



PERÚ

Ministerio
del Ambiente

Emissions Reductions from the Peruvian Amazon

October 2014

Program Summary

- **Accounting Area:** 2 regions, San Martin and Ucayali

	San Martin	Ucayali	Total
Area (M ha)	5.1	10.5	15.6
Forest (M ha)	3.5	9.6	13.1
Population (M)	0.8	0.5	1.3
% Rural	36	22	
Avg. forest loss (ha/yr)	25,212 (0.67%)	16,149 (0-17%)	41,361 (0-31%)

- **Key drivers:** Shifting agriculture, agroindustries, logging, illegal activities combined with weak governance, capacities, and migration
- **Principal Interventions:** Improved land titling, monitoring and control of land use, SFM, agroforestry, market linkages, capacity building

Emissions Reductions Summary

- **Project Period:** 2017-2020
- **Reference Period:** 2000 – 2011
- **ER/RL:** 20%

	San Martin	Ucayali	Total
Avg. forest loss (ha/yr)	25,212 (0.67%)	16,149 (0.17%)	41,361 (0.31%)
Annual emissions (Mt CO ₂ e/yr)	10.73	6.87	17.6
Total emissions (Mt CO ₂ e/ 3 yr)	32.19	20.61	52.80
HFLD adjustment (Mt CO ₂ e/yr)	1.49	1.63	3.12
Adjusted total emissions (Mt CO ₂ e/ 3 yr)	36.66	25.5	62.16
50% ER offered (Mt CO ₂ e)	3.85	2.55	6.4

Unique Characteristics

- Large size
- Highly participatory process with indigenous inclusion in decision making and management
- Sustainable landscape approach (vertically and horizontally structured, emphasis on land use governance, markets, capacities)
- IADB/World Bank common approach
- Aligned with forests and climate change and green growth strategies
- Contributes to national competitiveness in LED economies/markets

Significant Non-Carbon Benefits

Benefit	SM	UCA
Poverty reduction, esp. indigenous peoples	M	H
Reduced loss of biodiversity & ES	L	M
Enabling conditions for forest landscape mgmt. & governance	H	H
Improved land titling and rights	H	H
Improved competitiveness of forest lands	H	M
Markets and technologies	H	M
Greater empowerment and capacities of stakeholders, especially indigenous people	M	H

Dynamic Developments

Forestry and climate change sector undergoing rapid change:

- On-going development of Forests and Climate Change Strategy has clarified thinking; draft ready in Oct. 2014, followed by consultation
- Agreements for joint action and collaboration by Agriculture and Environment Ministries
- Launching of reformed SERFOR and presentation of forestry regs
- Norway/Germany agreement

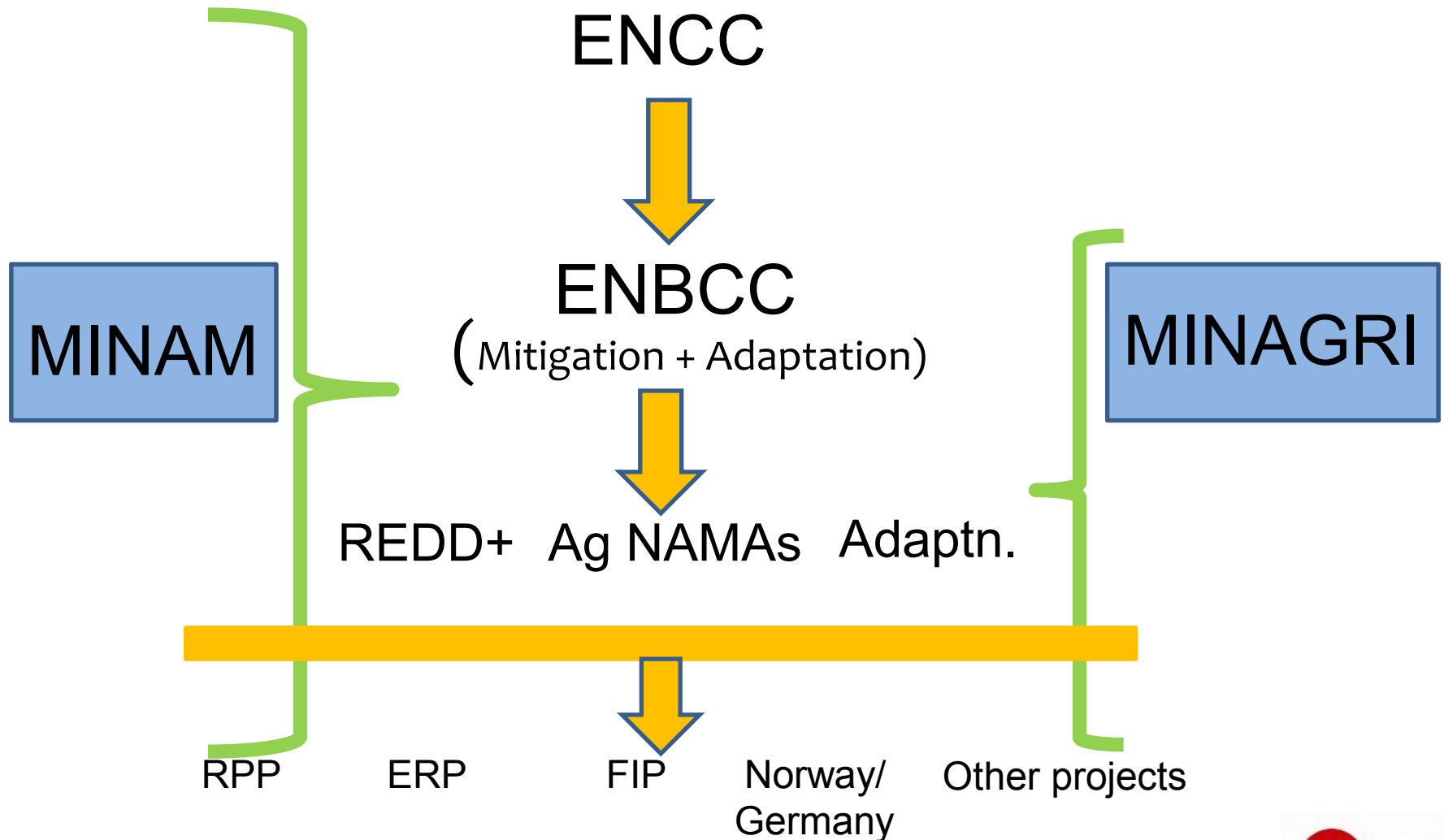
Norway/Germany – Peru Agreement

- Peru's signing of results-based agreement with Germany and Norway underscores political momentum and support to reduce deforestation under specific time-frame (2014-2021) and results framework
- Based on results related to governance and emissions reductions (\$50M preparation, \$250 M emissions reductions)
- During ERP design, will include measures to avoid double payments

Political Commitment

- ENBCC and ERP endorsed by Ministry of the Environment and National Forest Conservation and Climate Change Mitigation Program.
- Joint responsibility of Min. of Agriculture and Environment
- Ministries of Economy and Finance, Culture, regional governments, indigenous organizations, REDD+ roundtables included in ENBCC and REDD+
- Supported by internal changes (structure and focus) in PNCB and SERFOR .

Articulation



Progress On Readiness

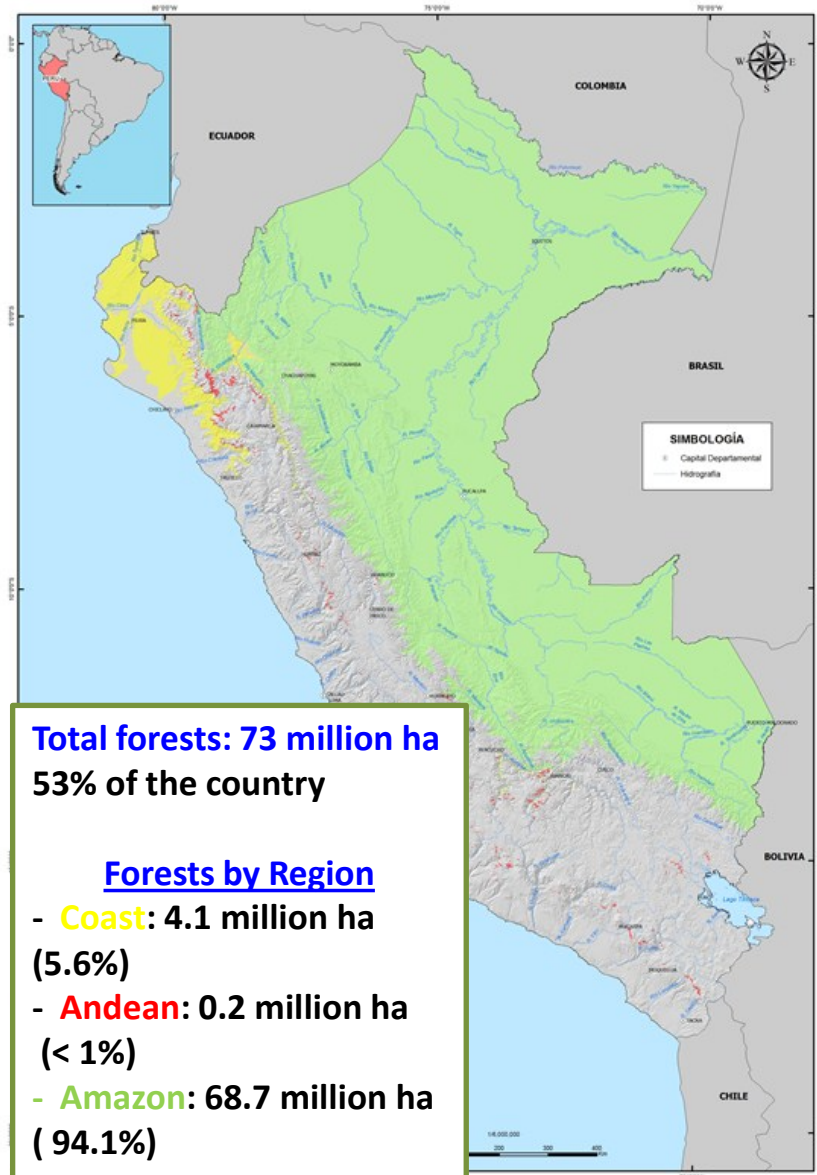
PROCESS	NOW	FUTURE
Reference Level	Changes in forest cover at national level 2000-2011	2012 and 2013 for Amazon, 2015 coast, 2016 Andes
Degradation	No	2015 Amazon, 2016 coast, 2017 Andes
Emission factors	C density for Amazon, Andes, coast based on 1205 plots	Improve sampling intensity and consistency, other sinks
MRV	Design of national monitoring system	Complete reference levels, include local actors in verification, other sinks
	List of REDD+ projects; Registry being designed w/ CIAT	Registry of carbon, safeguards, non-carbon benefits (2015)
Safeguards	Diagnosis and road map	Complete SESA, SIS, ESMF (2015)
Non-Carbon benefits	Identified	Framework of baselines, indicators, methods, and registry (2015)
Benefit sharing	Overall objectives, prices, participants, form of benefits, distribution system under discussion	Consensus on framework and mechanisms (2015)

