

Articulating social and environmental policy for sustainable development: Practical options in Latin America and the Caribbean



Poverty-Environment Initiative



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Resilient nations.*

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List of Acronyms

ADC	Andean Development Corporation
CASEN	National Socioeconomic Characterization
CCT	Conditional Cash Transfers
DFID	Department for International Development, UK
ECLAC	Economic Commission for Latin America and the Caribbean
ERR	Environmental Remuneration Rate
FAO	Food and Agriculture Organization of the United Nations
HDI	Human Development Index
GASO	Social Cabinet
ILO	International Labor Organization
IVACC	Climate Impact Vulnerability Index
LAC	Latin America and the Caribbean
MAD	Ministry of Agrarian Development
MMA	Ministry of the Environment
MSD	Ministry of Social Development
NFC	National Federation of Coffee Growers
PAC	Presidential Agency for International Cooperation
PEI	Poverty - Environment Initiative
PEP	Poverty Environment Partnership
PES	Payment for Environmental Services
PHES	Payment for Hydro Climatic Environmental Services
QLI	Quality of Life Index
SDG	Sustainable Development Goals
SIUBEN	Standardized System of Beneficiaries (Dominican Republic)
UNGA	United Nations General Assembly

About this document:

The joint UNDP-UN Environment Poverty-Environment Initiative aims to support countries in implementing policies, instruments, plans and budgets that combine sound environmental management with poverty reduction to contribute to sustainable development. The Initiative also contributes to the enhancement of national and local capacities for national policies, plans and budgets to be pro-poor, inclusive and gender-responsive while ensuring environmental sustainability. This document has been commissioned by the Poverty-Environment Initiative team in Latin America and the Caribbean in order to provide strategic elements for discussion among the main development stakeholders in the region.



Photo: Chiquimulilla Channel, Guatemala.
Poverty-Environment Initiative.
Credit: UNDP-UN Environment.

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1. Introduction

In September 2015, the global agreement Transforming Our World: the 2030 Agenda for Sustainable Development (UN, 2015) was approved. This agreement constitutes a global alliance that promotes sustained and inclusive economic growth, social development and environmental protection. As a result of the intense involvement of governments, civil society, the private sector and other development agents, there is a high degree of commitment from all stakeholders for the achievement of a life of dignity for all, including future generations, in harmony with nature.

Recognizing the complexity of the transition to sustainable development, the new Global Agenda takes into account a large number of issues that constitute an integral and indivisible whole reflected in 17 Sustainable Development Goals (SDG) and 169 targets. In particular, environmental elements and their interconnections with poverty eradication, social protection and other important aspects of development provide an important opportunity to promote sustainable responses to the financial, food, climate and energy crises that continue to pose fundamental challenges for global development.

The Latin American and Caribbean region does not escape these global trends.

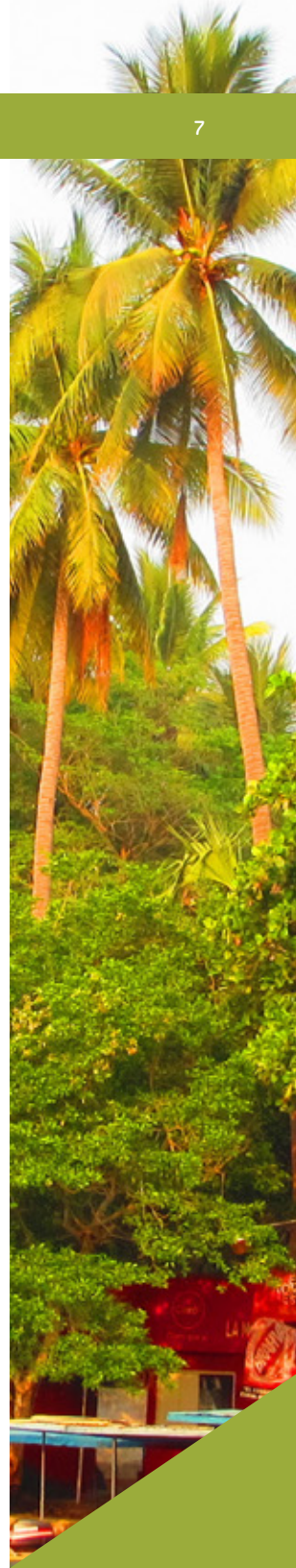
The deceleration of growth threatens to jeopardize the most recent gains in terms of poverty reduction and improved social protection. Given the high level of inequality in the region, this means that millions of people risk falling back into the spiral of poverty. Ecosystem services, biodiversity and productive

soils in Latin America and the Caribbean continue to deteriorate due to, inter alia, the persistence of extractive economies using natural resources over their rate of their renewal, unplanned urban growth and uncontrolled expansion of the agricultural frontier. This scenario is compounded by vulnerability to climate-related threats, with consequences that challenge the achievements already made and the viability of development for present and future generations.

Ensuring environmental sustainability as the basis of a prosperous future poses a challenge to humanity, who will have to find alternative ways to “leave no one behind” without undermining the natural basis of well-being and livelihoods. Collective action, coordination at all levels and long-term policies will be fundamental to:

- Transform the development paradigm, implementing different paths and alternatives focused on combining the closure of social inequality gaps, sustainable environmental management and economic growth.
- Apply new approaches that ensure the incorporation of the environmental dimension in the eradication of poverty through the recognition of the multiple dimensions of well-being.

In this context, the objective of this document is to present example cases of integration and complementarity between public policies on social protection and environmental sustainability. For implementation of the SDGs, it is important to highlight the existence of models and tools that can generate simultaneous positive impacts in poverty reduction, social protection and environmental sustainability. This document gives visibility to the possible alternatives among decision-makers, so that they can be escalated as policy options for achieving progress in the implementation of the 2030 Agenda.





2. Poverty and the Environment in the regional context

2.1 The links between poverty and the environment in the context of sustainable development

Development can take different paths and transitions towards sustainability, process in which public policies and economic instruments are essential. However, a scenario in which economic growth prevails, usually implies negative impacts to the environment and possible long term collapse in the capacity of the natural system to regenerate necessary inputs, whether resources or services. It may also result in an increase in social inequality by focusing on economic capital without the necessary attention to the redistribution of benefits from this growth.

In contrast, sustainable development must be understood as a process that focuses on the integration between satisfying human well-being (social dimension), ensuring economic progress (economic dimension) and ensuring the maintenance of environmental goods and services (environmental dimension). In this sense, the alternative scenario towards a sustainable agenda is based on integrated public policies and a development centered on that no person should be left behind and no environmental service should collapse. Thus, all dimensions of development should

take into account the net maintenance of assets (natural, social and productive) and the reduction of net negative effects (emissions of greenhouse gases, deforestation rates, poverty levels, among others).

