: **0.68 million USD** (implementation)

Components

- Diagnostic study (water, socioeconomics, environment) and cost-benefit analysis
- Strategic water investment plan (infrastructure projects and Nature-based solutions) and bankable project profile

Water/climate security watersheds

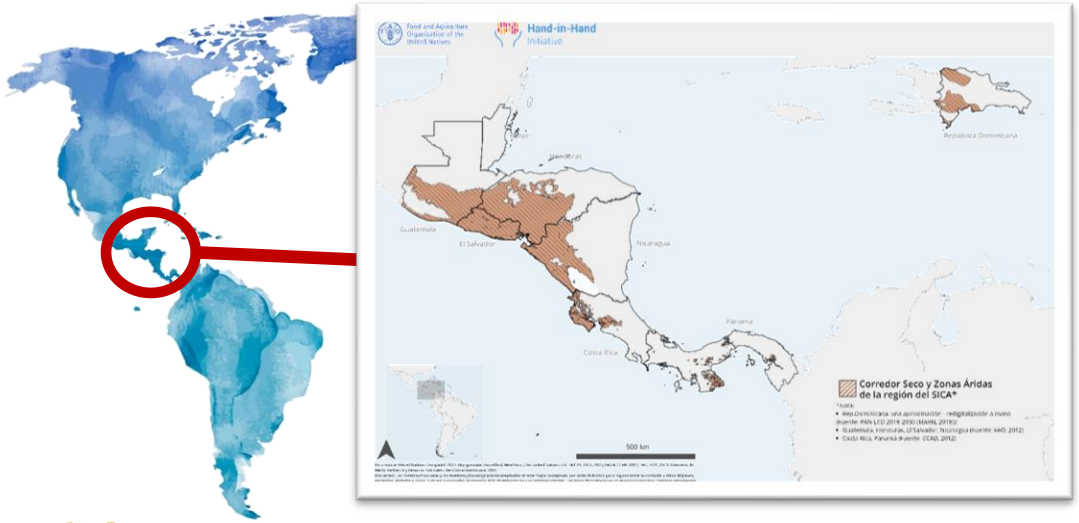
- Donor:
- + Regional Committee of Water Resources (CRRH)
- Duration: 1.5 years (February 2024)
- Amount: **0.32 million USD** (implementation)

Components

- Prioritized basin territories: water security (climate risk management)
- Technical studies (climate risk maps) in basins/sub-basins
- Comprehensive climate risk management plans (time monitoring)
- Knowledge management, exchange of experiences and good practices (capacities, hydrometeorology App)

Section 2: Overview

Dry Corridor and Arid Zones (DCAZ)



Characteristics

- Approximately 21 million people in rural municipalities
- More than 20% of employees are engaged in agriculture and basic grains production
- More than a third of the population (37.5%) in poverty (LP $6.85) and 6.5% in extreme poverty (LP $2.15)

Vulnerability to climate risks

- Vulnerability to extreme weather events, long periods of drought followed by heavy rainfall
- Last 6 years: 2 years of drought, 3 hurricanes category 4 and 5, 3 tropical storms
- Altered rainfall patterns in recent decades
- El Niño phenomenon during 2023/24 until May; 66% chance of La Niña as of Sept/24

Migration

- More than 5 million emigrants from the SICA region reside in the USA (8% of the population)
- Emigration of young people, 30% between 25 - 30 years
- Expelling municipalities tend to be poorer, more rural and more agricultural

Section 3: Investment climate
Governance and intersectoral of SICA

LVII Summit of Heads of State and Government (June 2023): backing and expansion from 4 to 8 countries

Excerpt from Declaratory

III —"The importance of the Hand in Hand Initiative: Building Resilience in the Dry Corridor of the SICA Region, we encourage to promote the regional approach in it, with the participation of all SICA Member States"

Intersectoral Ministerial Meeting Environment Agriculture SICA (July, 2023):

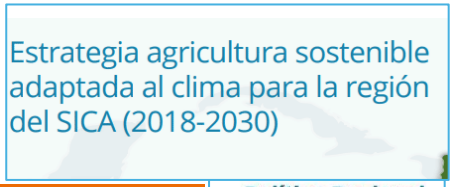
'New investment note with emphasis in agricultural innovation