Timeframe

- Readiness completed in first semester of 2016
- ERPA negotiated by 2017 (MINAM – MINAGRI)
- 3 year implementation period (mid 2017 – mid 2020)

Forests of Peru

9th place in forest area worldwide
4th place in tropical forests
2nd place in the Amazon
Megabiodiverse

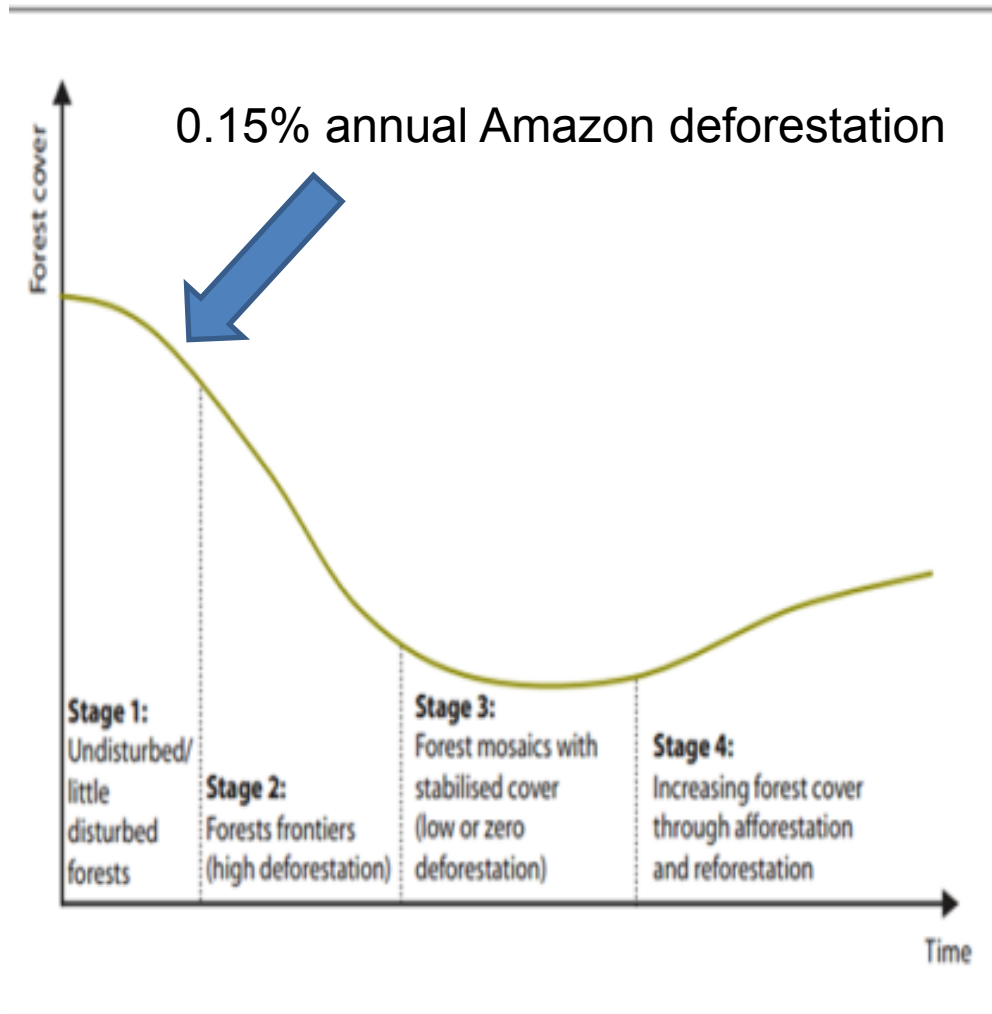


Total forests: 73 million ha
53% of the country

Forests by Region

- **Coast**: 4.1 million ha (5.6%)
- **Andean**: 0.2 million ha (< 1%)
- **Amazon**: 68.7 million ha (94.1%)

Peru and Its Forests

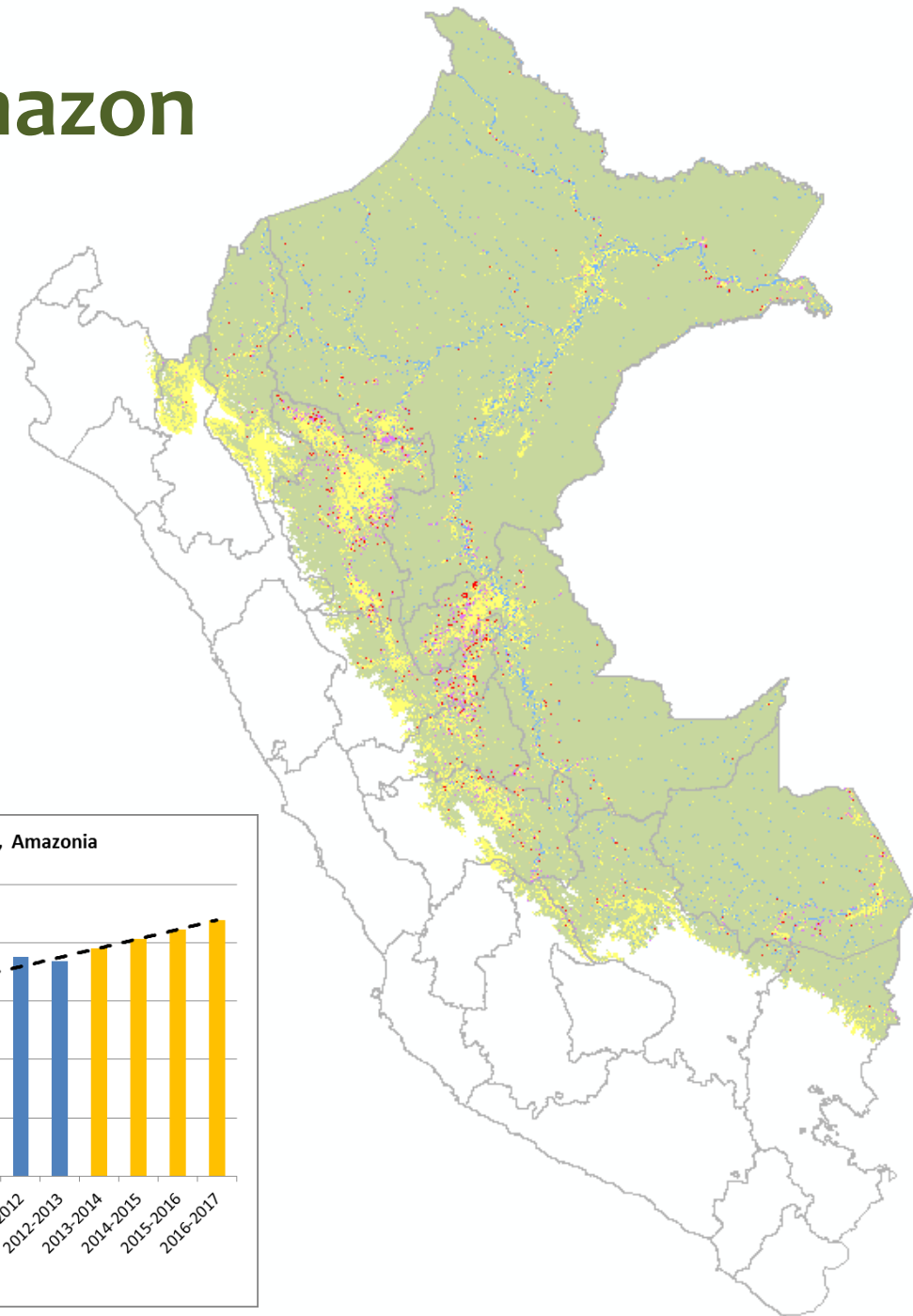


Forests' potential is unexploited:

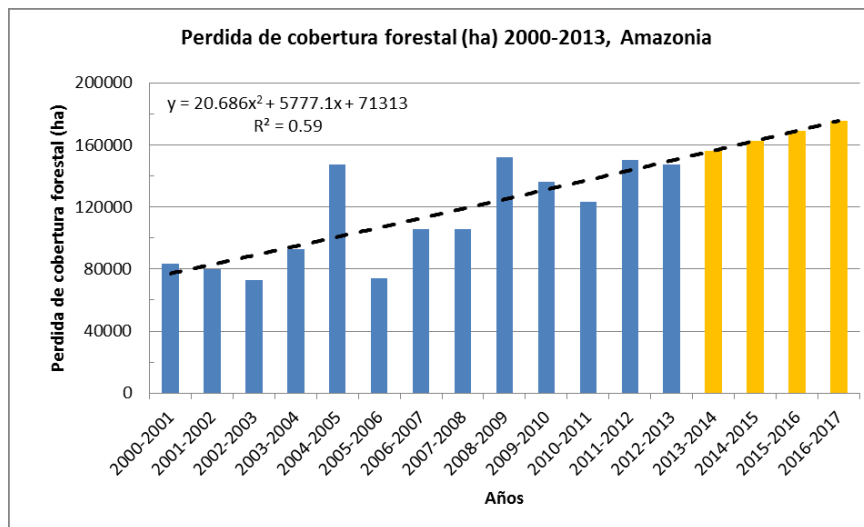
- Contribute little to the formal economy
- Little management
- Scarce political attention
- Reduced budgets
- Source of conflict
- Viewed as obstacle to development