With an accelerated economic growth and increasing pressure on land and natural resources, the environment is degrading at a speed never seen before, which, along with the impacts of climate change, has severe economic and social repercussions for the poor (Shah, 2009; PEI, 2011). This is mainly because the poorest population is particularly vulnerable to disasters and environmental degradation due to the concentration on environmentally fragile areas (Agola et al. 2014, Dash and Morrow 2007, Masozera et al. 2007). The impact of disasters on people and their livelihoods, productive capital, and social and economic infrastructure are costly in terms of lives and sacrificed economic growth. Furthermore, disasters push back vulnerable populations into poverty (Maynard-Ford et al, 2007; CAF, 2014; Germanwatch, 2015; World Bank, 2014).

Livelihoods, subsistence strategies and food security of the poorest rural sectors are more dependent on the health of ecosystems and the services they provide (Sen 2003; Watmough et al. 2016). Natural resources such as soils, forests, fisheries, water and minerals represent the main sources of income, social protection, employment generation and human capital development (in terms of health and education) of rural families and communities living in poverty. In addition,

environmental risk factors associated with the unsustainable use of the environment and natural resources, such as water pollution, air pollution in enclosed spaces due to the use of solid fuels inside households and exposure to chemicals products or solid waste, have negative implications on the health of poor people, especially women and children.

In this sense, there is consensus on the asymmetry in between poverty and the environment: poverty can damage the environment and natural resources nt due to unsustainable practices. But in addition to this, environmental degradation, unsustainable management of the environment and natural resources, and climate change are serious obstacles to tackle poverty. Finding answers to overcome these dichotomies is key to obtain progress in sustainable development.

2.2 The context of Latin America and the Caribbean

Latin America and the Caribbean is a complex region, rich in natural resources, with varied territories and cultures, great economic opportunities and a very dynamic population. However, it still is one of the most socially unequal regions in the world and one of the most dependent on its natural capital (UN Environment-UNU, 2014). Thus, its economies continue to be strongly based on primary products and natural resources, accounting for almost 50% of the region's exports (ej. soy, coffee, sugar and meat, oil, coal, copper and other minerals) (UN Environment, 2016).

In recent years, there has been a notable success in social progress and management of the natural assets base in the region. The total land area under protection, between 1980-2015, increased from 8.8% to 23.4% and deforestation fell from 4.45 million hectares per year between 1990-2000 to 2.18 million hectares per year between 2010-2015.

(UN Environment, 2016, FAO, 2015). On the other hand, significant progress has been made in high priority social problems; people living below the poverty line decreased from 43.9% in 2002 to 28% in 2014, and in the last 15 years' people living in slums fell from 29% to 20% (ECLAC, 2016).

In spite of these advances, the production and consumption patterns in the region continue to be unsustainable. Given the increase in population and the demand for raw materials for consumption and exports, data indicates that future growth in the region is likely to be at the expense of environmental services (i.e. water supply, climate regulation, and support for agriculture) and natural resources (i.e. minerals, marine resources, genetic resources) (ECLAC, 2016, UN Environment, 2016).

This growth model, coupled with limited redistributive policies, is reflected in marked territorial and population inequalities (affecting indigenous and afro-descendant populations in particular) regarding access and management of natural resources and development benefits. One expression of this inequality is the socio-environmental conflicts that emerge with increasing force in the region (Environmental Justice Atlas, 2016). Examples of these conflicts are those generated by extensive mining, logging, and unequal distribution of access to basic environmental services, such as water or productive land, which often affect the rural population, indigenous groups and native people who tend to be communities mostly dependent on natural resources for their survival.

Although most of the countries are considered middle and upper-middle income countries, Latin America and the Caribbean continues to be the most unequal region in the world, with a Gini coefficient of 0.505 (World Bank, 2017). Latin America alone had 168 million of poor people, of which 70 million in indigence. This equates to a poverty rate of 28.2% in 2014 and an indigence



Photo: Coffee grower. Source: Hands-on Water Programme

rate of 11.8% (ECLAC, 2015a). In the case of the Caribbean, national poverty rates range from 17% (Jamaica) to 59% (in the case of Haiti) (World Bank, 2015). In addition, recent achievements in poverty reduction are at risk due to the slowdown in economic growth and restricted fiscal space. Despite the progress made by the Latin America and the Caribbean countries, where 72 million people emerged from poverty and 94 million entered the middle class in 2003-2013, “between 25 and 30 million people in the region risk falling back into income poverty” (UNDP, 2016, p.17).

Although this is the most urban region in the world (with almost 80% of the population living in cities), poverty has more incidence and intensity in rural areas. According to the latest data compiled by ECLAC, in 2013 in Latin America, 23.2% of the urban population lived in households with a situation of income poverty, a share that in the rural population doubled (47.9%). In addition, 7.7% of the urban population was indigent, compared

to 28.2% of the rural population (ECLAC, 2015b).

This rural population includes groups identified as particularly vulnerable such as women and children, ethnic minorities and, in general, those with limited access to quality social protection services. As an example, while indigenous peoples account for around 8% of the region’s population, they represent approximately 14% of the poor and 17% of those in extreme poverty in Latin America (World Bank, 2016).

In addition, the rural poor populations depend almost exclusively on natural resources and ecosystems for their well-being and subsistence. However, they have limited access to them and its benefits including quality land and water. 80% of the farms in the region belong to family agriculture, including more than 60 million people, becoming the main source of rural employment and food for internal national consumption (FAO, 2014). However, since they are small farms with low productivity and low technology requirements

they are highly vulnerable to environmental degradation and the impacts of variability and climate change.

In this regard, vulnerability to disasters is particularly relevant in the region, illustrating additional links between poverty and the environment. In Latin America and the Caribbean, it is estimated that there are 8.4 million people living in a hurricane trajectory and 29 million in very low elevation areas (UN Environment, 2016), which translates into a high vulnerability to floods. Thus, communities and infrastructures located in high-risk areas (i.e. marginal hillside areas in urban and rural Andean areas, urban coastal areas in the Caribbean, rural and urban floodplains) suffer most of the impact, given the vulnerability related to their poverty condition as well as the lack of options for prevention and mitigation of risks and adaptation to climate change (i.e. reforestation of erosion zones, river channeling, crop diversification, urban planning, access to climate insurance, early warning plans). Special mention should be made of the Small Island Developing States (SIDS) of the Caribbean, one of the most threatened regions in the world, where the threats imply major impacts on people and GDP, thus, to sustainable development¹.

