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Central American dry corridor: An exploration of the potential of a job creation strategy for Guatemala and Honduras

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Content

Executive Summary

This document aims to explore the context, reasons and effects on livelihoods of policies and programs to improve or adapt to the impacts of climate change in the Central American Dry Corridor (CDC), with a focus on Guatemala and Honduras. In particular, it explores the situation of environmental and socioeconomic vulnerability in the region and the institutional responses to face the growing challenges, both in terms of international cooperation and government actions and plans. Based on all this, a series of considerations are made of the potential of an job creation approach in the region, as a strategy to generate decent work together with adaptation to climate change through public investment programs in green infrastructure.

Central America is one of the regions in the world with the greatest exposure to natural disaster risks and climate variability, and this problem is increasingly evident in the CDC. Recurring periods of drought combined with excessive rainfall and severe floods are severely affecting rural livelihoods. Food insecurity, insufficient income, decrease in local food production, lack of employment and forced migration are some of the negative consequences for the rural population, which is already vulnerable due to its precarious socioeconomic conditions, disproportionately affecting women, indigenous peoples, boys and girls, among others.

This situation has captured the attention of the international community, and in recent years, actions have been implemented that are aligned with the adaptation priorities of governments. In general, they are oriented in the necessary direction; promote resilience and rural development seeking to strengthen local capacities, adopt practices for the productive and sustainable management of resources and, ultimately, improve the situation of the main economic actors in the region: families producing basic grains.

In any case, there are two obvious factors. On the one hand, much work remains to be done; the region requires greater technical and financial support and meets all the conditions to be one of the priorities in the channeling of international climate financing. On the other, the complexity and multiplicity of its socio-economic and environmental challenges will continue to demand the design and implementation of strategies that can address them simultaneously and in a complementary manner.

Both Guatemala and Honduras have developed numerous strategies and actions, framed in various national plans and policies, to face these challenges. This includes medium and long-term development planning, as well as specific plans for the labour market and adaptation to climate change. In both cases, the need to promote actions linked to environmental management and natural resources that promote soil conservation and integrated water management for various purposes (human consumption, sanitation, irrigation, catchment and drainage) is highlighted. All this, within the framework of a national employment policy that promotes the transition towards decent employment, especially in rural areas, the diversification of income and the identification of agro value chains, putting local and ancestral knowledge at the center and the needs of the most vulnerable population groups.

In this context, the consideration of an job creation strategy becomes timely, and could be perfectly aligned with government plans. This could have a series of impacts on local livelihoods that include the creation of employment in the short term and the assurance of livelihoods and the contribution towards the diversification of income in the medium and long term. But in addition, a series of spill overs could

be generated, anchored in the ILO´s mandate and the basic principles of the EIIP approach. Among them is the support in the transition towards a formalization of employment, a clear priority for both governments for the next decade. This, in a context of promotion of fundamental values also prioritized by governments, including gender equality, special attention to vulnerable groups, the promotion and strengthening of local capacities and knowledge and the use of a participatory approach that puts communities at the centre.

Acronyms and abbreviations

ACC - Adaptation to climate change

ACS - Alliance for the Dry Corridor (Honduras)

BCIE - Central American Bank for Economic Integration

CAC - Central American Agricultural Council

CCAD - Central American Commission for Environment and Development

CDC- Central American Dry Corridor

CDKN - Climate and Development Knowledge Network

CEPREDENAC - Coordination Centre for the Prevention of Natural Disasters in Central America

CES - Economic and Social Council (Honduras)

CFU - Climate Funds Update

CGIAR - Consultative Group on International Agricultural Research

CNCC - National Council on Climate Change (Guatemala)

CONADUR - National Council for Urban and Rural Development (Guatemala)

CONRED - National Coordinator for Disaster Reduction (Guatemala)

CRRH - Regional Committee of Hydraulic Resources

DRR - Disaster Risk Reduction

ECLAC - Economic Commission for Latin America and the Caribbean

EIIP - Employment Intensive Investment Program

ENACCSA - National Strategy for Adaptation to Climate Change in the Agro-Food Sector (Honduras)

ENCC - National Strategy for Climate Change (Honduras)

ENSAN - National Strategy on Food Security and Nutrition (Honduras)

ERCC - Regional Strategy on Climate Change (Central America)

EU - European Union

FAO - Food and Agriculture Organization of the United Nations

GDC – Guatemala Dry Corridor

GDP - Gross Domestic Product

GEF - Global Environment Facility

GIZ - German Corporation for International Cooperation

GPDD - Global Partnership for Disability and Development

HDC – Honduras Dry Corridor

IADB - Inter-American Development Bank

ICEFI - Central American Institute of Fiscal Studies

IFAD - International Fund for Agricultural Development

IICA - Inter-American Institute for Cooperation on Agriculture

ILO - International Labour Organization

INE Guatemala - National Statistics Institute (Guatemala)

INE Honduras – National Statistics Institute (Honduras)

INVEST-H - Office of Strategic Investment of Honduras

IUCN - International Union for Conservation of Nature

IWGIA - International Working Group for Indigenous Affairs

KfW - German Development Bank

KOICA - Korea International Cooperation Agency

LMCC - Framework Law for Regulating Vulnerability Reduction, Compulsory Adaptation to the Effects of Climate Change and Mitigation of Greenhouse Gases (Guatemala)

MAC - Framework for Joint Action (Honduras)

MAGA - Ministry of Agriculture, Livestock and Food (Guatemala)

MARN - Ministry of Environment and Natural Resources (Guatemala)

MERGERCA - Regional Strategic Framework for the Management of Climatic Risks in the Agricultural Sector of the Central American Dry Corridor

MINTRAB - Ministry of Labour and Social Security (Guatemala)

MSME - Micro, Small and Medium Enterprises

NbS - Nature-Based Solutions

OHCHR - Office of the High Commissioner for Human Rights

OPEC - Organization of the Petroleum Exporting Countries

PAHO - Pan American Health Organization

PANCC - National Action Plan on Climate Change (Guatemala)

PAN-LCD - National Action Plan to Combat Desertification (Honduras)

PNA - National Adaptation Plan (Honduras)

PNCC - National Climate Change Policy (Guatemala)

PNED - National Employment Policy (Guatemala)

PNEH - National Employment Policy (Honduras)

PRISMA - Salvadoran Research Program on Development and the Environment

REDD - Program for the Reduction of Emissions caused by Deforestation and Forest Degradation

SAG - Secretariat of Agriculture and Livestock (Honduras)

SEGEPLAN - Planning and Programming Secretariat of the Presidency (Guatemala)

SERNA - Natural Resources and Environment Secretariat (Honduras)

SESAN - Food and Nutrition Security Secretariat (Guatemala)

SICA - Central American Integration System

STSS - Ministry of Labour and Social Security (Honduras)

UN - Organization of the United Nations

UNCCD - United Nations Convention to Combat Desertification

UNDP - United Nations Development Program

UNEP - United Nations Environment Program

UNFCCC - United Nations Framework Convention on Climate Change

UNICEF - United Nations Children's Fund

UNOCHA - United Nations Office for the Coordination of Humanitarian Affairs

USA - United States of America

USAID - United States Agency for International Development

WB - World Bank

WFP - World Food Program

Introduction

In Central America, climate change and environmental degradation have increased the vulnerability of families living in the Central American Dry Corridor (CDC), leading to food and nutrition insecurity and the deterioration of livelihoods. These families live in areas with limited infrastructure and services, and have almost no resources to deal with environmental risks. As a result, their livelihoods and employment options are being undermined, particularly in the agricultural sector.

The joint EU-ILO *Strengthen projects* support Guatemala and Honduras in understanding the employment impacts of different sectoral policies and programs. One of the focus areas of the project in the rural sector was natural resources management. This was identified as an area that can have significant effects on employment in rural areas, both directly and indirectly, but is often not recognized as such and was not selected by the project teams in the two countries as priority sectors.

However, the CDC that crosses Honduras and Guatemala is an area where interventions associated with natural resources management and adaptation to climate change have the potential to generate effects on employment. As part of the project, this work aims to explore the employment effects of policies and programs to improve or adapt to the impacts of climate change in the CDC. The objective of this assignment is to explore the justification and effects on the use of this type of intervention in Honduras and Guatemala, taking into account gender and ethnic issues. In particular, the potential of the ILO's EIIP approach in the region is considered as a strategy that could generate decent work together with adaptation to climate change through public investment programs in green infrastructure. Special attention is given to vulnerable groups, including rural youth, indigenous men and women.

The rest of this document is structured as follows. Section 2 presents the general context of the CDC, including the factors that are affecting livelihoods, the socioeconomic conditions that limit adaptation capacities and the most vulnerable population groups. Section 3 presents some issues related to climate finance in Central America, as well as some of the most important initiatives and actors involved to face the current challenges. In section 4, an analysis related to Guatemala and Honduras is carried out in two separate sub-sections. These include a brief description of the socioeconomic context and an approach to the most important government plans in terms of medium and long-term development, as well as those specific to the labour market and adaptation to climate change. Finally, section 5 presents a series of reflections on the potential of a job creation strategy in the region.

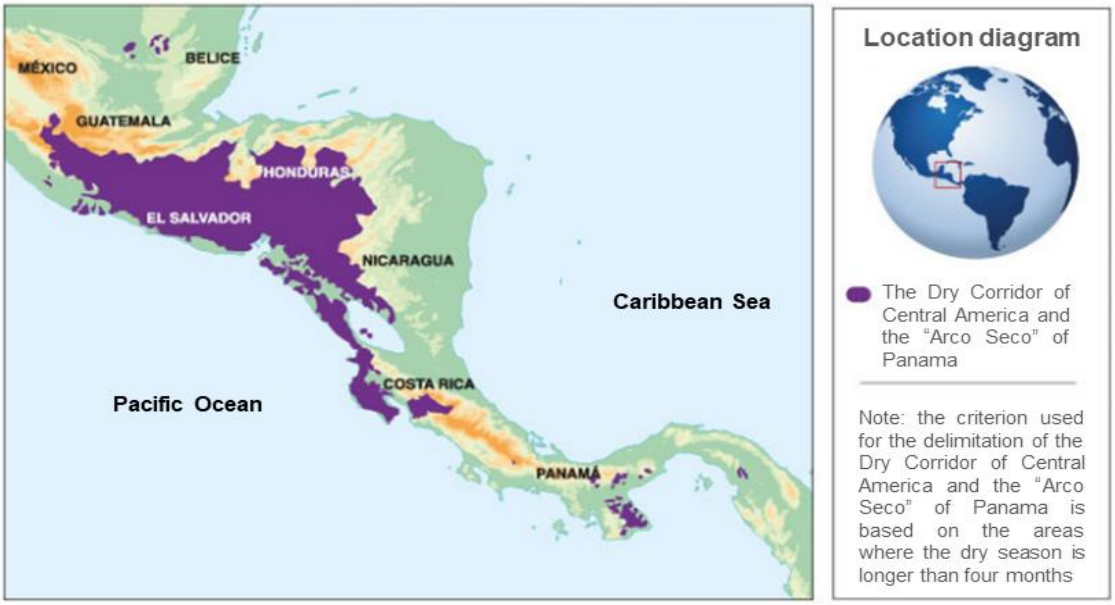
1. Context: Central American Dry Corridor, climate change and vulnerability

Central America is one of the regions in the world with the greatest exposure to natural disaster risks and climate variability. The geographical characteristics of the area make it particularly vulnerable to phenomena such as droughts, hurricanes, floods, landslides and geological events, including earthquakes and volcanic eruptions (ECLAC, 2015).

For example, the results for the period 1998-2017 of the *German Watch* global risk index, which analyses the extent to which countries are affected by the impacts of extreme weather events (e.g. storms, floods, extreme temperatures and heat and cold waves), show that four out of seven countries of Central America were among the first twenty countries most affected globally: Honduras (2nd); Nicaragua (6th), Guatemala (14th) and El Salvador (16th) (Eckstein et al., 2019).

The problem is increasingly evident in the CDC. The CDC is defined by FAO (van der Zee et al., 2012) as a group of ecosystems that combine in the ecoregion of the tropical dry forest of Central America. It extends along the Pacific coast from Chiapas (Mexico) and includes the low lying areas of the aforementioned ocean and much of the central pre-mountain region (0 to 800 m.a.s.l.) of Guatemala, El Salvador, Honduras, Nicaragua and part of Costa Rica (to Guanacaste). It also includes the area known as "Arco Seco" that corresponds to Panama, as well as fragments near the Caribbean coast in Honduras (see Figure 1).

Figure 1. Geographical delimitation of the Central American Dry Corridor



Source: FAO (2015, p. 1)

A comprehensive description of weather and climate dynamics in the CDC goes beyond the scope of this work. These have already been documented for example by van der Zee et al. (2012) and ECLAC (2015). In general terms, the CDC is being affected by an increase in average and extreme temperatures, as well as more erratic patterns and lower level of rainfall. This translates into recurrent periods of drought combined with excessive rainfall and severe flooding. The intensity and duration of these climatic events are amplified due to human-induced degradation of ecosystems, including high rates of deforestation and

soil erosion (van der Zee et al. , 2012); (Magrin et al. , 2014); (ECLAC, 2015); (Calvo-Solano et al., 2018).

