



# **Payments for ecosystem services** **a polycymix within a policyscape**



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# Questions

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- **PES as an individual 'instrument'**
- **PES as a policymix** – 'rules-in-use' & Institutional Analysis and Design (IAD)
  - PES rules-in-use (Costa Rica)
  - PES - regulation interactions
- **Conclusion: rules-in-use to study instrument interaction**



# **Payments for ecosystem services** **individual instrument**



# PES as an individual market-based instrument



## Wunder (2005) PES definition

- (a) a voluntary transaction,  
where
- (b) a well-defined environmental  
service (or a land use likely to  
secure that service)
- (c) is being 'bought' by a (minimum  
one) service buyer
- (d) from a (minimum one) service  
provider
- (e) if and only if the service provider  
secures service provision  
(conditionality).

## Ostrom (2005) IAD terminology

**Payoff rule**

**Scope rule**

**Position rules**

**Choice rules**

# PES as particular type of common pool resource (CPR) regime

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Muradian et al. (2010):

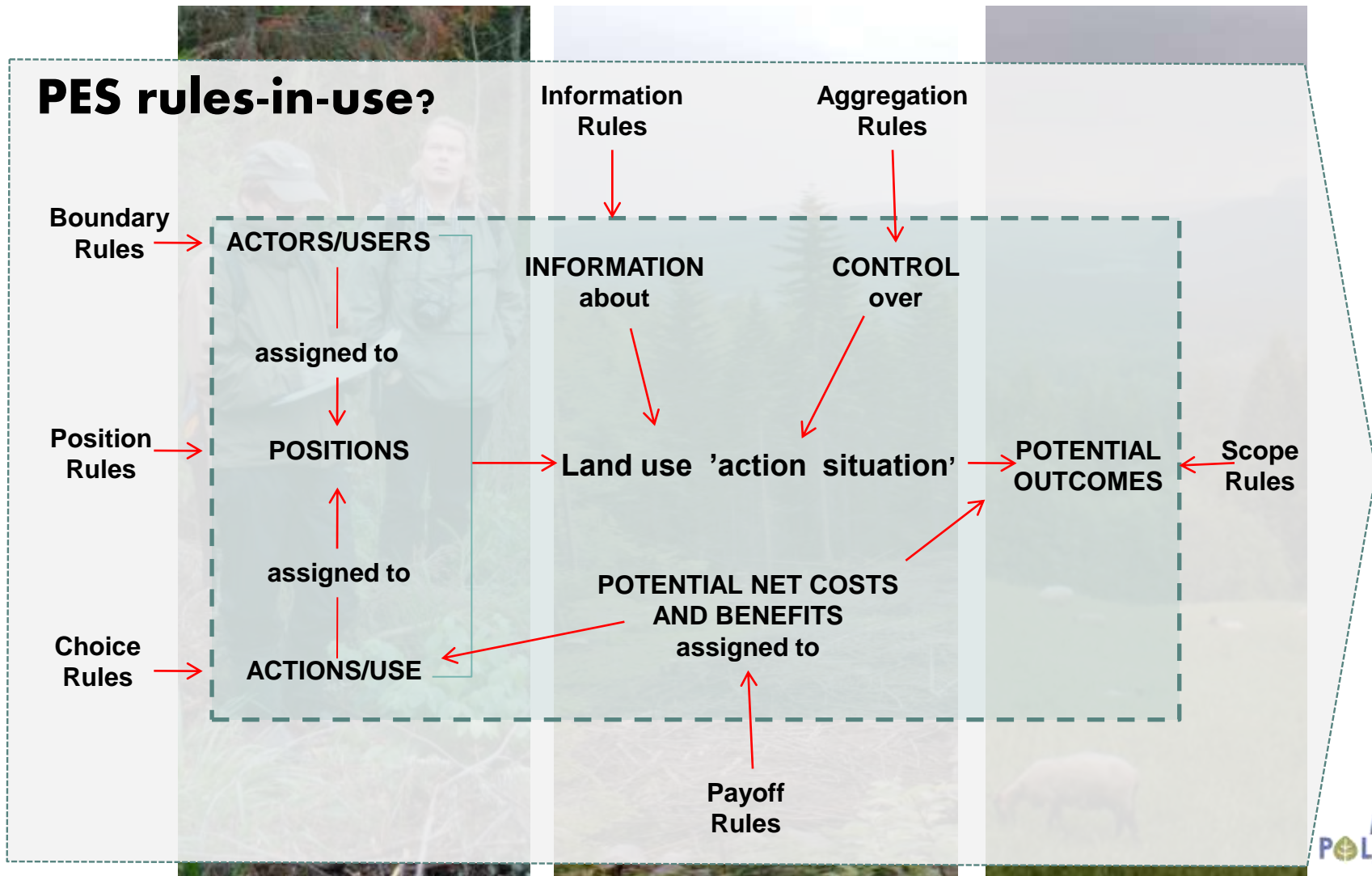
“..broader analytical approach transcends the idea of PES as only a market-driven tool, links PES to the literature on CPR and incorporates a **broader range of situations and institutional arrangements**”



