



# Forest Carbon Partnership Facility

## NICARAGUA

### Emission Reduction Program Idea Note

*Combating climate change and reducing poverty*

Thirteenth Meeting of the Carbon Fund (CF13)

Brussels

October 13-16, 2015





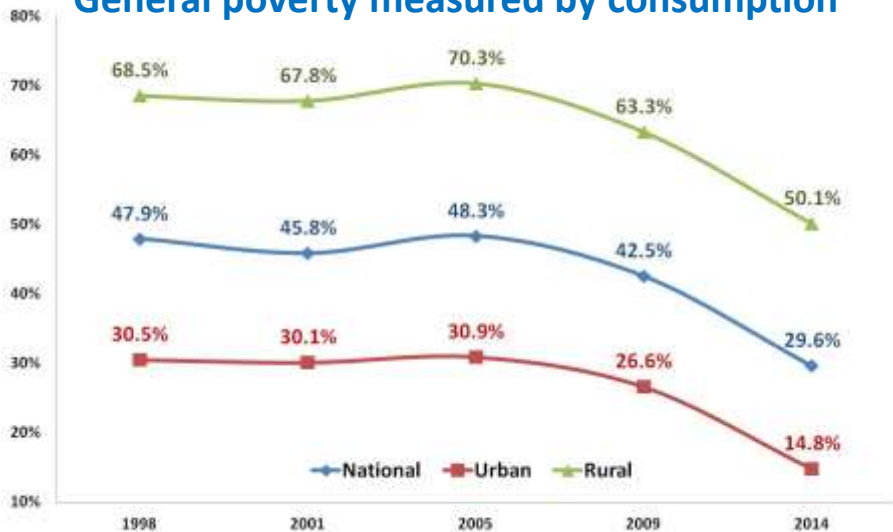
# NICARAGUA

## THE SOCIO-ECONOMIC CONTEXT



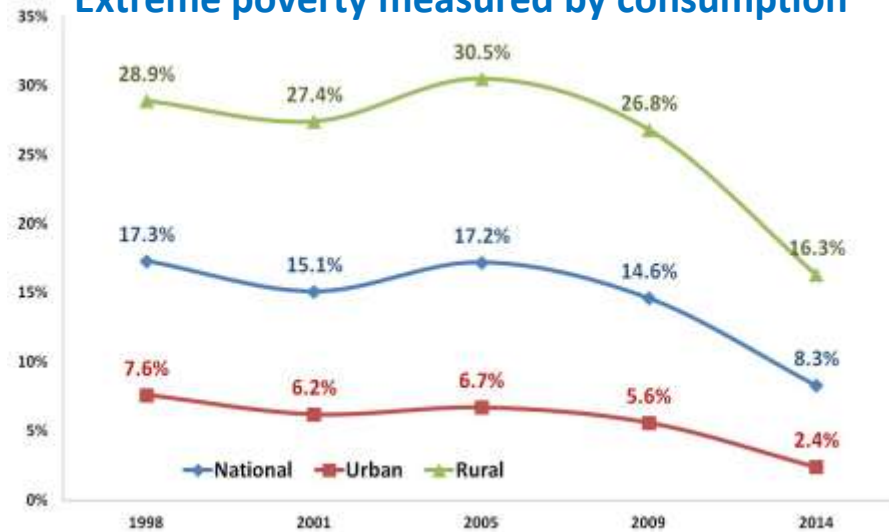
# POVERTY AND INEQUALITY REDUCTION

## General poverty measured by consumption



Fuente: INIDE/EMNV 1998, 2001, 2005, 2009, 2014.

## Extreme poverty measured by consumption

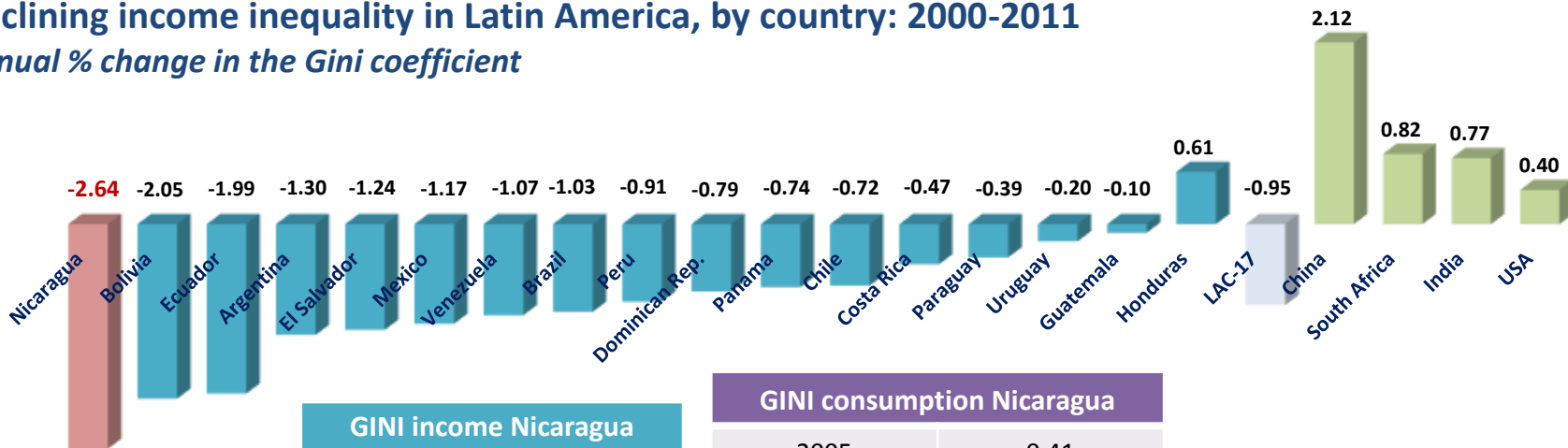


Source: INIDE/EMNV 1998, 2001, 2005, 2009, 2014.