Therefore, in order to ensure the closure of poverty and social inequality gaps, the region depends to a great extent on its natural capital and hence on the capacity of governments, civil society and communities to effectively manage an equitable access and a sustainable use and conservation of the environmental goods and services.

1. The average estimate of annual tropical cyclone losses in the Caribbean is significant and it has been estimated that changes in annual intensity and frequency of hurricanes could result in additional annual losses of \$ 446 million by 2080, mainly caused by the disruption of business in the tourism sector.

3. Policy instruments with the potential to generate synergies between poverty reduction and sustainable management of the environment

3.1 Conditional Cash Transfer Programmes

Social protection is a fundamental mechanism to contribute to the full realization of social rights of the population and, therefore, has been recognized as an essential instrument to accelerate the progress towards the Sustainable Development Goals (SDGs). Currently, most of the countries in the region are committed to the establishment of a floor of social protection² and universal protection systems, as indispensable mechanisms for social integration and overcoming inequalities and poverty that contribute to ensuring the well-being of the entire population (UNDP-ILO, 2012). Conditional Cash Transfer (CCT) programmes are a widely used social policy tool in the region. These are cash transfer schemes, which aim to change the behavior of individuals and households by generating capacities to overcome poverty. That is, through short-term effects (basically by increasing income in the poorest households), CCT seeks to improve human capital in the long term by establishing conditions to receive monetary support, which are usually linked to meeting requirements on education and health. While there are numerous CCT programmes in the region, the results and impacts differ according to their level of evolution and implementation.



Photo: Production of organic yerba mate by beneficiaries of the Tekoporá social program, Paraguay
Credit: UNDP-UN Environment



However, the design and implementation of these social protection programmes do not usually take into account the relationships between poverty and the environment, although they have a great potential to contribute, among other things, to the sustainable management of natural resources. For example, increasing investment capacity in environmentally sustainable activities, providing incentives to adopt better natural resources management practices or/ and facilitating transition to green economies (UNDP, 2016).

In this sense, these programmes could also incorporate environmental factors, so as to have a direct impact on the living conditions and well-being of people and communities, for example: 1) those affecting livelihoods, 2) environmental factors related to health, and 3) risks to extreme weather events. The Bolsa Verde Programme, included in this document, is an example of how to advance in this integration.

3.2 Multidimensional poverty measurement

The measurement of monetary poverty, whether by income or consumption, starts from the idea that there are certain resources necessary for a person or family to satisfy their basic needs (Fields, 2001). However, the notion of poverty has adopted a multidimensional perspective; largely based on the theory of capacities that Amartya Sen defines as the opportunities of people to lead one or another kind of life and achieve their well-being (Sen, A. 1999³).

From the environmental perspective, there are factors that are considered obstacles to tackling poverty and reducing inequalities, contributing to an augmented vulnerability and marginalization in both urban and rural areas. These aspects include, but are not limited to, air and water pollution levels, lack of access to water, sanitation, energy and productive resources such as land, or limited access to information, environmental

justice and participation in public decisions on these topics.

Therefore, the necessary incorporation of environmental variables in the measurement of poverty should refer precisely to:

- Access to and sustainable use of natural resources (soils, forests, fisheries, water and minerals) and ecosystem services which are the basis of livelihoods and sources of income,
- Environmental health as a key element for the well-being of people (uncontaminated water, air and soil), and,
- Exposure and vulnerability to climatic events.

In the region, several countries have developed their own methodologies to identify and measure these other dimensions of poverty. In multidimensional poverty measurements, the inclusion of variables related to access to water and sanitation services, or the use of firewood or coal in households is common. But some countries go even further in the incorporation of this type of factors, as in the case of Chile, which recently changed its National Socioeconomic Characterization (CASEN) survey to specifically include environmental variables (such as air pollution, auditory, water and visual, garbage on public spaces, etc.). El Salvador on its side includes a module for exposure to environmental damages and risks (floods, landslides, landslides, mudslides or water currents, etc.), and as it will be seen later, the Dominican Republic developed a Climate Impact Vulnerability Index.

3.3 Payment for Environmental Services

Another policy instrument that this document explores for its potential for integrating environmental and social objectives is the Payment for Environmental Services (PES). These are compensations (economic or in kind) for the sustainable management of natural resources that generate public benefits such as water provision, carbon sequestration and protection

of biodiversity and key ecosystems. PES schemes arise from environmental policies with the aim of seeking long-term effects to ensure a durable flow of environmental services and, on this basis, to improve natural capital (Maldonado et. al., 2016; UNDP-UN Environment, 2015; Pagiola & Platais, 2007).

There are different PES modalities and legal frameworks, which derive in private, commercial and public schemes (CIFOR, 2011). All of them have in common the fact that they are voluntary and negotiated agreements. Although potential service providers are not necessarily small rural producers, in many cases these are key to contributing to carbon sequestration, protection of upper water basins or conservation of forests to ensure water supply. PES transfer resources to conserve and improve some of these environmental services, and when it involves vulnerable populations, can lead to a substantial improvement in their life quality.

Since the 1990s, PES are an incentive for those who manage ecosystems and decide on their uses and conservation. In Latin America and the Caribbean there is a great diversity of mechanisms of this type in place, responding to the realities and contexts of each country, having been adopted mainly with local payment schemes and focused on the protection of water basins.

3.4 Food Security and Nutrition

Food Security and Nutrition programmes are aimed at ensuring that “all people have at all times physical and economic access to sufficient safe and nutritious food to meet their food needs and food preferences in order to carry out an active and healthy life” (World Food Summit, 1996). Food insecurity particularly affects the population living in poverty, and policies that holistically intervene in this issue, are not only formulated for the reduction of hunger, but also for the increase of family income through the production of food. They, therefore, contribute substantively to poverty reduction efforts.

On the other hand, access and control over production means is the priority cause of food insecurity in the region. Therefore, many programmes combine their efforts with research centers and with the environmental sector to ensure the sustainability of productive activities as well as the conservation of the natural resources and ecosystems that sustain them. In considering all these aspects, these programmes have the potential to integrate environmental, economic and social sustainability. As they promote sustainable livelihoods for the vulnerable rural population, they also contribute to poverty reduction, conservation and sustainable management of natural and genetic resources, complementing the efforts of social and environmental policies with concrete investments at community and family level. The case presented in this paper shows the impact of this approach in Mexico.

2. The social protection floor promotes universal access to transfers that ensure sufficient family income, essential social services and decent jobs. That is, it includes contributory, welfare and universal components.