# **Payments for ecosystem services as a policymix**

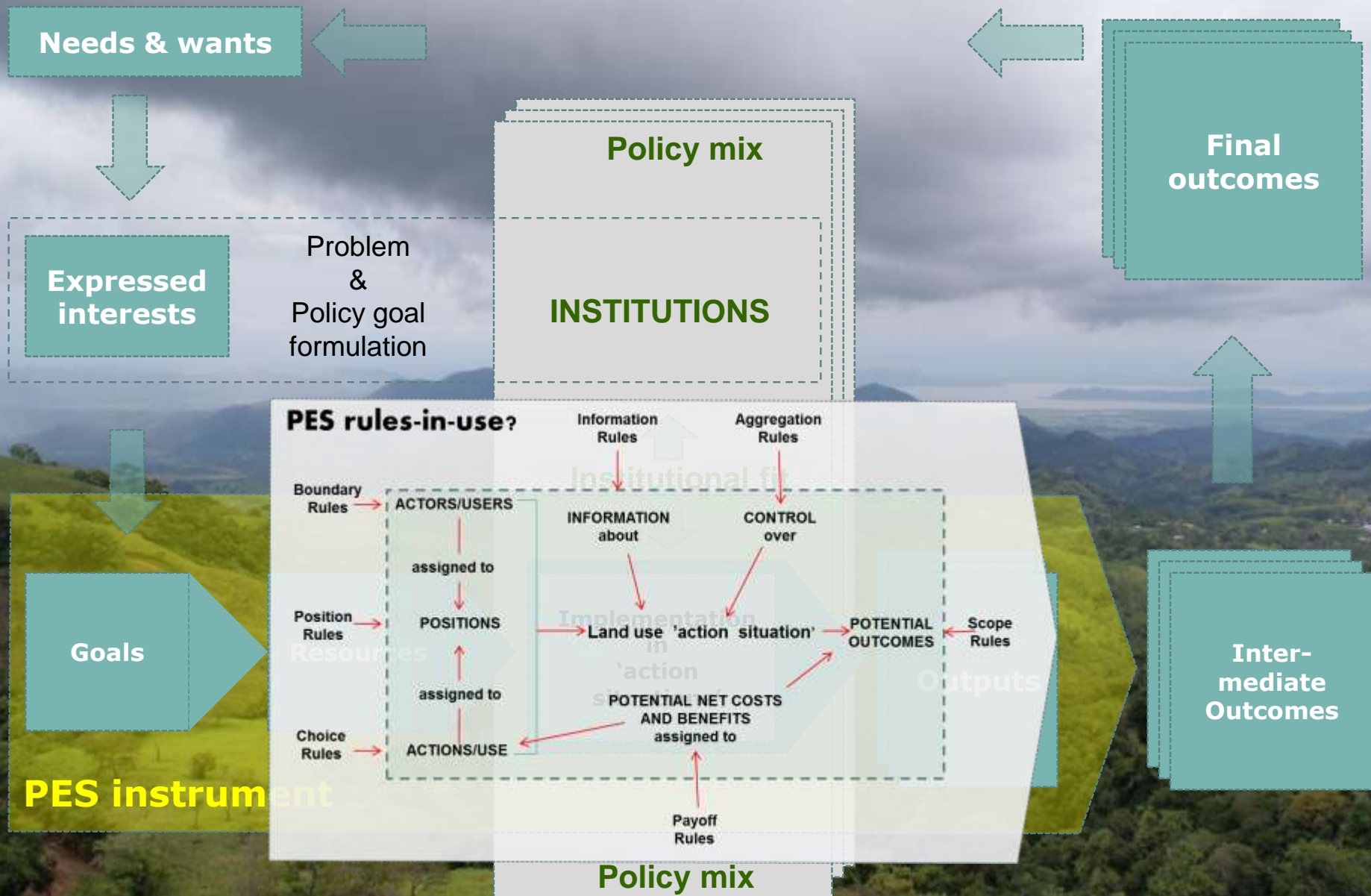


# Institutional analysis and development (IAD) framework: «rules-in-use»



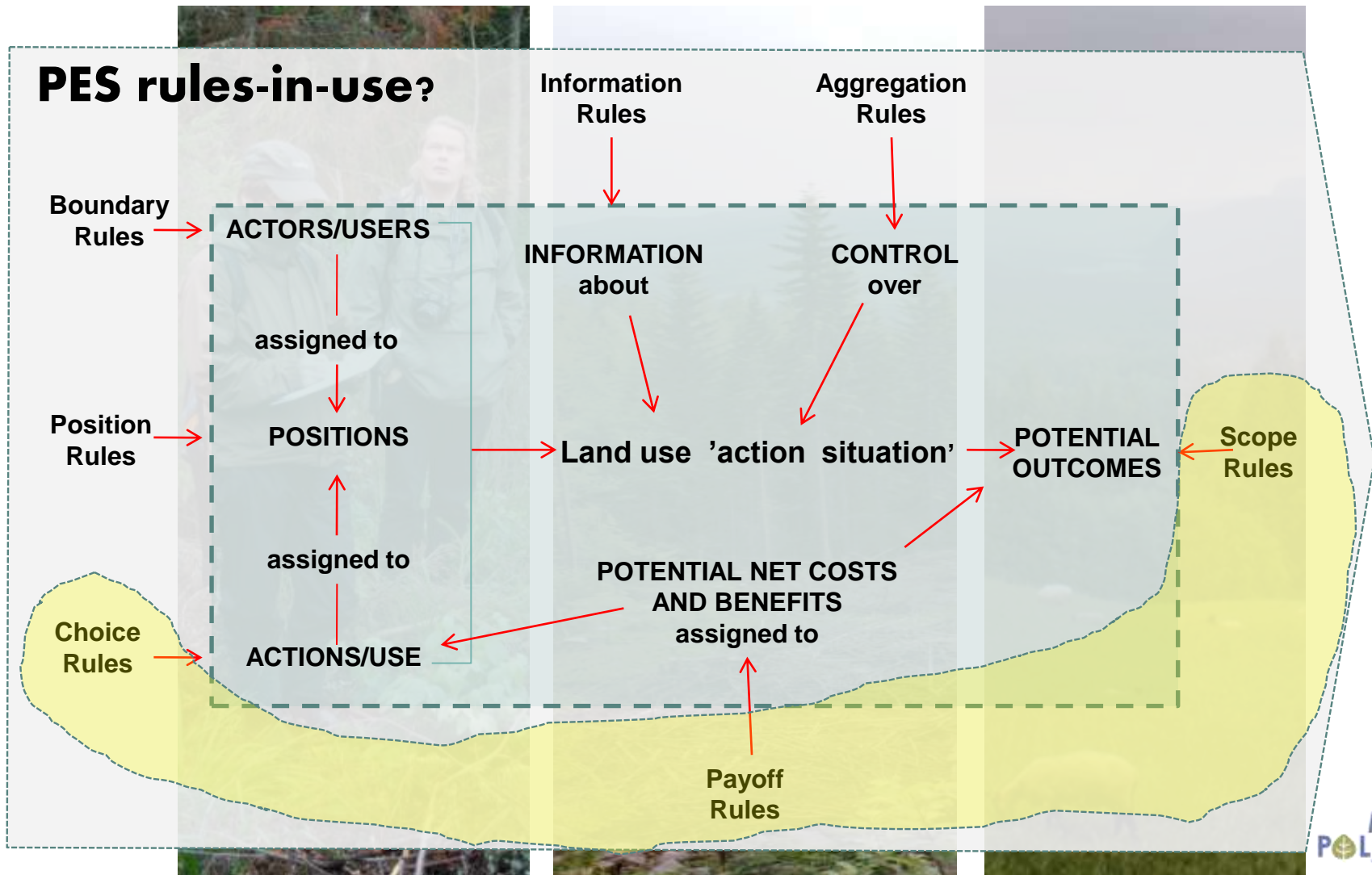
Source: adapted from Ostrom, E., 2005. Understanding Institutional Diversity.