Forest Loss in the Amazon

2000 - 2013

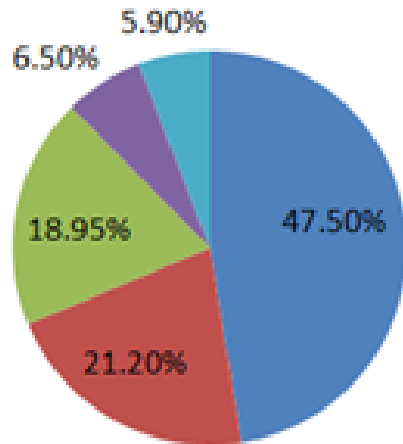


PERIODO	PÉRDIDA DE BOSQUE (ha)
2000-2001	83,598
2001-2002	79,620
2002-2003	72,831
2003-2004	92,899
2004-2005	147,134
2005-2006	74,284
2006-2007	105,875
2007-2008	105,435
2008-2009	151,714
2009-2010	135,913
2010-2011	123,346
2011-2012	150,038
2012-2013	147,037
TOTAL	1,469,724

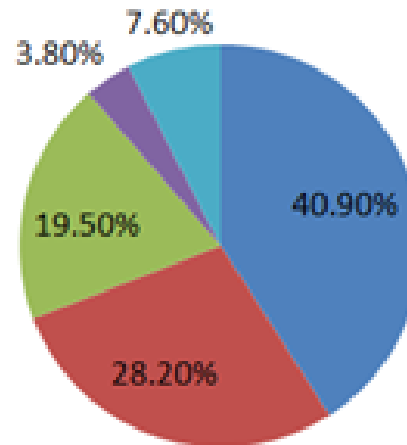


LULUCF Is Main Source Of Emissions

2000: 120 MTCO₂e



2009: 138 MTCO₂e

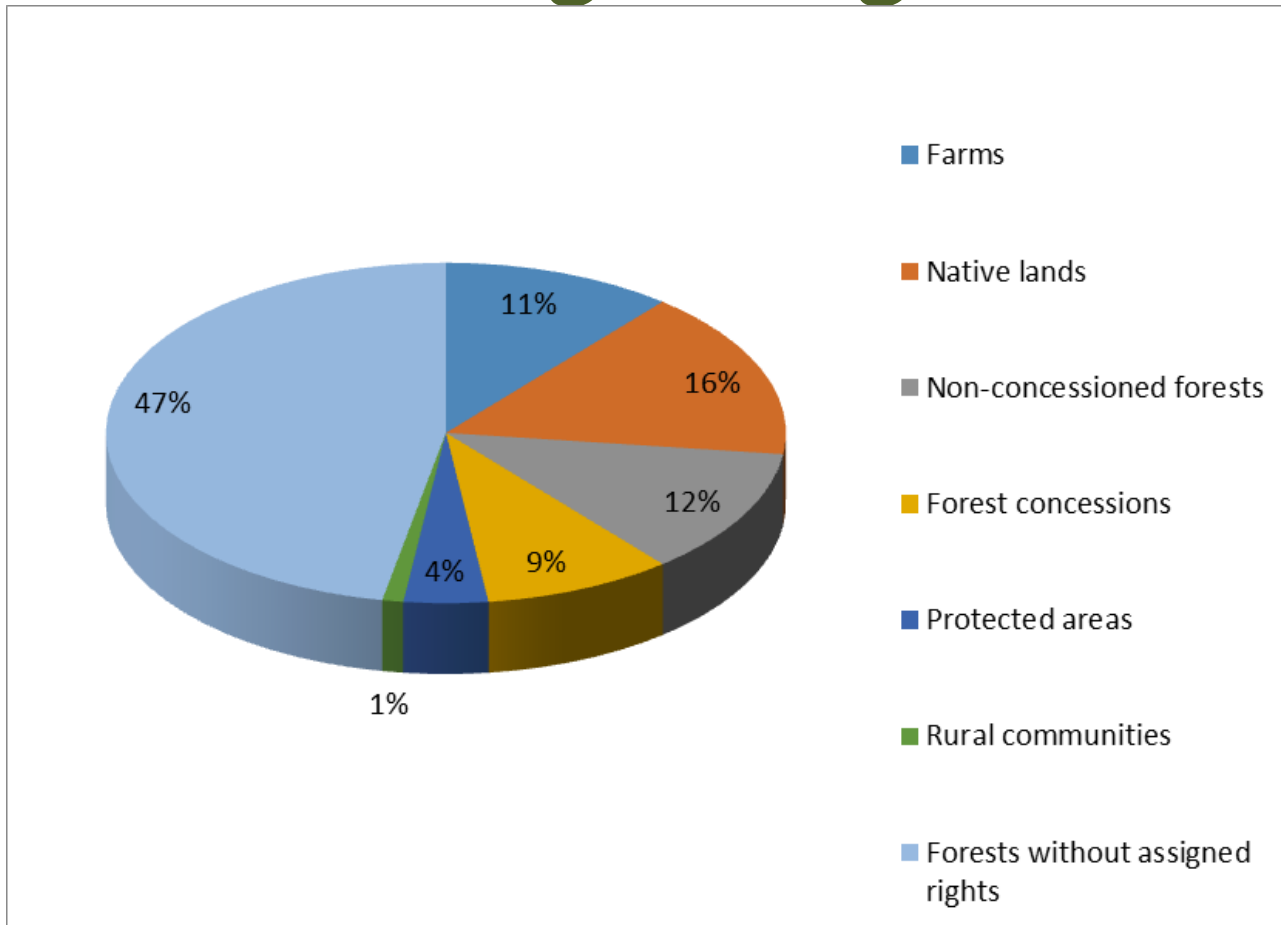


15%



■ Forestry ■ Energy ■ Agriculture ■ Industry ■ Waste

High Deforestation On Native Lands, Legal Farms, and Forests with Unassigned Rights

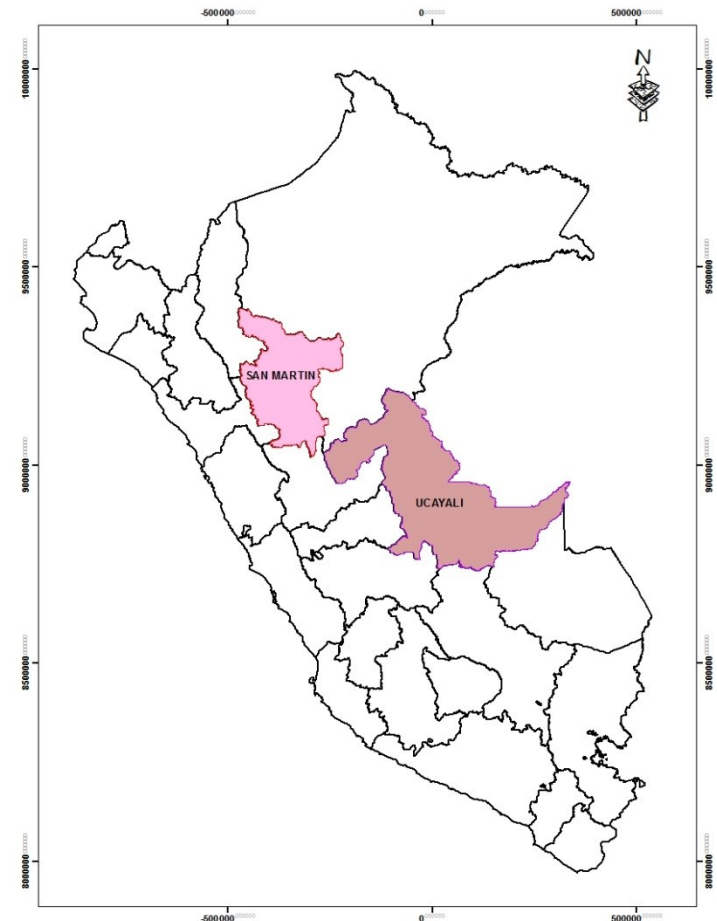
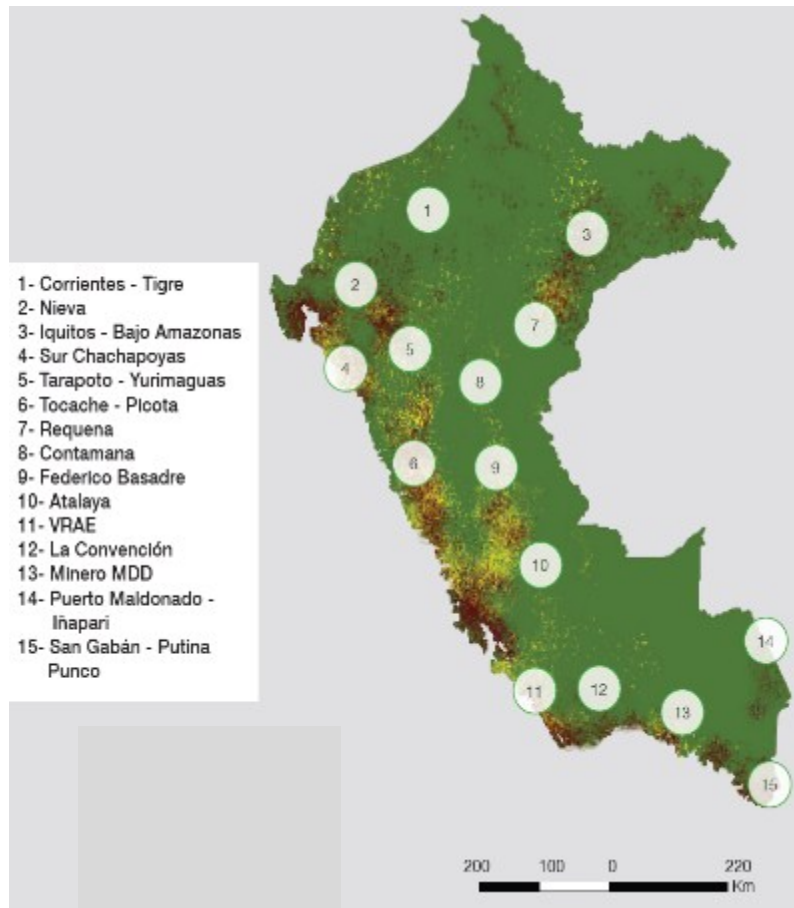


DEFORESTATION HOTSPOTS AND PRIORITY AREAS

Deforestation hotspots



Priority areas



Furthering Participation

- Further development of Stakeholder Engagement Plan to involve new actors (businesses, migrants), more women, and adapt tools to participants
- Indigenous peoples included in management structure at national and local levels
- Inclusion of remote peoples: meetings in accessible, central locations using interpreters or materials in local languages
- By law, no interventions for isolated peoples
- Grievance mechanism (in construction)