Poverty measured by income, poverty fell -12.9 percentage points and -13.2 in rural areas

## Declining income inequality in Latin America, by country: 2000-2011

Annual % change in the Gini coefficient



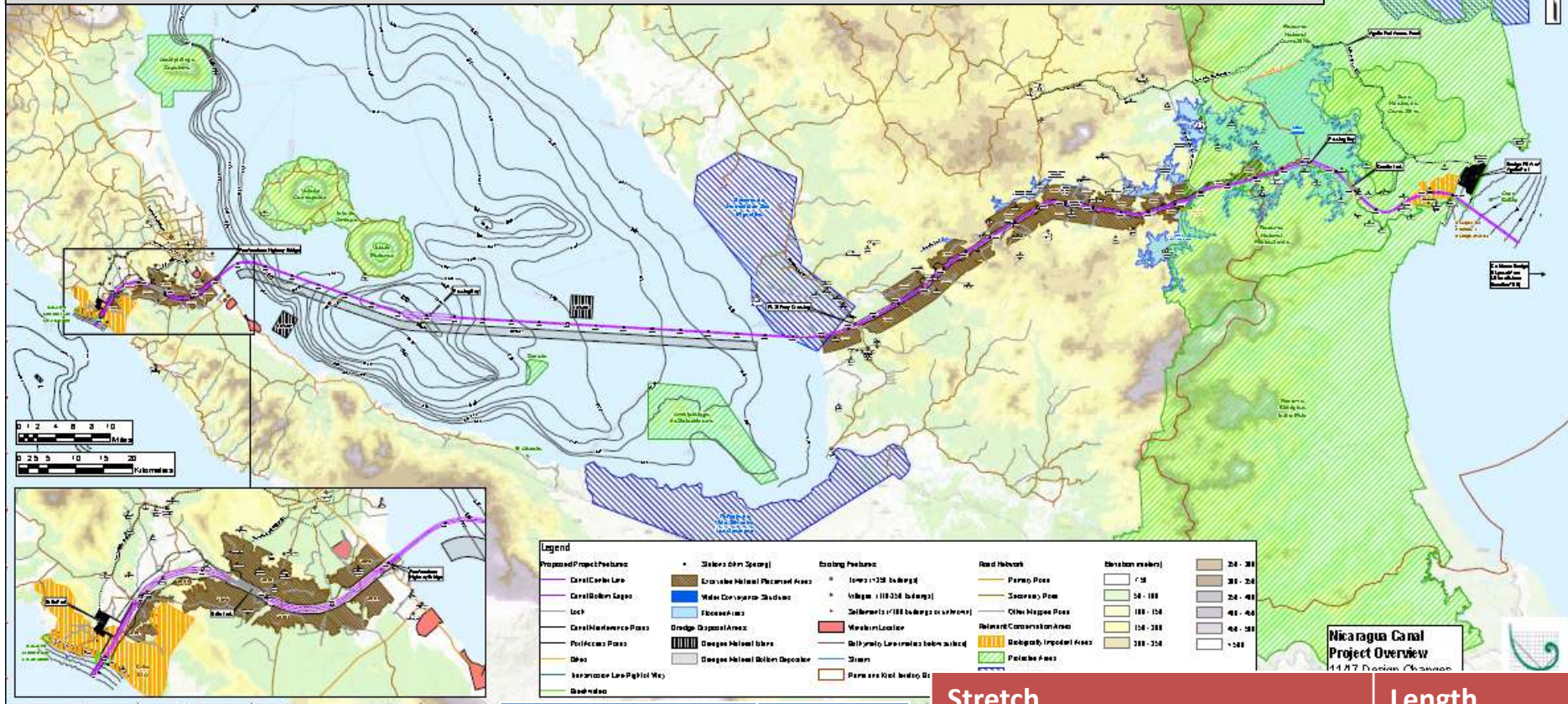
GINI income Nicaragua	
2005	0.51
2009	0.46

GINI consumption Nicaragua	
2005	0.41
2009	0.37
2014	0.38

Source: World Bank, 2013.

# Choice of route 4: It has superior economic cost, but it is the route with the lowest environmental and social impact

**275.5Km Length, 280 m wide base, 30-33m depth**



Stretch	Length
West Section (Rivas)	25.9 Km
Caribbean Coast (mainland)	90.8 Km
<b>Length by land</b>	<b>116.7 Km</b>

Stretch	Length
Lake Atlanta	35.9 Km
Lake Nicaragua	106.8 Km
Pacific stretch	1.7 Km
Caribbean stretch	14.4 Km
<b>Length by water</b>	<b>158.8 Km</b>

Stretch	Length
West section	25.9 Km
East section	126.7 Km
Lake Nicaragua	106.8 Km
Stretches Pacific and Caribbean	16.1 Km
<b>Total Length</b>	<b>275.5 Km</b>

# GRAND INTEROCEANIC CANAL

## MAIN OBJECTIVES

Overcome  
extreme  
poverty

Adaptation to  
climate change  
by mass  
reforestation  
for ecosystem  
resilience

Economic  
independence



# DELIMITING AND TITLING OF INDIGENOUS TERRITORIES

## Delimiting and titling of 23 indigenous territories:

- 314 Communities
- 37,657 Km<sup>2</sup>
- El Salvador= 21,040 km<sup>2</sup>
- Belgium =30,528 km<sup>2</sup>
- Holanda= 41,526 km<sup>2</sup>
- +35,000 families
- +200,000 people
- 31% of the national territory and +55% of the territory of the Caribbean Coast

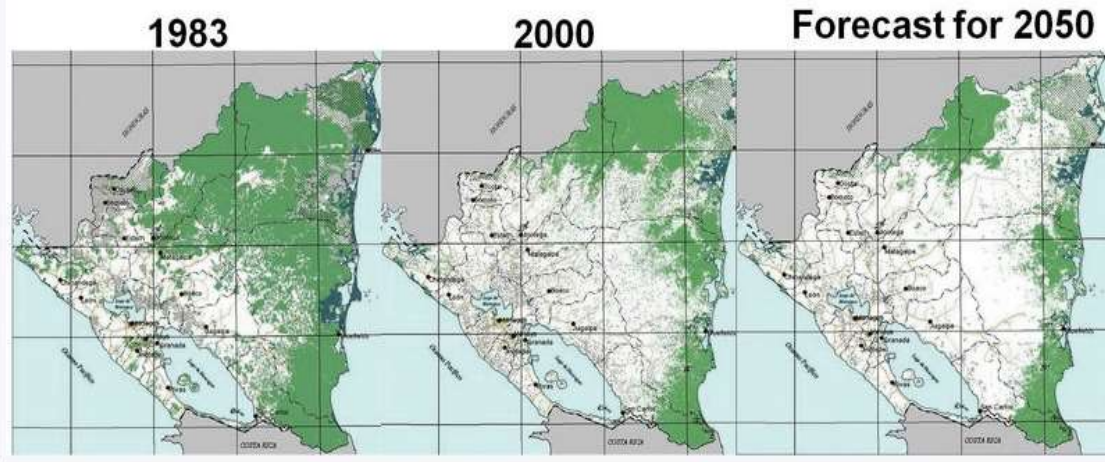
Mapa del Estado de Avance del Proceso de Demarcación y Titulación de los Territorios Indígenas