All of these represent a real threat to rural livelihoods in the CDC, especially for the most vulnerable (UNCCD, 2018). It is worth to highlight that vulnerability to climate change must be understood as a multidimensional concept (Burkett et al., 2014). It is not only a function of the (biophysical) characteristics of climate risks, but also of the capacity to adapt to them. In other words, climate events occur in a social context that conditions the extent of their impact on local livelihoods (Shah et al., 2013). In what follows, some of the vulnerabilities that characterize rural communities in the CDC are described:

- In the region there are around 10.5 million people. According to the FAO study (van der Zee et al., 2012, p.10), in the CA-4 countries (Guatemala, Honduras, El Salvador and Nicaragua), "the percentage of rural population varies from 38% in El Salvador to 52% in Honduras and Guatemala. Of the total of rural families, the percentage of families producing basic grains (corn, beans and sorghum) varies from 54% in El Salvador and Honduras to 67% in Guatemala, with an average of 62%. The rest of the rural population (38%) is engaged in salaried jobs and other agricultural and non-agricultural activities".

- These producers mainly carry out small scale and rainfed subsistence agriculture, marketing their products only when they have surpluses. Although they tend to remain in their properties during the sowing period, they usually supplement their income by selling their labour (generally unqualified) to different sectors (in general commercial farms), which forces them to move to places that are not always nearby. Revenues are low and do not meet basic needs. Thus, about 80% of small producers live below the poverty line, which affects more than half of the inhabitants of the region, and 30% is in extreme poverty (van der Zee et al. al., 2012).

- Most of the activities in the agricultural sector are carried out in the form of self-employment. In Guatemala, 48.3% of the producers are self-employed, while in Honduras, 71.4% (van der Zee et al., 2012). This increases their vulnerability, since formal labour agreements and social protection coverage are less likely to exist. In fact, a recent ILO report (2018a) shows that informality in the agricultural sector exceeds 98% in Honduras, 97% in El Salvador, 96% in Nicaragua and 95% in Guatemala, without significant differences sex.

- In many cases, agricultural activities occur on marginal lands (such as hillsides, degraded soils, and areas prone to flooding), which increases their vulnerability to climate hazards (van der Zee et al., 2012); (Vignola et al., 2015). In addition, small farmers tend to be located in isolated areas with poor infrastructure. This hinders their access to markets, services and technical and financial assistance, and leaves them severely exposed to the greater frequency and intensity of climate events (ILO, 2017a).

- The average increase in temperatures is an additional challenge for rural employment in the CDC. According to ILO (2018b), this increases the prevalence of heat stress and health risks, as well as the proportion of working hours during which workers need to rest. This reduces yield and productivity, particularly in regions that are most exposed to extreme heat and in sectors that are characterized by external and day labour, such as agriculture. In a context

of labour informality, these negative effects are amplified by the lack of social security coverage due to illness and work accidents.

In this context, the constant and cumulative succession of extreme weather events, especially in the last decade, has increased the vulnerability of CDC families, resulting not only in the deterioration of their livelihoods, but also in a complex situation of food and nutrition insecurity:

- The lack of reliable access to water has a direct impact on rainfed agricultural production. UNOCHA (2016), estimated that, at the end of 2015 and after the most serious drought of the last 30 years, more than 3.5 million people from Guatemala, Honduras and El Salvador faced food insecurity and required immediate assistance, including food, health care and recovery of their livelihoods.

- Under these circumstances, the inhabitants of the regions within the CDC usually adopt adaptation and survival measures that in the medium and long term result in an even greater deterioration of their living conditions. In general terms, UNOCHA (2016) highlights that families tend to reduce the number and/or size of meals consumed per day, get into debt to buy food and supplies, consume cheaper or lower nutritional quality foods, cut down trees to sell firewood and even sell their breeding cattle and/or consume their seed reserves, among others. The reduction in water supply in the region, added to the already existing lack of adequate sanitation, also has general effects on health, with a direct correlation with diseases such as diarrhea, which is in turn a direct cause of malnutrition.

On the other hand, the insufficient income, decrease in local food production and the lack of employment in rural areas of the CDC is one of the main drivers of child labour and migration to urban centres, as well as to nearby countries, mainly the United States (USA).

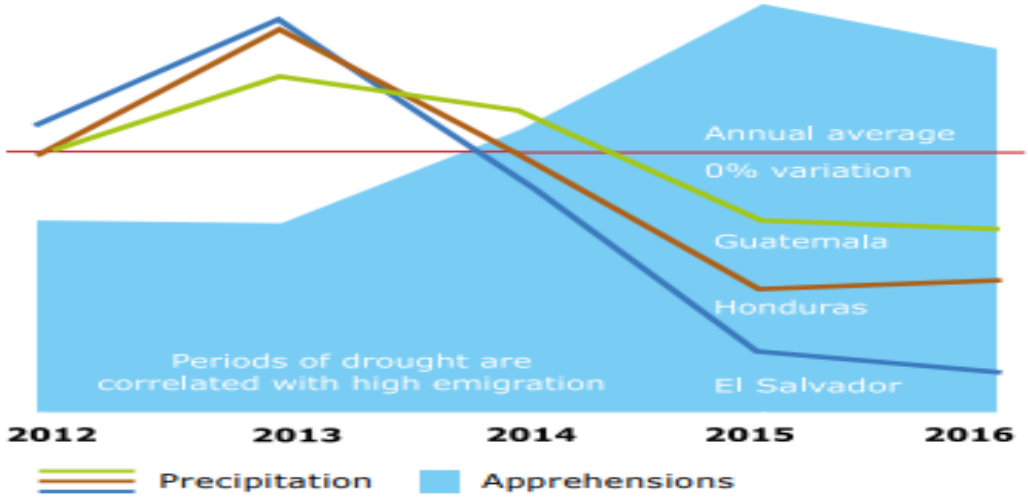
- For example, regarding child labour, UNICEF (2016) revealed that after the 2014-2016 drought, 30% of households surveyed in Honduras' Dry Corridor (HDC) were forced to put younger members of their families to work, mostly between 12 and 17 years old.

- In connection with migration, a WFP-led investigation (2017a) with geographic focus in the zones corresponding to the CDC of El Salvador, Guatemala and Honduras affected by droughts between 2014 and 2016 concluded in the existence of a clear relationship between food insecurity and emigration for the three countries:

    - Nearly 50% of the families interviewed revealed food insecurity, while close to 75% had been forced to resort to survival measures such as the sale of their land.
    - While 19% of households revealed unacceptably low levels of food consumption, even in those with acceptable levels, low levels of dietary diversity were perceived.
    - The three main reasons given by migrants from the areas most affected by the drought were "being without food" (57%), followed by "being without money" (17%) and "loss of crops" (7%).

Although migration can sometimes be considered as an adaptation strategy that brings certain benefits (such as income diversification), there is evidence on the complexity and particularly negative features of this phenomenon in Central America, especially in the last decade. Central American migrants usually come from contexts with high levels of violence, to which must be added the social dangers and vulnerabilities (kidnappings, robberies, abuses) that they face during their transit to USA (ECLAC, 2018a). In particular, migration trends show a relative increase in women and young people (including unaccompanied minors) who are often disproportionately affected by violence and trafficking for sexual exploitation (UNOCHA, 2016); (WFP, 2017a); (ECLAC, 2018a).

Figure 2. Apprehensions of El Salvador, Guatemala and Honduras migrants by Mexican authorities and historic precipitation



Source: WFP (2017a, p.8)

In this context, some groups are especially vulnerable:

- Food insecurity and the consequent deficit of calories, proteins and iron (among others) can be fatal especially among children under 5 years, pregnant or lactating women (and their children) and the elderly, as well as threatening the reproductive capacity of young women (UNOCHA, 2016).

- Although the gender effects due to climatic events are complex and deserve a thorough analysis, there is consensus that rural women tend to be more vulnerable than men. Women, for example, are mainly engaged in agricultural work, but they also spend long hours at home and performing family care tasks, bearing the burden of providing food, water and fuel. Normally, the time consumption of these activities is relatively greater than in other places, given the poor access to infrastructure (including transport and services). In the face of long periods of drought, women and girls must travel longer distances in search of water. Among other consequences, this limits even more their time available for education and to carry out alternative activities, including those that can generate income, as well as to extend their networks outside the community, which are fundamental for accessing employment opportunities (FAO-IFAD-ILO, 2010); (OHCHR, 2016).

- The CDC is home to approximately 3.5 million indigenous people. In particular, Guatemala has the largest indigenous population in the region; about 45% of the national population, and 61% of the total of basic grain producers are indigenous (IWGIA, 2018); (PRISMA-CDKN, 2014a); (van der Zee et al., 2012). In general, these have some characteristics that make them exceptionally vulnerable:

  - Several studies have shown that the development of indigenous peoples in the Central American countries is lagging behind the national average. Structural factors such as discrimination, exclusion and dispossession of their lands due to megaprojects (mining, hydroelectric, large-scale crops) are some of the causes. Thus, poverty, malnutrition and low access to education and health affect them disproportionately. This situation is aggravated by climatic variability, since its economic, social and cultural activities are closely related to natural resources (PRISMA-CDKN, 2014a); (ILO, 2017b).

  - On the other hand, although migration can be a survival strategy for the rural population in general, this may not be the most appropriate solution for indigenous groups, who are more prone to suffer discrimination and exploitation in their areas of destination, since they also tend to lack training and skills to perform qualified jobs. It is worth noting that, compared to the non-indigenous population and indigenous men, indigenous women are even more exposed to social and economic threats when they are displaced: in addition to the relatively high degree of discrimination and marginalization they suffer, they are more likely to concentrate in sectors with precarious working conditions, violations of safety and labour rights (PRISMA-CDKN, 2014a); (ILO, 2017b).

- Another highly vulnerable group is that of disabled people. They also tend to be among the poorest and to face limitations in terms of access to education and training, medical care, employment, physical and financial assets and opportunities for social integration. These limitations expose them to disproportionate risks in disaster and emergency situations, given their lack of accessibility in evacuation and disaster response efforts (among others) (GPDD, 2009).

2. Response actions in the region: Identification of initiatives and relevant actors

Central American countries have joined and integrated conventions, protocols, declarations and initiatives related to the environmental issue, and participate in global negotiations on the environment and climate change. In the region, environmental management is promoted through the Central American Commission for Environment and Development (CCAD) as part of the Central American Integration System (SICA). The Commission carries out actions associated with the environment, climate change, energy, human resources and risk management (van der Zee et al., 2012).

In particular, the Commission launched at the end of 2010 the Regional Strategy on Climate Change (ERCC), which provides the framework for action in political and institutional matters for SICA countries. The ERCC contemplates actions of the public and private sector and civil society and is articulated on certain strategic programmatic areas, including adaptation, risk management, the promotion

of mitigation measures and the strengthening of capacities, among others (CCAD-SICA, 2010).

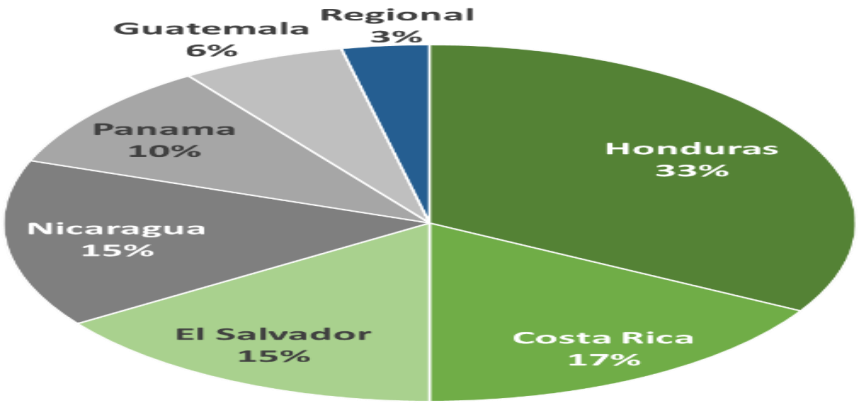
Despite these efforts, and following PRISMA-CDKN (2014b), countries of the region have not made significant progress in their impact on global agreements and negotiations. Likewise, most of the actions promoted in practice have been strongly determined by international cooperation, whose offer of support has been based mainly on mitigation measures (e.g. REDD+ programs, promotion of renewable energies). This is not necessarily aligned with the regional priorities, which according to the ERCC "should focus on adapting to climate change at the regional, national and local levels and proactively promote in the international climate change negotiations the development of financing mechanisms for adaptation" (CCAD-SICA, 2010 p.79).

1.1. Climate finance

In this scenario, there is a need for the region to process the opportunities and challenges that the global agenda entails in terms of attracting climate financing, considering that there are instruments under the UNFCCC to channel funds in a balanced way between adaptation and mitigation (PRISMA -CDKN, 2014b).

Although Central America is one of the most vulnerable regions to climate change, the level of international climate financing for adaptation and mitigation actions does not seem to be aligned with this reality. An ICEFI study (2017), based on the Climate Funds Update (CFU)[1] statistics, showed that between 2003 and 2016 USD 211.5 million had been approved in resources coming from the largest international climate funds. This represents only 1.2% of the total funds approved worldwide (USD 17,352 million) and 6.4% of the total funds approved for Latin America (USD 3,303).