3. The Human Development Report of the UNDP incorporated a Human Poverty Index (HPI) in 1996 and introduced the Multidimensional Poverty Index (UNDP 2010) in 2010, although in Latin America there was already a tradition of measuring poverty in a multidimensional way with the method of Unmet Basic Needs (INDEC 1984).

4. The practical application of comprehensive policies

4.1 Examples in the region

This chapter presents some significant examples of current experiences in the region as a basis for the analysis of integration, in practice, of options between the environmental dimension and poverty reduction. These case studies are intended to illustrate lessons learned from the design of programmes and the use of innovative policy tools with the purpose of guiding the design and implementation of public social protection programmes, as well as other programmes that do not necessarily relate to social protection but have impact on human wellbeing.

In sum, these examples include concrete instruments, already put into practice, that can be replicated to generate positive impacts and dynamics to ensure the integrated tackle of environmental sustainability and social protection in order to reduce poverty in a more efficient and coordinated way. These instruments include:

- CCT complemented with an additional transfer that encourages sustainable uses of natural resources, such as forests (Brazil);
- Payment for environmental services schemes focused on the population living in poverty (Colombia);
- Poverty measurement systems enriched with new dimensions of environmental vulnerability, linking social programmes beneficiaries' identification systems to environmental and climate-related considerations (Dominican Republic);



Photo: Non-formalized recyclers working in a dump, Peru.
Credit: UNDP-UN Environment

- Productive and nutrition and food security programmes that complement social programmes by focusing on livelihoods that ensure a sustainable exit from poverty in rural areas (Mexico).



	Bolsa Verde Programme	Hands-on Water Alliance	Standardized System of Beneficiaries Census	Food Security Strategic Project
Country	Brazil	Colombia	Dominican Republic	Mexico
Entry Dimensions	Social	Environmental	Environmental	Social and Environmental
Policy Tool	Conditional Cash Transfers (CCT)	Payments for Environmental Services (PES). Environmental Retribution Rate (ERR)	Climate Impact Vulnerability Index (IVACC)	Subsidized Support. Technical Assistance
Leading Institution	Ministry of the Environment	National Federation of Coffee Growers	Vice Presidency of the Country	General Secretariat for Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)
Beneficiary Population	76.795 families	11.000 coffee growing families	48,3% of the population	298.770 families

A. Income transfers as a stimulus to environmental preservation: Bolsa Verde Programme in Brazil

Input dimension

Social

Programme instruments

Conditional Cash Transfer (CCT)

Institutions in charge

Coordinated by the Ministry of the Environment, the Ministry of Agrarian Development, the Ministry of Social Development, the National Institute for Colonization and Agrarian Reform, the Chico Mendes Institute for the Conservation of Biodiversity and the Secretariat for Patrimony of the Union.

The programme

The Bolsa Verde programme is part of the “Brazil without Poverty Plan”, which seeks to promote the social and productive inclusion of the extremely poor population, reducing the percentage of people living below the poverty line. Bolsa Verde complements this plan by additionally seeking to:

- Encourage the conservation of ecosystems, understood as their management and sustainable use;
- Promote citizenship, improve living conditions and increase the income levels of the population living in extreme poverty while carrying out activities of conservation of natural resources in rural areas; and
- Generate environmental, social, technical and professional capacities.



Photo: Acaí production. Bolsa Verde Programme.
Credit: Paulo de Araújo

Bolsa Verde is aimed at families living in extreme poverty, enrolled in the Federal Register of Social Programmes, which develop activities for the sustainable use of natural resources and maintenance of the vegetation cover in the Sustainable Use Conservation Units, Agrarian Reform Settlements, territories occupied by traditional peoples and communities, or in other rural areas.

The Bolsa Verde Programme is based on quarterly transfers to the participating families, for an amount equivalent to approximately 95 USD, for two years (a term that can be renewed for two more years). To do this, families must be registered, must be beneficiaries of the federal Bolsa Familia subsidy programme, and must know and agree with the environmental regulations and the different local management instruments in place. In addition, this support is conditional on the annual monitoring of the vegetation cover of the areas that are part of the programme, which is carried out through the analysis of satellite images. A decrease in vegetation cover leads to the suspension of benefits

Impacts

The programme began in 2011. By March 2016, 76.795 families were beneficiaries of Bolsa Verde. The programme works with beneficiary families from 24 states and the Federal State, covering 69 Conservation Units and 849 Settlements, as well as riverside communities of 67 municipalities. Agrarian Reform Settlements generally have the highest deforestation rates.

The Programme seeks to promote a change of vision: From an approach centered on where who pollutes the environment must pay, to one that focuses on who protects, and thereby benefits. In this way, it intends



Photo: Latex extraction from rubber tree. Bolsa Verde Programme.
Credit: Ubirajara Machado

to maintain the exit of poverty of families through environmentally sustainable activities and not through extractive actions that deteriorate natural resources. Therefore, in addition to the payment of the benefit, the programme encourages the participation of beneficiaries in training actions and the organization of producers to market schemes.

For more information

<http://www.mma.gov.br/desenvolvimento-rural/bolsa-verde>

http://www.unep.org/americalatinacaribe/sites/unep.org.americalatinacaribe/files/UNEP_Sustainable%20Development%20ESP%20WEB.pdf

B. A successful public-private partnership: Hands-on Water Programme in Colombia's coffee zone

Input Dimension

Environmental and Economic

Programme instruments

PES, Environmental Remuneration Rate (ERR)

Institutions in charge

Executed from 2014 by the National Federation of Coffee Growers, result of a public-private partnership between the Dutch Ministry of Foreign Affairs, the Presidential Agency for International Cooperation, Nescafé, Nestlé and Nespresso, and University of Wageningen and the National Center for Coffee Research.

The programme

“The Hands-on Water Programme aims to enable and improve the systems for intersectoral cooperation, sustainable coffee cultivation, environmental protection and decision making that contribute to the challenges of water imbalance for the coffee sector and its chain of value, establishing environmental, social and productive conditions to reduce poverty and promote peaceful coexistence and sustainable development in rural areas of Colombia.”



Photo: Coffee grower in the Department of Caldas.
Credit: UN Environment.

The coffee zone of Colombia alternates periods of shortage and excess of water, that produce damages by drought, floods and landslides. These imbalances affect efforts to reduce poverty and advance in sustainable development, due to the effects of these changes on agricultural productivity and social vulnerability of small producers, with impacts on the coffee supply and therefore, the income of coffee growers and households and coffee parcels. This situation increases the vulnerability of the coffee regions and the supply chain of coffee from the producer to the consumer. That is why the Hands-On Water programme aims to generate alternatives that contribute to the sustainability, competitiveness and well-being of Colombian coffee farmers, through the creation of capacities for integrated water management. With this objective, poverty is reduced by improving social, environmental and productive conditions by promoting self-sufficiency in the coffee region through better use of natural resources and the promotion of stability of ecosystems, soil and water basins.