INICIATIVA REGIONAL AFOLU 2040 PARA CENTROAMÉRICA Y REPÚBLICA DOMINICANA

Construcción de Resiliencia en la región SICA bajo un enfoque sinérgico entre Mitigación y Adaptación enfocándose en el Sector Agricultura, Silvicultura y otros usos de la tierra (AFOLU)

Value added of SICA

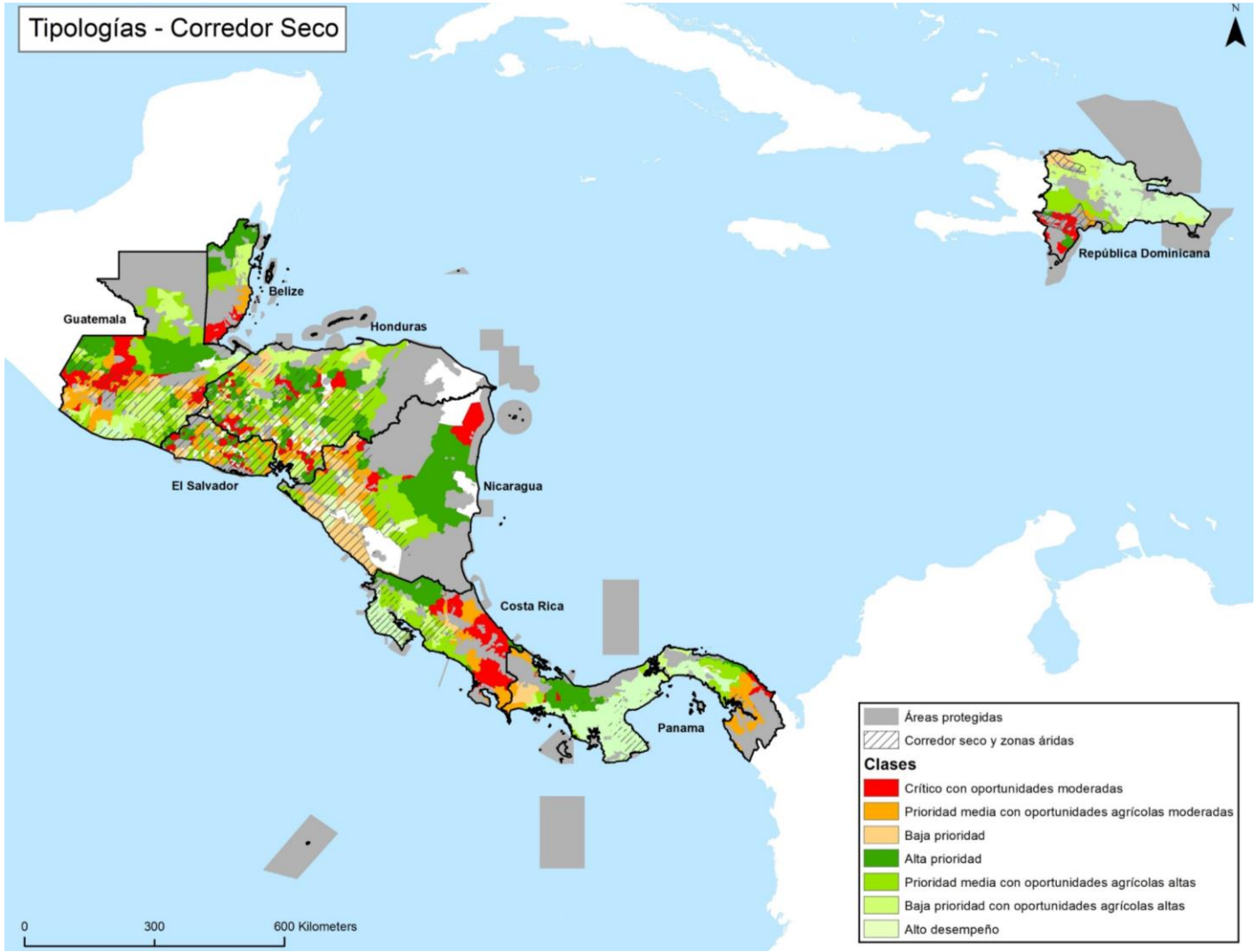
- Regional integration and coordination
- Regional policy, strategic and regulatory framework
- Generation of regional sustainable public goods
- Promotion of intraregional trade
- Promotion of South-South and Triangular Cooperation
- Data analysis to inform decision making