# SETTLING THE AGRICULTURAL FRONTIER

## BORDER TO BORDEER :

- 50,000 TO 70,000 hectares deforested annually
- Followed by extensive cattlemen who buy the land from the colonos
- Reforestation in 2014 22,000 hectares
- 400,000 volunteers including 350,000 high school students undertaking Ecology Course Field Work
- **GOAL: HISTORICAL INFLECTION POINT IN WHICH MORE FOREST COVER AT LEAST PLANTED THAN FOREST COVER THE PREVIOUS YEAR**





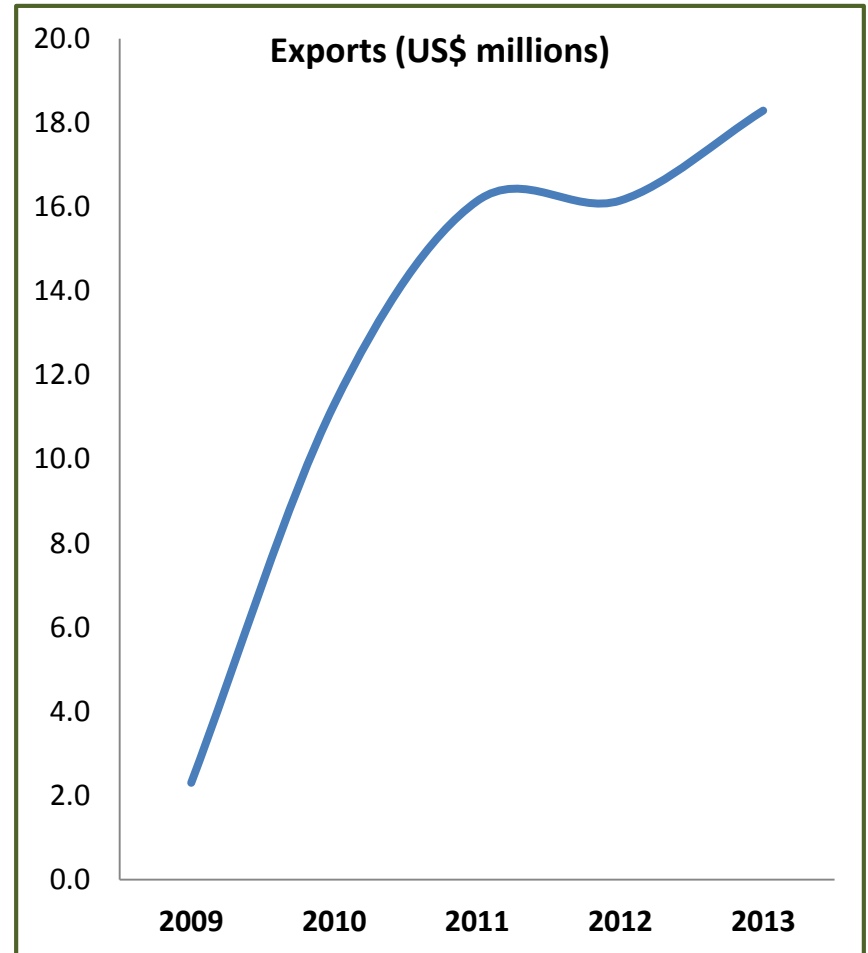
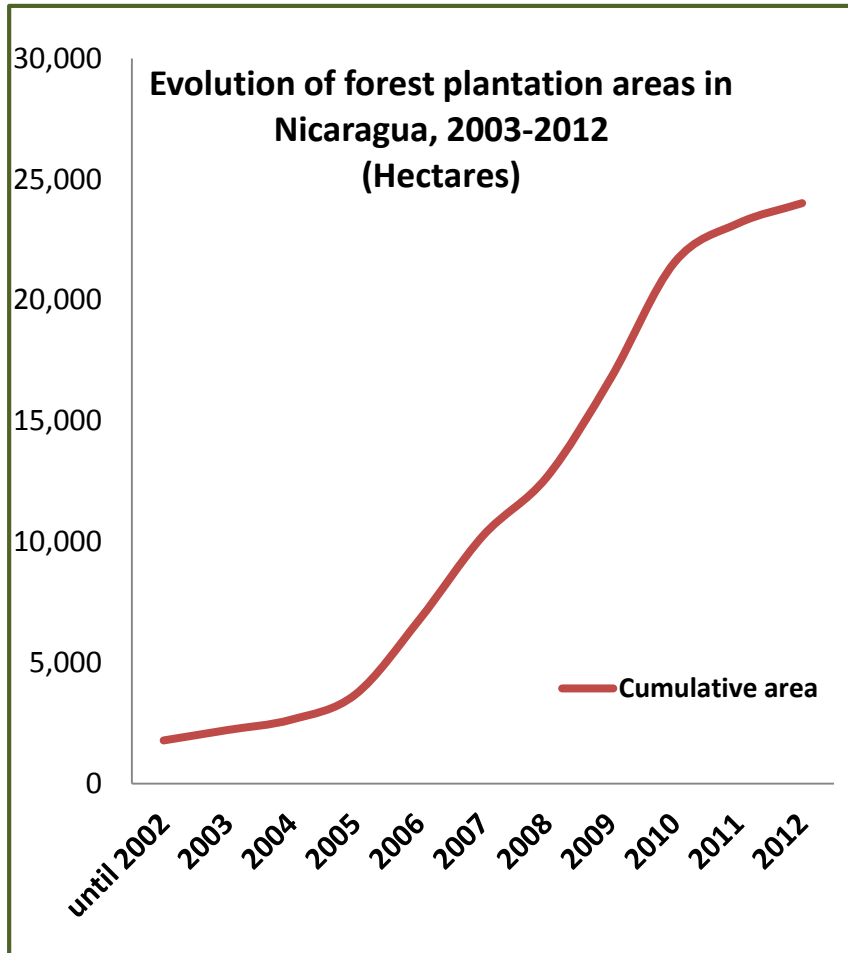


**NICARAGUA**

**FORESTRY AND  
BAMBOO  
INVESTMENT**



# FOREST INDUSTRY IN NICARAGUA



Source: National Reforestation Chamber.