Figure 3. Central America: distribution of climate funds approved by country (2003-2016)



Source: own elaboration based on ICEFI (2017)

[1] CFU is a joint initiative of the Heinrich Böll Foundation and the Overseas Development Institute, which monitors climate funds from the moment donors commit resources to disbursement. Their statistics do not include the public expenditure that each State invests directly, nor those made by the private sector, since this information is usually not available, is not recorded uniformly or is found in very scattered information sources (ICEFI, 2017 p. 17 and 18).

When analysing the amounts by countries within Central America, different realities are observed. While more than one third (USD 70.2 million) went to Honduras, Guatemala channelled only 6% of the funds, with USD 13.2 million. Regarding the objective of the approved funds, in the case of Honduras, the majority was allocated to mitigation activities (86.5%), while the resources allocated to adaptation projects barely exceeded 12%. In contrast, in the case of Guatemala, more than two thirds of the funds were allocated to adaptation projects (71.3%), while the rest went to adaptation and emission reduction initiatives (ICEFI, 2017).

Although levels of financing are still insufficient, in recent years there has been growing concern about the vulnerability of the CDC and initiatives and political actions have been promoted to address the current challenges, which range from local territories to the region as a whole (PRISMA- CDKN, 2014a).

1.2. Initiatives and relevant actors

In what follows, we describe some of the most outstanding initiatives that have recently been and/or are still in the process of being implemented, as well as the main actors in terms of cooperation and execution of projects. However, it is beyond the scope of this work to carry out an exhaustive mapping of all the initiatives in progress and their characteristics. Among other reasons, and as highlighted in studies such as Coyoy et al. (2016), there are no national databases (at least with public access) that compile the information of each of the approved projects with international financing, as well as the results and impacts of these interventions. There are also large disparities in the scope of information available at the level of international agencies and organizations. Thus, in some cases, information was available on official documents such as project evaluations (e.g. World Bank, IFAD) and, therefore, it was possible to delve into certain specificities (e.g. objectives, activities, results). In other cases, this was not possible, since there were only general descriptions of the projects, contained for example in news sections of the agencies.

It is important to note that, on the Honduran case, most of the projects are part of the "Alliance for the Dry Corridor" (ACS). This is an initiative of the Government that aims to remove 50,000 families from poverty in the 2015-2020 period, reduce malnutrition in target communities and establish the bases for rural growth through investment in agriculture, nutrition and infrastructure. It gathers the support of several international organizations and donors, including the Government of Canada, BCIE, the European Commission, the US Government and the World Bank (INVEST-H, n.d. (a)).

Within the United Nations system, FAO, IFAD and WFP have been developing a strategic alliance with actions at different levels in favour of food security and agricultural and rural development. The following is a description of their approach and some of their activities:

FAO´s work

FAO promotes risk management and the increase of rural resilience in Central America since 2009. Following FAO (n.d., p. 4) “In 2011, a FAO Regional Disaster Risk Management Strategy in Latin America and the Caribbean (2011-2013) was formulated. At the sub regional level, a Regional Strategic Framework for Climate Risk Management in the agricultural sector of Central America’s Dry Corridor was developed in 2012, and a Resilience Agenda was adopted with the World Food Programme, the Central American Agricultural Council, the Central American Commission on Environment and Development, the Coordination Centre for the

Prevention of Natural Disasters in Central America, the Regional Committee on Hydraulic Resources and the Inter-American Development Bank".

FAO's work is articulated under the "Disaster Risk Programme to strengthen resilience in the Dry Corridor in Central America". This provides a framework to promote actions both for immediate response to disasters, as well as reducing vulnerability and increasing resilience in the forestry, agricultural and fishing sectors. The Program aims to benefit 50,000 families of small-scale producers, and is based on 4 pillars: i) institutional strengthening and formulation of risk management policies; ii) development of risk monitoring systems for the issuance of early warnings; iii) adoption of risk prevention and mitigation measures to reduce community vulnerability and iv) improving preparedness and coordination for emergency response (FAO, n.d.). Some of the most recent are:

- Between 2016 and 2017 the "Emergency response to drought and resilience in the CDC" was developed in Guatemala and El Salvador. In Guatemala, 2224 households in Chiquimula and Jalapa benefited from various activities, which included the implementation of family gardens with water harvesting and irrigation systems (in addition to training); distribution of seeds and inputs among producers who lost their seeds due to drought; installation of water dams and community reservoirs; establishment of Mutual Contingency Funds and the implementation of early warning systems (FAO, 2017a).

- On the other hand, with a medium/long-term vision, FAO and UNDP (with the financial support of the Government of Germany) agreed at the end of 2017 on the NAP-Agriculture Guatemala project (FAO, 2017b). This program supports the Government's National Action Plan on Climate Change (PANCC), and promotes activities related to the efficient and sustainable use of water for irrigation in the Dry Corridor of Guatemala (GDC) communities (including management of micro-basins and pilot irrigation plans); capacity development of public sector workers (mainly from MAGA) and cost-benefit analysis for decision-making regarding the adoption of adaptation practices in livestock in the southeast of the country.

- In 2018, FAO and the Korea International Cooperation Agency (KOICA) agreed on the project "Adaptation of rural communities to climate change and variability to improve their resilience and livelihoods in Guatemala". It implies an estimated investment of USD 5 million for the period October 2018-December 2021, and will be applied in three departments, including one belonging to the GDC (Baja Verapaz). It seeks to benefit 5,000 producers by increasing their capacity to adapt to climate change through restoration practices on their degraded lands and forest landscapes, as well as micro-enterprise development (FAO, 2018).

- In addition, in 2017 SICA, BCIE, FAO and UN Environment began to work together to raise a proposal to the Green Climate Fund, with the objective of obtaining financing for an estimated amount of USD 400 million for an ecosystem-based adaptation program with a focus on the efficient use of water for the CDC and the Dominican Republic. At the date of preparation of this document, the project was still being formulated and a final proposal had not yet been submitted (FAO News, 2017); (UN News, 2018); (MARENA, 2019)

IFAD´s work

IFAD supports various projects in the CDC areas of El Salvador, Guatemala, Honduras and Nicaragua that also aim to improve the adaptation and resilience capacities of small farmers. In general terms, its projects include the construction of water catchment structures, the generation of information and research that contributes to forecast climate risks and vulnerability, and aid to farmers with basic improvements in their homes, such as the construction of low energy stoves, cisterns and latrines (UN Guatemala, n.d.).

In interviews with representatives of IFAD in Honduras and Guatemala, it was reported that the agency typically makes loans to governments to finance the projects. IFAD is involved in the design of these projects, but in general the execution/implementation is carried out by the relevant Ministries. The methods of work and execution vary according to the case. Some have worked, for example, together with coffee producers, who already have methods to work at the community level. For example, in Honduras, rural road rehabilitation has been carried out, where associations of coffee producers provide the necessary machinery and personnel to work, while working hours are paid with project funds. In others, tenders are held and local organizations submit their bids. Sometimes (non-reimbursable) resources are also transferred to local organizations (which IFAD has previously strengthened). These usually also hire local suppliers; the use of local labour and resources is already established in the working methods and priorities of the offices at the territorial level.

Regarding the employment dimension, it was commented that the work that is eventually generated with the projects is temporary and that, normally, local organizations do not make employment contracts. On the contrary, these are generally informal agreements. In this regard, it was claimed that it is necessary to start generating discussions regarding labour rights, workers´ protection, working conditions and the promotion of social dialogue. The representatives of IFAD pointed out that ILO could play a very important role in this regard.

Specifically, two projects were identified in Guatemala and two in Honduras, which are described below:

i. Sustainable rural development program for the Northern region of Guatemala /PRODENORTE (IFAD, 2018a)

It has a total cost of USD 40 million and is co-financed by OPEC. It began in January 2012 and would be completed in September 2019.

Its overall objective is to significantly reduce the poverty and exclusion of rural and indigenous families and communities in the northern region of Guatemala (departments of Alta and Baja Verapaz and the department of Quiché). To achieve this, it seeks to improve access to markets and generate rural businesses in agricultural and non-agricultural activities for small farmers and micro-entrepreneurs, aiming to increase production, employment and income. It also seeks to strengthen strategic alliances with the private sector and the promotion of associations of rural and indigenous entrepreneurs.

The expected results are:

- Employment creation and development of business skills through the transformation of subsistence activities (agricultural and non-agricultural) into profitable rural businesses and micro-enterprises oriented to local and external markets, linked to productive and value chains.
- Strengthening the capacities of rural and indigenous communities and producer associations to promote self-managed local development.
- Promotion of access to savings and credit services through microfinance.
- Improved access to markets and the integration of rural and indigenous communities through the expansion of community infrastructure and rural roads.
- Adoption of sustainable production and rehabilitation technologies that contribute to reversing deforestation, soil erosion and the degradation of natural resources. It includes actions of agroforestry and reforestation for the protection of water sources (with associated forest use) and soil conservation.

According to the last available project evaluation (October 2018), the program has had significant achievements in terms of social capital (capacity development, organizational strengthening, participation of women and youth) and access to credit and financing. However, other activities (improvement of rural roads, reforestation) present a significant delay.

ii. National Rural Development Program for the Eastern Region of Guatemala / PNDR-Oriente (IFAD, 2018b)

This project was developed between December 2004 and December 2017, with a total financing of USD 34 million, also co-financed with OPEC.

It was designed to reduce poverty in rural areas with high rates of poverty and extreme poverty, through the development of local capacities and the non-reimbursable transfer of rural assets and services to peasant organizations so that they could develop profitable and sustainable economic activities, with a focus in the departments of Zacapa, El Progreso, Jalapa, Jutiapa and Santa Rosa (the first four corresponding to the Dry Corridor region).

The program transferred investment funds for productive development, the promotion of new enterprises for the generation of income and basic infrastructure. The organizations that executed the projects managed to increase their productive assets, while the beneficiary families of infrastructure obtained basic assets that represent improvements in their quality of life. It is estimated that the project benefited 185,650 people. The strengths of the project were in its incentives to organized participation, investment financing and technical assistance. The Program, however, did not achieve significant effects on market access and environmental management, while the number of female beneficiaries (9,000) was below the target (12,000).

iii. Sustainable rural development program for the southern region of Honduras (IFAD, 2018c)

It has a total cost of USD 37 million and is co-financed by OPEC and BCIE. It began its implementation in February 2011 and would be completed in March 2019.

It operates in the southern region of the country with focus on the departments of Choluteca, El Paraíso, Francisco Morazán, La Paz and Valle. Its objective is to increase income, employment and food security of small agricultural producers, micro entrepreneurs integrated into agricultural and non-agricultural value chains, traditional fishers of inland lands, indigenous Lenca populations and rural women and youth.

Expected results are:

- Training and technical assistance to people who operate small rural businesses so that they can add value to their products and obtain more and better access to national and external markets.
- Consolidation of rural savings associations and improvement in access to rural financial services.
- Strengthening organizational, decision-making and business capacity of rural communities and producer associations, supported by better municipal planning.
- Improvement of productive processes and technologies to reduce food insecurity and vulnerability among small subsistence producers. To this end, activities such as the implementation of micro irrigation systems are contemplated; payment schemes for environmental services for the integrated management of micro-basins, construction of aqueducts and other engineering works; sustainable tourism; reforestation activities.
- Improvement in social infrastructure, for example through the construction of residential water tanks for water harvesting, stoves and latrines.

iv. Competitiveness and Sustainable Development Project in the Southwest Border Region of Honduras / PRO-LENCA (IFAD, 2017)

It has a total cost of USD 34 million and is co-financed by the Global Environment Facility (GEF). It began in 2016 and would end in 2021. It is implemented in the departments of Intibucá, La Paz and Lempira. The target population comprises approximately 11,000 rural families made up of small agricultural producers, artisans weakly linked to markets, micro entrepreneurs and small-scale traders, young women, mothers who are heads of household, unemployed young people, as well as people from communities with a strong indigenous cultural tradition without access to productive resources (Lenca).

The project's objective is to improve income, employment opportunities, food security and general living conditions of the rural population, with a focus on social inclusion and gender. It pays special attention to the needs of members of vulnerable groups, such as women, youth and ethnic minority populations.

Expected results are:

- Strengthening of rural organizations, improvement of productive systems and generation of market surpluses, facilitating the participation of women, young population and indigenous peoples.
- Improve the socioeconomic situation of small rural producers by implementing productive development plans and sustainable business plans with market access, and technical and financial support services.
- Rational management of natural resources and protection of the environment, reducing environmental vulnerability and improving rural infrastructure in support of productive investments. It involves the

rehabilitation and construction of road infrastructure and water management systems, promotion of agro-ecological systems, conservation and management of micro-basins and recovery of forests with multiple uses.

WFP´s work

WFP has supported relief interventions and efforts to recover from the effects of drought in the CDC especially since late 2015. Among its actions, immediate support to populations suffering from food insecurity, for example, stands out. Food Assistance for Assets (FFA)[2] schemes (UN Guatemala, n.d.). As an example, the WFP was responsible for executing the PRO-ACT program, promoted by the European Union at the end of 2016, the description of which is presented later in this section. In addition, WFP has strategic plans for Honduras and Guatemala, which are described below.

i. Honduras strategic plan 2018-2021 (WFP, 2018a)

The Government of Honduras has relied on WFP to optimize national social protection systems, strengthen government capacities at the central and decentralized levels, increase resilience to the effects of climate change and improve food and nutrition security among vulnerable populations.