# Framing: IAD Rules-in-use in the policy cycle...



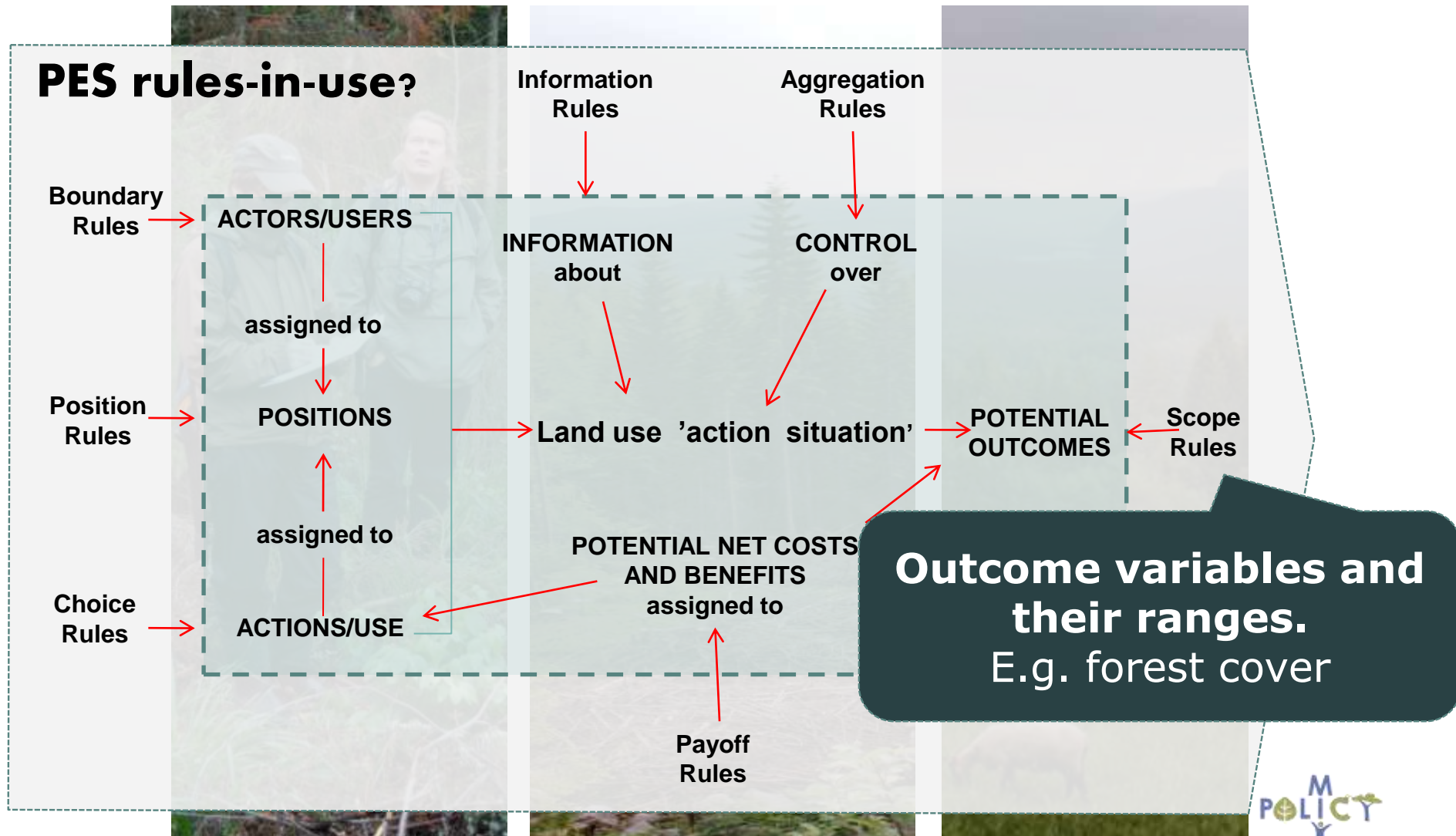


# Rules governing forest owners



Source: adapted from Ostrom, E., 2005. Understanding Institutional Diversity.