Section 3: Investment climate

Hand in hand: territories of opportunities

- **Strategic natural assets**
- High undeveloped **agricultural potential**
- 44% of **young population**
- **Free trade agreements within** and with other countries
- Favorable **trade balance**: 45% of total exports correspond to agri-food products
- Agriculture **represents** the 7% of regional GDP and one-fifth of employment
- Potential of **remittances** for financial inclusion (13% of GDP on average)



Section 3: Investment climate

Partners and strategic allies

United Nations

SICA Instances

Socios técnicos

Section 4: Investment Note

Regional Investment and Program Proposal

Dry Corridor and Arid Zones Resilient Program

- Anticipatory action, food security and nutrition, and livelihood recovery
- Economic development of rural territories
- Resilience and adaptation to climate change
- Transition to sustainable agricultural systems

Integrated water solutions

MSME´s and digital ecosystems

Digital soil mapping

Agricultural zoning of climate risk

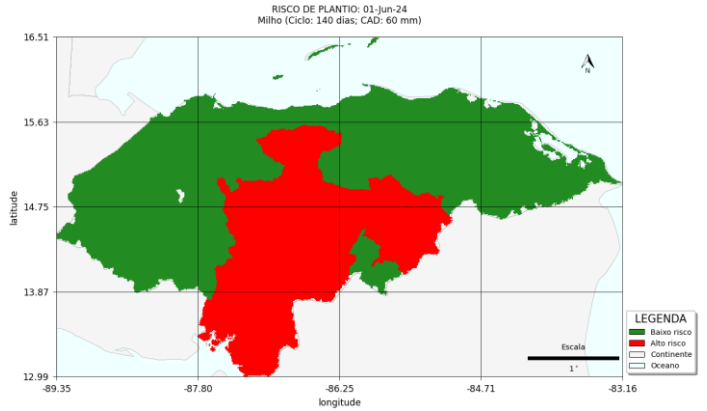
Strengthening of ARI in R&D

Investment Note 1/5

Agricultural Zoning of Climate Risk (AZCR)

OBJECTIVES	Provide the Dry Corridor and Arid Zone countries of the SICA region with new agricultural zoning tools to improve the spatial planning of agriculture in the context of climate change
OOPPORTUNITIES AND SCOPE	• Influence decision-making to avoid rainfed crop losses in the face of future variability/climate change scenarios • Municipal maps by crop and planting date, 80% success rate • Increase the supply of agricultural financing and insurance based on climate risk reduction • EMBRAPA support and Brazilian cooperation

Bottlenecks	Key investments
• Insufficient updated agroclimatic information • Variability in agricultural calendars due to climate change • Need to improve the capacity of farmers and agricultural technicians to make informed decisions about what and when to plant	• Information collection and development of multi-criteria databases (1.32M USD) • Establishment of AZCR systems in eight countries, including capacity transfer and dissemination and information systems (11.9M USD) • Project Management (1.13M USD) • Annual maintenance costs in 8 countries (12 years) (1.64M USD)



Map with departments of Honduras with risk of crop losses greater than 20% for corn planting of 140-day cycle on June 1.

Exchange between countries of the SICA region in Petrolina (Brazil) on the implementation of the AZCR. March, 2024.

Investment Note 1/5

Agricultural Zoning of Climate Risk (AZCR)

INVESTMENT ANALYSIS	
Indicator	**Value**
Investment	34 million USD
NPV	22.3 million USD
IRR	28%
SOCIOECONOMIC INDICATORS	
Indicator	**Value**
Beneficiaries	• 92,000 basic grain producers in the DCAZ of the 8 SICA countries as direct beneficiaries • 414,000 indirect beneficiaries
Δ income	• 214 USD / beneficiary / year
RISK ANALYSIS	
Risks	**Mitigation measures**
• Insufficient climatic, soil and phenological information for calibration of the Zoning system • Lack of adoption by farmers • Lack of financial sustainability	• Complement climate data with satellite sources • Synergies with digital mapping investment note • Links with research institutes and academia • Training and demonstration programs • Additional financing through public financing and public-private partnerships

Visit to the Dry Arch of Panama. Brazil-FAO cooperation. 2023.