Impacts

It is directed to more than 11,000 coffee families in 25 micro-basins of the departments of Antioquia, Caldas, Cauca, Nariño and Valle del Cauca, through the departmental committees and extensionists of the National Federation of Coffee Growers. This ensures the training of coffee growers, the promotion of appropriate technologies' transfer for the adequate use of water and the management of contamination in the coffee farms, while applying bioengineering and reforestation techniques to stabilize the ecosystems of micro-water basins and ensure environmental services. This reduces the risks that coffee farmers face to variability and climate change, improving incomes to secure livelihoods and build social and environmental resilience. In addition, it has a larger scale impact by conserving water basins and protecting water supply.

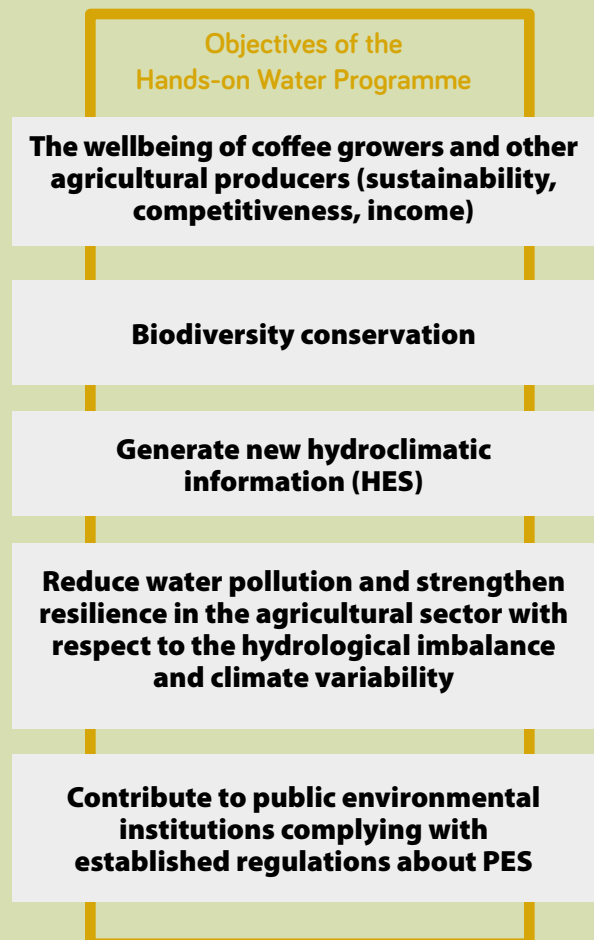
Integration with other policies

In order to contribute to the welfare of farmers who do not have a social protection system, a collaboration between the Colombian Government, Nespresso / Nestle (through its Farmer Future programme) and the NGO Fairtrade International is improving access to retirement rates among the members of the coffee cooperatives. At the moment, there are more than 1,500 coffee growers who benefit from the initiative. In addition, it has served as an example for other cooperatives to implement similar measures and multiply the number of coffee farmers who are quoted for retirement.

Cross-cutting effects

The main components of the programme are focused on ensuring integrated management of water basins. It also has several social components to ensure participation, improve well-being, create learning networks and ensure the integration of gender and childhood variables within the programme. It also has a network platform between government, business and civil institutions.

The innovation of this programme, besides building around water and water basin as elements of integration of social, economic and environmental dimensions, is based on a public-private alliance. Specifically, public policies of the Hands-on Water Programme is combined with economic instruments for the protection of ecosystem services (PES and ERR), while development of private actions of the Farmer Future programme along with the retirement fund, improve the quality of life of coffee growers.



C. Vulnerability Index to Climate Impacts for the targeting of social protection programmes in the Dominican Republic

Input dimension

Social

Programme instruments

Conditional Cash Transfer, Climate Impact Vulnerability Index (IVACC)

Institutions in charge

Vice-Presidency of the Republic, Standardized System of Beneficiaries (SIUBEN) and Social Cabinet (GASO)

The programme

Social policies in the Dominican Republic are articulated around a single beneficiary system that uses the Quality of Life Index as a criterion for selecting the beneficiaries that become part of the different social protection programmes. The Quality of Life Index criterion has been supplemented by the Climate Impacts Vulnerability Index (IVACC), which calculates the probability of a home being impacted by hurricanes, storms and floods, as well as the vulnerability, related to certain socioeconomic and physical characteristics of the home. IVACC is applied to the database of the Standardized System of Beneficiaries (SIUBEN) to: a) identify the population that has high risk of facing environmental risks; b) focus interventions at the territorial and population level, prioritizing poor households located in high-risk areas; c) design public policies to generate resilience to the effects of hydro-meteorological shocks. One of the most outstanding achievement was to permanently incorporate the climate vulnerability variable into the census methodology and tools managed by the SIUBEN, which is used as the basis for designing and targeting social protection programmes



This is particularly relevant in the Dominican Republic, which, as a SIDS, has been increasingly impacted in recent years by climate events, mainly storms and hurricanes followed by periods of drought. In 2007, for example, the storms Olga and Noel struck the Dominican Republic affecting more than 70% of the country's population directly or indirectly; 90% of the 75,000 direct victims (loss of housing, livelihoods, etc.) were below the poverty line in the provinces with the lowest Human Development Index.

Impacts

This cross between the ICV and the IVACC allows the different authorities to know in a more precise and detailed way, the exposure to climatic risks and the vulnerability of the living conditions of the families in poverty condition. This allows focusing on actions and public investment which prioritize the most vulnerable areas and households, optimizing resources and preventing the loss of social investment with a multidimensional approach to risk. It is, therefore, a good practice of integrating environmental vulnerability into social protection policies aimed at reducing poverty. In addition, the incorporation of the index into the single beneficiary registry has allowed the latter to be used as an instrument to evacuate populations to risks, as occurred when Tropical Storm Erica stroke in 2015.

Integration with other policies

Due to the Index's interoperability with civil protection institutions, it serves as a strategic input and planning mechanism for the development of mitigation and response plans for extreme climatic events such as storms or floods, climate change adaptation plans and territorial ordering.