# SECTOR PRIVADO FORESTAL

- **MLR-FORESTAL PROJECT (FORMER HEMCO FORESTRY).**
- **NORTEAK PROJECT**
- **MLR-FORESTAL AND NORTEAK FOREST PLANTATIONS.**
- **SUSTAINABLE FOREST INDUSTRY UTILIZATION OF CARIBBEAN PINE**





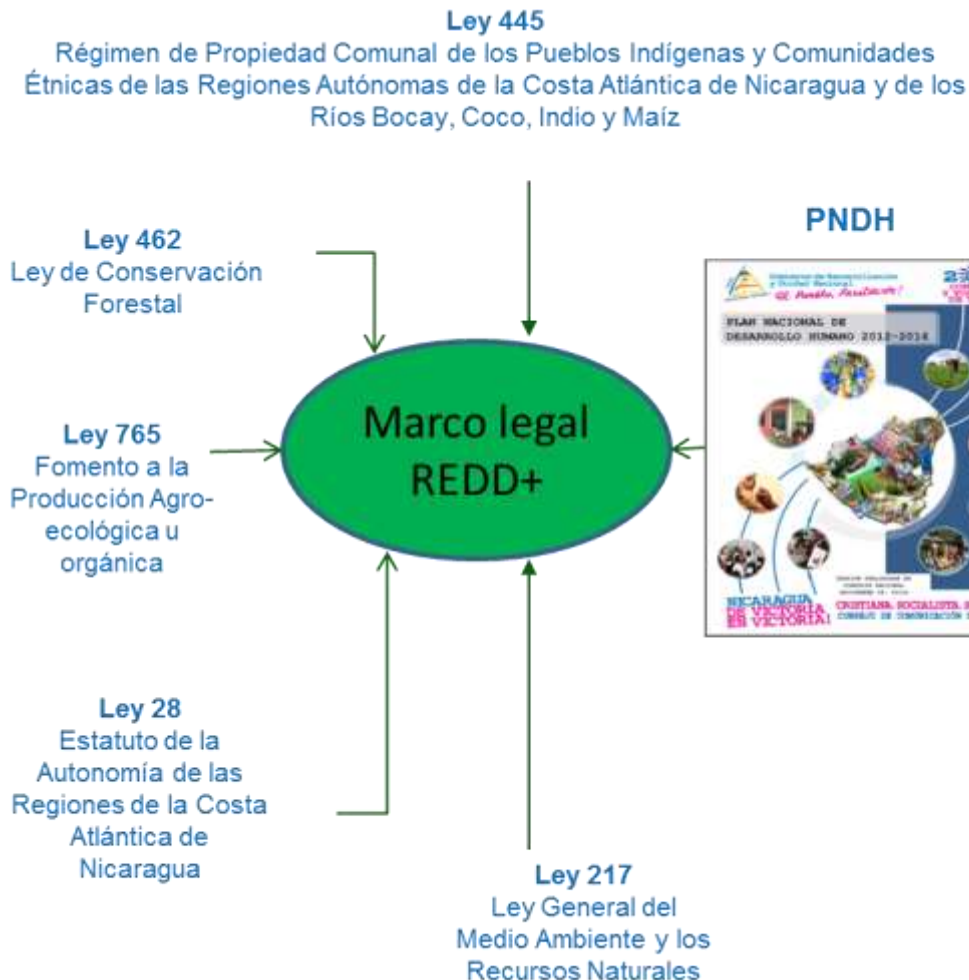
# Nicaragua ER-PIN

## Political commitment



Nicaragua, under the leadership of President and Commandant Daniel Ortega Saavedra, defends Mother Earth

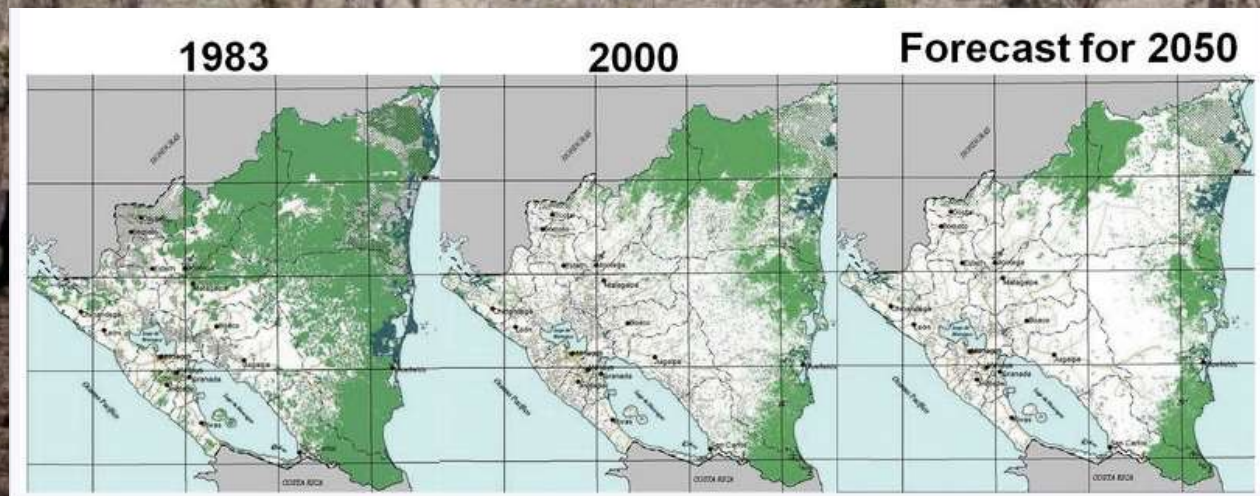
First country in the world to subscribe to the Universal Declaration on the Common Good of the Earth and Humanity



National Human Development Plan (PNDH) 2012-2016 was updated and the National Environmental and Climate Change Strategy 2010-2015.