In this context, WFP has formulated a strategic plan with an expected total cost of USD 116 million, with 5 strategic objectives. Among them stand out the safe access to nutritious foods between children in pre-school and primary age; the reduction in the levels of stunting and micronutrient deficiencies among the most vulnerable groups and the increase in resilience to climate change and food security among agricultural workers, small producers and indigenous communities.

To this end, the following activities are foreseen:

- Provide nutritious school meals daily and sourced from small farmers, for pre-school and primary school children, supplemented with health, hygiene and nutrition activities, education for gender transformation and school gardens.
- Provide capacity building to local authorities, school staff, parents and small farmers, including technical assistance and training in the management of school meals programs, its logistics, food quality standards, transparency, responsibility, education on nutrition, access of small farmers to institutional markets and risk management (category 9: capacity building).
- Provide capacity building to health institutions at all levels and nutrient-enriched foods in specific areas for girls, pregnant women and lactating women, and children under 2 years (category 6: food, capacity building).

[2] Food Assistance for Assets (FFA) is one of WFP's flagship initiatives aimed at meeting the immediate food needs of the majority of food insecure people through cash, voucher or food transfers, and improving their security and long-term resilience. Women and men receive transfers in cash or food to meet their immediate food needs, while building or increasing assets that will improve their livelihoods by creating healthier natural environments, reducing the risks and impact of shocks, and strengthening the resilience to natural disasters. It includes activities of land rehabilitation, construction and repair of roads and reforestation (WFP, 2018c)

- Provide FFA to food insecure households to support the creation and rehabilitation of livelihoods complemented by strengthening the capacity of decentralized government authorities in the management of resilience building and adaptation programs to climate change.
- Complement government transfers to the most vulnerable households affected by disasters to facilitate assistance and early recovery while supporting the strengthening of emergency response institutional capacities.
- Provide technical assistance and capacity building in emergency preparedness and response (including links to social protection) to institutions at the national and sub-national levels.

ii. Guatemala strategic plan 2018-2022 (WFP, 2017b)

It has a total estimated cost close to USD 70 million, and seeks to reinforce national efforts on food security with a focus on Alta Verapaz, Baja Verapaz, Chimaltenango and Sololá. Five strategic objectives are proposed, similar to those outlined for Honduras, including the reduction of growth retardation of children under 2 years; strengthening national programs and institutions as well as social protection to reduce food insecurity in all its forms, including during post-disaster situations; improve access to markets among small rural producers to promote adaptation to climate variability and shocks.

To this end, the following activities are foreseen:

- Provide specialized nutritious foods to children from 6 to 23 months and education to women and men to ensure that the diet of the target population provides the right nutrients.
- Strengthen government capacities to reduce and prevent all forms of malnutrition and in gender equality, emergency preparedness and response, and policy planning.
- Provide FFA to create assets that strengthen resilience to climate change and other shocks.
- Strengthen the capacities of small farmer organizations to improve production systems that allow small farmers to reach a wider range of markets in an equitable and fair manner; buy surplus production from small farmers; and promote access to institutional markets related to public social programs.
- Provide capacity building to farmers' organizations and their members regarding the role of women in the value chain.
- Provide food assistance to vulnerable populations in emergency situations.

On the other hand, important development and cooperation programs were also identified from the European Union and the governments of Switzerland, Germany and the USA, described below.

European Union

Two projects were identified; one regional and one destined for Honduras:

i. Building resilience in the Central American Dry Corridor/Response to El Niño phenomenon – Regional Project

This program began its implementation in October 2016 (with completion scheduled for October 2018), with an estimated total cost of EUR 10 million. It emerged with the aim of increasing the resilience of the families most affected by the 2014-2016 drought resulting from El Niño phenomenon, mainly subsistence farmers and day labourers in Guatemala and Honduras, and to a lesser extent in El Salvador and Nicaragua (EU, n.d. (a)).

EU aid is aimed at different activities according to the zones, including food assistance, soil and water conservation, improvement of land productivity, reforestation and rehabilitation of degraded ecosystems, and other actions to increase the resilience of livelihoods and diversify income, improve risk management and develop capacities at both the community and municipal levels (WFP, 2017c).

The implementation of the project has been in charge of WFP, under the name "Pro-Resilience Action (PRO-ACT)". It has provided cash-based assistance to meet the immediate needs of the most affected families. In addition, training in crop management and soil conservation, asset rehabilitation and nutrition education has been provided (WFP-EU 2018).

In the case of Guatemala, the investment amounts to EUR 4 million. The beneficiary departments are El Progreso and Zacapa and the actions are carried out in collaboration with the MAGA and the Secretariat of Food and Nutritional Security (SESAN) (WFP, 2017c). In the case of Honduras, the project amounts to a total of EUR 3.3 million and is part of the investment made by the EU within the ACS. It seeks to benefit 2,500 small producers and their families (a total of 12,500 people) in the departments of La Paz, El Paraiso and Choluteca (EU 2017).

ii. EUROSAN: Food security, nutrition and resilience in the Dry Corridor (Honduras)

Aiming at Honduras and also framed in EU actions as part of the ACS, it implies a total investment of EUR 33 million, of which EUR 30 million are provided by the EU. It has an estimated duration of 6 years (June 2015 to June 2021), and is implemented in coordination with the Government of Honduras and FAO.

The overall objective of the project is aligned with the objectives of the National Strategy on Food and Nutritional Security (ENSAN) and focuses on improving the food and nutritional security of 15,000 rural families through 4 main actions: i) the increase of rural food well-being through an agricultural extension system and the construction of water collection systems; ii) improvement of nutritional status through an extensive nutrition and health system; iii) strengthening of institutional and human capacities, giving priority to the training of indigenous and peasant leaders and iv) supporting the development of national policies on food well-being and nutrition (EU, n.d. (b)).

Government of Switzerland

Three projects were identified on its website, all aimed at Honduras.

i. Community management of watersheds for climate change adaptation

It is aimed at adapting to climate change through the integrated management of water resources corresponding to the upper basin of the Goascarán River (shared by Honduras and El Salvador), where drought and heavy rains, together with the loss of

adequate forest and vegetable cover have reduced water retention and derived in soil erosion.

It was developed between December 2013 and December 2018, with an estimated budget of CHF 8 million and was executed by a consortium led by the International Union for the Conservation of Nature (IUCN). Its objective was to increase the resilience of local livelihoods by strengthening the capacities of agricultural and community organizations, as well as public and private institutions, to undertake the integrated management of micro-basins through mechanisms of dialogue and territorial governance.

The target groups include 75,000 people (15,000 families) distributed in the 16 municipalities involved in watershed management; 5000 agricultural producers, including women, youth and indigenous people who benefit from the technologies, works and collective actions undertaken for environmental restoration and the reduction of vulnerability to natural disasters and urban populations, businesses, civil organizations, NGOs, municipal associations and others institutions that operate in the basin and benefit from better water supply stability.

The expected effects in the medium term are the adoption of adaptation practices to climate change (CCA) and disaster risk reduction (DRR) among local communities, as well as the adoption of plans and regulations by relevant institutions to facilitate investments and technological changes at the community level. Among the expected results are the reduction of agricultural and subsistence losses; reduction of water scarcity; greater capacity to respond to damages due to natural disasters; more stable income and better living conditions for local populations, and greater capacity to plan, coordinate and implement CCA and DRR activities (Swiss Development and Cooperation, 2018a).

ii. Local economic development in the Gulf of Fonseca region

The objective of this project was to promote inclusive economic development in the Gulf of Fonseca region, which is part of the HDC and where the production of basic grains by small producers represents 45% of all jobs. It involved a single phase and was developed between November 2013 and December 2018, co-financed with the IADB's Multilateral Investment Fund for a total amount of USD 7.9 million.

The target groups were 13,000 small producers (of which 30% were women) and small enterprises integrated within various selected value chains; aiming to conserve 13,500 jobs and generate 5,500 new jobs (Swiss Development and Cooperation, 2018b).

iii. Territorial water governance in the Gulf of Fonseca region

It is a project with two phases (2016-2021 and 2021-2027) with a total budget close to CHF 26 million. In global terms, it aims to contribute to the development of a water governance system in the Gulf of Fonseca Region, ensuring management in an integral, sustainable and equitable manner. The strategy articulates collective actions and inclusive processes that address simultaneously and progressively the four territorial/administrative levels present (national, regional, subregional, territorial) (Swiss Development and Cooperation, 2018c).

Government of Germany

The German Development Bank (KfW) supports Guatemala with the financing of the project "Adaptation to climate change in the Dry Corridor of Guatemala" (2016-2022), for an estimated amount of EUR 9 million. The Project aims at the improvement of productive systems and the sustainable management of water, soil and forest as a measure of adaptation to the negative effects of climate change in the departments of Baja Verapaz, El Progreso and Zacapa. Among its specific objectives are the reduction in deforestation; the introduction of strategies for climate change in the eight municipalities under intervention; increase basic grains production yield and increase the participation of women in agricultural and agroforestry production systems (MARN, n.d.).

Government of USA

The United States Agency for International Development (USAID) is promoting the "Dry Corridor Alliance Project" in Honduras. With an estimated investment close to USD 80 million, this project began in January 2014 and has an implementation period of 7 years. It is part of the set of investments executed by the Government of Honduras within the framework of the ACS (INVEST-H, n.d. (b)).

Its objective is the reduction of child poverty and malnutrition in the HDC by increasing the income of households in the departments of La Paz, Intibucá and Lempira. It has two main components:

- The "access to production, health and nutrition" component serves 20,500 poor and extremely poor households distributed in 56 municipalities in the departments of La Paz, Intibucá and Lempira. It started in 2015 and will end in March 2020. Mainly, technical assistance and training activities are carried out aimed at the generation of agricultural income, including agricultural and animal production; processing and added value; marketing and post-harvest and business skills, finance and credit. It also includes training interventions on nutrition, sanitation and household hygiene (INVEST-H, 2018).

- The "access to water and infrastructure" component includes two main components: the "improvement of rural roads" and the "management and conservation of micro-basins". While the former aims to improve access to markets, the latter promotes practices and technologies that increase the flow and quality of water and facilitate its access and sustainable management for human consumption and irrigation. Technical assistance is also provided to conserve and restore ecosystems and strengthen local organizations for water governance. Activities promote the inclusion of at least 30% of women in the management of water resources, restoration and protection of ecosystems, and the participation of young people to promote generational change in local structures (Global Communities, n.d.).

Finally, the World Bank has also been active in the region, especially in Honduras, where two projects were identified:

- **Dry Corridor food security/ACS-PROSASUR– Honduras**

The development objective of ACS-PROSASUR is to improve the food and nutritional security of vulnerable households in 25 municipalities included in the departments of Francisco Morazán, Choluteca and El Paraíso. It has a total cost of about USD 38 million and was implemented in October 2016 with a closing date in

June 2021. The executing agency is the Government of Honduras, through INVEST-H (Office of Strategic Investment) (INVEST- H, n.d. (c)).

It consists of two large components:

- The first component, "food production and income generation of rural households", seeks to increase the availability of quality food and the income of poor and extremely poor households to improve nutrition and reduce stunting in children. It consists of two subcomponents: (i) agricultural production and marketing; and (ii) non-agricultural activities that generate income.

- The second component, "nutrition education and home hygiene", seeks to improve nutritious food consumption and the nutritional status of pregnant and lactating women and children under five in selected communities. It consists of the following two subcomponents: (i) nutrition education and growth monitoring; and (ii) household hygiene (WB, n.d. (a)).

The latest available evaluation report, corresponding to February 2019 (WB, 2019), reveals that after two years since implementation, 4,268 households (35% of the total target) are benefiting from different plans. For example, PROSASUR is helping 3,242 households implement their Food Security Plans; 1,264 households are implementing hygiene plans and 1,209 children under the age of 2 attend the monitoring program. A first group of 20 agricultural business plans to produce sesame, avocado, coffee, horticulture, citrus and basic grains would begin implementation in 2019. In addition, 27 other business plans are being prepared and 236 ha of irrigation systems are being designed or installed.

- **Rural Competitiveness Project/COMRURAL (Honduras)**

The objective is to contribute to increasing productivity and competitiveness among small rural producers in Comayagua, La Paz, Intibucá, Santa Bárbara, Lempira, Copán and Ocotepeque. It is aimed at organized producers through their participation in productive alliances, within the framework of 14 value chains (among others coffee, basic grains, dairy products, tourism, meat and apiculture). It was approved in June 2008 with a closing date in November 2020, for a total cost of USD 51 million (WB, n.d. (b)); (INVEST-H, n.d. (d)). The project has two components

- The first component, "support for productive alliances", aims to create and consolidate productive alliances between rural producers' organizations (RPOs) and commercial partners.
- The second component, "Finance for productive investments", will provide grants to co-finance the implementation of approximately 150 feasible business plans formulated under the first component (BM, n.d. (b)).

According to the World Bank's evaluations, the project has shown a higher than expected performance. For example, gross sales of participating RPOs increased on average by 23% (target of 10%), land productivity increased by 24% (target of 10%) and 99% of participating RPOs did not have arrears in the repayment of loans (target of 95%). In total, COMRURAL directly benefited around 7,200 small rural producers organized in 123 RPOs through the implementation of 89 business plans (WB, 2018).