Incorporation of Indigenous REDD+ (RIA) in National REDD+

- Participation of indigenous communities in decision-making, monitoring, and conservation of ecosystem services
- Capacity strengthening in community forestry
- Land titling as a priority
- Philosophy of differentiated price for indigenous carbon included in ENBCC, but not FC

Indigenous Participation In Decision-Making

- Recommendations incorporated in REDD+ (RPP), FIP, and ERP process
- Tools include public workshops and meetings, REDD+ Roundtables, direct coordination via AIDSESEP and CONAP
- Participate in Executive Committee for FIP that will serve as base for ENBCC and ERP

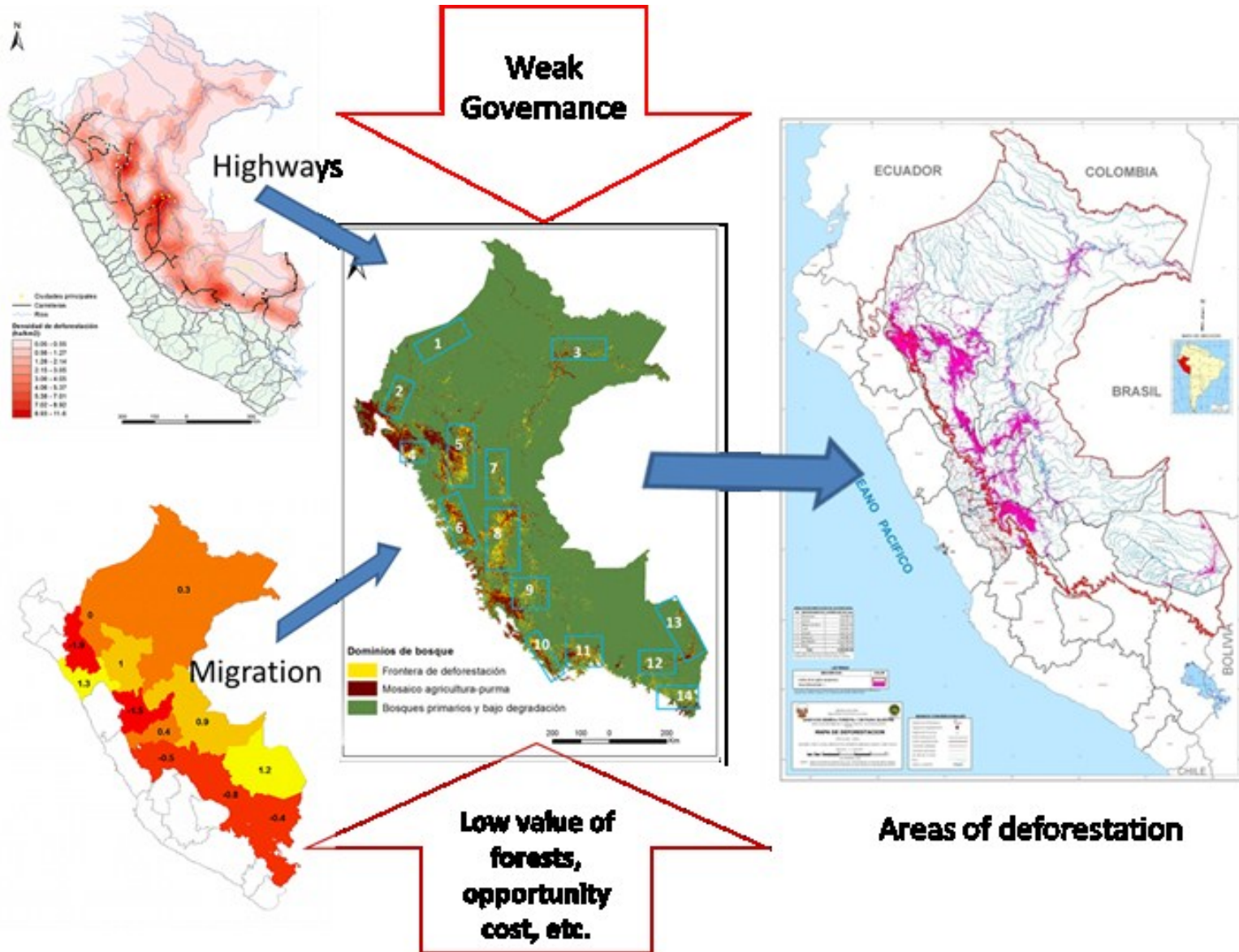
Indigenous Participation in Forest Monitoring System

- On-the ground verification and data collection
- Aligned with Indigenous REDD+ (RIA) proposal
- Based on experience with Forestry Oversight system of indigenous groups developed in Ucayali
- Includes formation and use of indigenous promoters

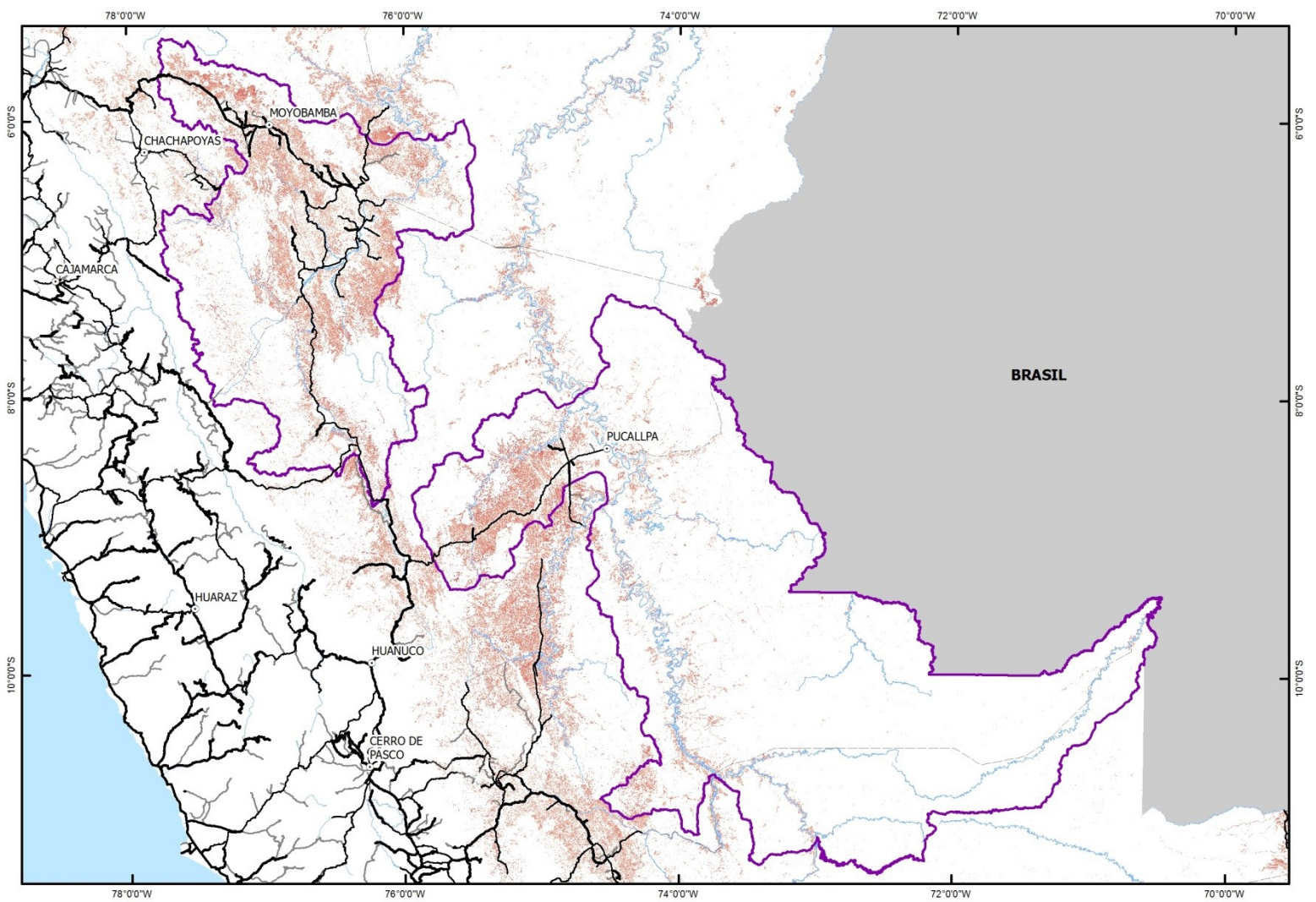
San Martin and Ucayali

- Selection based on deforestation rates, indigenous communities, biodiversity, relatively low social conflict, and institutional support
- 15.6 million ha total: 13 million ha are forests
- Drivers: Agriculture (San Martin), forestry (Ucayali), land speculation (both).
- Together, represent main drivers and underlying causes of deforestation in the Peruvian Amazon
- Also represent 3 main socioeconomic environments: settled areas, agricultural frontier, relatively unsettled forest
- High extrapolability to other Amazon areas

Deforestation Is Increasing



Forest Loss in San Martin and Ucayali



Site Characterization

Characteristic	San Martin	Ucayali
Population pressure	High (800K). Net immigration from the Andes (10%)	Medium (500K). Net immigration from the Andes (15%)
Titling/Tenure	28% of forest without rights	10% of forests without rights
Indigenous peoples	33 titled communities; 47 with incomplete rights	226 titled communities; 81 with incomplete rights
Agric. expansion	High, related to commercial agric., land speculation, road network	Illegal logging and ag along roads
Illicit activities	Coca, land	Coca, illegal logging, land
Historical deforestation rate (2000-2011)	0.67%	0.17%
Forest conversion (ha) (2000-2011)	277,333	177,630

Deforestation Drivers

	Ucayali	San Martin
Direct drivers	<p>Shifting agriculture</p> <p>Commercial crops (Cacao, coffee, oil palm in order of importance)</p> <p>Logging</p>	<p>Shifting agriculture</p> <p>Commercial crops (coffee, cacao, oil palm in order of importance)</p>
Underlying causes	<p>Migration/Land speculation</p> <p>Weak land use governance</p>	<p>Migration/Land speculation</p> <p>Weak land use governance</p> <p>Greater road density</p> <p>Greater market demand and articulation</p>

Intervention Framework

- Sustainable landscape approach integrating horizontal and vertical actions related to policies, governance, markets, technologies, and capacity building.
- Adaptation of Brazilian model to Peruvian reality (smaller farms, lesser focus on international commodity markets, governance differences)
- Command-and-control, with incentives for sustainable land use.

