



Investment program for expanded agricultural and livestock economic development in the Adjacency Zone and Polochic Valley



Guatemala

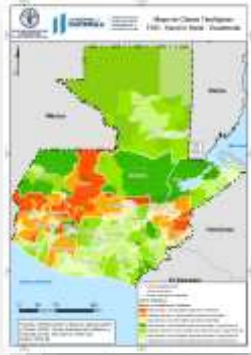
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Introduction - Investment Program Management

Milestones 2021-2022

Progress in 2023



01/22 - The typology of microregions in the agricultural sector of Guatemala has been developed, and an Investment Program designed for the Polochic Valley and the Adjacency Zone



08/22 - Specific Cabinet for Comprehensive Rural Development, led by the President, endorses the Investment Program supported by the Hand in Hand Initiative.

10/22 – Participation of Guatemala in the Hand in Hand Initiative Investment Forum



Estimated investment cost by territory, municipality and final beneficiary



Consolidated the Investment Plan with the components of productive infrastructure and sustainable management of natural resources.



Incorporated the Investment Plan into the GEDRI Work Plan, promoting multisectoral action between the ministries of Agriculture, Economy, Labor, Social Development and Environment.



A National Forum of the Hand in Hand Initiative was developed between the public sector, producer organizations, private companies, banks and investors.



The baseline of the Investment Program and the characterization of the prioritized value chains are under development.



Complementary investments mobilized in the amount of 74 million USD

Section 1: General Overview

- **1.3 million households** are engaged in some form of agricultural activity.¹
- **1 out of every 3 jobs** comes from the agricultural sector.²
- **554,000 young people** between the ages of 15 and 29 are engaged in agriculture.³

61% of the economically active agricultural population are family farmers.⁴



The agricultural sector represents 9.3% of the GDP.⁵

Nominal GDP 2021 (million USD\$)	Contribution of agriculture, livestock, forestry and fishing (million USD\$)
93,913.4	8,688.7

The contribution of the main agricultural products to the country's exports is 20.6%.⁶

CHALLENGE: Using the potential of the agricultural sector to boost comprehensive rural development

- **56% of the population** is below the poverty line⁷
- **76% of the rural population** is in poverty⁸

1 INE. 2023. 2023 Agricultural EAP Estimates
2 INE. 2022. National Employment and Income Survey
3 INE. 2018. National Population and Housing Census
4 INE (National Institute of Statistics. 2020. National Agricultural Survey 2019-2020)

5 BANGUAT. (Bank of Guatemala) 2023. Real gross domestic product is measured by the origin of production.
6 INE. 2022. FOB value of exports - general trade in 2022
7 World Bank 2022
8 INE. 2014. National Survey of Living Conditions.

Section 1: General Overview

-Alignment with national priorities for sustainable development and promotion of the agricultural sector.



5 of the 10 National Development Priorities are directly related to the agricultural sector.



Prioritizes actions to promote greater development of the agricultural sector.



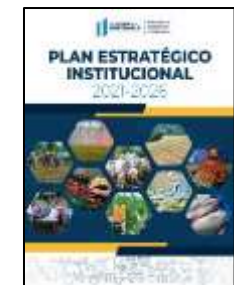
Seeks to improve the quality of life of the inhabitants of rural areas.



Create favorable conditions to foster an attractive investment climate for national and international investments.



Promote sustainable food systems so people can access healthy, nutritious, safe, sufficient, and culturally significant food.



Promotes a 10% increase in the Gross Value of Production.

Section 2: Enabling environment

Favorable business climate

- The largest economically active population in Central America: 7.4 million people
- 2022 Direct Foreign Investment USD\$ 1,352.4 million.
- Macroeconomic stability: 3.5% average growth in the last 8 years.
- Positive agricultural trade balance that has been maintained for the last ten years.

Access to the main markets

- Proximity and Free Trade Agreement with the United States.
- Gateway to the largest market in Latin America, Mexico.
- Opportunity to access the Central American market with a GDP of more than US\$ 285,254 million.
- Customs union between Guatemala, Honduras, and El Salvador, with a trade exchange of more than US\$5,210.1 million in 2021.

Sources: MINECO. (Ministry of Economy). 2022. Guatemala the economic engine of Central America.

MINECO y CIG (Chamber of Industry of Guatemala). 2022. Guatemala's business guide.



Logistics Platform



Direct access to the Pacific and Atlantic Coast, **250 miles coast to coast**



- **2 international airports**
- **9 local airfields**
- **12 commercial airlines and,**
- **11 operating cargo airlines.**



Second largest shipping cargo operation in Central America (40.23%) in 3 main shipping ports.

Section 2: Enabling environment

- A look at Guatemala through International indexes -

Doing Business 2020



Ranking



Score

Source: World Bank, 2020

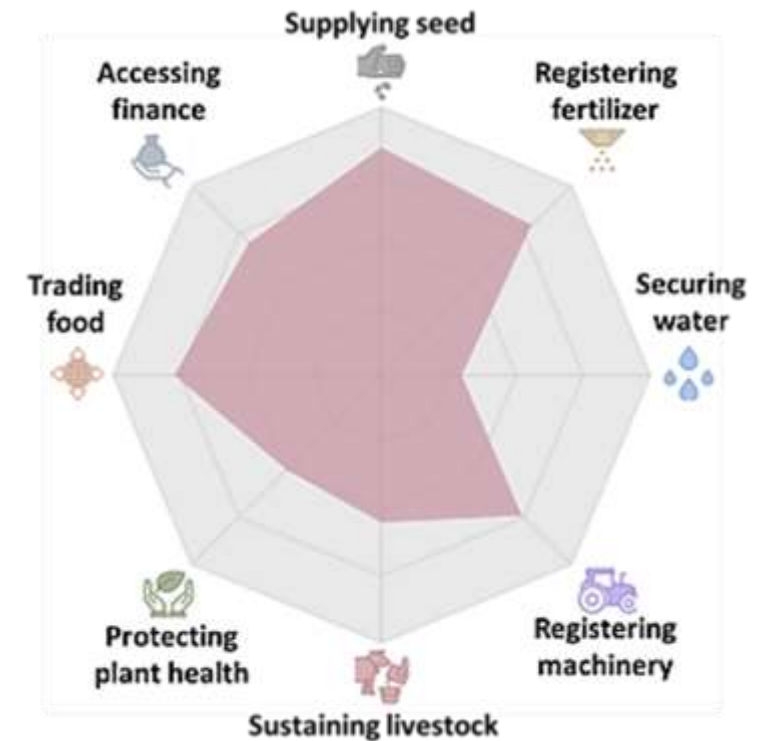
Country Risk Rating

- Fitch Ratings BB positive
- Moody's Ba stable
- Standard & Poor's BB positive

Enabling the Agriculture Business 2019



65.11
Score



Source: World Bank, 2019

Section 3: HiH Investment Note

Investment Program for the Expanded Agricultural Economic Development in the Adjacency Zone and the Polochic Valley (2022-2026)

Goal:

Promote agricultural economic development by incorporating innovation, technology, infrastructure and production support services, therefore reducing poverty and food insecurity.