3. Country analysis

1.3. Guatemala

1.3.1. Context

The Republic of Guatemala is located in the tropical zone of Central America, limits on the north and west with Mexico, on the east with Belize and the Caribbean Sea, on the southeast with Honduras and El Salvador and on the south with the Pacific Ocean. The country has an area of 108,889 km^2 and is divided into 22 departments and 340 municipalities (CGIAR, 2014). It has approximately 15.6 million inhabitants; 51.5% reside in the rural area and 51.1% are women. In addition, it has a relatively young population, since more than half of the population are under 25 years of age (INE Guatemala, 2016).

It is characterized for being a multi-ethnic, multilingual and multicultural country. It is constitutionally recognized that it is inhabited by four ethnic groups: Mayan, Garífuna, Xinca and Ladino. The Mayan people are made up of 22 linguistic communities (UN Guatemala, 2014). In 2014, according to their history, traditions and customs, 38.5% of the population identified themselves as Mayan indigenous, while Ladinos[3] represented about 61% (INE Guatemala, 2016).

The departments with the highest shares of indigenous population are found mainly in the north, north-west and in the central highlands. In particular, the departments of Sololá (96.8%), Totonicapán (93.6%) and Alta Verapaz (93.5%) have more than 90% of indigenous population, while the departments with the lowest proportion are El Progreso (0.1%), Zacapa (0.3%) and Escuintla (5.0%) (INE Guatemala, 2016).

Although Guatemala is (in terms of GDP) the largest economy in Central America, the country has extensive development problems that are reflected, among other variables, in its levels of inequality, poverty, food insecurity, access to education and informal work (FAO, 2017c). These factors of socioeconomic fragility are exacerbated by the growing climate vulnerability, affecting mainly rural and indigenous people. Without being exhaustive, some of these factors are described below.

The **poverty rate** reaches 59.3%, without differences by sex. Among the indigenous population, this rises to 79.2%, 1.7 times higher than that observed in the non-indigenous population (46.6%). In addition, poverty has historically been higher in rural areas (76.1%) than in urban areas (42.1%). The same happens with extreme poverty; this reached 39.8% of the indigenous population in 2014 compared to 12.8% in the non-indigenous population; and to 35.3% of the rural population compared to 11.2% in the urban population (INE Guatemala, 2015).

The **growth retardation** (short stature for age or chronic malnutrition) has an incidence of 46.5% of children under 5 years, the highest rate in the region, rising to 61.2% among indigenous children. Among rural children, the prevalence is 53%,

[3] The ladino population "has been characterized as a heterogeneous population that expresses itself in Spanish as a mother tongue, which has Hispanic customs nuanced with indigenous cultural traditions, and which dresses in Western style" (CONRED, 2014, p. 11)

about 20 percentage points higher than the rate observed for urban children (FAO-PAHO, 2017).

Although **infant mortality** among children under 5 years has declined in recent years, it is still relatively high (35 annual deaths per 1,000 live births in the 2010-2015 period). This is closely associated with acute respiratory infections and diarrheal diseases, linked to the lack of basic infrastructure coverage (PAHO, n.d.). In fact, 22% of the population does not have access to improved water supply sources (in rural areas it reaches 35%) and about 40% does not have sanitation (in rural areas it is 70%), affecting mainly rural areas and dispersed populations (INE Guatemala, 2015).

The **literacy rate** is 79.1% in the population over 15 years old but with disparity by sex and area of residence: it reaches 84.8% in men and 74.0% in women; 86.1% among urban and 71.4% among rural people. Among women in rural areas, literacy reaches 64.7%, but indigenous women, with a rate of 57.6%, are the least favoured (INE Guatemala, 2016).

In terms of the **labour market**, Guatemala has one of the lowest unemployment rates in Latin America, averaging 2.6% in the 2013-2017 period (ILO Statistics, n.d.). However, this figure does not fully reflect the labour market challenges. Among them, the high degree of informality stands out: about 70% of people do not have a work contract and therefore lack social security. This percentage exceeds 80% both among indigenous people and in rural areas, and even reaches 86% for rural women (INE Guatemala, 2017).

Informality is concentrated mainly in agricultural activities, affecting almost 43% of employees in this sector. Thus, the situation of the agricultural sector is one of the most fragile: being the one that generates more jobs (33% of the total), it is at the same time the one of greater informality, lower productivity and lower level of income. Likewise, average labour income in rural areas and among the indigenous population does not reach 60% of the national minimum income. This explains the high levels of poverty indicated above for these population groups (MINTRAB, 2017).

Another factor of concern regarding the labour market is the high participation of children under 15 years. Of the total number of boys and girls between 7 and 14 years old, 9.2% are doing some economic activity, generally poorly qualified, mainly in agriculture (51.4%) and manufacturing industries (25%). In rural areas, child labour rate is 11.7% and males (over 70%, on average) and indigenous (56.3%) are the most affected. It is worth noting that many of the work activities in which children are employed are carried out under conditions that are detrimental to their health and social development (CONADUR, 2014).

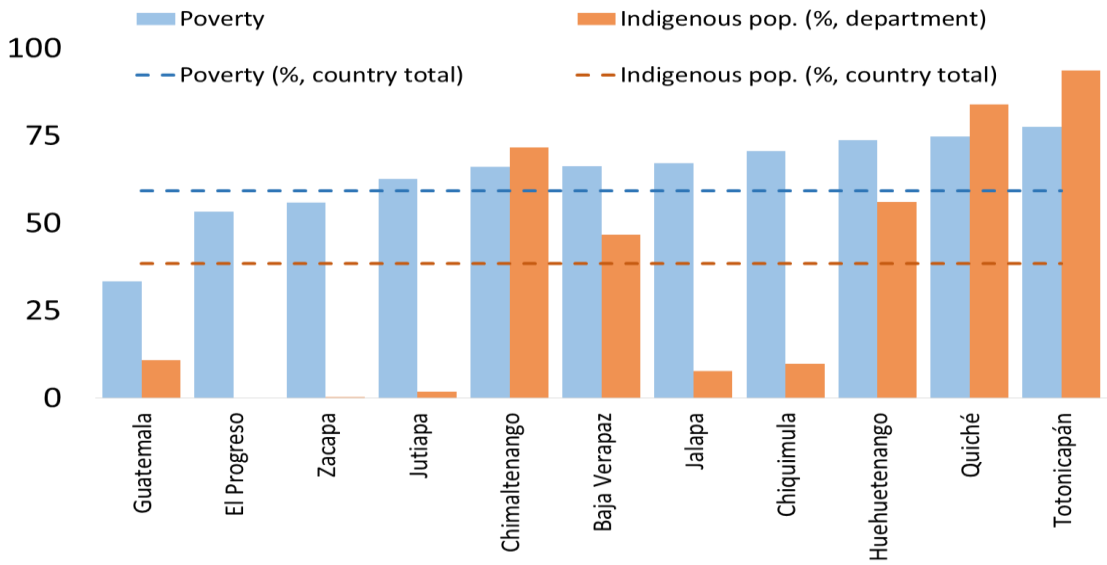
1.3.2. The Guatemala Dry Corridor (GDC)

Although vulnerability factors are a national problem, they have all been exacerbated in the GDC region. According to MAGA (2010), the GDC constitutes the area of the country that is characterized by being semiarid and with a greater risk of drought, and covers 9% of the country´s total surface area.

Although there is no precise definition, it affects to a greater or lesser extent the territories of 11 departments (El Progreso, Jalapa, Jutiapa, Zacapa, Chiquimula, Huehuetenango, Quiché, Totonicapán, Chimaltenango, Baja Verapaz and Guatemala), implying a population of about 3 million inhabitants (Polanco Durán,

2016). In 8 of these departments, the poverty rate exceeds the national average. Likewise, in all the departments where the proportion of indigenous population exceeds the national average, the previous condition is met (Chimaltenango, Baja Verapaz, Huehuetenango, Quiché and Totonicapán, see Figure 4) (INE Guatemala, 2016).

Figure 4. Departments of the GDC: Poverty rate and proportion of indigenous people (by department and country total)



Source: own elaboration based on INE Guatemala (2016)

The GDC began to take international relevance especially in the second half of 2009, when the effects of "El Niño" led to a food crisis: the climatic phenomenon prolonged the heat wave (warmer time of the year) and compromised between 60% and 80% of the harvest in the most affected areas. This evidenced the existing vulnerabilities among the population: UNOCHA reported 11% of acute malnutrition among children under five in some communities and 13% among women of childbearing age, both above the emergency level of 10%. Since then, the phenomenon has been repeated and its impacts have been better quantified (UNDP-FAO-PAHO, 2013).

For example, according to ECLAC (2018b), the 2014 drought occurred in the phases of greatest need for water and had a negative impact on the production of the first season of basic grains, mainly maize and beans. The drought affected the poorest 54% of the population, and more than 236,000 families experienced food insecurity. Up to 75% of the maize and bean crops as well as thousands of head of cattle were lost. By October of that year 30,000 families had exhausted their food reserves. 2015 was the second consecutive year of severe drought. The affected areas lost around 80% of the first season crops, affecting more than 170,000 families and leaving 900,000 people without food reserves.

1.3.3. Development, decent work and climate change: institutional response

The Government of Guatemala has elaborated numerous strategies and actions, framed in diverse national plans and policies, to face the multiple challenges that the country has. This section addresses some of the most important plans in terms of

medium and long-term development planning, as well as reference plans related to the labour market and adaptation to climate change. The objective is to highlight the main lines of action in terms of natural resource management on the one hand, and the transition to decent work on the other. This leaves the basis for a series of final reflections on the potential of a job creation strategy for the region based on the ILO's EIIP approach.

***K´atun National Development Plan: Nuestra Guatemala 2032* (CONADUR, 2014)**

The K'atun Plan is the main instrument to operationalize Guatemala's political development agenda. It was prepared by constitutional mandate, and it is the mean to articulate long-term policies, plans and programs that address the structural causes that hinder development, as well as the inequality and social exclusion that affect mainly rural populations, indigenous peoples and women mostly linked to the agricultural sector (IICA, 2017). Figure 5 summarizes the axes and goals included in this extensive Plan.

Many of the priorities included in this Plan are linked to the labour market and the sustainable management of natural resources. The need to create the conditions that enable to "generate access to decent employment and self-employment sources and sufficient income" is the fundamental basis of the *Third Axis*. Among its priorities, the generation of decent work is explicitly proposed. Some of the guidelines to achieve this are:

- Improve coverage of labour institutions and ensure social protection (mainly when sudden fluctuations in family income due to job losses and other adverse events).
- Implement training and education systems.
- Promote rural development, including self-employed workers, through the necessary provision and support that, at least, include: investment in agricultural research and development, rural infrastructure, extension of education and services, access to credit, markets, inputs and insurance, availability of land in lease and/or property.
- Formalize collaboration agreements between public and private sectors, in order to design and implement active programs for the placement of workers, learning and training.
- Promote and encourage the formalization of productive units in order to ensure access to social security for workers.

Furthermore, climate change adaptation and mitigation and the sustainable management of natural resources are integrated in the *Fourth Axis*. Among its priorities is the conservation and sustainable use of forests and biodiversity, with the goal of conserving, restoring and increasing the forest cover that generates economic and environmental goods for the population. Among its guidelines are:

- The strengthening of community forestry concessions and local governance.
- The promotion of forestry incentive schemes aimed at the protection, conservation and sustainable use of forests.
- Decrease in illegal logging and pressure on natural forests.

In addition, another priority within the *Fourth Axis* is the sustainable management of water resources for the achievement of socioeconomic and environmental objectives. To achieve this, it is proposed to:

- Implement incentives for the sustainable management and ecological restoration of natural forests in areas of high and very high capacity for regulation and hydrological capture.
- Establish payment schemes for environmental services, prioritizing strategic areas of communal forests. The focus of these schemes should be the improvement of income and benefits for local communities, as well as the conservation of these areas.
- Establish soil and water conservation practices in agricultural systems located in zones of very high capacity for regulation and hydrological capture, with pertinence of Mayan, Xinca, Garífuna peoples as well as age and gender perspectives; according to the social context.
- Establish sustainable management schemes in recharge zones, considering the relevance of Mayan, Xinca, Garífuna as well as age and gender perspectives.
- Implementation of storage works (hydraulic works and reservoirs) for water resources adaptation to climate change.
- Design and build irrigation systems and hydraulic infrastructure to generate electricity for the benefit of the semi-arid region of the country.
- Promote rainwater harvesting techniques for human consumption in rural and urban areas, as mechanisms for adapting to climate change.
- Expand and improve the water supply infrastructure for human consumption and basic sanitation.

Finally, another of the priorities highlighted in the Fourth Axis refers to agricultural technification and family agriculture for food security. Some of the relevant guidelines are:

- Strengthen infrastructure programs to support rural production and marketing.
- Generation of agricultural and non-agricultural employment mainly in families in subsistence conditions.
- Promote the diversification of sustainable rural agriculture.
- Implement hydraulic works for the development of irrigation systems for rural agricultural production, respecting the perception and opinion of local communities.
- Implement alternative projects to agriculture as sources of complementary income for families, such as community tourism and the manufacture of handicrafts.
- Create value chains for the main crops at the local level.
- Develop infrastructure and the necessary conditions for trade in agricultural products.