# Scope rules: forest owner



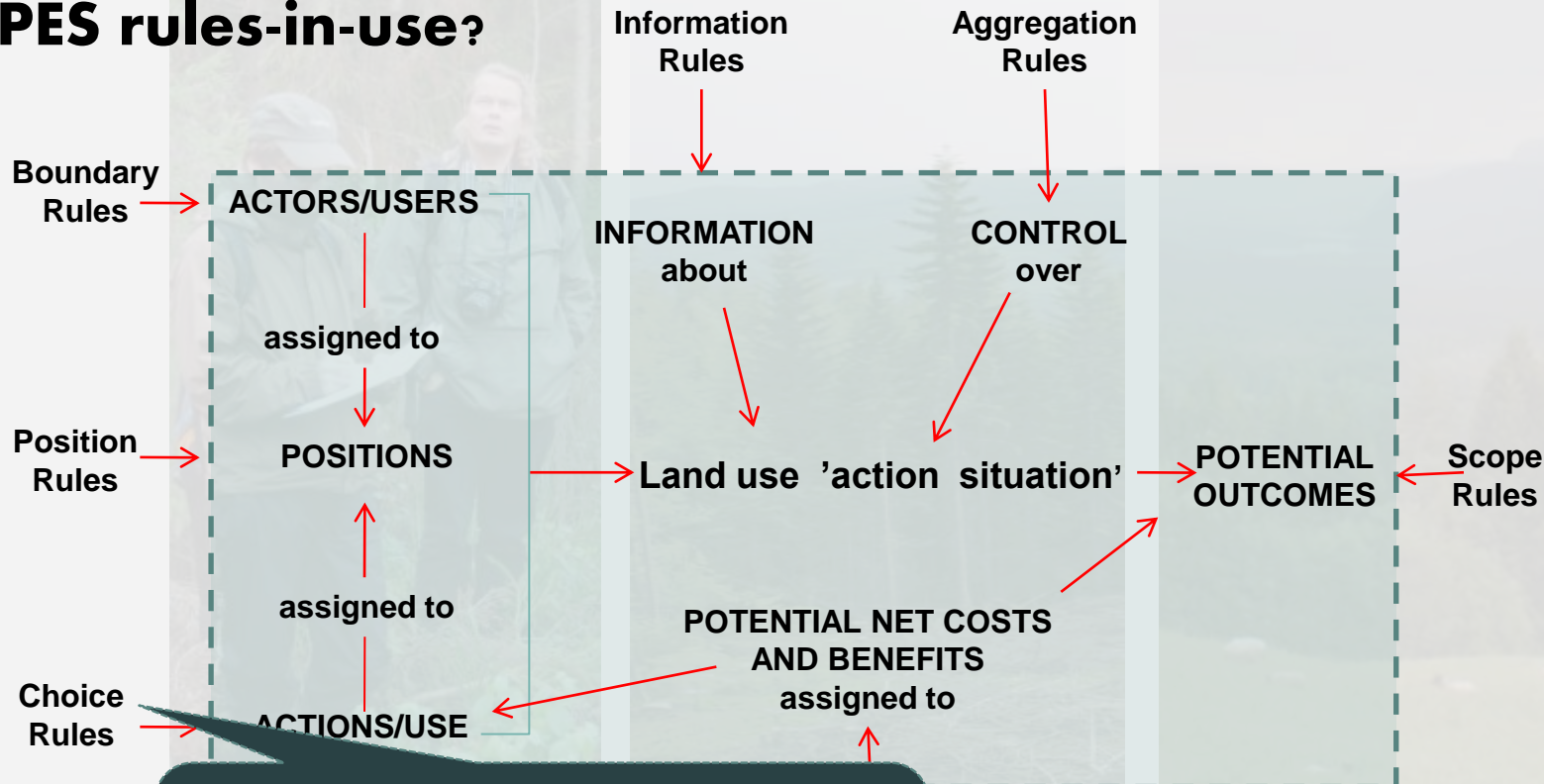







# Choice rules

## PES rules-in-use?



**Required, permitted  
forbidden, guaranteed  
actions**



Modalidad de Protección de Bosques  
En áreas Silvestres Protegidas  
Contrato: PN-01-224-0102-2011  
Sonia Caballero Arauz  
Walter Arauz Nieto



# Choice rule instrument interaction

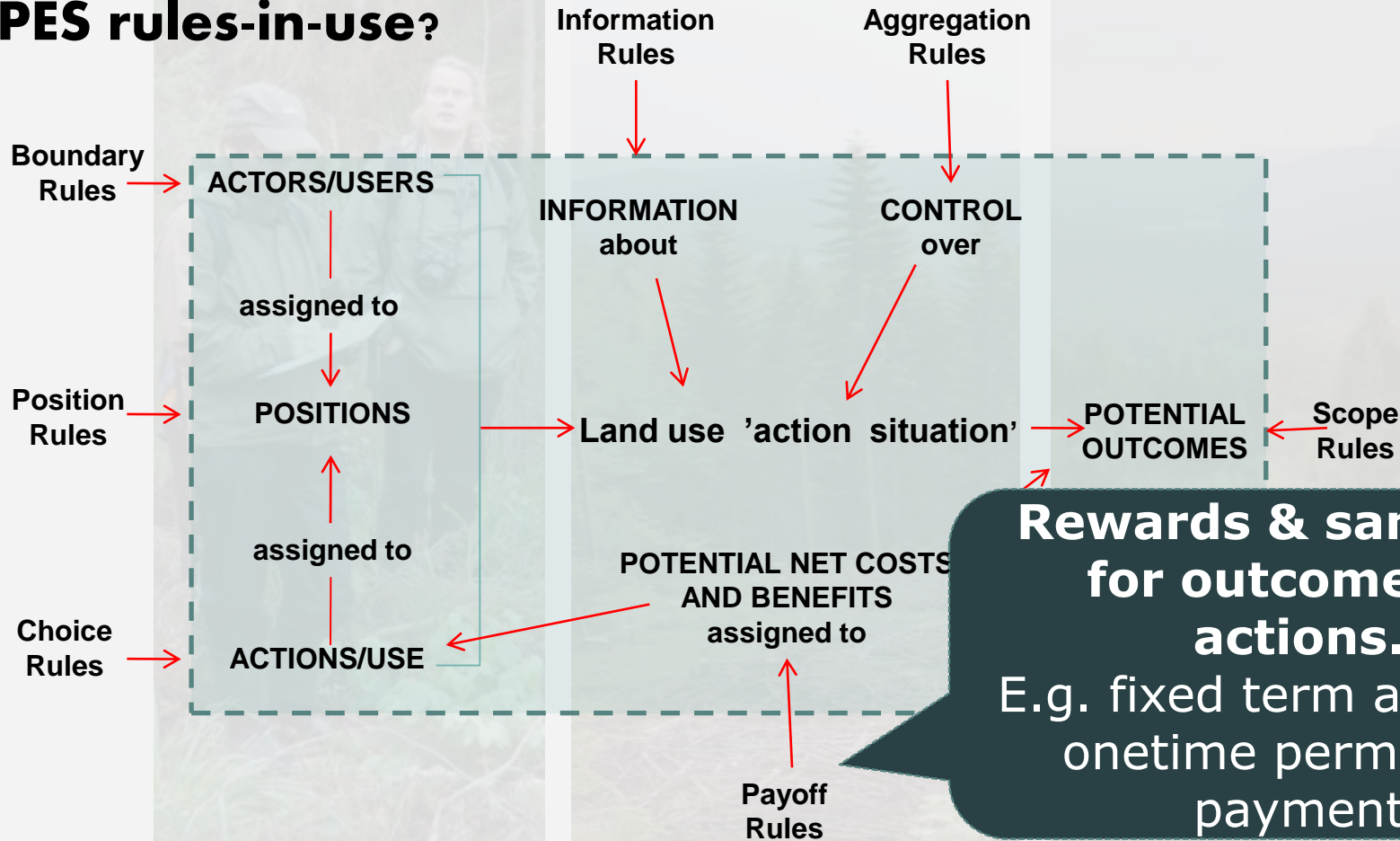
The Forest Law ban on landuse change in forests is a general ***choice rule*** banning all forest clearing with a few exceptions\*