# Nicaragua ER-Program Idea Note (ER-PIN)

- 3.9Mha** forests lands – one third of country's total land area
- 63%** forest lands within indigenous peoples' territories
- 3.7%** historical average deforestation rate (2000-10)
- 68** ecosystems threatened (20,000 flora and fauna species)
- 1.1M** highly vulnerable forest-dependent people





# Nicaragua ER-PIN

## Program highlights



- **Great commitment to emission reductions**
  - The program will reduce deforestation from 3.27% to 1.6% (historic level of the deforestation rate between 2000-2010)
- **Contributes to forest-based adaptation**
  - Nicaragua is the 4rd country in the world most affected by extreme climate events between 1994 and 2014 (German Watch)
- **Supports development in poor rural areas**
  - Integrates existing investments in rural development
  - Supports the economy of the historically neglected Caribbean Coast Regions (RACCN and RACCS)
- **Builds on legally recognized indigenous & afrodescendent territories and existing institutions**
  - Indigenous & Afrodescendant territories
  - Regional Autonomous Assemblies
  - Territorial Governments
  - Forest Development Fund (FONADEFO)

# Nicaragua ER-PIN

## Drivers and proposed program activities



Main drivers  
of deforestation:

- Agricultural and livestock unsustainable expansion
- Unsustainable and illegal logging
- Forest fires and agricultural burning
- social pressure on forest resources, including invasion to indigenous territories
- Natural disasters

### Underlying causes

- Subsistence agriculture
- Insufficient incentives for protection, conservation and sustainable land use change
- Weak commercial framework and value chains
- Weak institucional capacity
- Lack of alignment of regulatory framework

Direct

Readiness

### Focus of ER-Program activities

- 1. Establishment of incentives (Forest Env. Voucher)**
  - 2. Compensation for environmental services**
  - 3. Ag. and livestock modernization/intensification**
  - 4. Technological improvements and diversification**
  - 5. Strengthening monitoring systems**
- ❖ Strengthen institutional capacity
  - ❖ Broaden institutional coverage
  - ❖ Put in place feedback and grievance mechanisms
  - ❖ Forest fires prevention and control
  - ❖ Improve traceability and forest certification
  - ❖ Increase investment in forest control



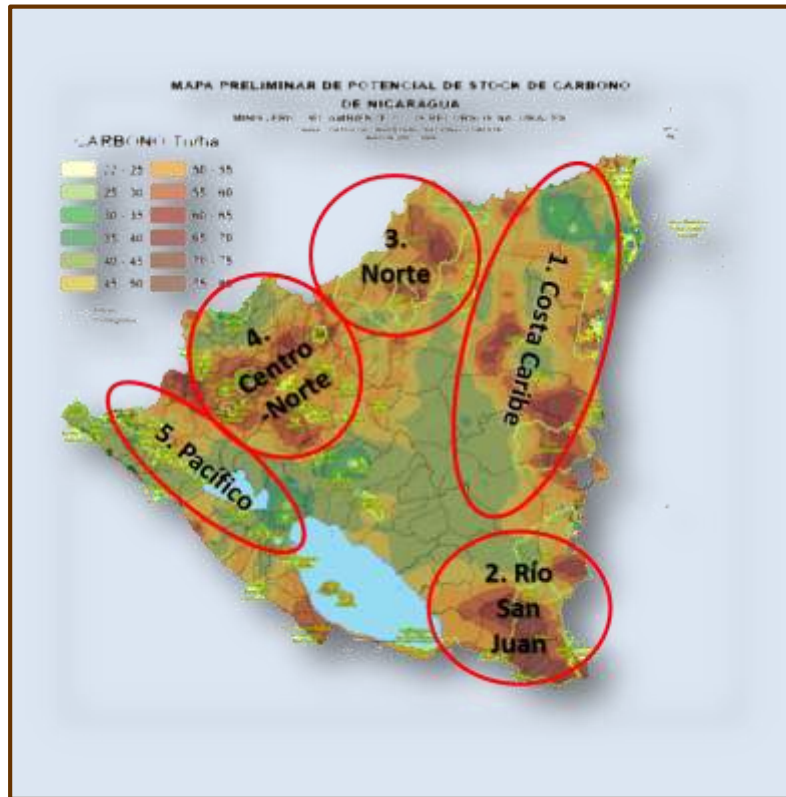
# Nicaragua ER-PIN

## Scale and duration

### 20-year sub-national ER Program

Prioritizes implementation phases 1, 2, and 3, as defined in the R-PP


...and includes 26 municipalities, 20 of which are within the autonomous regions RACCN and RACCS



The ER-Program covers 7Mha of which 90% is covered by forest

# Nicaragua ER-PIN

## Country progress towards Readiness

No	Description	2012	13	14	15	16	17	18
1	Information sharing and dialogue							
2	Capacity building							
3	Analysis of drivers of deforestation							
4	Grant Agreement/Mid-Term Report/R-Package				EA: 37% EP: 50-60%	MTR	R-Pack	
5	Stakeholder mapping							
6	Communication strategy							
7	Plan SESA design							
8	Establishment of SESA committee							
9	Feedback Grievance Redress Mechanism							
10	Reference Emission Level definition							
11	National Forest Monitoring System							
12	ENDE-REDD Strategy							
13	Consultation							
14	MRV system for the ER-Program							
15	MRV system implementation							





## Mapeo de Talleres Realizados

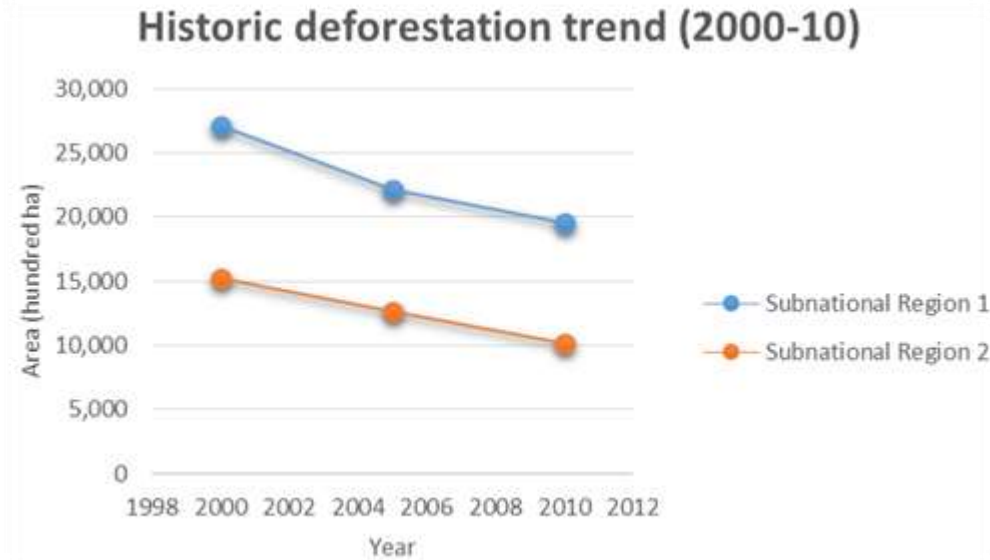
Talleres R-PP		
Simbología	Municipio	No. Talleres
	Puerto Cabezas	2
	Bluefields	1
	Masaya	1
	Managua (Nacionales)	7
Total		11