Migration/Land Speculation

- Integrated approach to reduce illegality, increase control, and stabilize land use:
 - Shrink area available for illegal settlement via assignment of rights and zoning and land titling
 - Increased control and interdiction (Peru has special prosecutors for illegal mining and timber)
 - Increased incentives (credit, TA) and economic enabling conditions favoring stability
- Poverty reduction in the Andes

Causes and Solutions

Eliminate perverse policies
Institutional coordination
Land zoning & titling, esp. native lands
Assign forest rights & concessions
Include civil society
Condition public funds
Strengthen institutional capacities
and budgets

Weak land
use
governance

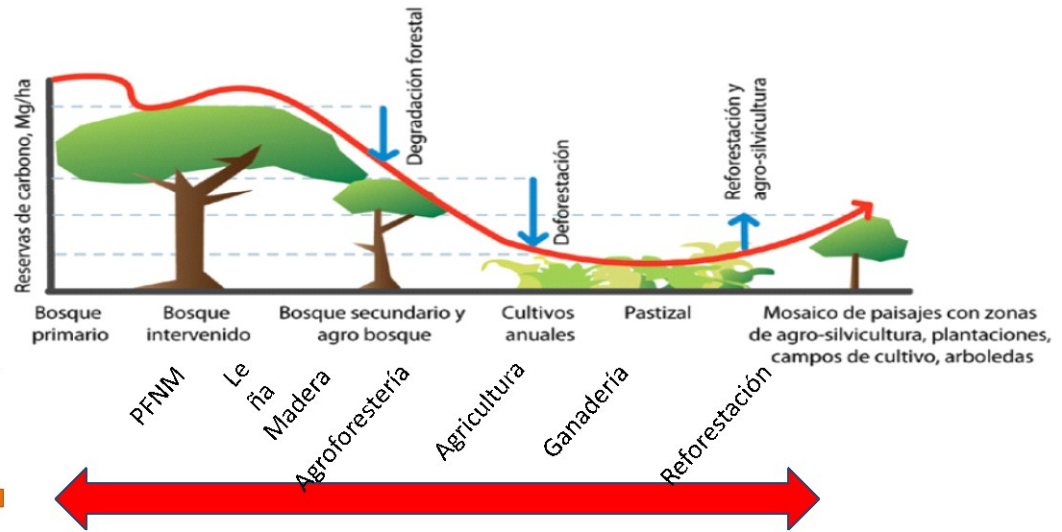
Andes poverty reduction
Reduce land use speculation
via improved control & legality
Economic enabling conditions

Low value,
productivity
&
competitvns.

SFM training & TA
Financial instruments &
conditional credit
New business models & NAMAs
Market i.d. & access
Admin. simplification
Improved tracking/enforcement
Develop PES

Migration
facilitated
by roads,
speculation

Point along the forestry transition curves determines the type and viability of interventions.



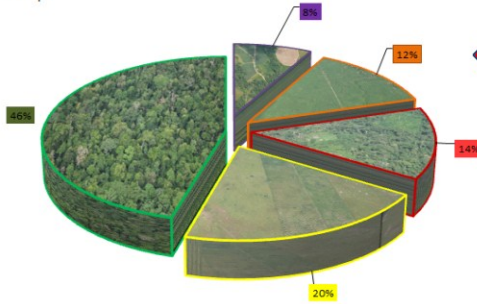
Annual and Biannual Crops

Permanent Crops

Fallow

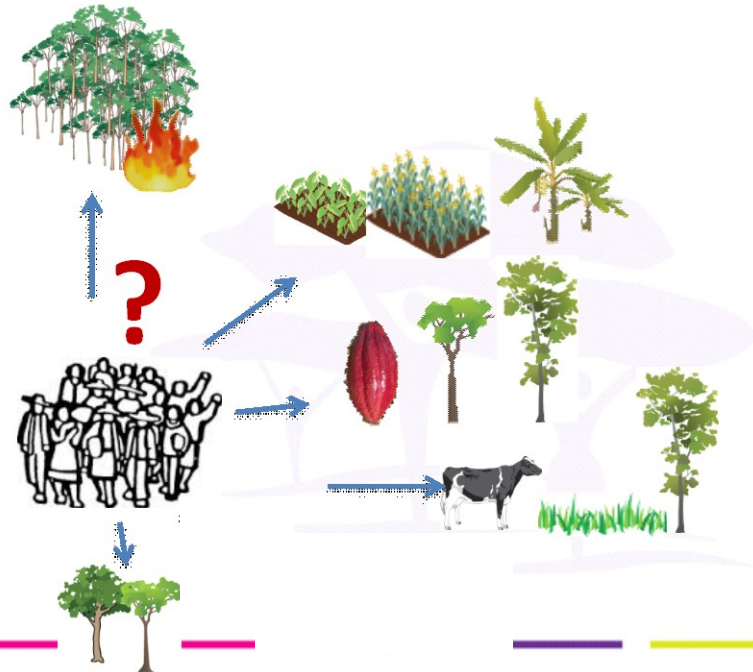
Pasture

Forest



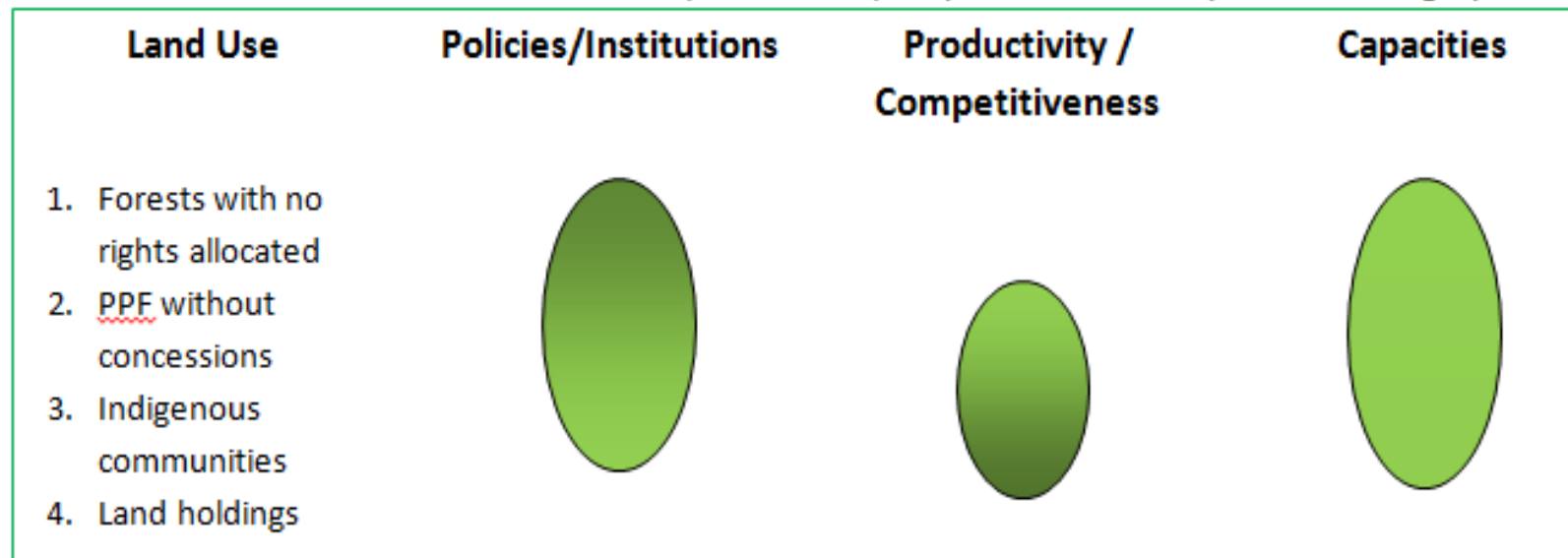
At each level, one can postulate a change in trajectory or changes of practices within an activity.

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Spatial Priorities of the Interventions

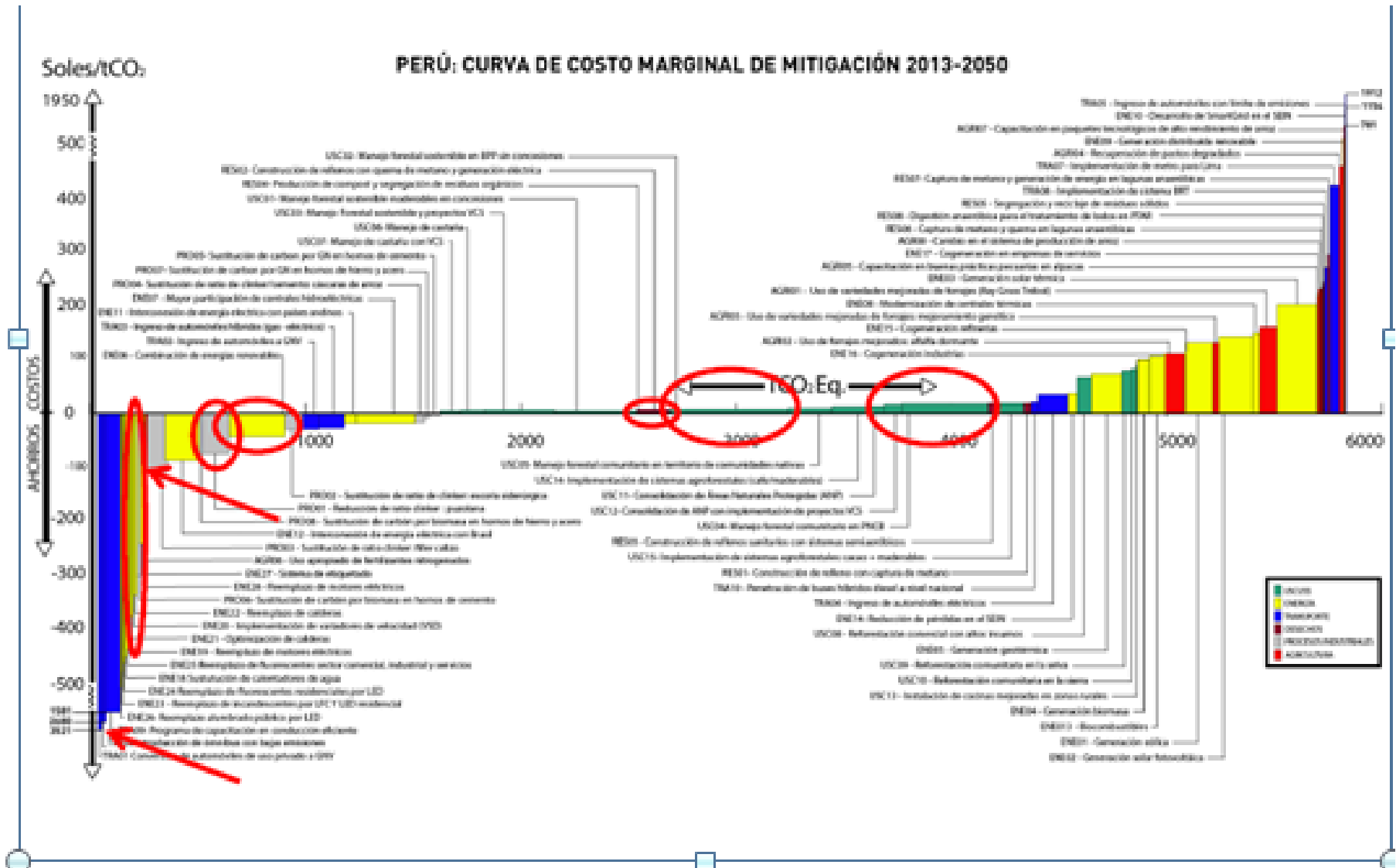
- ❑ Four land use categories account for 85% of deforestation. Satellite image analysis should be used to identify “geographical hotspots” showing high deforestation rates.
- ❑ Policy and institutional issues are a priority due to their effect on land use, particularly where land rights are weak: forests areas with unassigned rights and non-concessioned Permanent Production Forests.
- ❑ Issues regarding productivity/competitiveness are more important where property rights, such as those of native communities and private holdings, exist.
- ❑ The need to increase institutions and producers capacity cuts across every land use category.