Figure 5. Summary of the axes and goals of the K´atun Plan

K´atun Axes	Goals
1. Urban and rural Guatemala. This axis addresses the urban and rural dimension, taking the territory as an object of analysis. The concept of territory refers to the presence of social conglomerates and their cultural identity, to the interaction of these conglomerates with the environment, their way of modifying the space and intervening in search for social welfare, and the presence of different mechanisms and dynamics of political interaction.	Rural areas sustainable management. Improving income of rural producers. Regionalization model that supports departmental and municipal management.
2. Well-being for people. It focuses on creating well-being for people, which will be achieved through the construction of sustainable livelihoods, which provide the population with the conditions and skills they need to take advantage of the opportunities offered by the immediate context and to be able to develop and strengthen the social fabric.	Reduction of chronic malnutrition. Reduction of maternal mortality. Reduction of infant mortality. Reduction of teenage pregnancy rate. Eradication of illiteracy in the population between 15 and 30 years.
3. Wealth for all. It covers economic development, understood as the ability to create greater wealth and focus on the economic and social welfare of the people.	GDP growth, assurance of investment in physical capital and public spending above 5% of GDP Overcoming the tax burden and social spending. halving extreme and general poverty, reducing job insecurity by generating decent and quality jobs.
4. Natural resources for the present and for the future. Seeks to achieve adequate management of the environment and natural resources, within the framework of sustainable development, understood as a process of quantitative and qualitative improvement that can be sustained over time, at least for the environmental, economic, social and institutional dimensions.	Increase in forest cover. Treatment and reuse of wastewater. Reduction to zero of human losses due to floods. Increased access to safe drinking water and improved sanitation. Expansion of the share of renewable energy in the energy matrix. Energy coverage in rural areas.
5. The State as guarantor of human rights and driver of development. This axis seeks to institutionally strengthen the State in its articulating role of development. Seeks a State that promotes equity, respectful of the rights of people and capable of inserting itself in the regional and global dynamics linked to security and democratic governance, and that has among its priorities the promotion of the common welfare.	Probity and transparency have been institutionalized within the State as values of public management. The State guarantees governability and social stability through the reduction of exclusion, racism and discrimination. Reduction of impunity, so that the country is located in intermediate positions within the global standards.

Source: own elaboration based on IICA (2017, p. 57)

National Decent Work Policy 2017-2032 (PNED) **(MINTRAB, 2017)**

The Government of Guatemala has explicitly recognized in the PNED that access to decent employment is one of the country's great challenges, and that it are women and young people, especially in rural areas and indigenous communities, the most affected groups. Three key challenges are highlighted: stimulate the formation of human capital; diversify employment opportunities and increase labour productivity; and evolve towards a denser structure of companies and businesses that allows to generate more and better jobs.

PNED proposes a series of actions to promote access to decent and quality employment, which ultimately contributes to reducing poverty and inequality with

emphasis on the most vulnerable groups (youth, indigenous people, women, migrants and people with disabilities) and with gender equity. For the purposes of this work, the following stand out:

- Actions 10-12, aimed at promoting the strengthening of MSMEs with a focus on **value chains and decent employment in rural areas** with the participation of rural producers' associations.
- Action 13, which includes the **promotion of employment-intensive investment programs** to generate job opportunities for priority population groups.
- Action 14, which aims to generate the conditions for the **promotion of formalization**.

Specific action against climate change and environmental vulnerability

Faced with the growing climate vulnerability and being part of the UNFCCC, Guatemala has formulated several instruments in the last decade in terms of DRR and climate change.

In 2009, the **National Climate Change Policy (PNCC)** was approved (MARN, 2009), with the general objective that "the State of Guatemala (...) adopt risk prevention practices, reduce vulnerability and improve adaptation to Climate Change, and contribute to the reduction of greenhouse gas emissions in its territory, contribute to the improvement of the quality of life of its inhabitants and strengthen its ability to influence international negotiations on climate change " (p. 4). Although the PNCC does not mention specifically the Dry Corridor, among its numerous areas of incidence it is interesting to highlight (p. 6 and 7):

- The need for the agricultural sector to adapt to climate variability, adopting new practices -including those from traditional and ancestral knowledge- that allow such production that guarantees that the population has basic food while minimizing the processes of soil degradation.

- That the integrated water resources management includes the needs of the population and the ecosystems for the planning, protection of water recharge zones and the use of water. In addition, that the availability and distribution of water be improved and that the necessary measures be taken to improve water quality in the different uses.

- That ecosystems, watersheds, soils and their biological diversity are under a restoration, conservation and integrated management, taking advantage of the natural goods and services generated by natural ecosystems.

- That conditions be created that support, promote and strengthen traditional indigenous systems and the participation of indigenous peoples in the implementation of this policy.

Within the framework of the PNCC, **the Framework Law for Regulating Vulnerability Reduction, Compulsory Adaptation to the Effects of Climate Change and Mitigation of Greenhouse Gases (LMCC)** was approved in 2013. The LMCC establishes responsibilities and competencies as well as mandates and guidelines for the design, development and implementation of policy instruments. Among them is the **PANCC**, whose main objective is to determine the actions and guidelines that government institutions and other sectors must follow to reduce vulnerability, improve adaptation capacity and reduce greenhouse gas emissions

(ECLAC, 2018b); (CNCC-SEGEPLAN, 2016). The PANCC comprises 2 major chapters:

I. *Adaptation Action Plan*, which is a national priority and includes the areas of human health, coastal marine zones, agriculture, livestock and food security, forest resources, ecosystems and protected areas, infrastructure and water resources integrated management.

II. *Mitigation Action Plan*, which includes the sectors of energy, industrial processes, agriculture, land use and change and forestry, and waste sector.

The PANCC makes specific reference to the Dry Corridor as a prioritized territory in some of the adaptation actions for the area of agriculture, livestock and food security. In addition to those aimed at strengthening technical and organizational capacities to improve early warning and emergency response systems, the following stand out:

- The promotion of agroforestry systems in those areas affected recurrently by the effects of climate change.
- The development of efficient irrigation projects in areas with productive potential.
- Establish incentive programs for soil conservation and protection.

In addition, there are other adaptation actions for the entire national territory that are relevant to highlight. Below are some of them, distinguishing by area of action:

- Agriculture, livestock and food security
    - Identification of agro value chains that allow a transition from subsistence agriculture to sustainable agriculture.
    - Implement reforestation programs with native species, mainly in the upper parts of the basins for soil and water restoration and conservation.
    - Implement adaptive technology, including rainwater harvesting, drainage systems in flood zones, etc.
    - Maintain and/or recover gallery forests on the banks of water bodies for the prevention of floods in areas with agricultural or livestock potential.
    - Promote the establishment of agroecological production systems.
    - Implement crop production programs, research and technology transfer in the use of indigenous, ancestral or other productive practices, native plants, food and medicinal plants that are tolerant to climate change.

- Forestry resources, ecosystems and protected areas
    - Strengthen and implement incentive schemes aimed at the conservation, protection, restoration and management of forest resources and biodiversity.
    - Implement forestry incentives projects to establish plantations for the purpose of sustainable use, involving organized groups at the community level and indigenous peoples.
    - Increase coverage of strategic forest ecosystems vulnerable to climate change.
    - Identify and apply ancestral knowledge of indigenous peoples in adaptation practices in the agricultural and ecosystem conservation sectors.

- Integrated water resources management

    - Expand and improve water infrastructure for human consumption and basic sanitation.
    - Design and construction of water catchments.
    - Plan and develop sanitation infrastructure and wastewater treatment plants in rural areas according to the biophysical and socioeconomic contexts.

Finally, at the sectoral level, one of the most important instruments is the *Agricultural Policy 2016-2020* (MAGA, 2016), whose objective is that the "agricultural activity becomes the driving force and articulator to combat rural poverty, ensure food security of the population and contribute to integral and sustainable rural development; besides being promoted as a strategic factor of national economic growth" (p. 3). This policy recognizes the existing problems in the sector, associated with the poor development of family farming, low access to markets, vulnerability of the sector to climate change and deterioration of renewable natural resources due to inadequate practices, among others.

To address this problem, four strategic axes are formulated: 1) increased productivity and generation of surpluses of family farmers, men and women; 2) marketing, access to markets, norms and regulations; 3) renewable natural resources and climate change; 4) institutional management. Each of the axes has an objective, guidelines and actions or programs. In particular, the following two guidelines and within them some actions stand out:

- Guidelines for "supporting the development of actions that allow decent work in agriculture (employment, social protection, workers' rights and social dialogue), and the reduction of child labour in agriculture" (within Axis 1):

    - Promotion of the improvement of working conditions for agricultural workers, with special emphasis on women whose income is sourced on agricultural activities.
    - Promotion, in rural areas, of income diversification, mainly in response to the demands of rural young people.

- Guidelines for "organizational strengthening of agricultural producers" (within Axis 2):

    - Promotion of the formalization of agricultural producers in MSMEs, in coordination with the Ministries of Economy and Labour.
    - Development of productive-commercial linkages or other forms of association between producers.

It is worth noting that other interesting actions refer to facilitating access to infrastructure for the protection of crops (greenhouses, micro and macro tunnels) in suitable areas, as well as access to knowledge for their efficient use (within Axis 1), and the adoption of rainwater collection practices and the construction of reservoirs in rural areas dedicated to agricultural activities (within Axis 3).

1.4. Honduras

1.4.1. Context

The Republic of Honduras is located in central-northern Central America, bounded on the north by the Caribbean Sea; on the south by El Salvador and the Gulf of Fonseca; on the east and southeast by Nicaragua and on the west by Guatemala. It has a surface area of 112,492 km^2 and is divided into 18 departments and 298 municipalities. It has an estimated population of 9 million inhabitants; 45.4% reside in the rural area and 51.3% are women (INE Honduras, n.d.); (ECLAC, 2017a).

Regarding the ethnic composition of its population, the 2013 Census revealed that the vast majority of the population identifies itself as mestizo (83%), while the remaining 17% is divided into indigenous (7%), white (7%) and other minority groups such as black and Honduran Garífuna. The indigenous peoples include the Lenca, Maya-Chorti, Tolupán, Pech, Tawahka, Miskito and Nahua, with the Lencas being the majority group (63%), followed by the Miskitos (11%) and the Chortíes (5%). They inhabit mainly in the rural area (84%) and are distributed throughout the entire country. The Lencas are located mainly in La Paz, Intibucá, Lempira, Ocotepeque and Francisco Morazán (center, north-west and south-west), the Miskitos in the department of Gracias a Dios (East) and the Chortíes in Copán and Ocotepeque (north-west) (INE Honduras, 2013) (GIZ, 2010).

Regarding the socioeconomic context, Honduras is a low-middle income country and one of the poorest and most unequal in Latin America. Poverty reaches 61% of the country's households, affecting rural population at its most extreme levels. In fact, extreme poverty in this area is close to 59%, while in the urban area is around 39% (INE Honduras, 2018).

The **literacy rate** is 87% in the population over 15 years old and although there are no substantial differences in terms of sex, there are significant disparities by area of residence: it reaches 93% in urban areas and 80% among the rural, affecting mainly people from low-income households who are self-employed or inactive (INE Honduras, 2018).

In addition, the **coverage rate of education** is markedly reduced after 13 years old. While among the population of 7 to 12 years, 90% attend a teaching centre, for those aged 13 to 15 years the rate is reduced to 15%, affecting mainly rural adolescents (where the coverage is only 9%). In contrast, children and adolescents are inserted early in the labour market: 19% of children and adolescents from 10 to 14 years old are already working (about half of them only work), of which 72% belong to the rural areas and are mostly linked to activities in the agricultural sector, highly vulnerable to situations of exploitation and abuse (INE Honduras 2018); (INE Honduras 2013).

Growth retardation (short height for age or chronic malnutrition) has an incidence of 23% among children under 5 years, the second highest rate in the region (after Guatemala), rising to 29% among rural children, closely linked to the lack of necessary food and nutrients at a key age for physical and cognitive development

(FAO-PAHO, 2017). In departments like Intibucá and Lempira this rate reaches almost half of children, followed by La Paz with 39% and Copán with 31% (INVEST-H, 2014). In addition, according to figures from UNICEF, infant mortality in children under 5 years reaches 23/1000 live births, although in departments like Copan and Intibucá (high indigenous presence) this rate exceeds 50/1000 live births. Among the main causes are acute respiratory infections, dehydration due to diarrheal diseases, complications in childbirth and accidents. This is closely linked to the lack of basic infrastructure coverage: 18% of the population do not have access to basic health services, 10% do not have access to drinking water and 32% do not have sanitation, affecting especially the rural areas and dispersed populations (UNICEF Honduras).