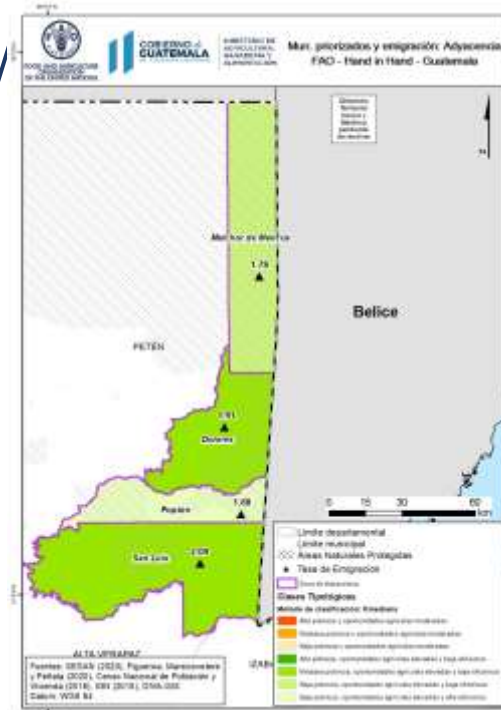
Prioritized value chains:

Cocoa, cardamom, and coffee

Plan GEDRI



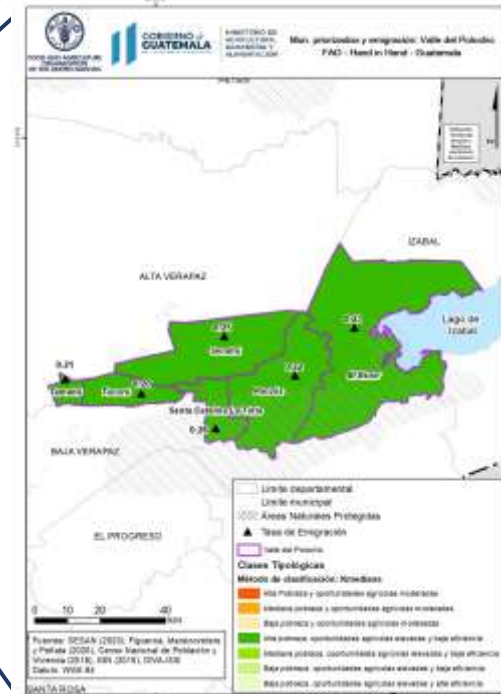
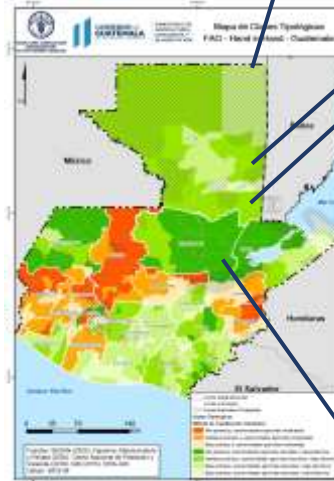
Adjacency Zone



Adjacency Zone

- Total population 174,211, 70% farmers
- 56% of population in poverty
- Potential area for production (ha): cocoa 8,807, cardamom 36,868

The Polochic Valley



The Polochic Valley

- Total population 331,848, 75% farmers
- 91% of population in poverty
- Potential area for production (ha): cocoa 4,605, cardamom 36,993, coffee 14,400.

Section 3: HiH Investment Note

Total cost
2022-2026

92.67
Million USD\$

Investment
Return

IRR 19%
NPV 24.5
Million USD\$

Scope
17,500
producers

Indirect beneficiaries 91,000
Women 39,000
Young people 23,400



Component 1

Promote inclusive and resilient agricultural production in prioritized value chains.

18

million USD\$

Opportunity 1

Agricultural
Development in
Prioritized chains

Opportunity 2

R&D&I in Farms

Component 1 - expected results

- 15,420 hectares of agricultural land under sustainable production
- 12,500 trained and assisted producers in sustainable agricultural production
- 4,291 hectares benefited with improved plants and consumables



Component 2

Agro-industry development and commercialization

8.8

million USD\$

Opportunity 3

Agro-industry
Development in
Prioritized chains

Opportunity 4

Other value-
added initiatives

Opportunity 5

Organizational
strengthening and
associative
commercialization

Component 2 - expected results

- 2,500 producers that improve their participation in value chains
- 50 new units of transformation and added value
- 800 people that have access to better jobs in the value chains

Section 3: HiH Investment Note

Total cost
2022-2026
92.67
million USD\$

Investment
Return
IRR **19%**
NPV **24.5**
million USD\$

Scope
17,500
producers
Indirect beneficiaries
91,000
Women
39,000
Young people
23,400



Component 3
Infrastructure for production
and related services

61.5
million USD\$

Opportunity 6

Roads for the
development of rural
communities

Opportunity 7

Enabling
telecommunications for
the development of
rural communities

Component 3 - expected results

- **29,882 people** improve access to roads
- **9,013 people** with access to electricity



Component 4
Sustainable management of Natural
Resources and green transformation

4.3
million USD\$

Opportunity 8

Agroforestry
Conservation

Opportunity 9

Technical assistance,
training and education for
the sustainable use of
natural resources

Opportunity 10

climate
change **Adaptation**
practices

Component 4 - expected results

- **700 hectares** with improved forestry management
- **500,000 m3** of harvested water
- **5,088 m3** of firewood saved

Section 3: HiH Investment Note

Mobilization of complementary investments

Componente 1
Fomento agroproductivo inclusivo y resiliente en cadenas de valor priorizadas

18 millones USD

Oportunidad 1: Desarrollo agropecuario en cadenas priorizadas

Oportunidad 2: I+D+i en Finca

Componente 4
Gestión sostenible de los Recursos Naturales y transformación verde

4.3 Millones USD

Oportunidad 8: Conservación agroforestal

Oportunidad 9: Asistencia técnica, capacitación y educación para el uso sostenible de recursos naturales

Oportunidad 10: Prácticas de adaptación al cambio climático

Componente 2
Desarrollo agroindustrial y comercialización

8.8 Millones USD

Oportunidad 3: Desarrollo agroindustrial en cadenas priorizadas

Oportunidad 4: Otras iniciativas de agregación de valor

Oportunidad 5: Fortalecimiento organizacional y comercialización asociativa

USD 66.7 million

Polochic Valley, Adjacency Zone + 3 additional departments



USD 7.4 million

Valle del Polochic + 2 additional departments



Investment Focus

- Information and evidence for decision making
- Sustainable management of natural resources
- Resilient livelihoods

- Youth employment
- Strengthening MSMEs
- Access to markets
- Inclusive value chains



Investment Opportunities

Investment Program for the Expanded Agricultural
Economic Development in the Adjacency Zone and
the Polochic Valley (2022-2026)

Opportunity 1: Agricultural development in prioritized chains

Component 1: Promote inclusive and resilient agricultural production in prioritized value chains.