Note: Darker color of the ovals indicate greater importance.

SFM, Reforestation, and Agroforestry Can Help Mitigate Emissions

PERÚ: CURVA DE COSTO MARGINAL DE MITIGACIÓN 2013-2050



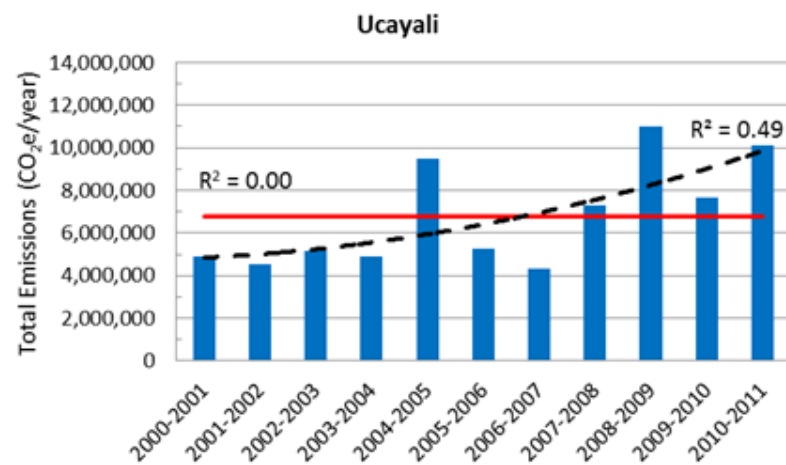
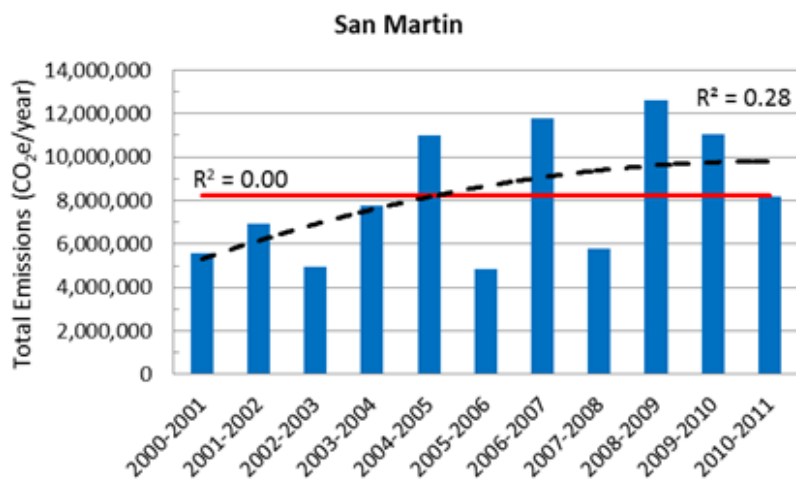
Reference Level Process

- Based on IPCC Approach 3 and Tier 2 methods.
- Satellite images used to estimate changes in forest cover, 2000 – 2011  annual deforestation rate for Amazon (0.15%). Will update to 2013 in November 2014
- Cover converted to biomass based on allometry
- Biomass converted to carbon based on Amazon emissions factor (116 tC/ha) from on 1165 plots (5% between-plot variance).
- Degradation not measured directly.

RL Stepwise Process

Year Expected	Reference Scenario
2014	Deforestation of Amazon forests to 2013 based on historical trends
2015	Deforestation of dry forests based on historical trends
2015	Degradation of Amazon forests
2016	Deforestation of Andean forests, based on historical trends
2016	Degradation of dry forests
2017	Degradation of Andean forests

RL Results



Area of Intervention	Average annual loss of forest cover (ha)	Annual CO ₂ e Emissions (Mt CO ₂ e/yr)	Total CO ₂ e Emissions, 2017-2020 (Mt CO ₂ e)
Ucayali	16,149 (0.17%)	6.87	20.61
San Martin	25,212 (0.67%)	10.73	32.19
Total	41,361 (0.31%)	17.60	52.80

Degradation

Few hard data, but preliminary analyses suggest:

- Graphical extrapolation of forest loss in areas < 1 pixel (0.09 ha) suggests that degradation is equivalent to 7.0% of deforested area in Ucayali and 7.7% in San Martin (assumed that all is anthropic).
- Estimates of selective timber extraction + firewood (480,000 m³/yr) = 8.0% of C emissions in Ucayali (assumes all is selective, not clear-cut).
- Commitment to Norway/Germany to execute degradation study with CIFOR in 2015.

HFLD Adjustment

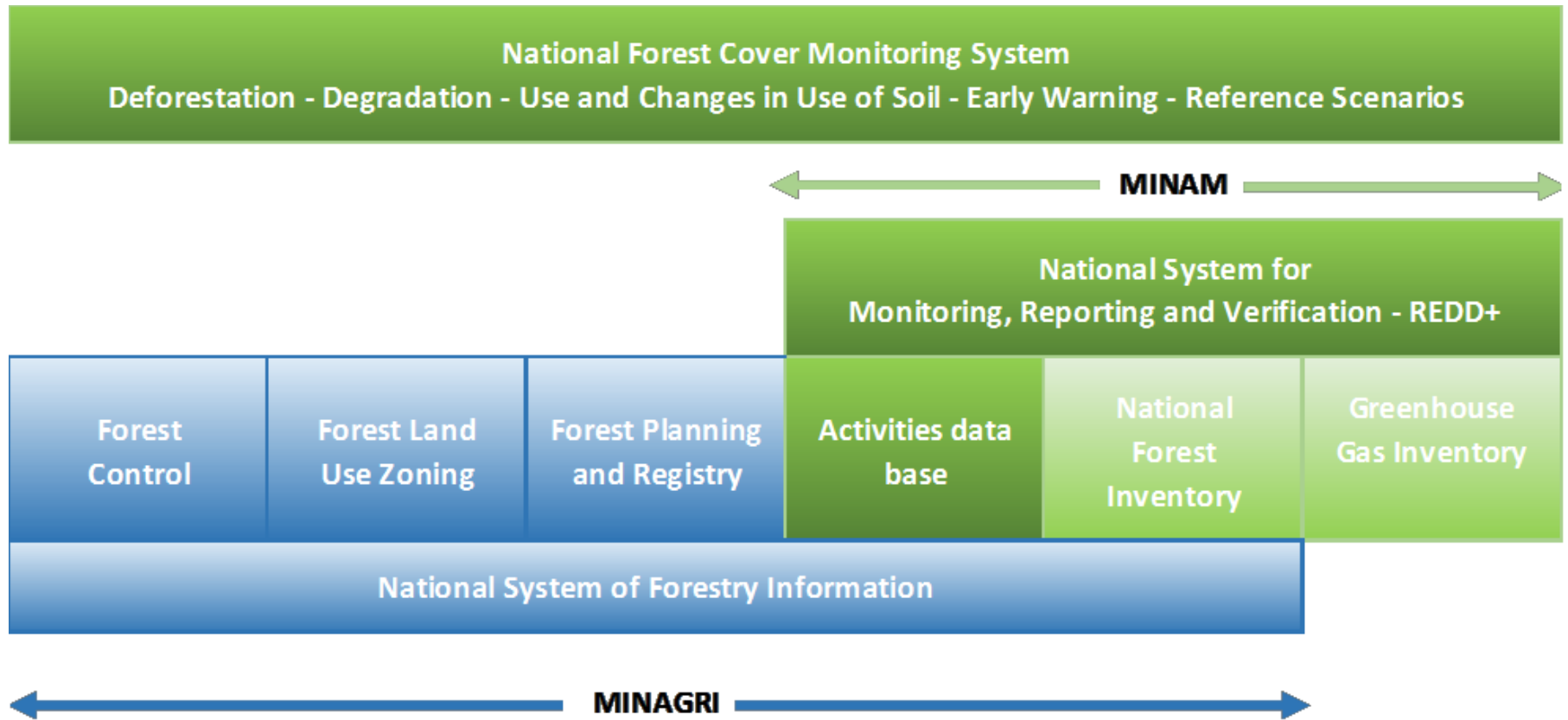
- Peru has one of lowest annual deforestation rates (0.15%) in the tropics and in South America.
- Ascending trajectory of deforestation in San Martin and Ucayali.
- 660 km of new roads planned 2014-2017.
- Average deforestation rates associated with roads are 13.6 ha/km road/year in a band 50 km wide (CIAM).
- Translates to 9000 ha/yr (0.27% rate), equivalent to about 20% of present deforestation in target areas.
- Study of road impact on deforestation and degradation in 2015.