Talleres ENDE-REDD+		
Simbología	Municipios	No Talleres
	Waspán	1
	Rosita	1
	Siuna	2
	Prinzapolka	2
	Puerto Cabezas	4
	Bonanza	1
	Bluefields	4
	Laguna de Perlas	3
	Nueva Guinea	1
	El Ayote	1
	Corn Island	1
	Muelle de los Bueyes	1
	El Castillo	1
	San José de Cusmapa	2
	Jinotega	1
	Masaya	1
	Managua (Nacionales)	3
		30

# Nicaragua ER-PIN

## Reference Level

- The REL/FREL is consistent with the National Greenhouse Gas Inventory and the Carbon Fund Methodological Framework
- Ten-year Reference period 2000-10 with three points of data 2000, 2005 and 2010
- The REL excludes non-anthropogenic deforestation (Hurricane Felix) and reforestation
- Significance of forest degradation is still yet to be determined
- Uncertainty associated to REL/FREL still need to be estimated
- Considering an 55.8 default emission factor the reference level is calculated as 21.5MtCO<sub>2</sub>e/year**



A Subnational region	Reference Period						Annual emission
	Year 2000		Year 2005		Year 2010		$\frac{S}{(MtCO_2e)}$ [1]
	B Surface (ha)	C tCO <sub>2</sub> e	D Surface (ha)	E tCO <sub>2</sub> e	F Surface (ha)	G tCO <sub>2</sub> e	$E=(C-G)/12$
Subnational Region 1	2,709,772	554,204,721	2,211,023	452,200,192	1,956,905	400,227,718	-
Subnational Region 2	1,521,892	311,258,576	1,263,396	258,390,841	1,012,799	207,138,498	-
Total Subnational Region	4,231,664	865,463,297	3,474,419	710,591,033	2,969,704	607,366,216	21.5



# Nicaragua ER-PIN

## Emission Reductions

**A wide array of activities implemented in 1.2M ha**

**Avoided deforestation**

**60%**

Activity	Area under managment. (ha)	Emission Factor (tC/ha)	Avoided Emissions In 10 years (MtCO2e)	Avoided Emissions in 5 years (MtCO2e)	Carbon stock enhancement after 70% effectiveness (MtCO2e)
Conservation/Management of Protected Areas <sup>1</sup>	500,000	55.88	13,44	7,57	5,30
Environmental Service Payments <sup>2</sup>	100,000	55.88	2,67	1,51	1,06
Farm Intensification Credits <sup>3</sup>	70,000	55.88	1,87	1,06	0.74
Community Forestry <sup>4</sup>	70,000	55.88	1,87	1,06	0.74
Sustainable Forest Mgt. <sup>5</sup>	70,000	55.88	1,87	1,06	0.74
<b>Total</b>	<b>810,000</b>	<b>Total</b>	<b>21,74</b>	<b>12,27</b>	<b>8,58</b>
		<b>Annual</b>	<b>2,17</b>	<b>2,45</b>	<b>1,71</b>

**Carbon stocks enhancements**

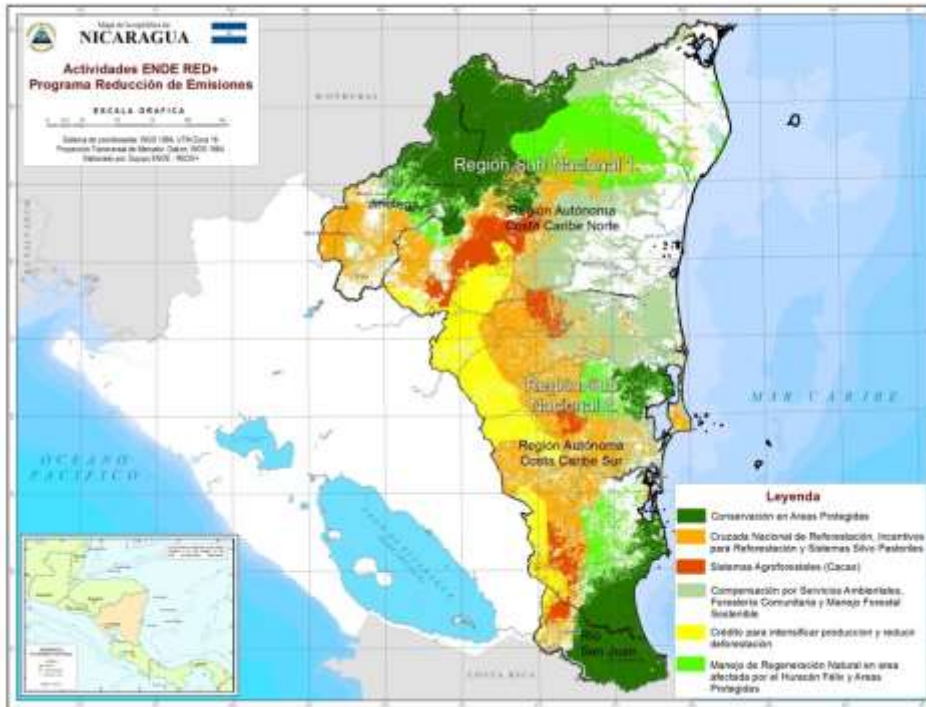
**40%**

Activity	Area under management (ha)	Emission factor (tC/ha)	Carbon stock enhancement in 10 years (MtCO2e)	Carbon stock enhancement in 5 years (MtCO2e)	Carbon stock enhancement after 70% effectiveness (MtCO2e)
Reforestation and Natural Regeneration (Incentive) <sup>1</sup>	100,000	4.21	8,47	2,31	1,66
Reforestation and Natural Regeneration (CNR) <sup>2</sup>	100,000	4.21	8,47	2,31	1,66
Agroforestry Systems <sup>3</sup>	100,000	2.00	4,02	1,09	0.79
Silvopastoral Systems <sup>3</sup>	70,000	2.00	3,03	0.76	0.55
Natural Regeneration Management (H. Felix) <sup>4</sup>	40,000	4.21	4,36	0.92	0.66
<b>Total</b>	<b>410,000</b>	<b>Total</b>	<b>28,37</b>	<b>7,41</b>	<b>5,33</b>
		<b>Annual</b>	<b>2,83</b>	<b>1,48</b>	<b>1,06</b>

