



# Capacity Building Program for the development of a system of **Payment for Environmental Services** in Rwanda

## **The rol of the National Forestry Office (ONF) in the Program of payment for Environmental Services (PPES) in Costa Rica**

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The **National Forestry Office** is a non-governmental public entity with own legal capacity created through the Forestry Law N°7575 -1996- and formally constituted in March, 1997 with the objective of promoting forestry activities and the use of wood in Costa Rica.

Currently conformed by 40 accredited organizations in the subsectors of small forestry producers, other forestry organizations, wood-industry companies, traders, artisans, furniture producers and environmental organizations.



# Key functions of the ONF

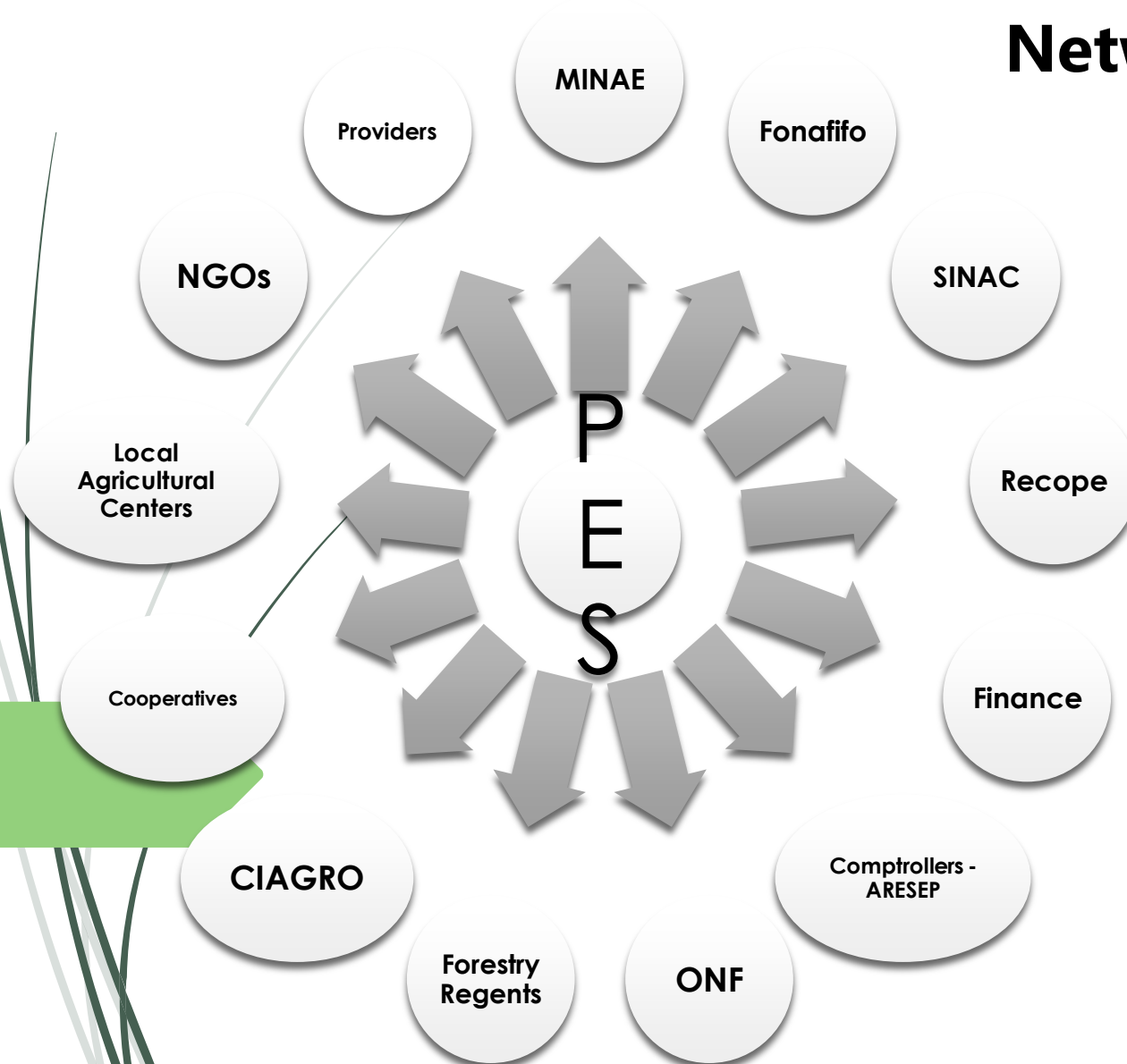
Art. 10 of the Forestry Law N°7575 defines its main functions:

- Recommend to the Ministry of Environment and Energy, policies and strategies for the development of the forestry sector.
- Strengthen organized groups for the development of the forestry sector, with a focus on the incorporation of peasants and small producers to the benefits of management, trading and industrialization of forestry plantations.
- Promote programs to enhance investments in the forestry sector and promote the mobilization of financial resources to this end.
- Disseminate information on markets, costs, trends, purchaser, inventory and similar, the optimal commercialization of products from the forestry sector.