Adjustment Calculations

Calculated adjustment based on existing carbon stocks and analysis of projected deforestation in each region

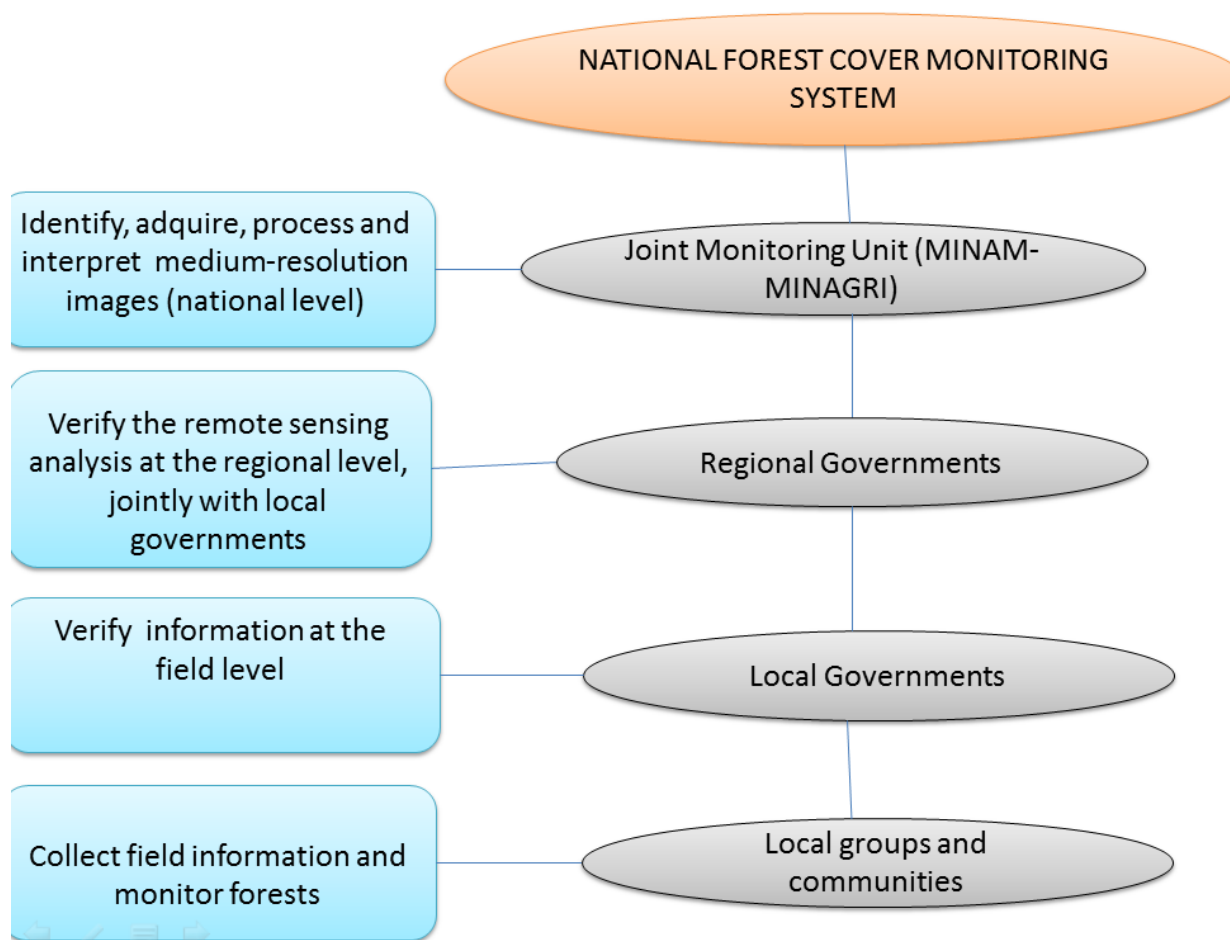
Area of Intervention	Additional emissions due to roads (Mt CO ₂ e/yr)	Maximum adjustment permitted (0.1% of C stocks) (Mt CO ₂ e/yr)	Annual adjustment (Mt CO ₂ e/yr)	Adjusted Annual CO ₂ e Emissions (Mt CO ₂ e/yr)	Adjusted Total CO ₂ e Emissions, 2017-2020 (Mt CO ₂ e)
Ucayali	1.63	4.07	1.63	8.50	25.5
San Martin	2.21	1.49	1.49	12.22	36.66
Total			3.12	20.72	62.16

Forest Monitoring



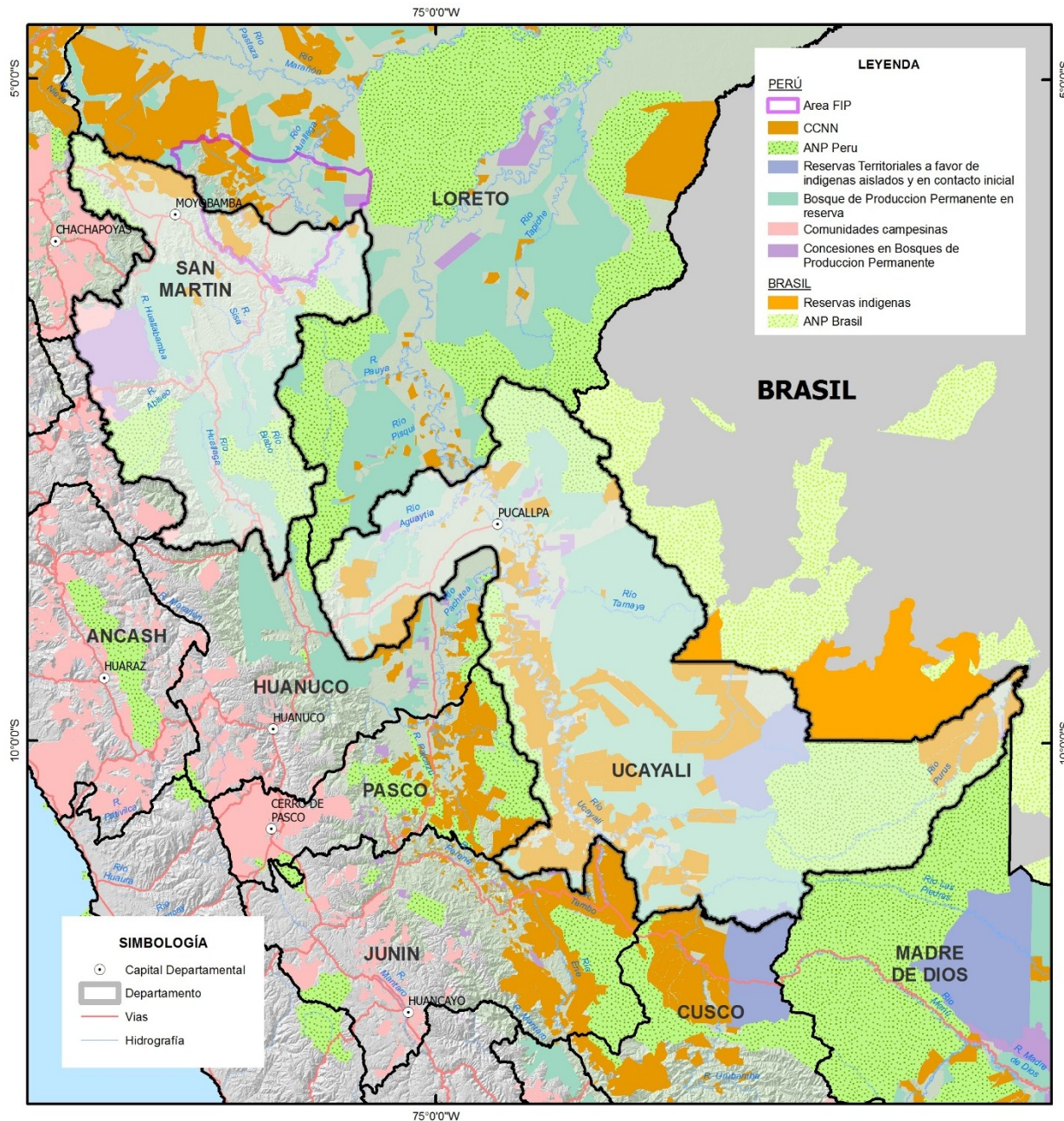
Monitoring system complete in 2015, jointly administered by Min. of Agriculture and Environment

Monitoring Linkages



Management of Leakage

- Geopolitical management of risk of leakage:
 - Protected Areas
 - Indigenous communities
 - FIP
 - Acre (Brazil)
- Need to strengthen monitoring and governance of indigenous communities, consolidate protected areas
- Better governance in other regions (LOI)
- Buffer or insurance policies



Management of Reversion

	Risk	Measure
Reversion	Reversal of SFM	Monitoring and control and early warning systems, sanctions More efficient silviculture and forest cluster development, markets
	Agriculture	Land use zoning, monitoring, and control Agroforestry systems, agricultural NAMAs

Safeguard Status

- Incorporates UNFCCC Cancun, ILO 169, and WB and IADB Ops.; WB procedures applied.
- Stakeholder training and information
- Analysis of legal framework, potential impacts, agents, those affected, and applicability of safeguards
- Analyzing relation of safeguard system to National System for Environmental Impact Evaluation (SEIA) and National Environmental Information System

Safeguards at Regional Level

San Martin:

- Identification of actors, training program, established facilitator group
- Standards Committee and technical advisory group
- Implementation plan, draft of regional indicators

Ucayali:

- Developing road map with multiple participants and Indigenous REDD+ Roundtable for creation of safeguard system and guidelines