Dimensions and Variables of the Vulnerability to Climate Hazards Index



Housing Characteristics

- Wall
- Roof



Income

- Average household income



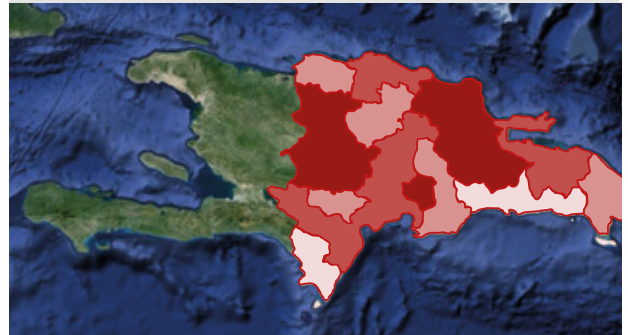
Closeness to a Focus of Danger

- River
- Stream or glen

Examples of Use

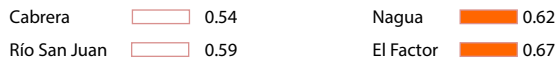
1. National IVACC

Zones by vulnerability level - DOMINICAN REPUBLIC



2. IVACC at the level of the municipality

MUNICIPALITY OF MARIA TRINIDAD SANCHEZ



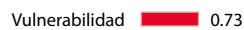
3. IVACC at neighborhood level

MUNICIPALITY OF MARA TRINIDAD SANCHEZ

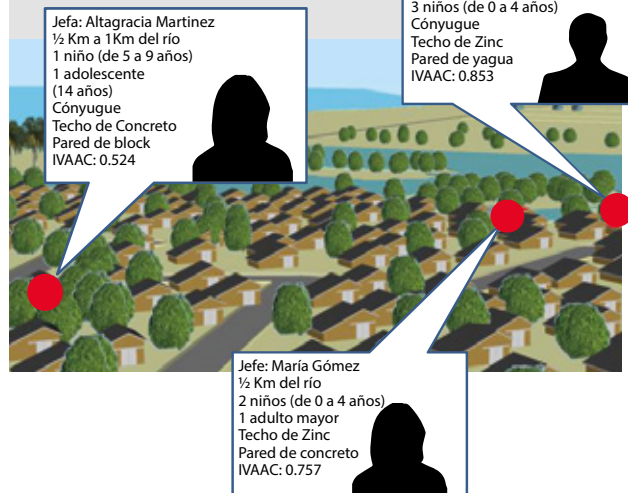


4. High risk areas

RIVER SEA OF MARIA TRINIDAD SANCHEZ



5. Vulnerables Household



For more information: : <http://www.siuben.gov.do/>

http://www.unep.org/americalatinacaribe/sites/unep.org/americalatinacaribe/files/UNEP_Sustainable%20Development%20ENG%20WEB.pdf

D. Strategic Project for Food Security in Mexico

Input dimension

Social

Programme instruments

Subsidized support, technical assistance
(agrarian extension)

Instituciones a cargo

Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food

The programme

The programme: The Strategic Project for Food Security began to be implemented in Mexico in 2002 with the technical support of FAO in response to the severe poverty situation in communities of high and very high marginalization. One of its main causes of this poverty situation was the low productivity of small farming. In the year 2015, PESA was institutionalized as part of the Integral Rural Development Programme of Mexico. The objective of the programme is to increase agricultural, forestry, aquaculture and fisheries production, innovate production systems, develop local markets, and promote job creation to achieve food security and increase the income of rural families categorized as high and very high marginalization (as defined by the National Population Council). Since 2009, the programme has incorporated components for the use and sustainable use of water resources, soil and vegetation cover. In relation to the participating families, the emphasis is on them as main generators of their development, from a situation of food insecurity and precarious conditions of life, to a situation in which food production and its income increase as a base to improve their food and nutritional security and quality of life in general. To this end, it focuses on the development of four factors: i) nutrition, ii) financial skills, iii) sustainable agriculture, and iv) associativity.



Photo: Maize, Strategic Project for Food Security, Mexico.
Credit: FAO.

Since 2005, Rural Development Agencies (RDAs) have been established as key local promoters of the implementation of the Programme's methodology. These are established as a differentiated form of technical assistance providers, ensuring close accompaniment to the communities to achieve sustainability of results. In most of the cases, the beneficiaries of the SPFS become integrated in the local decision-making bodies, such as the Municipal Councils for Sustainable Rural Development. The programme has a strong environmental component and gives subsidiary support to the rural population to improve the environmental sustainability of their territories. Specifically, 1,200 projects have been supported for the development of works in topics such as: 1) conservation and reclamation of land, 2) collection, conduction, storage and infiltration of rainwater, and 3) regeneration, improvement and rational use of vegetation cover.

Impacts

In 2015, the Programme supported 298,770 families in 8,711 localities of 845 municipalities of 24 states, with the support of 343 Rural Development Agencies. Currently (2016), coverage has reached the national level, being present in the 32 entities of the country with investments around 170 million USD. It is noteworthy that PESA funding has been increasing since 2007, when the Congress of the Union assigned, for the first time, resources from the Federal Expenditure Budget, making it part of the public policy of rural development

Integration with other policies

Since 2015, the Programme has been incorporated into the Integral Rural Development Programme as part of the Conservation and Sustainable Soil and Water Usage component. The programme contributes to the National Crusade Against Hunger, which aims to guarantee food and nutrition security to populations living in extreme poverty. The Crusade is a national and multi-year strategy that coordinates several instances of government with the private sector.

For more information: <http://www.pesamexico.org>

http://www.unep.org/americalatinacaribe/sites/unep.org.americalatinacaribe/files/UNEP_Sustainable%20Development%20ENG%20WEB.pdf



Photo: Producer of the PESA program.
Crédit: PESA

4.2 Lessons learnt for advancing integrated policies

The analyzed examples show the potential of four concrete policy instruments used in the region to link poverty reduction and environmental protection: conditional cash transfers (CCT), payment for environmental services (PES), improved Information on household vulnerability with impact in social protection programs, and food and nutrition security programmes with a component of environmental and economic sustainability.

- **CCT programmes can be complemented to support better management of the environment and sustainable exit from poverty.**

In the Latin American and Caribbean region, social protection programmes, and in particular CCTs, have undoubtedly been one of the most widespread initiatives for poverty reduction. However, only a few of them take explicit account of environmental sustainability (UNDP-UN Environment, 2015). There is a great potential of CCT in relation to its contribution to environmental improvements.

The Bolsa Verde case shows that additional incentives can be given not only by investing in human capital (that is, through traditional CCT), but also by preventing behaviors that generate environmental degradation. This can lay the foundations for the promotion of a sustainable exit from poverty based on livelihoods that do not increase pressure on the often-scarce natural resources on which these vulnerable populations depend on.