Description

Allocation of investment:

- Establishing new agroforestry systems
- Rehabilitation of existing agroforestry systems

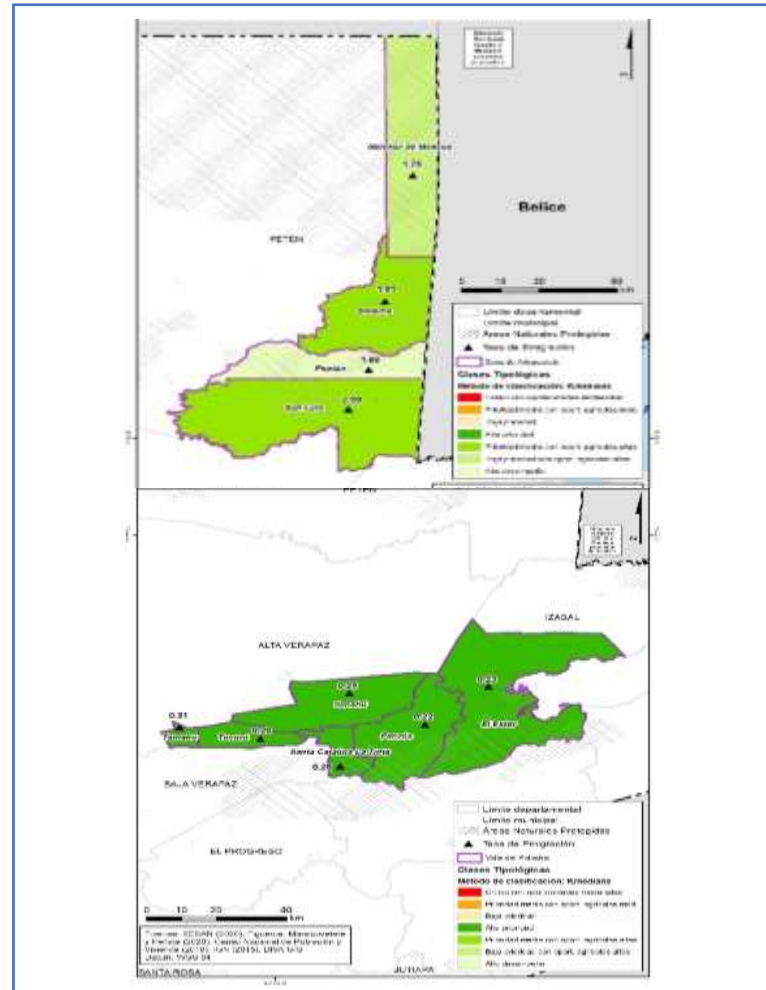
Expected results:

Increase in sustainable production volume

Scope

- ✓ 12,500 producers trained and assisted in sustainable agricultural production.
- ✓ 15,420 hectares of agricultural land with sustainable production.
- ✓ 52% increase in GVP.

Location



Cost-benefit metrics

- ☐ NPV 5.00 million USD\$
- ☐ IRR: 22%
- ☐ Total investment: 12.9 million USD\$
 - Cardamom 3.2 million USD\$
 - Cocoa: 3.2 million USD\$
 - Coffee: 3.8 million USD\$
 - Basic grains. 1.3 million USD\$
 - Other agroforestry crops 1.4 million USD\$

Mitigation of risks

Risks

- Crop loss due to natural disasters.
- Fluctuation of commodity prices.

Mitigation

- Catastrophic agricultural insurance is being implemented.
- Diversification of production

Opportunity 2: R&D&I in Farms

Component 1: Promote inclusive and resilient agricultural production in prioritized value chains.

Description

Allocation of investment:

Improve the quality of supplies:

- Clone and cultivar selection center
- Nurseries for reproduction.

Adoption of new technologies

- Digital technologies and agricultures 4.0.

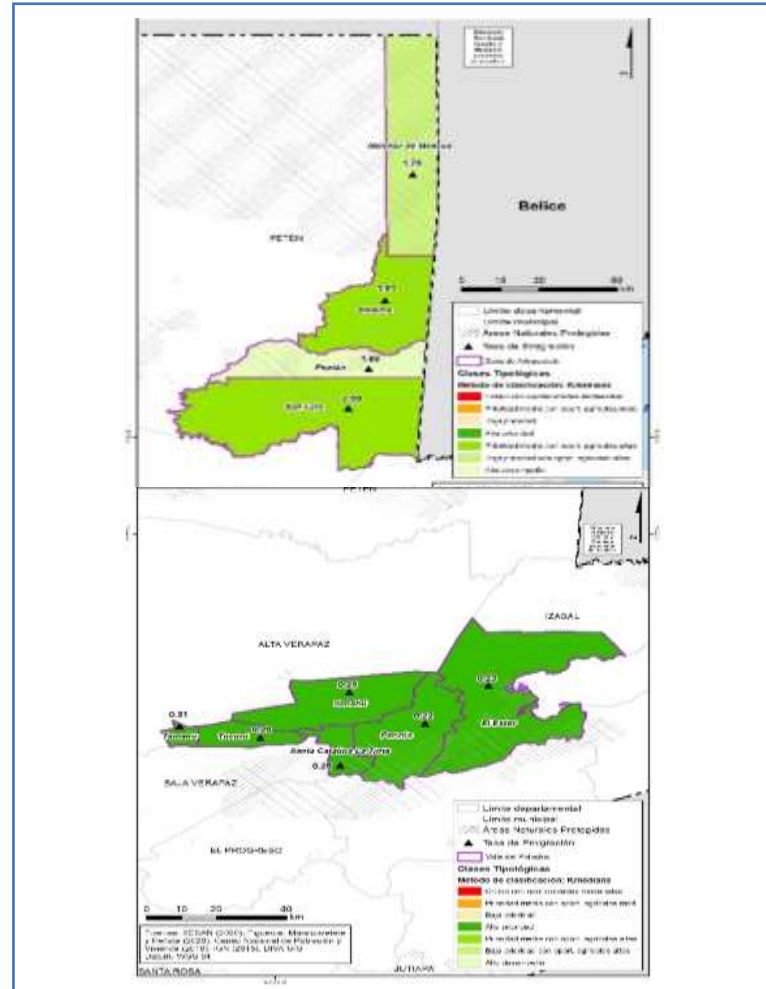
Expected results:

Increase in sustainable production volume
Increased production quality through the adoption of technology.

Scope

- ✓ 1 operational analysis and selection center.
- ✓ 58 nurseries with commercial activity meeting local needs.
- ✓ 4,291 hectares reached with improved plants and supplies.
- ✓ 6,887 producers with access to improved plants.
- ✓ 500 hectares (1,000 producers) adopting Agriculture 4.0 initiatives.

Location



Cost-benefit metrics

- ❑ NPV 0.56 million USD\$
- ❑ IRR: 35%
- ❑ Total investment: 0.96 million USD\$

Mitigation of risks

Risks

- Natural disasters/climate change.
- Poor business skills.

Mitigation

- Best practices in agriculture, agroforestry systems,
- Technical assistance in business administration and management.