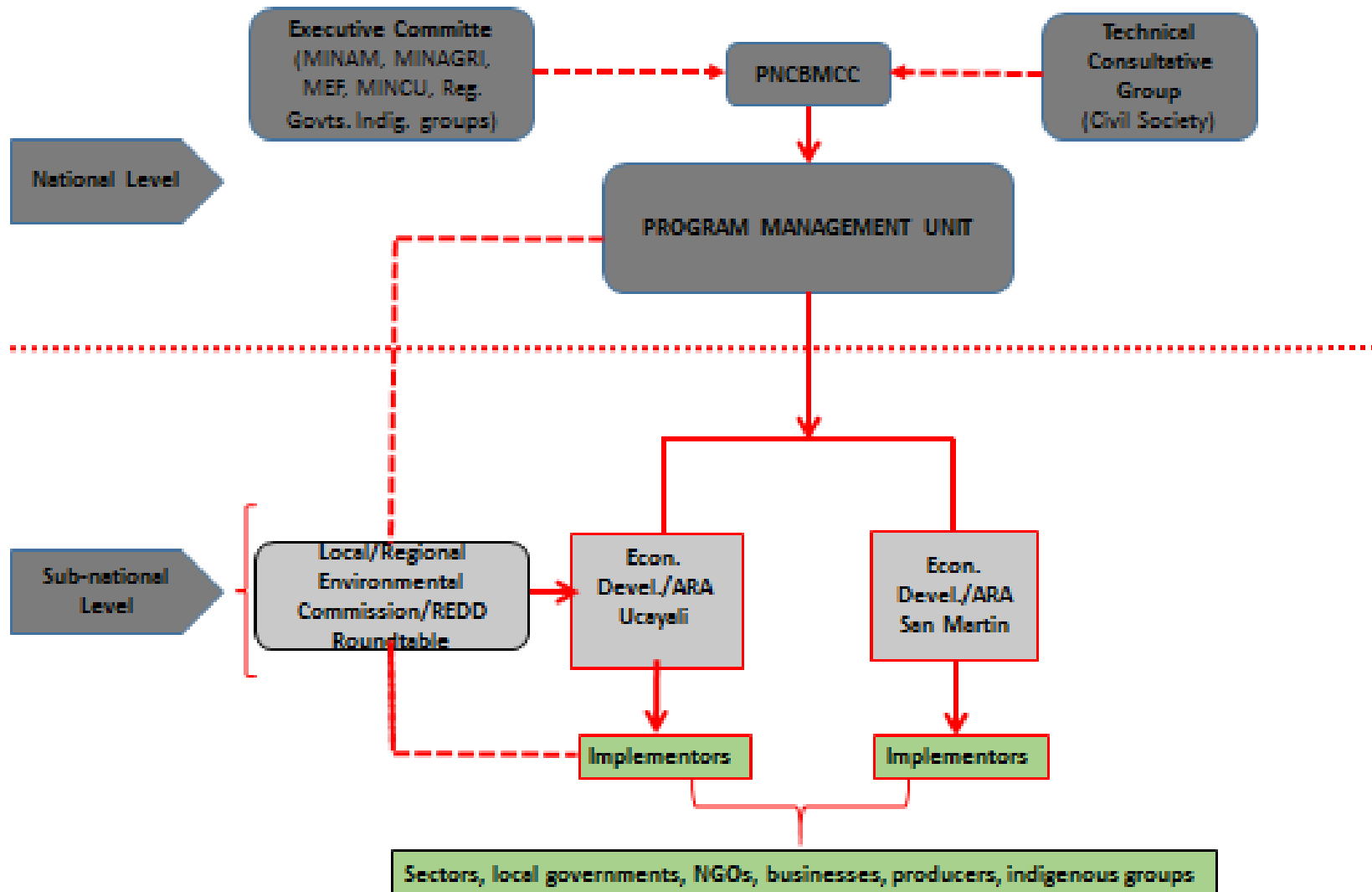
Safeguards – Next Steps (2015)

- Formation of national Safeguard Committee (multi-sectoral, regional govts., civil society, indigenous groups)
- Define social and environmental priorities
- Develop indicators, system of measurement, sources of information
- Develop policies and interventions to reduce risks
- Integrate information in SIS, and SIS with National Environmental Information System (SINIA)
- Grievance mechanism: Ombudsman Office

Safeguard Challenges

- Align multiple international safeguard systems and requirements
- Incorporate varied safeguard systems at regional level into national ENBCC safeguard system
- Align SIS with National Environmental Information System (SINIA)

ERP Management and Participation



Finances


- Preliminary analyses indicate net positive returns 2015-2020.

Funds	\$ (million)
Costs	\$304
ERP development	\$ 47
Implementation	\$257
Revenues	\$437
Grants and loans	\$ 71
Public funds	\$115
Impact of interventions	\$159
Carbon Fund	\$ 32
Other carbon sales	\$ 60

Financial Sustainability

- Link REDD+ and ERP to other elements of green economy
- Leverage public funds to stimulate private investments
- Forest and Climate Fund mechanism for PES
 - Bilateral transactions with Peruvian entities
 - Compensations of impacts caused by infrastructure, non-renewable resource devel.
 - Pension fund investments
 - Results-based payments by international cooperation

Improving Institutional Capacity

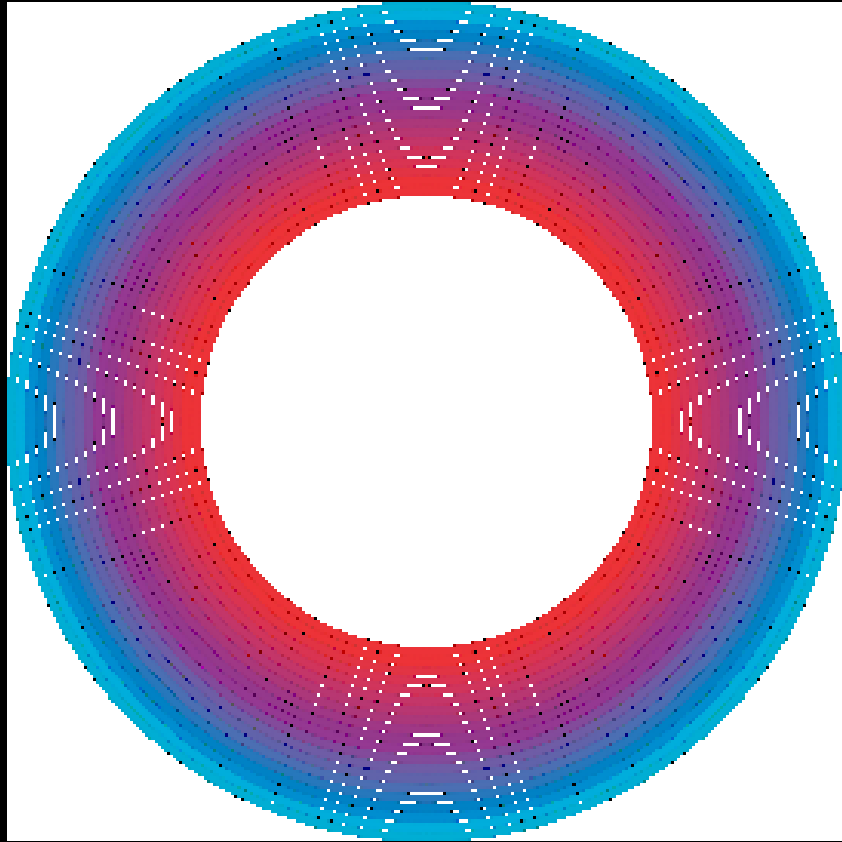
- MINAM-MINAGRI accords and institutional mechanisms
- More effective leadership of PNCBMCC in last year
- On-going internal organizational and budget analysis of PNCBMCC  results-based work plan and budget
- Substantial internal reform of SERFOR underway
- Capacity building of regional govt. partners needed

Sharing Carbon Benefits

- Carbon rights are defined in the legal framework
- Rights to benefits based on land rights
- ERP payments based on CF price; will promote differential payments with other buyers
- Commoditization of indigenous ERs avoided via non-transferability clauses &/or types of buyers considered
- System envisioned is REDD+ on the outside; inside details of benefit sharing are nationally determined

Details of Benefit Distribution

- Emerging consensus:
 - Benefits shared between the national and local jurisdictions (administration and enabling conditions) and emission reductions generators.
 - Benefits may be monetary or services.
 - On-going REDD+ project contracts apply until expiration and are excluded from C accounting; then switch to national or sub-national system.
- Forest and Climate Fund (under design) will serve as financial conduit
- High-level decision needed on goals and basis of benefit distribution; design concluded in 2015



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Responses to Questions/Comments

Questions/Comments	Response
1. Jurisdictional approach and regional description	San Martin and Ucayli regions used as jurisdictions.
2. Details on interventions	Details provided on relation of interventions with causes of deforestation.
3. Funding sources and relation with FIP	2 FIP pilot areas are embedded in target regions, but <10% of funding is FIP. Scope of ERP interventions are regional in nature; high priority areas are largely non-FIP.
4. Readiness timeframe	Presented in greater detail. First semester of 2016 is target completion date.
5. Consistency of MRV with Methodological Framework	Specific references to COP meetings and decisions and Methodological Framework provided.

Responses to Questions/Comments

Questions/Comments	Response
6. Determination of biomass and carbon	Details provided regarding relation between cover, biomass, and carbon. Consistency with MF and IPCC mentioned.
7. Forest degradation	Not estimated, but target date for Amazon is 2015. Identified need for further studies, especially related to roads.
8. Nesting of current REDD+ projects within ERP	4 projects exist. Their C will be excluded from accounting.
9. Risks of land use zoning and land tenure interventions	<p>The ERP will carry out: regional socio-environmental assessments to identify direct, indirect and cumulative risks posed by the interventions; the identification of mitigation measures; and how these solutions might be codified.</p> <p>Put a high priority on defining the legal status of land with unassigned rights.</p> <p>Prioritize the assigning of titles and rights, especially to indigenous peoples.</p>

Responses to Questions/Comments

Questions/Comments	Response
10. Participation of remote indigenous peoples	Meetings in accessible centralized locations with use of interpreters and materials in local languages.
11. Relation between benefit sharing and land resource rights	Land title is basis of benefit sharing. Titling of indigenous lands is a priority. Rights also recognized under new Forestry Law.
12. Prioritize zoning and land registry	SM and UCA have zoning systems. Land titling is a priority in both
13. Details on safeguard system	Based on WB policies and Peruvian and other intl. laws. Need to form Safeguards Committee, complete SESA, being ESMF and SIS.

- Formation of safeguards committee
- Metodologies for the development of indicators consistent with SINIA
- Metodologies to integrate sub-national context

(Inputs)

REDD+ SESA/OP EAE

- Definition of information sources
- Inter-operability among levels
- Definition of roles and functions within the system and corresponding institutional arrangements
- Articulation with MRV
- Articulation with the system for conflict resolution
- Articulation with Registry of REDD+ Initiatives

Cancun Safeguards

Strengthening capacities for the development of indicators

Definition of social and environmental priorities

Develop REDD+ indicators

Development of information management framework

Designation of regional safeguards focal points

Common social and environmental indicators

Regional Safeguard Committees

System of REDD+ Information and Safeguards

Safeguard Process

- Identification of national norms for REDD+ & safeguards
- Priorization of areas
- Mechanisms for inclusion
- Registry of REDD+ initiatives
- Mechanisms of transparency and access to information
- Mechanisms of participation
- Mechanisms of conflict resolution
- Strengthening of capacities of REDD+