Beyond CCTs, there is also a broader spectrum of social protection schemes that could make environmental contributions. For example, by taking advantage of public work programmes or by the generation

of jobs in crisis to carry out “green” activities such as maintenance of roads and protected natural areas, landscaping of public areas or post-disaster reconstruction and cleanup.

- **Countries in the region can adopt social protection policies that generate resilience to disasters and climate change.**

The case study of the Dominican Republic is an example of this. This case demonstrates that constructing and collecting an index of environmental vulnerability at the family level is key to support the articulation of social protection policies with initiatives related to climate change adaptation and disaster risk management. This was achieved by adjusting the social protection programs’ beneficiaries selection criteria, including not only socio-economic indicators, but also environmental ones. In the case of the Dominican Republic, there is an emphasis on the inclusion of vulnerability and exposure to floods, while other countries with similar schemes put the emphasis on other variables, such as environmental quality. This is the case of Chile, its national socioeconomic survey (CASEN) which guides its social policy, includes environmental quality indicators, such as data directly related to people’s health (i.e. exposure to air, water, noise and visual pollution, presence of garbage in public roads and outbreak of plagues).

Considering the level inequality and vulnerability to climate variability and change in the region, it is necessary to consider climate risks and environmental degradation as systemic social risk factors that must be incorporated into the social protection coverage (Calvo, 2014, Le Vuolo, 2014). In the case of a disaster, instruments such as CCTs and subsidies seem to be the most appropriate mechanisms to give an immediate response to short-term and local needs in order to prevent households falling in extreme poverty. A recent study (UNDP, 2015) shows that CCTs can play



Photo: Production of nopal for self-consumption.
Credit: PESA

an important role for the most vulnerable populations in post-disaster contexts, with specific examples in countries such as Ecuador, Mexico, Chile and the Dominican Republic.

These examples show the way to move from reactive policies (based on responding to the consequences) to the formulation of proactive public policies, aimed at preventing the causes. In this way, programmes can be designed to move from emergency response to planning to anticipate risks and threats in order to reduce vulnerability and increase resilience.

It is for this reason that CCT programmes should incorporate the identification of beneficiaries based on criteria of environmental vulnerability and climate change.

- **Environmental policy instruments such as PES can improve the quality of life of the rural population while involving it in the protection of key environmental services.**

PES are environmental policy tools that can be efficient when dealing with the protection of environmental services beyond owner 'control, such as water. Colombia's experience shows how payments in kind to small producers located in strategic zones of hydrological basins improve water supply along with the living and productive conditions of these families. This is an innovative PES scheme, since PES programmes in general do not include direct poverty reduction objectives and therefore has significant limitations in this respect (Pagiola & Platais, 2007). The case of Colombia shows how poor rural population often inhabit the upper water basins, key areas for further adequate provision of water services. The application of PES in these areas could represent significant increases in their incomes as well as an incentive to maintain sustainable livelihoods. The involvement of these populations should be deliberately considered in the design of the mechanisms in order to facilitate their access and avoid imposing high transaction costs.

It is a fact that PES in general requires service providers to have formal land tenure which can lead to unequal resource allocations and exclusion of families that are not formally owners or are part of traditional communal property systems. In some cases, collateral effects have been reported in this direction and there is undoubtedly a large space to improve complementarity between PES and poverty reduction (Barkin, D. 2011). Special efforts are needed to ensure that the poor have access to the new opportunities created by PES schemes. In this sense, a collective contracting system has been created in Costa Rica, a tool through which, smallholder groups can be integrated into the PES programme (Pagiola and Platais, 2007). There are also carbon sequestration projects that, instead of focusing on individual owners, target specific regions reducing certification costs. Other criteria that may favor the inclusion of the rural poor include the establishment of a maximum farm size or targeting activities in regions with high poverty rates (Grieg-Gran et al., 2005).

- **The linkages of social protection systems with food security and sustainable agriculture are key to creating opportunities for sustainable exit from poverty.**

Linkages between social protection systems and food security and agriculture, on the one hand, and risk prevention and management programmes, on the other, are essential to create opportunities for a sustainable exit from poverty. Two issues are key here: 1) sustainable livelihoods that generate stable incomes; and 2) social and economic resilience to climate and environmental risks, but also to changes in markets. Food Security and Nutrition programmes that target populations living in poverty precisely support the generation of sustainable productive opportunities as well as enhance the community capacities for association, organization, and negotiation. In this sense, they are a key complement

to social protection policies. The Food Security Special Programme of Mexico is also an example of how, in the pursuit of sustainability, investment regarding access to key environmental resources such as water and productive soils are incorporated. Sometimes these programmes go even further at the environmental level by including measures to increase plant cover and biodiversity on the farm.

Additionally, there are other instruments normally linked to the agrarian and food security agenda that must necessarily be integrated with social and environmental objectives. These include: 1) instruments for protecting assets such as agricultural and climate insurances, 2) programmes that promote access to soft loans or the creation of social and investment funds to strengthen innovation and capitalization, 3) participation in contributory social protection programmes, 4) early warning, disaster prevention and response plans. All of them can be explored and promoted in a complementary way to accelerate integration and coordination of public policies in order to build sustainable outlets of poverty that do not generate natural capital losses and ensure ecosystem services.

In this sense, there are methodological approaches, such as the sustainable livelihoods framework (DFID, 1999), the Water-Energy-Food Nexus (FAO, 2014) or the adaptive social protection approach (Ziegler, 2016), with proved impact in other countries in the region, as well as in Africa and Asia. These could be promoted as a practical way of reducing poverty and strengthening integration between the social, environmental and economic dimensions, by supporting a transition from food security and agricultural production to disaster prevention and adaptation to climate change, ensuring a sustainable use of environmental services and promoting a social and economic empowerment of the populations living in poverty.



Photo: Low-income farmers visiting an agro-ecological production model farm.
Credit: UNDP-UN Environment.

5. Challenges and opportunities for poverty reduction and environmental management in the implementation framework of 2030 Agenda

The Agenda 2030 has a very broad scope that promotes the transition towards economic, social and environmental sustainability. Its “no one left behind” and poverty eradication by 2030 emphasis implies universality in tackling common challenges to social inclusion, environmental management and economic progress. This opens up challenges and opportunities for the region related to the integration of social protection and poverty reduction with environmental policies to ensure the implementation of the SDGs.

There are models and tools that can generate simultaneous positive impacts in terms of poverty reduction, social protection and environmental sustainability

The examples presented show there are instruments currently being implemented that use this integrated approach to generate greater inter-institutional coordination and positive synergies among different

sectors, institutions and administrative levels. Although insufficiently explored in the region so far, these models can help countries to address the challenges of linking poverty, environment, and climate change to the scale of the poorest and most vulnerable groups (such as populations living in upper river basins, slopes, shantytowns, coastal zones and riverbanks) (World Bank, 2014). In addition, there are many other policy instruments that can promote a more holistic vision and development, such as ecosystem-based adaptation to climate change, integrated risk management or the sustainable livelihoods approach that could be further expanded.