Opportunity 3: Agro-industry development in prioritized chains

Component 2: Agro-industry development and commercialization

Description

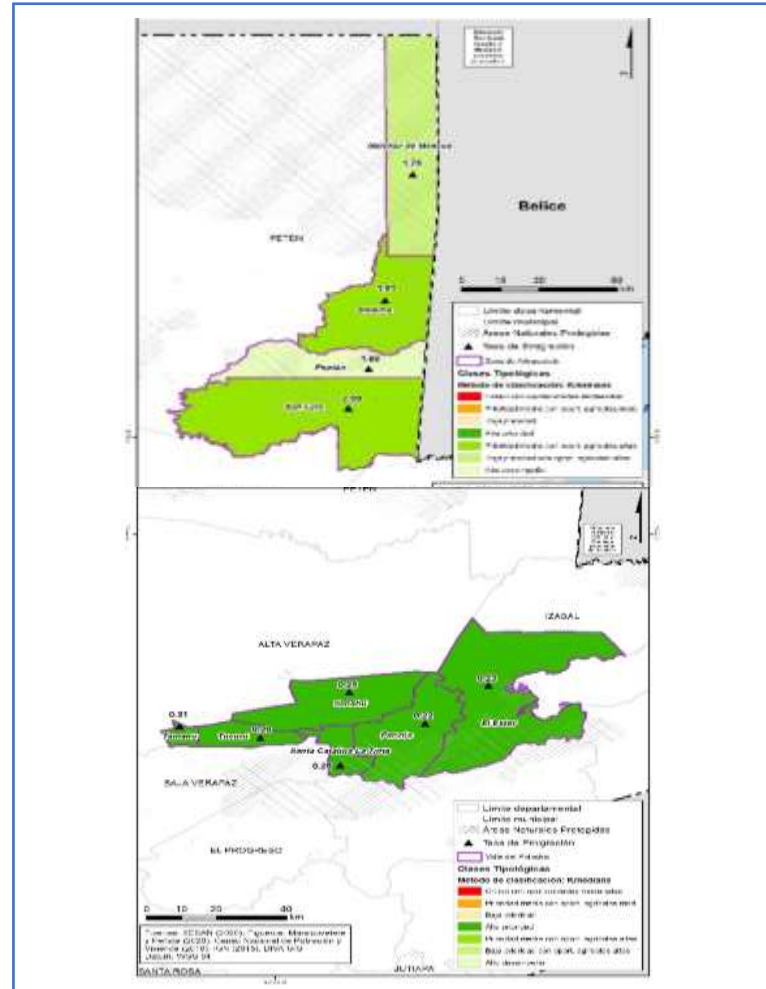
Allocation of investment:

Establishment of cocoa processing and cardamom drying units.
Increase in sustainable production volume

Expected results:

Added value to production through primary processing of cocoa, coffee, and cardamom.

Location



Cost-benefit metrics

- ❑ NPV 0.66 million USD\$
- ❑ IRR: 22%
- ❑ Total investment: 2.03 million USD\$
 - Cardamom 1.4 million USD\$
 - Cocoa: 0.4 million USD\$
 - Coffee: 0.2 million USD\$

Scope

- ✓ 2,180 producers were involved in the drying of cardamom and processing of cocoa and coffee.
- ✓ 20 cocoa processing units, 20 cardamom processing units, and 10 coffee processing units.

Mitigation of risks

Risks

- Lack of financing for investment costs.
- Unexploited capacity.

Mitigation

- Investment promotion in the country and the region.
- Strengthen value chains through associative commercialization.

Opportunity 4: Other Value-added initiatives

Component 2: Agro-industry development and commercialization

Description

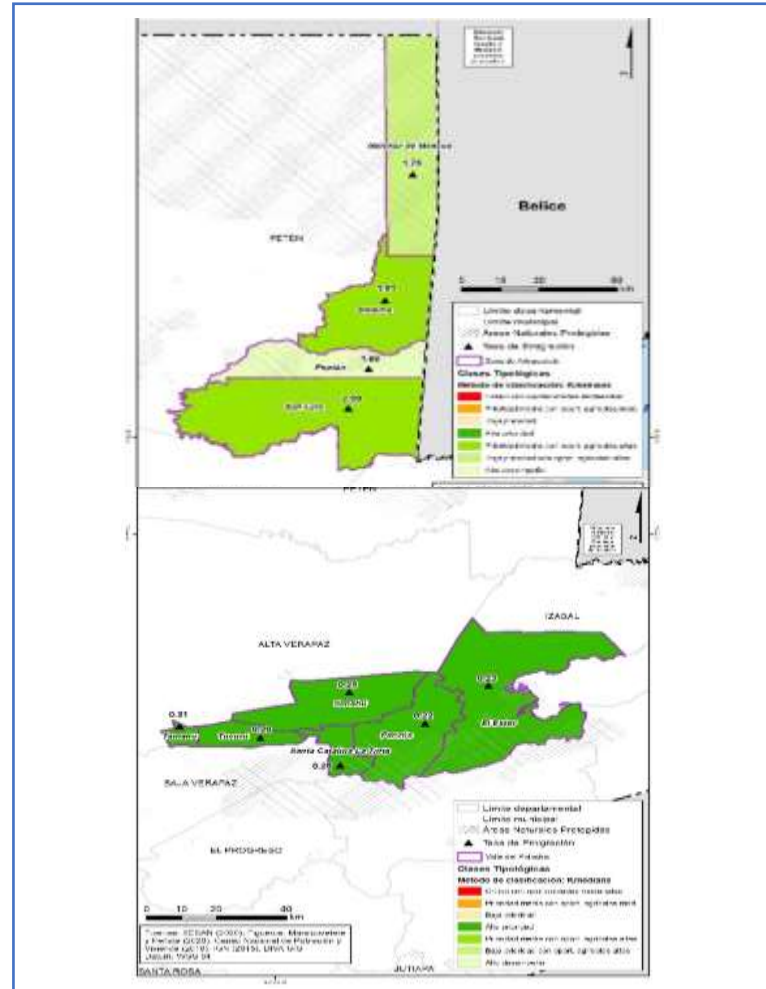
Allocation of investment:

Promotion of cocoa and cardamom value-adding entrepreneurships

Expected results:

Increased level of income through secondary processing of cocoa and cardamom

Location



Cost-benefit metrics

- NPV** 0.2 million USD\$
- IRR:** 31%
- Total investment:** 0.44 million USD\$

Scope

- ✓ **1,700 producers benefited.**
- ✓ **20 value-added entrepreneurships.**

Mitigation of risks

Risks

- Lack of financing to cover investment costs.
- Poor quality control.

Mitigation

- Investment promotion in the country and the region.
- Technical assistance in quality control processes.

Opportunity 5: Organizational strengthening and associative commercialization

Component 2: Agro-industry development and marketing

Description

Allocation of investment:

Promotion of associativity to strengthen the trade capacities of local producers.