\*Exceptions can be granted for housing and infrastructure for the purpose of ecotourism, infrastructure of national interest, natural hazard mitigation and forest fire prevention



# Payoff rules

## PES rules-in-use?



# Payoff rule instrument interactions I

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Participation in  
PSA provides a  
guarantee of  
public eviction of  
squatters  
(**avoided costs**)







# Payoff rule instrument interaction II

Private forest owners in PSA or in protected  
areas are exempt for property taxes  
**(avoided costs).**



# Payoff rule instrument interaction III

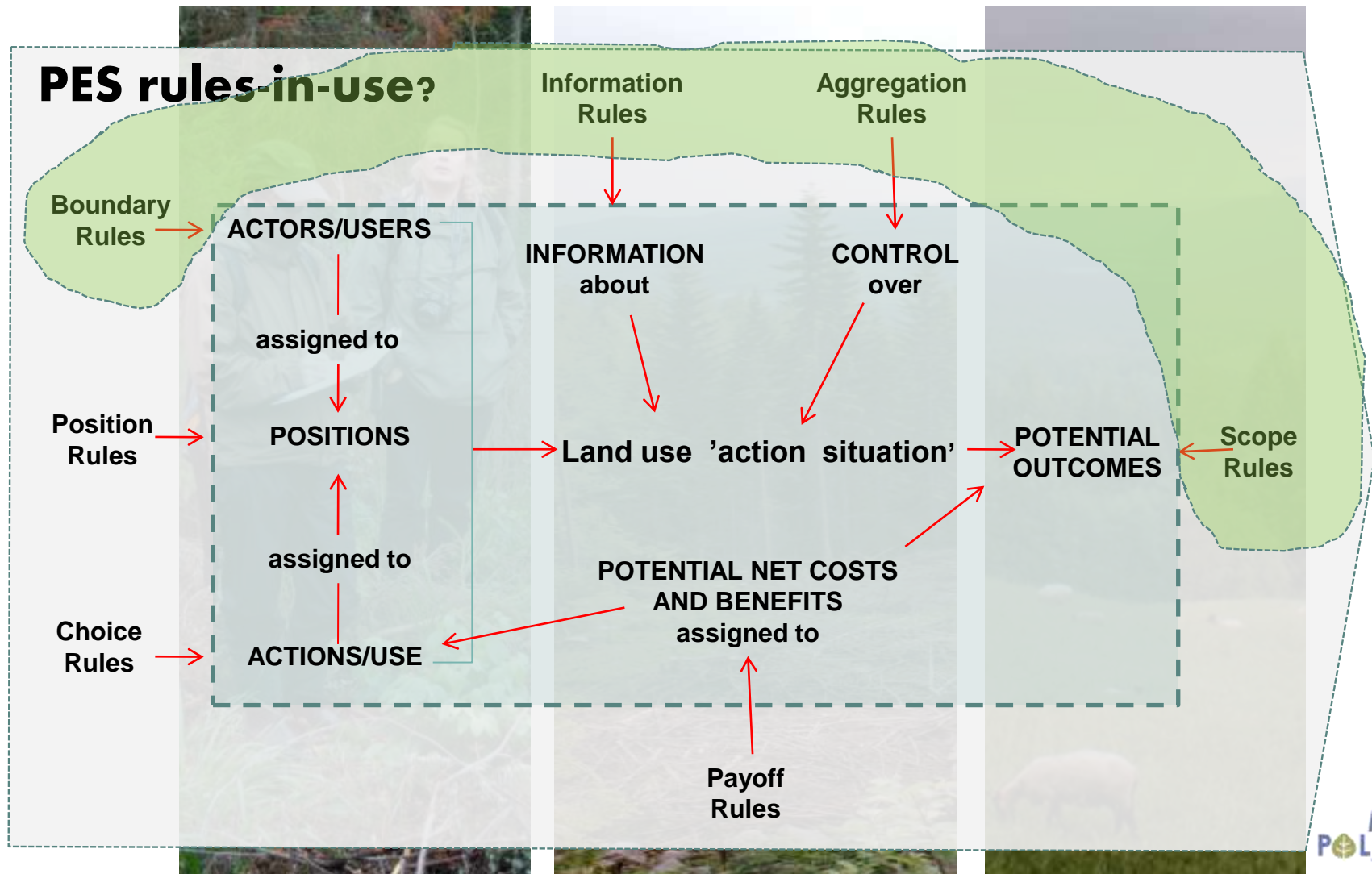
Landuse change with intent is illegal and punishable by prison sentences of up to 3 years (**sanction**).