As for the **labour market**, the Honduran economy is mainly of a primary-exporting nature, with the agricultural sector employing the highest percentage of labour (close to 30%), mainly in the form of subsistence agriculture. In fact, small producers of basic grains represent 54% of total rural population. Labour informality in the non-agricultural sector exceeds 70%, while including that sector increases to 81%. The economically active population (employed or seeking employment) are mostly represented by men (60%), revealing a significant gender gap in terms of labour participation. Another relevant fact is that Honduras is the Central American country that depends the most on remittances of its relatives living abroad (FAO-RUTA, 2010); (STSS, 2017)

With regard to the **situation of the indigenous population**, a Report of the Special Rapporteur on the rights of indigenous people in Honduras (UN, 2016) revealed that "indigenous people face systemic problems that impede the full enjoyment of their rights. The lack of protection of their lands, territories and natural resources and impunity and poor access to justice are fundamental problems that place them in a situation of total defencelessness in the face of acts of violence by different actors. They also face a precarious socio-economic situation of multidimensional poverty related to extreme inequality, corruption and the lack of basic social services". Although there are no precise official statistics, the same report states that extreme poverty reaches 72% of indigenous households (compared to 61% nationally), and that close to 90% of indigenous children live in poverty. In addition, the unemployment rate for this group exceeds 40% (compared to a national rate that is around 6%), while the average income is 37% of the national monthly average.

1.4.2. Honduras Dry Corridor (HDC)

Rural poverty and vulnerability are concentrated in the western, central and southern areas of the country, known as the HDC (INVEST-H, 2014). This region occupies a surface area of 30,764 km^2 (27.23% of the national territory) and includes territories of 14 departments. It is named for its low rainfall and a pronounced dry season that usually cause water shortages for agricultural production and human consumption in general. Of the total area of this region, about 44% are forests, while 34% are destined for agricultural use (ICF, n.d.). The majority of small and medium producers cultivate for their consumption and local markets. Their plots are usually found in mountainous areas with reduced access to water for irrigation, road infrastructure to transport their production, credit, production technology, improved seeds, tools and basic inputs (INVEST-H, 2014).

In this region, extreme climatic events and pests have severely affected basic grain producers and their families in recent years, almost consecutively. For example, in 2014, a long drought affected El Paraíso, Choluteca, Francisco Morazán, Valle, La Paz, Intibucá, Lempira, Ocotepeque, Copán and Comayagua to a greater or lesser extent. Crop losses exceeded 70% in the first cycle and as a result, 36% of households were found to be food insecure.

In 2015, one of the most severe rainfall deficits of the last 60 years resulted in losses of 60% of the corn crop and 80% of the bean crop and about 50% in coffee and fruit trees, and shortages in the most affected and for small producers in the region, a situation that left more than 190,000 people facing severe food insecurity (ECLAC, 2017b). In 2018, for the fifth consecutive year, erratic rains again caused losses of basic grain crops and, by October of that year, food insecurity affected more than 100,000 households. As a result of the lower reserves of basic grains, by mid-2018 close to 60% of the consumption of basic grains were purchased in the market. This not only implies the reduction by families of the total amount of food consumed, but also the insufficiency of income to satisfy other basic needs (WFP, 2018b).

1.4.3. Development, decent work and climate change: institutional response

The Government of Honduras has elaborated numerous strategies and actions, framed in diverse national plans and policies, to face the multiple challenges that the country has. This section addresses some of the most important plans in terms of medium and long-term development planning, as well as reference plans related to the labour market and adaptation to climate change. The objective is to highlight the main lines of action in terms of natural resource management on the one hand, and the transition to decent work on the other. This leaves the basis for a series of final reflections on the potential of a job creation strategy for the region based on the ILO's EIIP approach.

Visión de País 2010-2038 and *Plan de la Nación 2010-2022* (Gobierno de Honduras, 2010)

Honduras has two instruments for medium and long-term planning. The first is the **Country Vision** (*Visión de País*) **2010-2038**, which establishes guiding principles of development, national objectives and priority goals by 2038. Among the four national objectives, the *third objective* pursues that Honduras is "productive, generating opportunities and decent jobs, taking advantage of its natural resources in a sustainable manner and minimizing environmental vulnerability". Among the goals associated with this objective, the following stand out:

- Reach 400,000 hectares of land under irrigation, serving 100% of the national food demand.
- Increase damming and water use to 25%.
- Achieve 1,000,000 hectares of forest land in the process of ecological and productive restoration by accessing the international carbon bond market.

Furthermore, among the goals linked to the *first objective* ("Honduras without extreme poverty, educated and healthy, with consolidated social welfare systems"), the need to reduce poverty and "universalize the retirement and pension system for 90% of salaried workers and 50% of employed non-salaried workers is highlighted".

The second instrument for planning is the **National Plan** (*Plan de la Nación*) **2010-2022**, which establishes 11 strategic guidelines to achieve the objectives of the Country Vision. Among them, the following stand out:

Guideline Nº 7, "Regional development, natural resources and the environment": among other objectives, it points out that by 2022, the annual loss of forest cover will have been reduced by 70% and the net use of water resources and the damming capacity for productive purposes will be increased from 5% to 17%. In addition, 250 thousand hectares of productive agricultural land will have irrigation systems, and 400 thousand hectares of forest land in a state of degradation, will be incorporated into a program of ecological and productive restoration that participates in the global market of carbon credits.

Guideline Nº 11, "Adaptation and mitigation of climate change": recognizes the need to reduce the physical and environmental vulnerability of the country to the effects of climate change and proposes objectives similar to those established in the previous guideline, in connection with the need to promote a systematic process of ecological and productive restoration of the territories of forest vocation in a state of degradation. It recognizes the potential of not only a significant improvement in the environmental conditions of the country, but access to financial resources through participation in the international market of carbon credits.

***Política Nacional de Empleo 2017-2028 (PNEH)* (CES, 2018)**

With regard to the employment policy, in 2017 the **National Employment Policy** *(Política Nacional de Empleo –PNEH-*) **2017-2028** was approved. This is the frame of reference for guiding government action towards "achieving accelerated, inclusive and sustainable economic growth, increasing employment and reducing poverty" (p. 7).

Among the main causes of employment problems in the country, there is the absence of actions to promote youth work, insufficient programs to promote employment of women in rural and urban areas and the scarce coverage of the Social Protection System.

Therefore, this Policy is articulated with the *first* and *third* objectives outlined in the Country Vision (already mentioned), as well as with the goals contemplated in these objectives, among which is included "Universalize the retirement and pension regime for the 90% of salaried workers in the country and 50% of employed non-salaried workers". The policy recognizes the particularly disadvantaged situation of women, young people, and people living in poverty in terms of access to decent work (unemployment, underemployment, informality), and places emphasis on serving these groups. It is structured based on the following axes:

a. Employment creation: promote, increase and improve the dignified and productive labour insertion of Hondurans;
b. Development of human capital: employability. Promote and increase access to quality labour and education training;
c. Enabling environment for the creation and development of companies: facilitate the creation and implementation of new companies to promote more and better jobs and;
d. Competitiveness: facilitate the conditions to achieve sustained economic growth, with equity and improvement of the physical and productive infrastructure of the country.

In addition, it defines numerous strategies to meet the objectives and guidelines foreseen in each of these axes. Among them stand out:

Guideline: Management of public initiatives to generate employment and opportunities

- Create direct jobs, through the construction and maintenance of public and/or productive infrastructure works.
- Support the development of micro-enterprises, through public programs for the generation of credits and technical assistance.
- Develop income generation programs quickly through local interventions.
- Diversify the productive structure of the rural area.
- Improve and expand basic and productive infrastructure in rural areas, strengthening water supply systems.

Promotion of employability by meeting supply and demand.

- Improve the skills of young people and women in rural areas, guiding them to new ventures with a focus on productive chains.

Sustainable companies' development

- Facilitate the inclusion and access to credit, training, technical assistance, marketing, organization, promotion of associative culture and cleaner production, within the framework of productive chains.
- Implement initiatives that facilitate transition from informal to formal companies.

Labour justice and employment quality

- Strengthen employment promotion and protection mechanisms.
- Gradually and progressively implement the Social Protection System.

Together with the PNEH, the Joint Action Framework (MAC) was also created, which constitutes the strategic and operational instrument for the implementation of the PNEH. Its objective is "To develop and implement strategies that allow the inhabitants of the national territory to have access to decent and productive work, through the execution in the short and medium term of a set of interventions that articulate the implementation of the PNEH, to increase the employability of the population, especially of young people and women; increasing the levels of productivity and competitiveness of companies"(CES 2018, p. 62).

One of its pillars is the generation of decent and productive employment, which includes sub-components such as the generation of employment and income alternatives for rural workers, women, young people, people with disabilities and promoting employment creation through public investment.

On the other hand, the axis of creating an enabling environment for the development of companies and entrepreneurial culture includes expanding the quality, equity and coverage of social security; promotion, training and regulation of green jobs; development of formalization actions that act on informal employment mechanisms; prevention and eradication of child labour and protection of adolescent work.

Finally, another of the relevant axes refers to human capital development, which includes access to job training; training initiative for the labour inclusion of

vulnerable groups, promotion of employability through the meeting of supply and demand.

Specific action against climate change and environmental sustainability

The **National Strategy on Climate Change** (ENCC) is the national policy framework in terms of climate change and is articulated in a coherent manner both with the National Plan and the Country Vision. The ENCC is the response to the guidelines Nº7 and Nº11 of the National Plan. It includes 17 strategic objectives (classified by incidence area), of which 15 refer to adaptation and 2 to mitigation, as well as a series of guidelines to achieve them. Likewise, they are the basis on which the Framework Policy on Climate Change will be based (to be elaborated). Below, the main objectives by area of incidence and the most relevant guidelines for the purposes of this work are summarized (SERNA, 2010).

- **Water resources:**

Objectives: Reduce the impacts of the most frequent and intense droughts and reinforce the recharge of aquifers, in addition to reducing the alteration of the flows.

Guidelines:

- Develop an integrated water resources management, in order to ensure the availability of the resource especially in the dry season, including the protection of water sources.
- Implement soil conservation practices in forestry and agricultural systems to reduce erosion and silting of river beds and reservoirs.

- **Agriculture, soils and food security:**

Objectives: Facilitate farmers´ adaptation (improving the resilience of crops and pastures) and avoid erosion, loss of productivity and eventual desertification of soils.

Guidelines:

- Promote restoration and integrated management of agricultural and livestock soils, for the conservation of their structure and fertility, especially in hillside agriculture.

- **Forests and biodiversity**

Objectives: Preserve the functioning of ecosystems, prevent the loss of forests and implement adequate forest management for protection and production.

Guidelines:

- Establish frameworks of action to support national initiatives for the restoration and rehabilitation of degraded areas, especially through analog forestry.
- Identify and strengthen actions aimed at conserving forests and stopping their deforestation and degradation.

- **Risk management**

Objectives: Reduce the risks and impacts associated with the occurrence of extreme events, encourage the development and construction of infrastructure and more appropriate facilities (in terms of resistance and versatility) in order to adapt them better to the effects of climate change.

Guidelines:

- Recover and enable the functionality of fluvial systems, improving runoff control and overflow of rivers and streams, in order to prevent damage and losses due to floods caused by tropical storms and hurricanes.

It is also worth mentioning that the process of institutionalization and viability of the ENCC includes immediate measures, among which is the need to "improve the effectiveness of participation of the relevant actors for adaptation and mitigation, in the different phases of planning and implementation of public policies on climate change, in order to improve knowledge, awareness, ownership and implementation of actions for adaptation and mitigation, and strengthen governance, both at the local and national levels. In the case of indigenous and tribal peoples, their rights in this matter must be considered, and the processes of consultation and participation must be based on free, prior and informed consent" (SERNA, 2010 p.37).

The **National Adaptation Plan (NAP)**, recently prepared (SERNA, 2018), is also linked to the strategic national planning instruments presented previously. Its contents, in addition to adapting to the ENCC, seek to update guidelines according to the new contexts and challenges in regard to adaptation measures. It proposes 5 strategic axes: i) "agro-food and food sovereignty"; ii) "human health"; iii) "infrastructure and socioeconomic development"; iv) "biodiversity and ecosystem services" and v) "water resources". Among the many measures proposed for adaptation, the following stand out:

Axis I – agro-food and food sovereignty

- Promotion of nurseries for the production of crop seedlings whose initial stages are more vulnerable to changes in precipitation and temperature.
- Promotion of micro irrigation and water collection measures (tanks, ditches, and terraces) in hillside areas with preference for the modalities that are low cost and with materials obtained in the area and on the plot itself.
- Increase in the number of hectares under efficient irrigation in the main areas producing basic grains.
- Construction of tanks and lagoons for water storage, including ferrocement tanks built in a participatory manner with the beneficiaries of the communities (based on their already proven success).
- Replication and dissemination of successful practices with stubble, live barriers, green manures and minimum tillage that have allowed to reduce water losses in times of drought.
- Increase in agroforestry and agrosilvopastoral systems.

Axis II – human health

- Installation of rainwater harvesting systems with adequate filters for the supply of drinking water.
- Design of structures and alternatives to maintain the supply of quality drinking water, even in times of drought.

Axis III – Infrastructure and economic development

- Stabilization of slopes and construction of slopes in areas prone to landslides and in the regions with the highest precipitation and incidence of extreme hydro meteorological events.
- Protection of basic services´ infrastructure, especially for the supply of drinking water and sanitation.

Axis IV – biodiversity and ecosystem services

- Rescue and adoption of practices for the use and exploitation of natural assets of local communities, indigenous and black peoples that contribute to the adaptation and mitigation of climate change.

Axis V – Water resources

- Reforestation of forests and micro-basins with native species.
- Construction of multi-use reservoirs whose main objective is the provision of drinking water to the population.