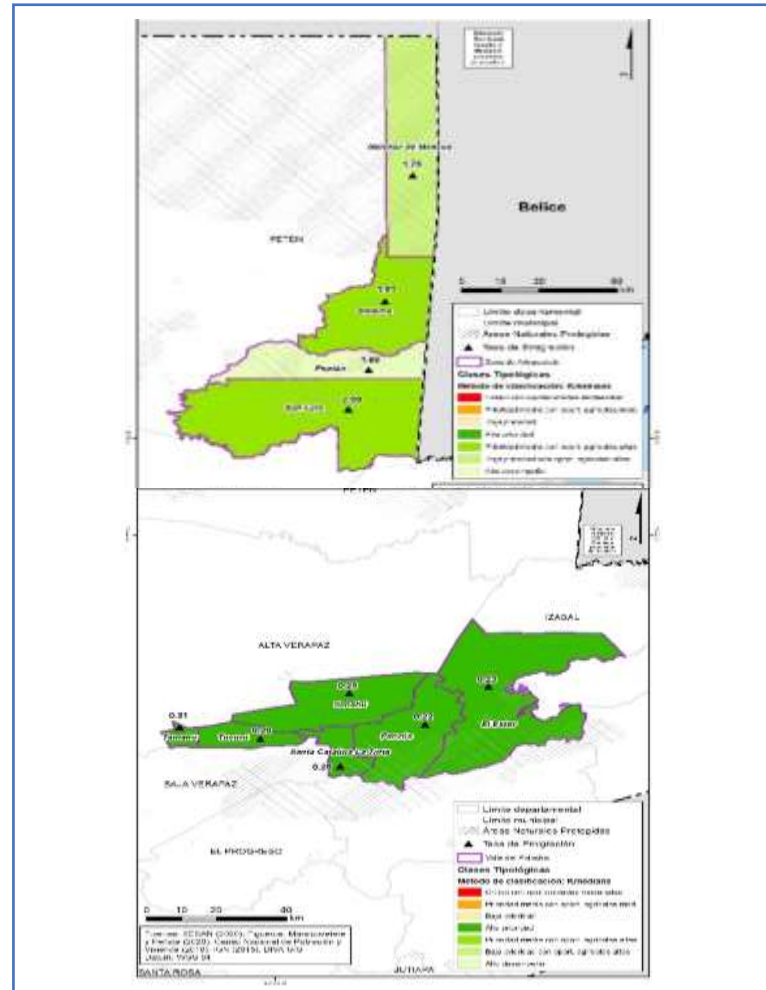
Expected results:

Improved market access and negotiation capacity of producers.

Scope

- ✓ 2,500 producers improve their participation in value chains.
- ✓ 10% increase in the sale price of marketed products.

Location



Cost-benefit metrics

- ☐ NPV: 1.27 million USD\$
- ☐ IRR: 39%
- ☐ Total investment: 1.34 million USD\$

Mitigation of risks

Risks

- Lack of diversity in producer organizations.
- Lack of knowledge of trade issues.

Mitigation

- Encourage the participation of women and youth.
- Commercial technical assistance

Opportunity 6: Roads for the development of rural communities

Component 3: Infrastructure for production and related services

Description

Allocation of investment:

Construction of 60 km, restoration of 219 km, and maintenance of 355 km rural roads.

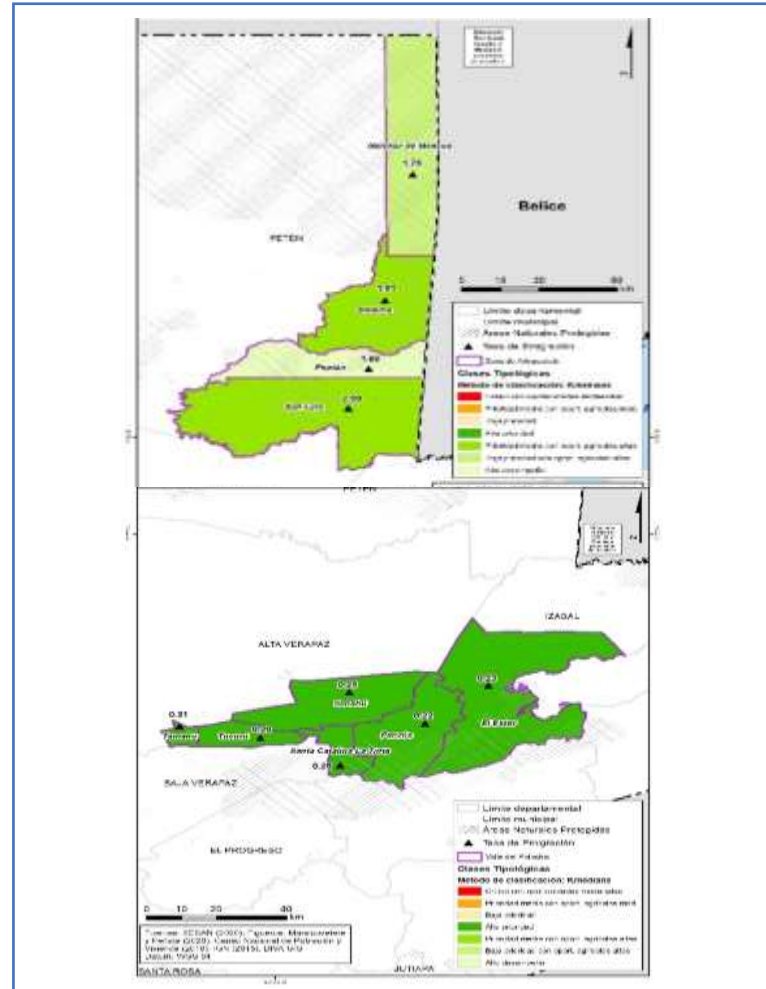
Expected results:

Increase the asphalted and registered road network.

Scope

✓ **29,882 people in rural communities with access to main roads (direct and indirect beneficiaries)**

Location



Cost-benefit metrics

- ❑ **NPV 7.64 million US\$**
- ❑ **IRR: 15%**
- ❑ **Total investment: 53.1 million US\$**

Mitigation of risks

Risks

- Inadequately and insufficiently maintained rural roads.

Mitigation

- Register rural roads as part of the inventory of the Ministry of Communications.

Opportunity 7: Enabling telecommunications for the development of rural communities

Component 3: Infrastructure for production and related services

Description

Allocation of investment:

Installation of 78 km of transmission lines and 10 km of power distribution lines.

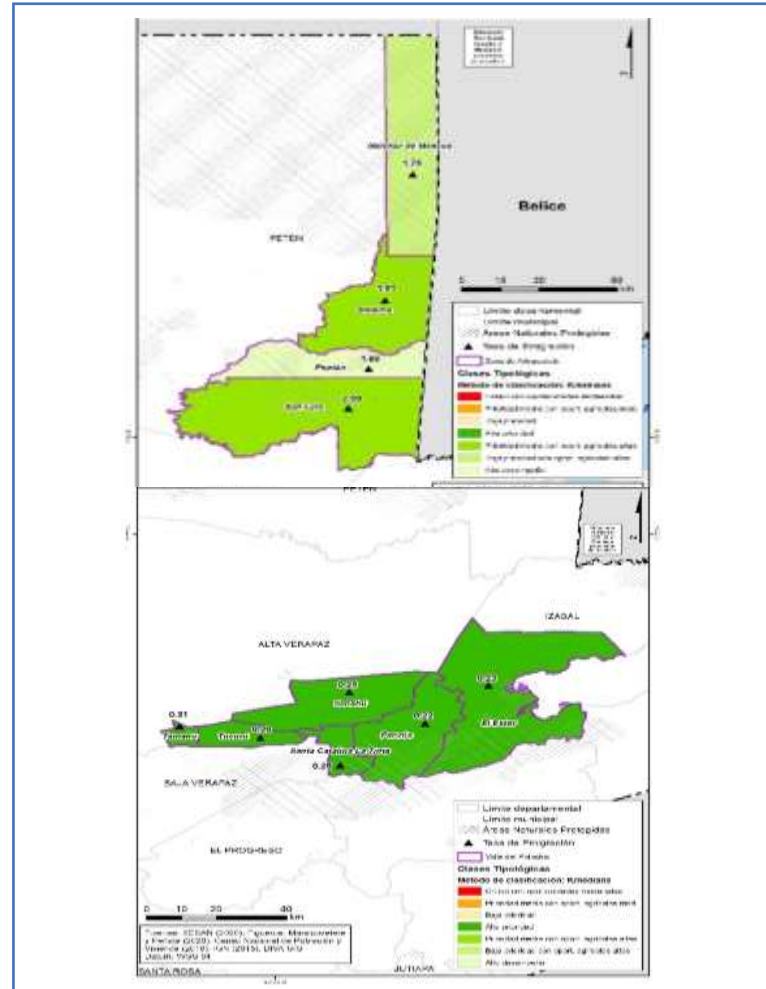
Expected results:

Increase electric power coverage in rural areas.

Scope

✓ **9,013 people in rural communities with access to electricity**

Location



Cost-benefit metrics

- ❑ **NPV 0.42 million USD\$**
- ❑ **IRR: 13%**
- ❑ **Total investment: 8.4 million USD\$**

Mitigation of risks

Risks

- Inadequate focus.

Mitigation

- Coordinate with local authorities for proper targeting

Opportunity 8: Agroforestry conservation

Component 4: Sustainable management of Natural Resources and green transformation

Description

Allocation of investment:

Establishment of 500 ha of energy forests and 200 ha of riverside woods as part of the cocoa, cardamom and coffee AFS.

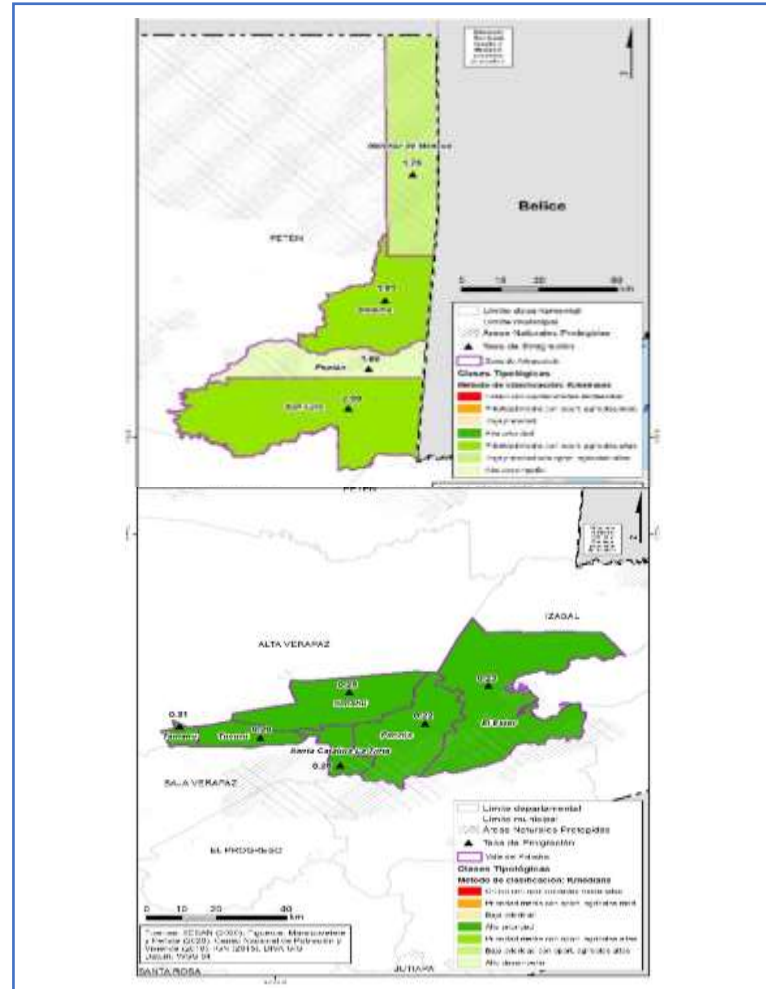
Expected results:

Increase in the number of hectares of forests under sustainable management.

Scope

- ✓ 700 hectares reached (10% under the National Forest Institute, (INAB), incentive programs)
- ✓ 2,000 producers in more resilient habitats

Location



Cost-benefit metrics

- ❑ NPV: 1.31 million US\$
- ❑ IRR: 24%
- ❑ Total investment: 2 million US\$

Mitigation of risks

Risks

- Lack of legal certainty of land ownership in the Polochic Valley.
- High costs of forest establishment.

Mitigation

- Most of these forests will be able to be established in the Adjacency Zone.
- A percentage of the forests will be eligible for forestry incentive programs.

Opportunity 9: Technical Assistance, training and education for the sustainable use of renewable natural resources.

Component 4: Sustainable management of Natural Resources and green transformation

Description

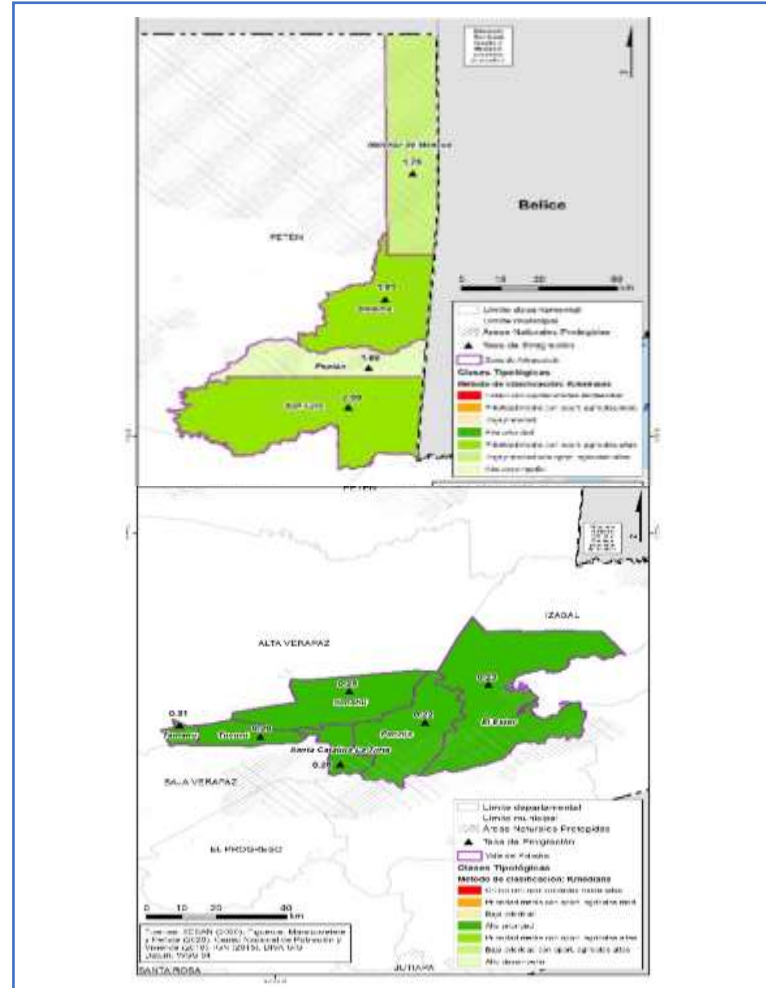
Allocation of investment:

Knowledge and prevention of deterioration for the conservation and protection of the environment and natural resources in centers for the adaptation of sustainable production practices.