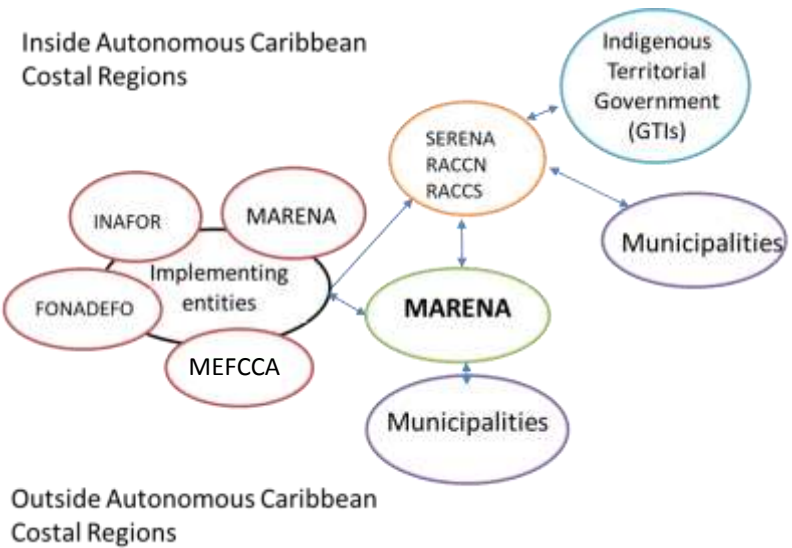
# Nicaragua ER-PIN

## Emission Reductions

### Location of activities and preliminary institutional arrangement



### Coordinating and Implementing Entities



The ER Program activities will be located in different regions...and some of them are undergoing

MARENA and SERENA would be the coordinating entities and there are four implementing entities (MARENA, INAFOR, FONADEFO AND MEFCCA)



# Nicaragua ER-PIN

## Emission Reductions

### Implementing entities and financing

Activity	Implementing Entity*	Total cost (M\$)	Gov's existing investment (M\$)	Gap (M\$)
Conservation/Management of Protected Areas	MARENA	3,34	3,34	-
Environmental Service Payments	FONADEFO	10,08	3,34	6,74
Farm Intensification Credits	MEFCCA	50,47	50,47	-
Community Forestry	MEFCCA	8,80	8,80	-
Sustainable Forest Management	INAFOR	8,80	8,80	-
Reforestation and Nat. Reg. (Incentive)	FONADEFO	60,83	0.83	60,00
Reforestation and Natural Regeneration (CNR)	INAFOR/MARENA/MEFCCA	60,83	0.83	60,00
Agroforestry Systems	MEFCCA	100,83	0.83	100,00
Silvopastoral Systems	MEFCCA	25,33	0.83	24,50
Natural Regeneration Management	INAFOR/MARENA	4,00	-	4,00

\*INAFOR: National Forest Institute; FONADEFO: National Forest Development Fund; MEFCCA: Ministry of Familiar economy, cooperative and associative; MARENA: Ministry of Environment and Natural Resources/

**Total cost of the ER-Program is close to \$ 300M in 10 year**

**Funding: national budget 23%; Gap 77%**

**The government will ensure conditions are in place to attract private sector investment**

# Nicaragua ER-PIN

## Emission Reductions

**The ER-Program will reduce by half the annual historic rate of deforestation with a 70 percent effectiveness**

Actions	Area under Mngt. (Mha)	Annual area (Mha)	Type of projection	Cumulative ERs in 10 years (MtCO <sub>2e</sub> )	Cumulative ERs in 5 years (MtCO <sub>2e</sub> )	Cumulative ERs in 5 years (70% effect.) (MtCO <sub>2e</sub> )
Actions to avoid deforestation	0.8	0.10	Accumulated	21,61	12,27	8,58
			Annual	2,16	2,45	1,71
Actions to improve carbon reserves	0.4	0.04	Accumulated	28,3	7,41	5,18
			Annual	2,83	1,48	1,03
Total Actions of ER-P	1,2	0.14	Accumulated	50,06	19,68	13,77
			Annual	5,00	3,93	2,75
<b>Total offered to the Carbon Fund after 20% discount</b>						<b>11,02</b>

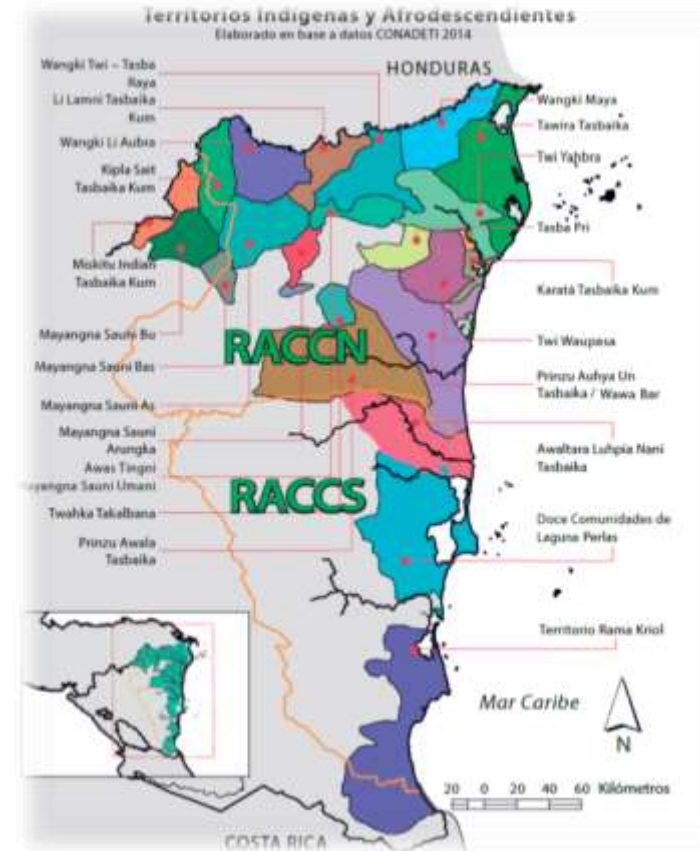
**Total ERs offered to the Carbon Fund after 20% uncertainty discount:  
11.02MtCO<sub>2e</sub>**