In a complementary manner, the NAP establishes a series of transversal pillars for its effective implementation. Among them, the "gender and vulnerable groups approach" stands out, under which actions are sought to reduce the gender gap and make the differential impacts of climate change on men and women visible, as well as the identification of vulnerable groups (people with disability, indigenous peoples, older adults, children and adolescents) to ensure that adaptive measures are inclusive and consider different realities.

Honduras also has a **National Action Plan to Combat Desertification (PAN-LCD) 2014-2022** (SERNA, 2014). This recognizes the problem and aims to address degradation of the country's natural resources and their effects, especially in the southern region, where long periods of drought affect productive activities and deepen poverty.

Thus, this plan prioritizes its actions in the area formed by the departments of Choluteca, Valle, El Paraíso, Francisco Morazán, La Paz, Intibucá, Lempira, Comayagua, Santa Bárbara, Yoro and Olancho, which largely coincides with the territory of the Dry Corridor. Among its intervention strategies, it is important to strengthen the institutional capacities of local organizations as well as the application of participatory tools that allow communities to express their needs.

The Plan includes five areas: i) sustainable agro-food production, ii) ordering, conservation and restoration of ecosystems iii) awareness, education and capacity building for sustainable development iv) land governance v) droughts´ risk management. Each of these axes has a goal and associated targets, which are also aligned with Country Vision´s goals. Here are some of them:

Axis I – Sustainable agro-food production

Its objective is to improve the living conditions of affected populations by implementing sustainable production systems in order to increase productivity and competitiveness as well as the income of families. Among the numerous actions and goals, it stands out to reach 400,000 hectares under irrigation, afforestation of agricultural land and the promotion of agroecological production and community agroforestry systems.

Axis II – Ecosystems management, conservation and restoration

It aims to improve the conditions of degraded ecosystems, implementing conservation and restoration actions. In general, forest plantations are contemplated in a massive and systematic way, natural regeneration, agroforestry, as well as protection and conservation of water. Among its goals it includes the increase of damming and water use and reach 1,000,000 hectares of forest land in the process of ecological and productive restoration.

Axis V – Risk management of droughts

Its objective is to reduce risk and improve adaptive capacities in the face of droughts. Among its actions and goals are the implementation of sustainable water use practices, harvesting initiatives (including rainwater harvesting) and damming of water resources.

Finally, the **National Strategy of Adaptation to Climate Change of the Agrofood Sector of Honduras 2015-2025** ENACCSA (SAG, 2015), was raised by the Secretariat of Agriculture and Livestock (SAG), and promotes management of climate risks and the adaptation of the sector identifying possible synergies in mitigation actions. Seeks a change towards a sustainable and resilient agriculture, with the human being as the ultimate goal of development and, above all, of those most vulnerable to climate change, under the principles of interculturality, gender equity, participation and social inclusion of men, women, young people, boys and girls. Its strategic axes point to the institutional strengthening of the SAG for environmental management; to the harmonization of prevention and response actions to extreme events (droughts and floods); to strengthening the technical capacities of the agro-food sector and to the alliance with research networks to promote innovation in the sector.

Among its multiple objectives and expected results is the need to increase the supply of water for irrigation with priority in the communities of the Dry Corridor. It is expected, for example, that by 2020, 40% of families in the region will have access to technified irrigation (and appropriate training for their use). The importance of implementing integrated watershed management plans for irrigation supply as well as water harvesting systems (reservoirs) is highlighted.

4. Reflections on the potential of an job creation strategy in the context of the Dry Corridor of Guatemala and Honduras

The situation of the CDC has captured growing attention of the international community and, as presented in section 3, actions are being implemented that are aligned with the governments' adaptation priorities. In general, they are oriented in the necessary direction; promote resilience and rural development, strengthen local capacities, adopt practices for productive and sustainable management of resources and, ultimately, improve the socioeconomic situation of the main economic actors in the region: families that produce basic grains.

In any case, two factors are evident. On the one hand, much work remains to be done; the region requires more support and meets all the conditions to be one of the priorities in the channelling of international climate financing. On the other hand, the complexity and multiplicity of its challenges will continue to demand the design

and implementation of strategies that can address them simultaneously and complementarily.

As shown in the previous section, the institutional response of Guatemala and Honduras to address climate vulnerability prioritizes adaptation strategies. In summary, the need to promote actions linked to environmental and natural resources management that promote soil conservation and integrated water management for various purposes (human consumption, sanitation, irrigation, catchment and drainage) is mentioned. All this, within the framework of a national employment policy that promotes the transition towards decent employment, especially in rural areas, the diversification of income and the identification of agro value chains, putting local and ancestral knowledge as well as the needs of the most vulnerable population groups at the centre.

The possible measures are numerous. In arid and semi-arid regions, activities related to soil and water restoration and conservation involve measures aimed at retaining rainfall, reducing storm water runoff, improving infiltration and increasing soil water storage capacity (ILO, 2011). Some examples are the increase in vegetation cover, afforestation and agro-forestry (including windbreaks, live fences and farmer-managed natural regeneration), the construction of terraces, contour banks, drainage systems, ponds and water reservoirs.

These are interrelated. All can be considered within the range of the so-called "Nature-Based Solutions"[4] (NbS), and many of them are already mentioned in the Governments´ plans, as evidenced in the previous section. To a greater or lesser extent, they all contribute to strengthening the functioning of ecosystems, controlling and conserving water and/or soil stability and reducing erosion. In this way, they mitigate or reduce the exposure of communities to events such as droughts, floods or landslides and at the same time facilitate access to water, either for productive purposes or for human consumption.

Although a technical analysis of these measures and their multiple purposes is beyond the scope of this paper (for a more detailed analysis and examples of concrete experiences, see ILO 2011), most of them (including those that require the construction of physical structures) are an ideal opportunity to promote the intensive use of labour, while the necessary materials are usually available locally. Labour costs easily represent 70% of total costs, while the use of equipment is generally less adequate, due to the nature of activities and the location where they are carried out (ILO, 2011). As an example:

- Planting vegetation tends to require high levels of labour (not qualified) both in the management of nurseries and in the plantation and, sometimes, also for cutting and pruning. One person can plant 50-250 plants per working day (depending on slope gradient and soil type), and labour inputs per hectare tend to vary from 250 to 500 working days, including nursery jobs and the maintenance of plants (ILO, 2011).
- The construction of contour banks, on the other hand, is relatively simple and is generally limited to earth moving, although it can also involve the use of rocks and stones. The level of skill required is also low, which makes work

[4] NbS are defined by IUCN (Cohen-Shacham et al., 2016) as “actions to protect, sustainably manage and restore natural or modified ecosystems, which address societal challenges (e.g. climate change, food and water security or natural disasters) effectively and adaptively, while simultaneously providing human well-being and biodiversity benefits” (p. xii). For further details, see document of reference.

suitable for unskilled labour with very basic training and supervision. Labour inputs range from 50 business days per hectare for gentle slopes to 300 business days per hectare for steep slopes. When terraces are also built, labour inputs can reach 600 working days per hectare on steep slopes (ILO, 2011).

- The construction of ponds basically involves soil excavation and the subsequent transportation outside the pond. Generally no materials are required, and all work can be done by local labour. Especially when the location of the pond is remote or difficult to reach, the use of heavy machinery will not be viable. Pond excavation allows high levels of employment generation and is easy to manage, with many benefits for local communities in terms of water availability throughout the year (ILO, 2011).

In general, unskilled labour can be used for almost all activities, while in others (e.g. design of dams or use of mechanical equipment) it will also require some skilled labour for its proper design and implementation. In any case, once the location and design of the works has been determined, their implementation can often be carried out directly with contractors and/or local communities (ILO, 2011); (ILO, 2018c).

In this context, considering an approach based on the ILO's EIIP is clearly relevant. EIIP has evolved over the past 40 years towards a comprehensive package of interventions that contribute both to the provision of green infrastructure and environmental assets as well as to the creation of decent jobs. There is thus sound experience to provide support to the GDC and the HDC in the development of programs at the rural and community level, with a participatory approach, nature-based, using local resources and generating decent employment opportunities.

Taking all of the above into account, an direct job creation strategy as advocated by the ILO in the GDC and the HDC could have the following impacts on local livelihoods, all aligned with the institutional plans of the governments:

- Employment creation as a result of these activities would have as immediate effects the much-needed provision of cash income to households that often depend on informal work and subsistence agriculture. This income can be used to improve people's quality of life, for example by improving their agricultural practices, improving housing, increasing assets, financing health and education, and paying their debts. It can also be used to improve resilience of households when occurrence of extreme events such as droughts. In addition, these employment generating activities have multiplier effects through an increase in expenditures on goods and services in the surrounding areas (ILO, 2018c).

- In the medium and long term, preserving, restoring and managing natural assets sustainably implies securing the benefits that the communities obtain from them, essential for their survival. By extension, this implies securing livelihoods and contributing to the diversification of economic activities. A clear example of this are forestry and agroforestry activities. The rehabilitation and sustainable management of forests, the planting of windbreaks or live fences and farmer-managed natural regeneration (among others) are potential sources of benefits and alternative income. Among these are fertilizer trees for land regeneration, soil quality and food security; fruit trees for nutrition; forage trees that improve livestock production of small farmers; trees for obtaining wood as fuel and shelter; medicinal trees to fight diseases; and trees that produce gums, oils, resins or latex products. Therefore, they not only contribute to the healthy functioning of ecosystems and thereby reduce climate vulnerability of local

communities, but also to diversify their income and smooth household consumption throughout the year (Vignola et al., 2015); (ILO, 2011).

As relevant as the above are the spill over effects that could be generated in terms of formalization and local economies dynamization, as well as on other transversal pillars, anchored both in the mandate of the ILO and in the basic principles of the EIIP approach, and aligned with governments´ priorities. Among them are:

- The transition towards a formal economy, promoting decent employment and social dialogue, including social protection, occupational safety and health, payment equity and guaranteed minimum income. This would also contribute to creating incentives for local communities to take the necessary risks to move from subsistence to sustainable agriculture, since they serve as a source of savings and investments for innovation and entrepreneurship. Eventually, it can also help mitigate the reasons that sometimes force people to carry out activities that harm the environment for economic reasons (e.g. illegal logging). (ILO, 2018b).

- Gender equality, granting women (among those most affected by poverty and lack of education) the opportunity to work, earn money, acquire skills applicable in other jobs and perform tasks traditionally dominated by men (ILO, 2018c). Some measures to achieve this include setting targets (for example, a percentage of all direct beneficiaries in the interventions must be women); a gender-friendly work environment to allow women to balance their domestic and caregiving responsibilities with the activities; raising awareness to address gender stereotypes and zero tolerance for sexual harassment/violence at work; and skills development for women in the areas of construction, agriculture and business management (ILO, 2019).

- Promotion and strengthening of local capacities. This includes the recognition of indigenous knowledge and traditions and local skills and technologies to increase their participation. It also involves identifying and addressing skill gaps and training among local actors involved in the activities, generating new skills and thus new opportunities for social mobility through personal and community development (UNEP, 2013); (ILO, 2018c).

- The inclusion of vulnerable groups. In particular, indigenous populations and especially indigenous women in rural areas, who hold the most unfavourable position, need support to access local natural resources as well as financial and other services. By creating job opportunities and supporting the development of skills that improve their employability, the programme can contribute to reduce the existing gap between the indigenous population (and within it the women) and the non-indigenous population in rural areas. Similarly, people with disabilities are also at risk of exclusion and often lack access to employment opportunities; but can be employed on these projects (ILO, 2018c).

- Implementation of projects with contractors and/or local communities has a direct benefit in terms of promoting MSMEs and, possibly, local markets. This is an important element to realize the employment and income diversification potential of these interventions, as well as to improve decent work opportunities. In addition, cooperatives and other business initiatives of social and solidarity economy among indigenous peoples have proven to be beneficial in terms of conserving the environment through traditional knowledge, while fostering

innovation, providing a sustainable source of income and strengthening their capacity to defend their rights (ILO, 2017b).

- On the other hand, several activities that can result from these interventions, such as increased production due to greater or more efficient irrigation or obtaining high-value non-timber products, including fruits, oils and herbs from forestry or agroforestry activities, can benefit from the creation or integration in sustainable value chains, as well as the development of new skills and funding sources to maximize the benefits (UNCCD, 2017). In particular, short value chains have generated increasing interest in recent years due to their potential to create positive impacts on rural communities. By reducing the number of intermediaries, they are an effective way to reduce costs and, therefore, to increase the proportion of the added value that is captured by local producers. Pressures on the environment also tend to decrease (for example, given the reduction in the distance that goods have to travel to reach the final consumer), while better traceability and more sustainable commercial and production practices are increasingly appreciated by consumers (ECLAC-FAO-IICA, 2015); (De Fazio, 2015).

- The use of a participatory approach allows the identification, prioritization and implementation of the specific needs of all the different groups within the communities, including women, youth, indigenous and tribal peoples and people with disabilities. The approach values the knowledge, technologies and organizational structures available locally, strengthening social dialogue and inclusion. This generally results in higher levels of empowerment and ownership of the works and, together with the skill levels obtained, leads to better maintenance and greater sustainability over time (ILO, 2018c).

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