Expected results:

Trained producers in environmentally friendly agricultural and processing practices.

Location



Cost-benefit metrics

☐ **Total investment: 0.6 million USD\$**

Scope

- ✓ 1,200 producers trained in environmentally friendly agricultural practices through Adaptation Centers.
- ✓ 10 pilot projects for energy reconversion in coffee, cocoa and cardamom processing units.
- ✓ 450 producers involved in pilot projects.

Mitigation of risks

Risks

- Producers' lack of motivation to participate in training.
- Lack of interest to participate in pilot projects.

Mitigation

- Training can be accompanied by some kind of incentive.
- Show producers the potential cost savings of energy reconversion.

Opportunity 10: Climate change adaptation and resilience practices in family farming activities

Component 4: Sustainable management of Natural Resources and green transformation

Description

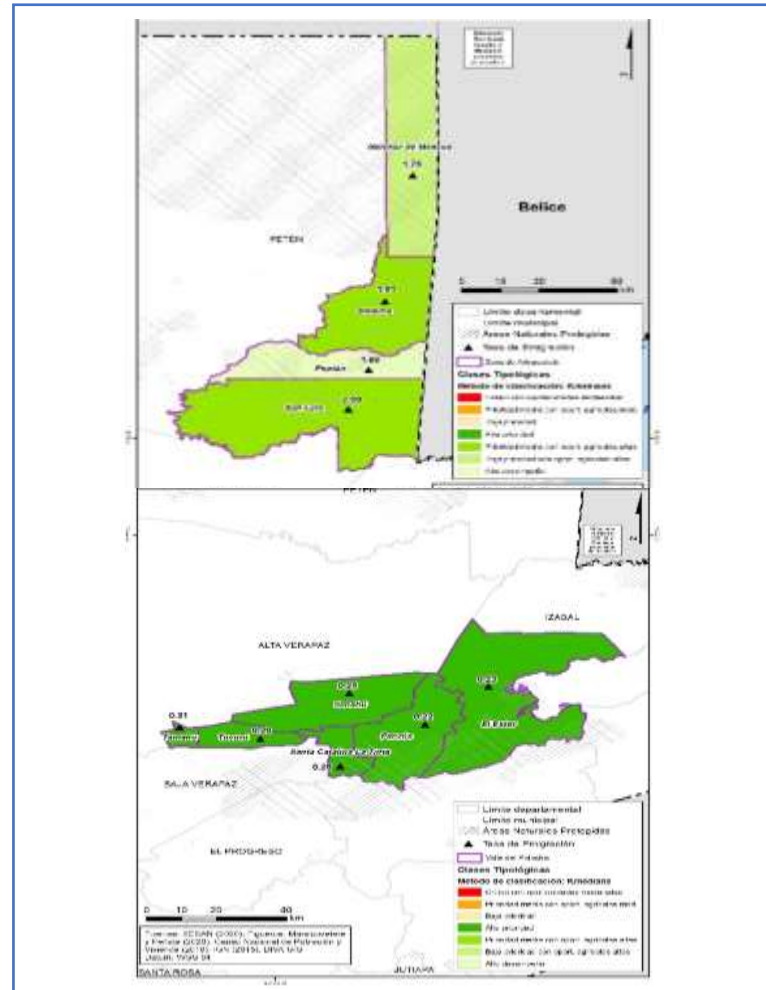
Allocation of investment:

Water harvesting and filtration systems, water-saving stoves and seed banks.

Expected results:

Harvested rainwater, savings in firewood use and availability of seeds.

Location



Cost-benefit metrics

- NPV 1.84 million US\$
- IRR: 57%
- Total investment: 1.7 million US\$

Scope

- ✓ 500,000 m³ of harvested water per year
- ✓ 5,088 m³ of firewood saved per year
- ✓ 1,500 producers with seed availability (20 seed banks)

Mitigation of risks

Risks

- Climate conditions may hinder seed conservation.
- Community water collection may not reach those who need it most.

Mitigation

- Study the most appropriate bank model to implement.
- Proper coordination with municipalities for targeting.



Catalyst opportunities with an approach on productive inclusion

Investment Program for the Expanded Agricultural Economic Development in the Adjacency Zone and the Polochic Valley (2022-2026)

Transversal Opportunity: Productive Social Inclusion

Description

Allocation of investment:

Linking of beneficiaries of CCT programs with productive development programs.

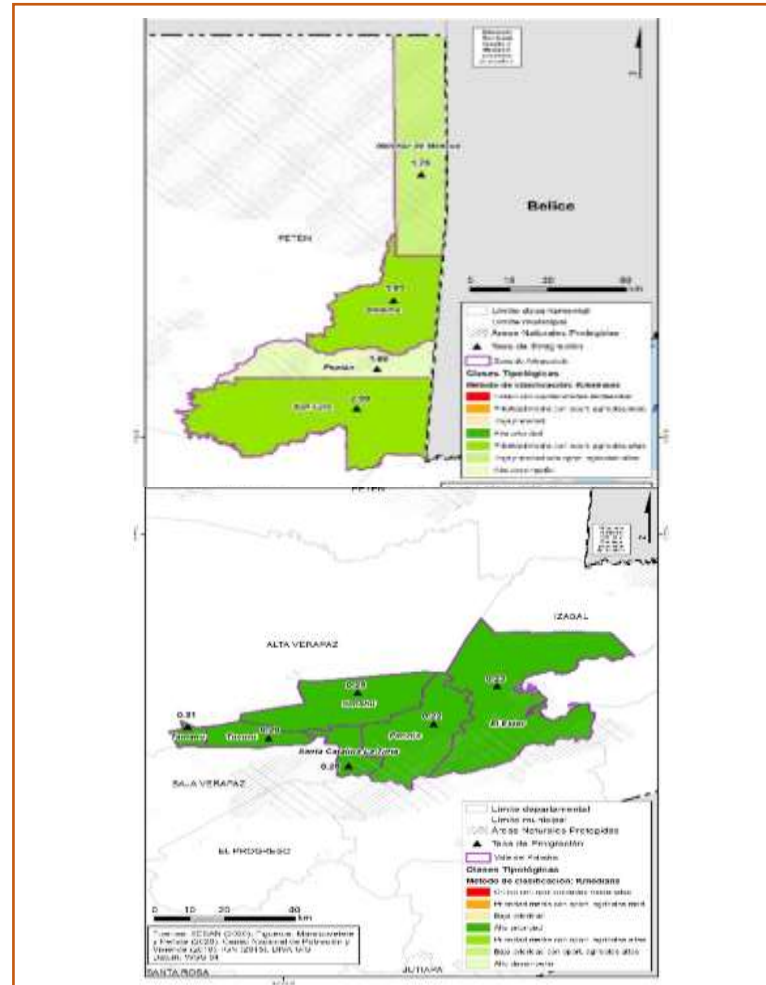
Expected results:

CCT beneficiaries are integrated into the agro-productive value chain.