The coordination of public policies must generate two-way synergies

The 2030 Agenda requires integrated public policies to promote the coherence of development interventions. This can be done both through social policies that incorporate environmental criteria and environmental policies that integrate poverty reduction objectives. For example, simple measures to support agricultural production and environmental protection can contribute to improving the quality of life of the poorest population. Thus, programmes for access and efficient use of water contribute to the reduction of rural poverty and the improvement of food security, as in the case of Colombia.

This implies a new institutional architecture that allows not only a greater articulation and integration of public policies between multiple sectors (horizontal coherence) and between different levels of government (vertical coherence), but also maximizing synergies in a more systematic way. It is necessary to implement approaches that facilitate the efficiency of programmes so that at the fiscal level, public policies have a better return per monetary unit invested.

Policy coherence to ensure the integration of the environmental dimension and poverty reduction

Particular attention should be also paid to trade-offs and negative effects of the different environmental, productive and social programmes. This implies, setting effective monitoring systems and the active participation of the actors involved in these processes to facilitate community ownership. For example,

CCT beneficiaries should be prevented from using resources obtained to exploit natural resources that are being protected by other public investments as part of conservation schemes. To this end, these instruments must be flexible enough to adjust and early respond to potential conflicts over land tenure and rights to access resources (Pagiola, 2014).

In many cases, the conflicts and perverse effects between programmes arise due to the setting of goals and objectives based on sectorial criteria that do not take into account the geographical context. This, together with the current situation in which there are diverse but limited funding sources, makes specially relevant to ensure greater efficiency of public investment by improving synergies between programmes and identifying joint implementation roadmaps.

Governance, transparency and structural institutional changes

The 2030 Agenda implies new models of governance, which must include transparent public policies with greater public participation. This is to ensure that no one is left behind and that changes in economic and social structures respond to the needs of universal social protection and environmental sustainability. This implies strengthening and building of new capacities in institutions, as well as introducing structures in the public finance sector, including the development of fiscal models and instruments to boost technological and social innovations.

Therefore, the integration between poverty and the environment means more than planning and designing new initiatives and programmes together. In practice, for this to happen, structural changes are also necessary, including:

- a combination of top-down government leadership with bottom-up social participation;

- technological innovations that respond to demands at different scales of action and allow true cultural changes;
- a reorientation of existing institutional frameworks and platforms to respond to the needs of different levels of decision-making;
- specific monitoring and evaluation tools and systems to enable better decision-making and adjustments to actions on the fly to ensure their relevance;
- a more flexible and inclusive budget system allowing joint operational planning;
- a long-term planning and vision based on alleviating the structural causes of problems, complementing short-term actions that respond to immediate shortage of the population and/or crisis situations.

The generation of new metrics and monitoring and evaluation tools to incorporate an integrated vision

In addition, the linkages between poverty and the environment are specific to the socio-economic and environmental contexts of the different territories and households. Moreover, they are changing and therefore the priorities, strategies and actions to tackle them must be flexible and adapted in time and location. This is related to the need to generate new metrics to monitor and evaluate the multidimensional reality of well-being, vulnerability and poverty.

Environmental vulnerability, both in the sense of loss of livelihoods, degradation of the natural resource



Photo: Bolsa Verde

base and limited access to environmental services, as well as exposure to disaster risk, affects the chances of communities to escape poverty. However, these issues have not been very prominently included in the welfare and social progress measuring systems to date. In the current context, this must be considered and incorporated into the different poverty measurement and social protection systems to improve their targeting, prioritization, scope and impact.

A challenge for public action monitoring frameworks is that they should include temporal and spatial perspectives:

- Temporal, since it is in the long term that environmental processes and impacts can be assessed and measured (i.e. protection of river basins to conserve water regulation or soil conservation services involve reforestation actions on slopes and restoration of degraded soils, with effects obtained after several decades).
- Spatial, because the links between poverty and environment are specific to the territorial context, since they are a manifestation of the geographical location and the economic, social and cultural characteristics of the individuals, households and communities.



6. Conclusions

Sustainable development should be understood as a process that focuses on the integration between satisfying human well-being (social dimension), ensuring economic progress (economic dimension) and ensuring the maintenance of environmental goods and services that support the development of people (environmental dimension). This implies the need to deepen the analysis of alternative models that allow the formulation of integrated policies. The examples presented in this paper show that there are already policies and tools that can generate simultaneous positive impacts in poverty reduction and environmental sustainability, and provide a series of indications for the implementation of the 2030 Agenda:

- Social protection programmes must respond with actions that are framed within a context of chronic poverty reduction, maintaining the options for exiting poverty in a sustainable way. At the same time, they must incorporate actions to preserve the natural resource base, on which the population and production depend.
- Social protection must be articulated with other public policies and be a key transformative and redistributive tool to achieve the welfare of all, to protect the most excluded groups and to support a structural transition towards more sustainable economic and development models. It is therefore important to integrate social protection with other public policies and to include the environmental



Credit: UNDP-UN Environment.

dimension in them, making them more coordinated and efficient. Multidimensional poverty measurement is an important tool, which can serve as a basis for defining these more integrated policies.

- Environmental conservation, and sustainable natural resource management initiatives, should include a pro-poor component to ensure that marginalized and vulnerable populations benefit from environmental management and an equitable access to natural resources.
- Progress towards sustainable development will depend to a large extent on the efforts done by Governments to integrate the goals of reducing inequalities and protecting the environment into development planning processes and public investment allocations. This requires taking into account the multidimensionality of the development challenges (i.e. temporal and spatial scales, decision and action levels, impacts, among others) and the multiple actors involved and partnerships needed in the development processes.

As it has been seen in the experiences involving rural livelihoods and food systems, there is ample potential to simultaneously address food security and poverty reduction while limiting impacts on ecosystems. This implies a combination of social, economic and environmental challenges, in which support for the resilience of the most vulnerable communities must be accompanied with the strengthening of the rural economy and improved productive capacities.

Innovative approaches and methods that can be useful at the local level to facilitate the integration of adaptation to climate change, risk management and social protection systems should be further developed based on a range of tools and instruments, from the small scale of Conditional Cash Transfers to large public investments in infrastructure. These approaches provide a coherent scheme to consider

the multidimensional characteristics of the poverty-environment nexus, both through preventive and proactive strategies.

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