Field visit of the Vice Minister of SAG Honduras to learn about the process of selecting plots for the validation of the AZCR methodology. August, 2024.

Investment Note 2/5
Digital soil mapping

OBJECTIVES	To provide the countries of the Dry Corridor and Arid Zones of the SICA region with better knowledge and technical capacity for integrated soil nutrient management based on data at local and national scales
OPPORTUNITIES AND REACH	• Contribute to sustainable agriculture and soil management by optimizing nutrient management • Digital soil maps for decision-making • Capacity building in standardization of soil-related information

Bottlenecks	Key investments
• Low soil fertility and productivity • Lack of soil information for decision-making aimed at the adoption of sustainable agricultural and soil management practices • Lack of efficiency in the application of mineral and organic fertilizers	• Soil sampling and collection (0.98M USD) • Laboratory equipment (25M USD) • Development of soil information databases and mapping (15M USD) • Laboratory equipment and other investments for extension tools and national integrated soil information systems (25.8M USD) • Training expenses (10.4M USD) • Management fees (300k USD) • Annual maintenance expenses (11 years, 534k USD)

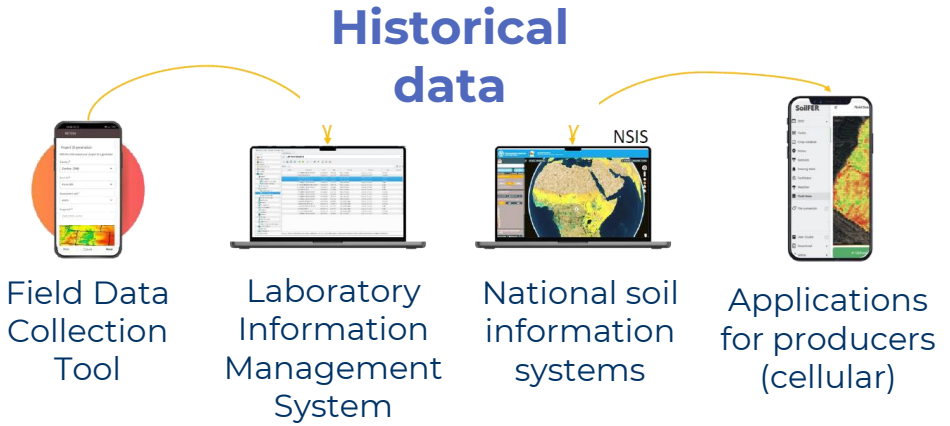
The Ministry of Agriculture, Livestock and Food (MAGA) of Guatemala and FAO, presenting the Mapping for Resilient Agrifood Systems in Central America and Sub-Saharan Africa (SOILFER) project. March, 2024.

Agricultural specialists conducting soil sampling in Honduras. April 2024.

Investment Note 2/5

Digital soil mapping

INVESTMENT ANALYSIS	
Indicator	**Value**
Investment	59 million USD
NPV	69 million USD
IRR	24%
SOCIOECONOMIC INDICATORS	
Indicator	**Value**
Beneficiaries	• 511,000 direct beneficiaries • 2.3 million indirect beneficiaries
Δ revenue	• 145 USD / family / year
RISK ANALYSIS	
Risks	**Mitigation measures**
• Lack of technological infrastructure and starting data • Resistance to change • Insufficient training • Long-term financial sustainability	• Initial planning and assessment • Continuous monitoring and evaluation • Continuing training programs • Collaboration and partnerships • Additional financing through public-private partnerships.