Scope

- ✓ 10,000 Households of subsistence/poor rural producers participating in value chains.

Location



Cost-benefit metrics

- ❑ Required investment in Social Protection Programs: 3.9 million USD\$.
- ❑ Required investment in Productive Social Inclusion Programs: 0.3 million USD\$.
- ❑ Total investment: 4.2 million USD\$

Mitigation of risks

Risks

- CCTs not provided frequently or consistently
- Inadequate targeting of beneficiaries.

Mitigation

- Multi-institutional participation in the procurement of CCTs.
- Cross-referencing of databases to improve targeting.

Transversal Opportunity: Employability in agricultural production chains

Description

Allocation of investment:

Improve technical and entrepreneurial training to facilitate access to good quality jobs (public or private) generated in agro-productive chains and related services.

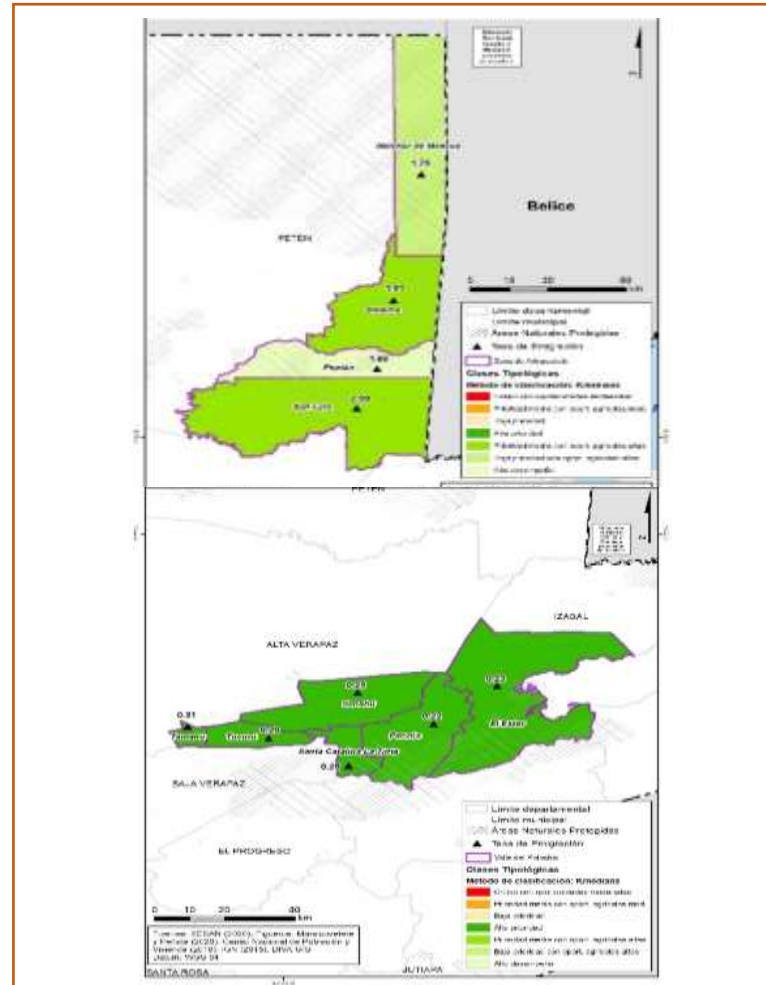
Expected result:

Trained workforce in agro-productive chains.

Scope

- ✓ 800 people have access to employment or improve their employment in the agricultural sector.
- ✓ 4 out of every 10 trained participants achieve proper labor market insertion.
- ✓ The number of unemployed poor rural people is reduced by between 1.3% and 3.4%.

Location



Cost-benefit metrics

- ☐ NPV 5.35 million USD\$
- ☐ IRR: 49%
- ☐ Total investment: 5 million USD\$

Mitigation of risks

Risks

- Difficulty in identifying job offers and vacancy areas in the territories.
- Inadequate targeting of beneficiaries.

Mitigation

- Use the rural Municipal Employment One-Stop Shop (VUME) within the territory.
- Cross-referencing of databases to improve targeting.

GUATEMALA'S INVESTMENT PROGRAM

STRATEGIC INVESTMENTS



MINISTERIO DE AGRICULTURA, GANADERÍA Y ALIMENTACIÓN



SUMMARY

US\$92.67 million
Total investment

19%
IRR

17,500
Direct beneficiaries
91,000
Indirect beneficiaries

US\$ 1,831.6
Increase in per capita income

-156,902
tCO2-e
per annum

Opportunity

1

Agricultural development in prioritized chains

Cost (USD)

US\$12.9M

IRR(%)

34%

NPV

US\$1.3M

Sustainability benefits

Beneficiaries: 12,500

Opportunity

2

R&D&I in Farms

Cost (USD)

US\$0.96M

IRR(%)

14%

NPV

US\$0.1M

Sustainability benefits

Beneficiaries: 3,500

Opportunity

3

Agro-industry development in prioritized chains

Cost (USD)

US\$ 2M

IRR(%)

22%

NPV

US\$0.7M

Sustainability benefits

Beneficiaries: 2,180

Opportunity

4

Other value-added initiatives

Cost (USD)

US\$0.4M

IRR (%)

31%

NPV

US\$0.2M

Sustainability benefits

Beneficiaries: 1,700

Opportunity

5

Organizational strengthening and associative commercialization

Cost (USD)

US\$1.3M

IRR(%)

39%

NPV

US\$1.2M

Sustainability benefits

Beneficiaries: 2,500

GUATEMALA INVESTMENT PROGRAM

STRATEGIC INVESTMENTS



MINISTERIO DE AGRICULTURA, GANADERÍA Y ALIMENTACIÓN



Food and Agriculture Organization of the United Nations

SUMMARY

US\$92.67 million Total investment	19% IRR	17,500 Direct beneficiaries 91,000 Indirect beneficiaries	US\$ 1,831.6 Increase in per capita income	-156,902 tCO2-e per annum
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Opportunity
Road management

6

Cost (USD)

US\$53.1M

IRR (%)

15%

NPV

US\$7.6M

Sustainability benefits

Beneficiaries: 597,642

Opportunity
Telecommunications

7

Cost (USD)

US\$8.4M

IRR (%)

13%

NPV

US\$0.4M

Sustainability benefits

Beneficiaries: 22,534

Opportunity
Agroforestry conservation

8

Cost (USD)

US\$ 2M

IRR (%)

24%

NPV

US\$1.3M

Sustainability benefits

Beneficiaries: 2,000

Opportunity
Technical Assistance, training, and education for the sustainable use of renewable natural resources.

9

Cost (USD)

US\$0.6M

Sustainability benefits

Beneficiaries: 1,650

Opportunity
Climate change adaptation and resilience practices in family farming activities

10

Cost (USD)

US\$1.7M

IRR (%)

57%

NPV

US\$1.8M

Sustainability benefits

Beneficiaries: 2,300