# Payoff rule instrument interaction IV

Despite being protected by forest law, forest riprarian zones are counted as part of the PSA contracted area and subject to compensation (**redundant *pay off***)

# Rules governing the regulator





# Boundary rules

## PES rules-in-use?

### Entry, succession, exit rules

e.g. eligible area, legal title, length of contract, renewal criteria

Boundary Rules

Position Rules

Choice Rules

POSITIONS

assigned to

ACTIONS/USE

Information Rules

Aggregation Rules

CONTROL over

Land use 'action situation'

POTENTIAL NET COSTS AND BENEFITS assigned to

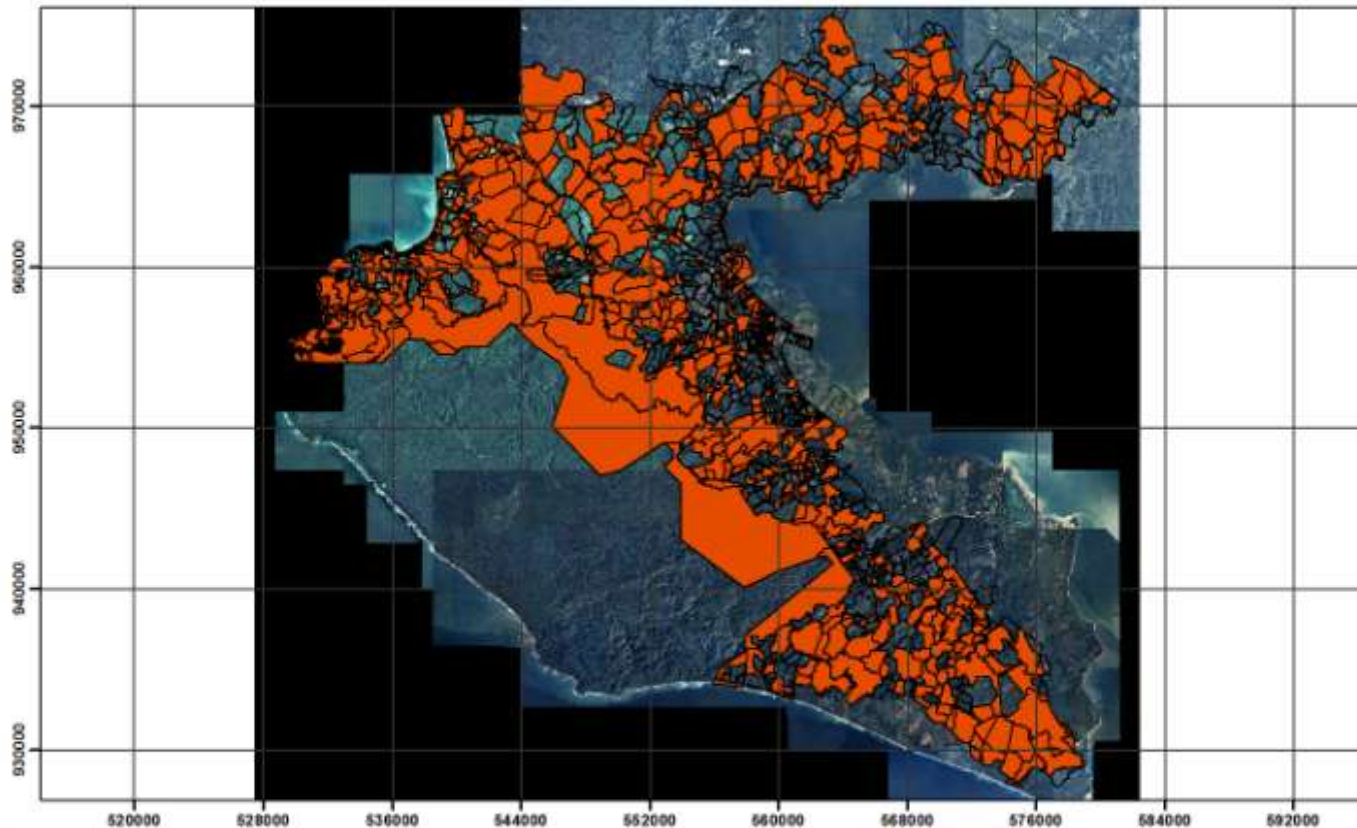
Payoff Rules

POTENTIAL OUTCOMES

Scope Rules