## The role of the ONF in support to PPES

- Forestry Law, the ONF designates the two representatives of the forestry sector to the FONAFIFO's Executive Board.
- Facilitates dialogue and networking among FONAFIFO and forestry producer organizations.
- Review decrees, handbooks and PES contracts on different modalities.
- Leads political Lobby to defend financing for the PES.
- Supports FONAFIFO in the updating of amounts for different modalities to be paid by FONAFIFO.

# Networking/participation



The program has facilitated and promoted, since its beginning, the inclusion of different actors and interests in the development of the forestry sector of Costa Rica with FONAFIFO as the financial axis.

Within MINAE FONAFIFO works in close coordination with SINAC, so as to integrate the State's Forestry Administration where national policies and priorities for resources investments in PES are decided.



# PES operational scheme



RECOPE – Min Finance

Certifies Tax collection to be included in the annual budget.

Reforma Reglamento a la Ley Forestal  
N°39871-MINAE

EL PRESIDENTE DE LA REPÚBLICA

y

EL MINISTRO DE AMBIENTE Y ENERGÍA

Decree 39871-MINAE Sept-2016

Prioritization Criteria

PODER EJECUTIVO  
RESOLUCIONES

MINISTERIO DE AMBIENTE Y ENERGÍA

R-055-2020-MINAE

San José, a las catorce horas con treinta minutos del veintiocho de febrero del dos mil veinte. Se establece al Fondo Nacional de Financiamiento Forestal la cantidad de hectáreas a financiar por actividad en el Programa de Pago por Servicios Ambientales y el monto a pagar con base en los recursos asignados en el Presupuesto Nacional y aprobados por la Contraloría General de la República al citado Fondo.

Annual regulation

Activities, area and amounts to be financed



Procedures handbook

Procedures for participation

**Estimados Clientes,**  
La recepción de las **Solicitudes de Ingreso 2020**, para aplicar al Programa por Pago de Servicios Ambientales, se ejecutará por medio del Sistema de Solicitud de Citas.

Si usted se encuentra interesado, puede **reservar su cita a partir del 20 de enero de 2020**, mediante los siguientes medios:

- Llamar gratuitamente al número telefónico **0800-830434** (800-3662 3436)
- Ingresar al Sistema Oficial de FONAFIFO por medio de URL: [spsa.fonafifo.com](http://spsa.fonafifo.com)
- Presentarse en alguna Oficina Regional de FONAFIFO, donde se le ayudará oportunamente a ubicar su cita

La recepción de documentos será a partir del 27 de enero para las diferentes actividades, según el siguiente detalle:

<p><b>Protección y Regeneración:</b> Del 27 de enero al 20 de marzo del 2020.</p> <p>Las citas de estas actividades se darán hasta el día 16 de marzo.</p>	<p><b>Reforestación y SAF:</b> Del 27 de enero al 26 de junio del 2020.</p> <p>Las citas de estas actividades se darán hasta el día 22 de junio.</p>
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Dates system

Step by step to participate in then program

## Lobbying for the defense of funding

The main source of PES funding is a **3.5% of the current tax on fuels which generates approx. \$US \$30 million per year.**

Current legal framework creates other potential financing sources to strengthen the program such as:

Loans and grants from national and international entities, other loans, Water tariffs and resources deriving from issuance of credit titles, among others.



# Support in the updating of ammounts for PES

ES includes:

1. Water Protection
2. Biodiversity Protection
3. Scenic/landscape beauty
4. Mitigation of GHG

A

A ONF methodology (Barrantes 2011; Barrantes and Ugalde 2017) -built on the basis of FONAFIFO's methodology- is used to calculate the amounts of PES

B

Ranking changes according to the modalities:

1. Mature forests management
2. Plantations:
3. Forests Protection

C



# Estimating carbon fixation environmental service in forestry plantations



For valuing the carbon fixed in a forestry plantation it is imperative to estimate at least the following elements/values:

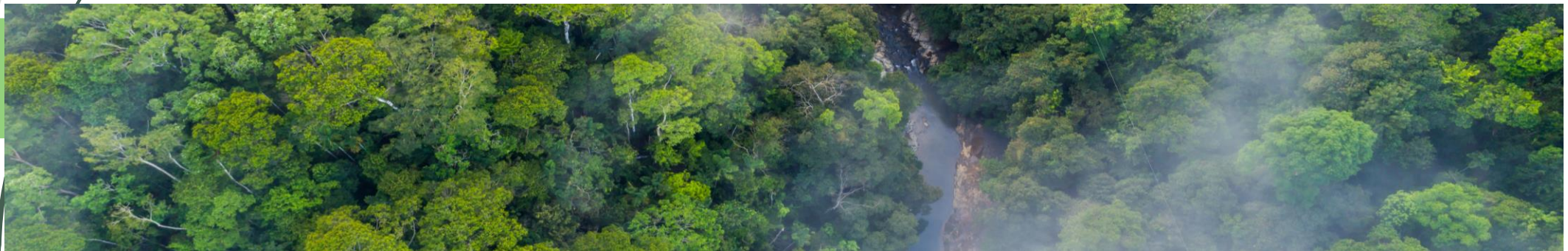
- a) **The productivity of the forest plantation measured by its total biomass, including the diameter of logs, canopy and roots (Tons/Ha./year)**
- b) **Carbon content of the biomass. (Tons/Ha/year).**
- c) **Conversion of carbon into carbon dioxide (Tons/Ha/Year).**
- d) **Estimate a value for the tons of carbon.**
- e) **Determine the harvesting cycle or permanence of the forestry plantations or agroforestry systems (years).**

Because of its own interest, FONAFIFO decided that the amounts of PES for forestry plantations were to be differentiated by groups of species, for the short and medium terms.

# Disclosed/unhidded values of environmental services

There exist some disclosed or unhidden values of environmental services –at least for the forests- where other actors have showed willingness to pay for the environmental services of water protection, biodiversity and scenic beauty:

- **Water protection** \$ 29 / ha. / year
- **Protection of Biodiversity** \$ 11 / ha. / year
- **Scenic beauty** \$ 5 / ha. / year



# Elements to define the PES amounts

	Bosque maduro	Bosque secundario		
		SubModalidad 1	SubModalidad 2	SubModalidad 3
<b>CARBONO EVITADO</b>				
Biomasa (ton/ha)	225.77	6.30	15.50	165.20
Riesgo de deforestación (%/año)	1.6%	1.6%	1.6%	1.6%
Pérdida de biomasa evitada por el manejo (ton/ha/año)	3.62	0.10	0.25	2.70
Carbono presente en la biomasa (ton/ton)	0.45	0.4	0.45	0.45
Toneladas de carbono evitadas por año (ton/ha/año)	1.62	0.04	0.11	1.20
Factor conversión de C a CO2	3.67	3.67	3.67	3.67
Volumen de CO2 evitado (ton/ha/año)	5.94	0.20	0.41	4.30
Precio por tonelada de CO2 (USD\$/ton)	4.245	4.245	4.245	4.245
<b>Valor del CO2 evitado (USD\$/ha/año)</b>	<b>25.21</b>	<b>0.7</b>	<b>1.7</b>	<b>18.5</b>
<b>CARBONO FIJADO</b>				
Volumen (m3/ha/año)	2.11	6.10	5.30	4.00
Densidad madera (Kg/m3)	510.00	510.00	510.00	510.00
Factor expansión	1.44	1.44	1.44	1.44
Root - Shoot Ratio	1.45	1.45	1.45	1.45
Biomasa (ton/ha)	2.25	6.50	5.60	4.30
Carbono presente en la biomasa (ton/ton)	0.45	0.45	0.45	0.45
Carbono fijado (ton/ha/año)	1.00	2.90	2.50	1.90
Factor conversión de C a CO2	3.67	3.67	3.67	3.67
Volumen de CO2 fijado (ton/ha/año)	3.69	10.60	9.20	7.00
Precio por tonelada de CO2 (\$/ton)	4.245	4.245	4.245	4.245
<b>Valor de la fijación de CO2 (\$/ha/año)</b>	<b>15.7</b>	<b>45.0</b>	<b>39.1</b>	<b>29.7</b>
<b>OTROS SERVICIOS AMBIENTALES</b>				
Protección del agua (USD\$/ha/año)	32.50	16.30	24.40	32.50
Protección de la biodiversidad (USD\$/ha/año)	10.00	7.50	7.50	7.50
Protección de la belleza escénica (USD\$/ha/año)	5.00	2.50	3.80	3.80
<b>TOTAL DE LOS SERVICIOS</b>				
Pago anual (10 años, USD\$/ha/año)	88.4	72.0	76.4	91.9
Pago anual (10 años, CRC/ha/año) *	53 415	43 511	46 195	55 574



OFICINA NACIONAL  
FORESTAL

Thank You

[www.onfcr.org](http://www.onfcr.org)

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