Investment Note 3/5

Strengthening of Agriculture and Research Institutes (ARI)

OBJECTIVES	Strengthen the capacities of the agricultural and forestry R&D systems of the SICA countries
OPPORTUNITIES AND REACH	• Increase investment in agricultural research, development and innovation systems. • Generate agile mechanisms for connection and "two-way" dialogue between the world of science and the productive world, with special emphasis on the most appropriate interventions and solutions for the context of the dry corridor and arid zones of SICA • Technical group for innovation and transfer operative of the Council of Ministries of Agriculture –CAC-) • Technical and methodological support from FONTAGRO

Bottlenecks	Key investments
• Limited level of investment in agricultural R&D • Limited capacities of ARI for the formulation of research projects, their submission to competitive financing processes, and the evaluation of the impact of investments and South-South Cooperation • Financing of regional research and innovation projects.	• Establishment of a regional digital platform for the registration and dissemination of the ARI offer of innovation products and services (2.9M USD). • ARI capacity building in research project development and impact evaluation (2.1M USD). • Leverage of financing funds such as FONTAGRO and others for regional research and innovation projects (6.2M).

Photo courtesy of the National Center for Agricultural and Forestry Technology. El Salvador, 2024.

Investment Note 3/5

Strengthening of ARI in R&D

INVESTMENT ANALYSIS	
Indicator	**Value**
Investment	11.2 million USD
NPV	2.4 million USD
IRR	22%
SOCIOECONOMIC INDICATORS	
Indicator	**Value**
Beneficiaries	Eight agricultural and forestry research institutes
RISK ANALYSIS	
Risks	**Mitigation measures**
• Bureaucracy and restrictive regulations • Lack of collaboration and coordination • Financial sustainability	• Initial diagnosis and joint work with ministerial authorities to streamline procedures • Promotion of inter-institutional collaboration, collaborative networking, and facilitation of the CAC • Establishment of strategic alliances with public and private entities in the field of LAC region

Workshop of the National Institutes of Agricultural Research of SICA member countries. August, 2023.

Investment Note 4/5

MSMEs and digital ecosystems

OBJECTIVES	Strengthen the entrepreneurial skills and digital and connectivity capacities of MSMEs, cooperatives and Family Farming organizations for access to markets and generation of sources of employment
OPPORTUNITIES AND REACH	• Strengthening the entrepreneurship of MSMEs through digital ecosystems for market access • Development of investments in information and communication technology and services, applications and the development of digital skills to improve competitiveness and access to markets

Bottlenecks	Key investments

• Strong barriers to access to goods and services by the organizational and business fabric operating in the dry corridor and arid zones of the SICA countries.
• Limited capacities and resources for innovation and technology for sustainable and climate-adapted small-scale agriculture from youth and its linkage to markets.
	• Establishment of 80 digital ecosystems and one MSME focal point per country:
	  • Expansion of digital connectivity infrastructure in rural areas and the promotion of public-private partnerships (USD 29M)
	  • Development of digital skills for access to digital, commercial and other services (12.4M USD)
	  • App development & content generation (576k USD)

Female leaders of MSMEs in face-to-face training for the management of business meetings. April 2023.

Results of the 9th edition of virtual business meetings. 2024.

Investment Note 4/5

MSMEs and digital ecosystems

INVESTMENT ANALYSIS	
Indicator	**Value**
Investment	41.9 million USD
NPV	5.2. million USD
IRR	24%

SOCIOECONOMIC INDICATORS	
Indicator	**Value**
Beneficiaries	• 22,400 agri-food producers through 1,600 MSMEs in SLV, GTM, HND and direct NICs • 100,800 indirect beneficiaries
Δ revenue	• 712 USD / beneficiary / year

RISK ANALYSIS	
Risks	**Mitigation measures**
• Lack of digital literacy • Financial sustainability • Data security and privacy	• Programs, training, and digital education for end users • Link with public policy programs to support MSMEs - promote public-private partnerships • Robust security measures, such as data encryption and multi-factor authentication.

Leaders of MSMEs in face-to-face training for the management of business roundtables. April 2023.

First Regional Intersectoral Meeting of the Inter-institutional Technical Committee for Rural MSMEs. Guatemala, June 2024.