# Boundary rule instrument interactions

MAPA DE INCONSISTENCIAS OSA

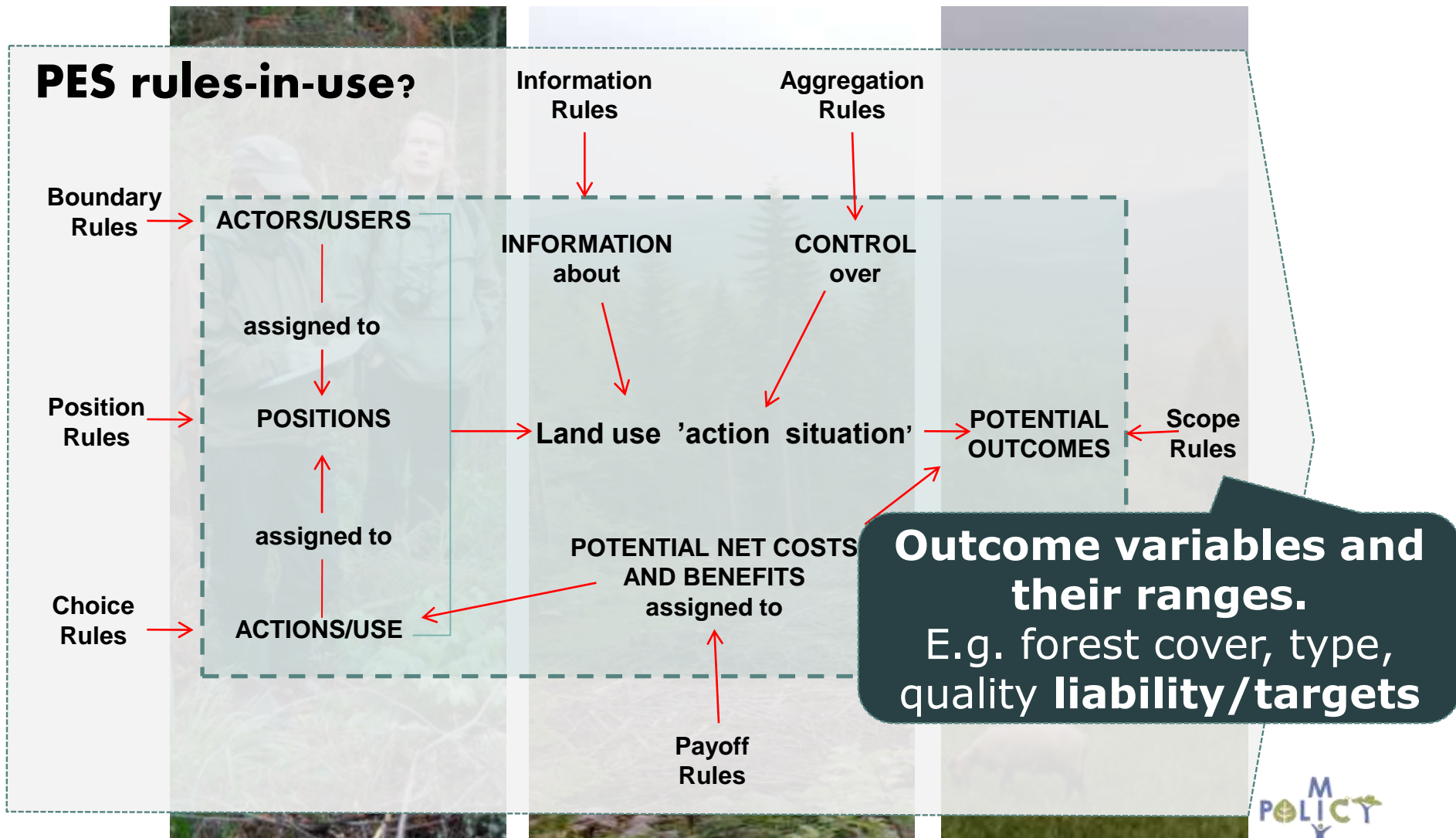


42% of properties and 70% of land area have one or more cadastral inconsistencies which could delay or stop PES applications...

Proyección CRTM 05 Costa Rica Datum: WGS84	PREDIOS DE MAPA CATASTRAL CON INCONSISTENCIAS  01-03-04-06-07-08-10-11	Elaborado por: Ing. Karla Benavides Galindo
Escala Numérica: 1:346.000  0 3.200 6.400 12.800 19.200 25.600 Meters		Septiembre 2013



# Scope rules:regulator



Source: adapted from Ostrom, E., 2005. Understanding Institutional Diversity.

# Boundary rules evolving into scope rules

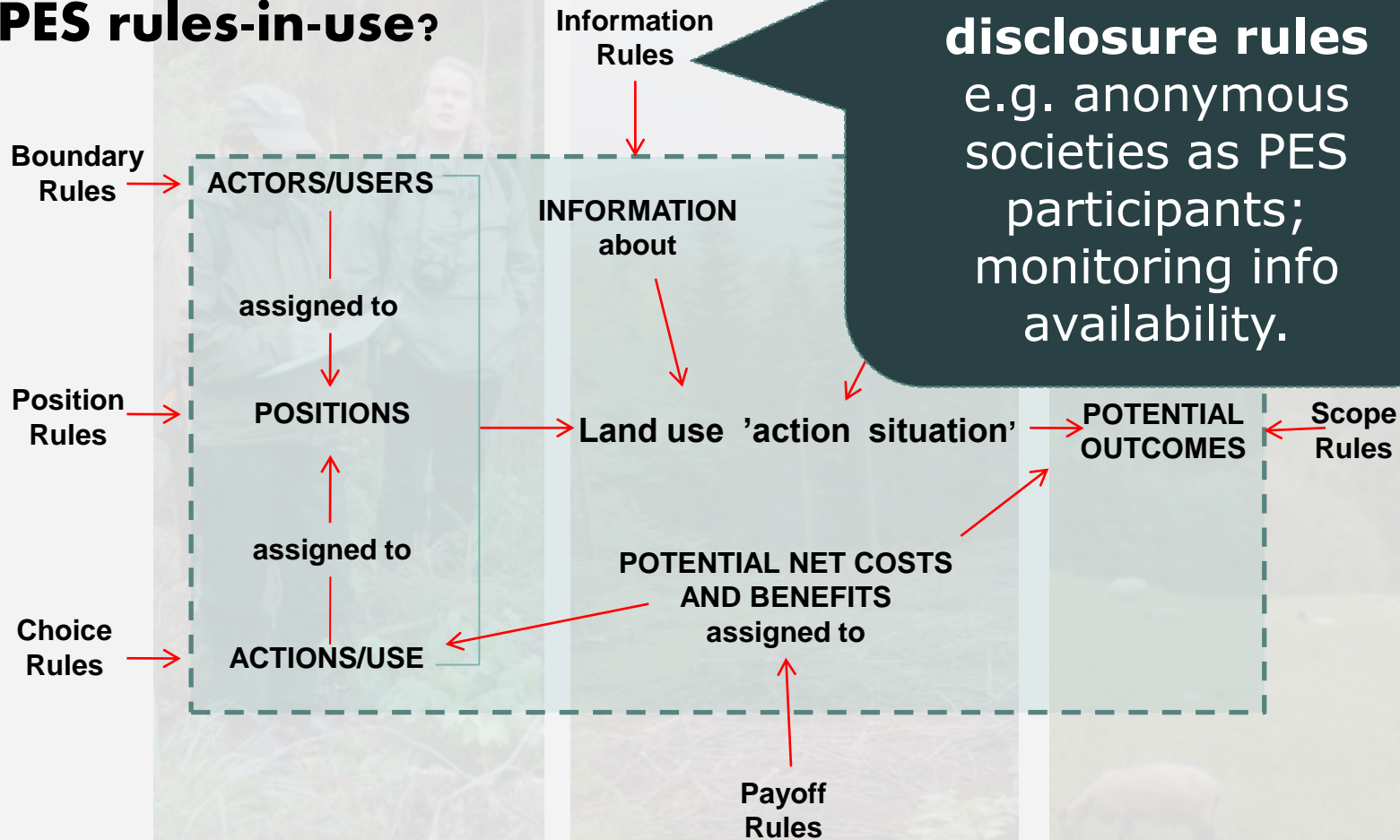
Eligibility criteria ➡ targeting criteria