# Nicaragua ER-PIN

## Benefit-Sharing Mechanism

- The benefit sharing mechanism is yet to be developed, some key elements to consider are the following:
  - Rights to the environmental services belong to titled communities and land owners
    - The ERPIN will respect the Autonomy of Caribbean Cost Law; ILO 169 and Free Prior and Information Consent (FPIC)
  - The ER-program foresees providing cash to some beneficiaries to compensate for climate change mitigation. Eligibility criteria will be developed.
  - Cash will be distributed by the National Fund for Forest Development (FONADEFO)
  - The ER-Program will also provide non-monetary benefits, including:
    - Employment generation
    - Boost sub-regional economy
    - Access to investment finance



# Nicaragua ER-PIN

## Non-carbon benefits

### The ER-Program prioritizes three non-carbon benefits

- **Watersheds management**

- ER-Program activities will be located in 13/21 priority watersheds, with coverage of 117,420 km<sup>2</sup>, 90% of national territory.
- Existing arrangements for watershed management will be strengthened

- **Increased resilience of the rural poor's livelihoods**

- Natural and financial capital will be strengthened, which will contribute to poverty alleviation
- Capacity for natural resource management will be strengthened

- **Biodiversity conservation**

- The ER-Program will strengthen existing efforts to monitor key threatened flora and fauna species.



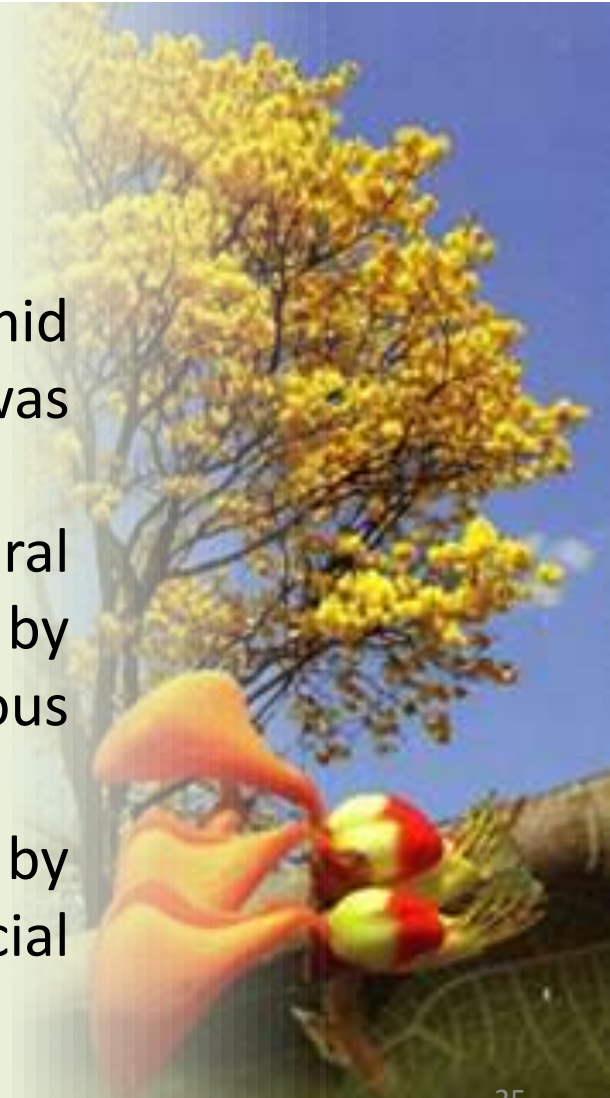


# Nicaragua ER-PIN

## Diversity and learning value

The Nicaraguan ER-Program is unique in that it can demonstrate how climate finance can:

- Conserve the second largest area of humid tropic forest in America (Bosawas Biosphere reserve)
- Make REDD+ possible when natural resources have been decentralized, by building on previously legalized indigenous territories and autonomus regions
- Build the resilience of the rural poor by strengthenign their natural and financial capital



# Nicaragua ER-PIN

## Summary



- **Key features of the ER-Program**

- Sub-national program focusing on the three priority areas identified in the R-PP
- Program covers around 40% of the country land area (7Mha), including 26 municipalities (20 of which are within the Cost Caribbean Autonomous Regions RACCN and RACCS).
- Reference Emission Level is 21.5MtCO<sub>2</sub>e/year (2000-10)
- ER program is expected to reduce the deforestation rate from 3.2 to 1.6%, mainly through avoided deforestation (60%) and carbon enhanced activities (40%)
- Deforestation will be avoided through: forest conservation, improved protected area management, compensation for environmental services generation, incentives to promote farm intensification, and sustainable forest management (including community-based)
- Carbon enhancement will be achieved by reforestation, expansion of agroforestry and silvo-pastoral systems, as well as natural regeneration
- The coordination and implementation arrangements are yet to be agreed upon, but these will be based on existing institutional arrangements
- The government is already covering 1/3 of the program cost, the remainder is funding gap.
- The ER-Program offers 11.2MtCO<sub>2</sub>e to the FCPF Carbon Fund
- The ER-Program will affect the livelihood of 1.1M forest-dependending highly vulnerable people

- **The Government of Nicaragua is focused on ensuring an enabling environment for the ER-Program**

- Government's strong political will to transform the current agro-ecological model.
- ER-Program aligned with country's strategies (PNDH, PNF,PAMCC, ENACC and ENDE-REDD).
- The ER Program uses an approach that strengthen law and improves governance at the territorial level.



# Nicaragua ER-PIN



Gracias