Investment Note 5/5

Integrated Water Solutions

Management and development of integrated water solutions for agricultural production and human consumption

1. Strengthening the Water Resources Planning Framework – Public Goods

- 1.1 Scalable information systems and tools for decision-making
- 1.2 Studies on water management, availability and quality, productive, environmental and social aspects, benefits, climate scenarios and impacts
- 1.3 Development/updating of national investment plans (up to pre-feasibility projects

2. Implementing Water Supply Solutions

- 2.1 Rooftop water collection systems and storage cistern
  - A. Human consumption (4,000 systems)
  - B. Human and productive consumption (3,400 systems)
- 2.2 Artisanal wells: drilling (2,500 systems) and eventual maintenance/deepening
- 2.3 Comprehensive water supply systems for irrigation and other uses (100 systems)

Investment Note5/5
Integrated Water Solutions

OBJECTIVES	Manage and develop water solutions for agricultural production and human consumption in vulnerable rural territories
OPPORTUNITIES AND REACH	• Pre-investment component, focused on the water resources planning framework (information, studies and investment plans) • Investment component, aimed at water supply technology solutions

Bottlenecks	Key investments

• Need to improve water governance at multiple levels to strengthen public-private collaboration
• Lack of generation and dissemination of updated information on water resources to enable better decision-making
• Lack of policies that promote decentralized access to water
• Need to implement practices that promote their efficient use, especially in agriculture
	• Water Resources Planning(14.2M USD):
	  • Information systems and tools for decision-making
	  • Productive, environmental and social characterization studies, and water availability
	  • Development/updating of national investment plans
	• Implementation of 10,000 water supply solutions for domestic and agricultural use (42.3M USD)

RECLIMA Project, El Salvador.

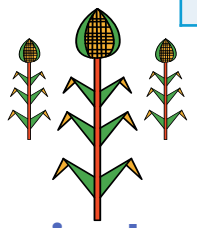
Investment Note 5/5

Integrated Water Solutions

INVESTMENT ANALYSIS	
Indicator	**Value**
Investment	56.7 million USD
NPV	80 million USD
IRR	25%
SOCIOECONOMIC INDICATORS	
Indicator	**Value**
Beneficiaries	21,900 direct beneficiaries 98,550 indirect beneficiaries
Δ revenue	412 USD / Beneficiary / Year
RISK ANALYSIS	
Risks	**Mitigation measures**
• Those that could affect the implementation of water governance measures such as climate variability, overexploitation of water resources, pollution and conflicts over access to water	• Risk identification • Strengthening institutional capacity • Investment in water infrastructure that is resilient to the impacts of climate change • Involving local communities in decision-making • Promote cooperation among Central American countries to address shared challenges in water management and to implement joint solutions

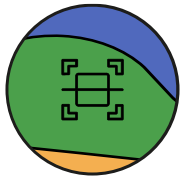
Synthesis of investments in the SICA Dry Corridor and Arid Zones

203M USD Total investment	25% Average IRR	179M USD NPV total	647,000 beneficiary families 2.9 million indirect beneficiaries



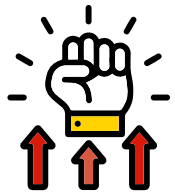
Agricultural zoning of climate risk

- Investment: 34M USD
- IRR: 28%
- NPV: 22M USD
- Beneficiaries:
  D: 92,000
  I: 414,000
- Δ revenue:
  214 USD/year/bnf



Digital soil mapping

- Investment : 59M USD
- IRR : 24%
- NPV : 69MUSD
- Beneficiaries:
  D: 511,000
  I: 2.3M
- Δ revenue :
  145 USD/year/bnf

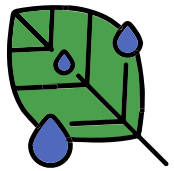


Strengthening of ARI in R&D

- Investment : 11.2M USD
- IRR : 22%
- NPV : 2.4M USD
- Beneficiaries : 8 agricultural and forestry research institutes

MSMEs and digital ecosystems

- Investment : 42M USD
- IRR : 24%
- NPV : 5.2M USD
- Beneficiaries :
  D: 22,400
  I: 100,800
- Δ revenue :
  712 USD/year/bnf



Integrated Water Solutions

- Investment : 57M USD
- IRR : 25%
- NPV : 80M USD
- Beneficiaries :
  D: 21,900
  I: 98,550
- Δ revenue :
  412 USD/year/bnf