PRESIDENTIAL DECREE #	1997	FIRST PERIOD					SECOND PERIOD								THIRD PERIOD		
		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
	25828	26977	27808	28610	29394	30090	31081	31767	32226	33226	33852	34371	35119	35762	36516	36935	
	26141																
<b>Criteria:</b>																	
Conservation area (CA) specific criteria	Whole country/ no spatial priorities	See Note below															
Non-priority Forest															60	55	55
Indigenous territories													6.	6.	80/75*	85	85
Conservation gaps (GRUAS II)													§ /3.	§ /3.	80/75*	85	85
Protected areas (PA)													1. § /4.	1 § /4.	80/75*	75	75
Forest protecting water resources															80	80	80
Biological corridor (GRUAS, CBM)													2. § / 5.	2 § / 5.	80/70*	80**	80**
Ecomercados#, KfWproject areas																	
Non-expropriated properties													9. PA	9. PN/ RB	AP	AP	AP
Expiring forest management PES													8.	8.	65		
Expiring contract this year															+5	+10	+10
Expired PES contract													7.	7.	+5		
Expired CAFMA >10yrs																	
Low SDI (<40%)													10.	10.	+5	+10	+10
Contracts <sup>1</sup> , properties <sup>2</sup> <50 ha															+10 <sup>1</sup>	+25 <sup>2</sup>	+25 <sup>2</sup>



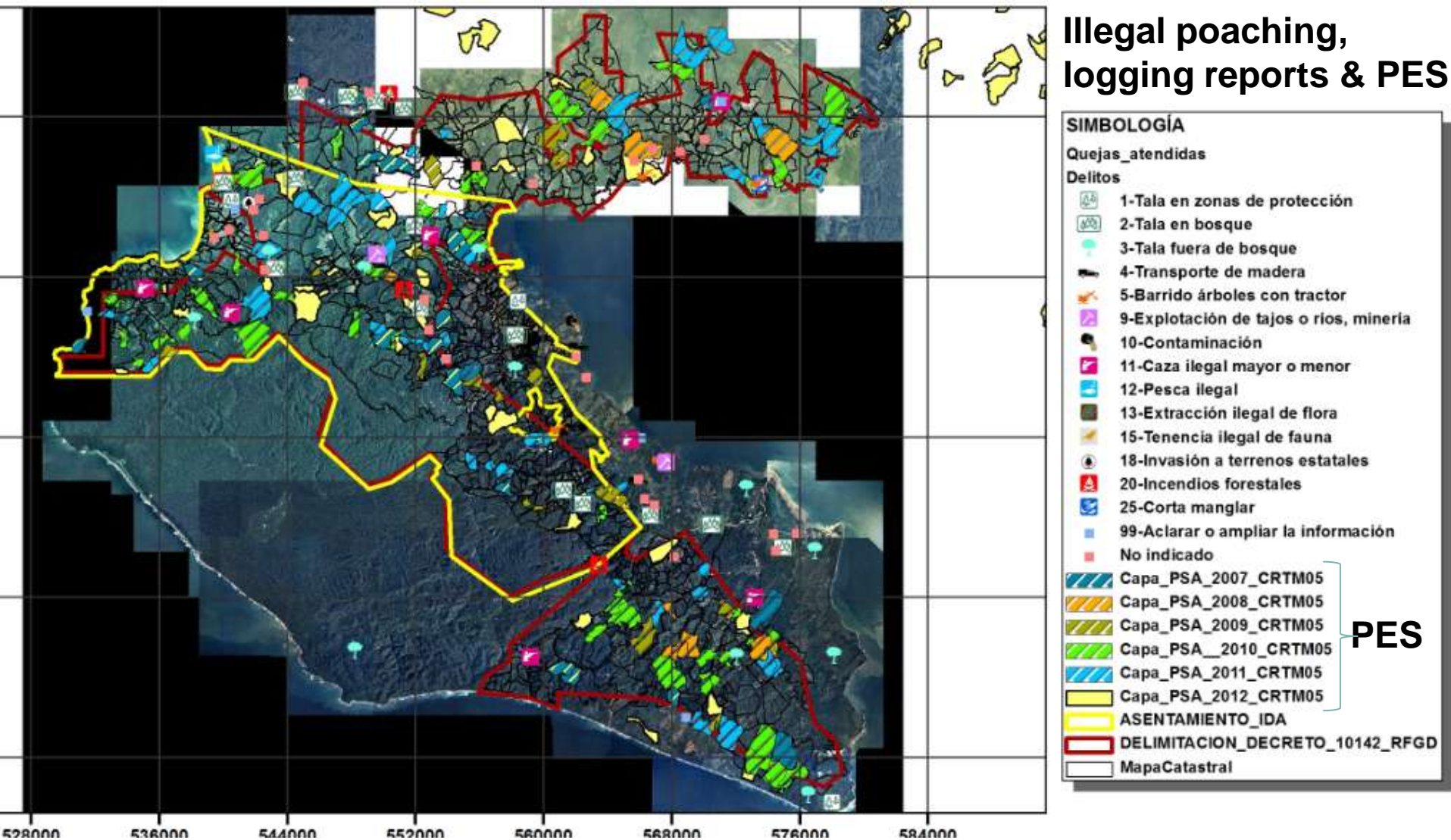
# Information rules

## PES rules-in-use?



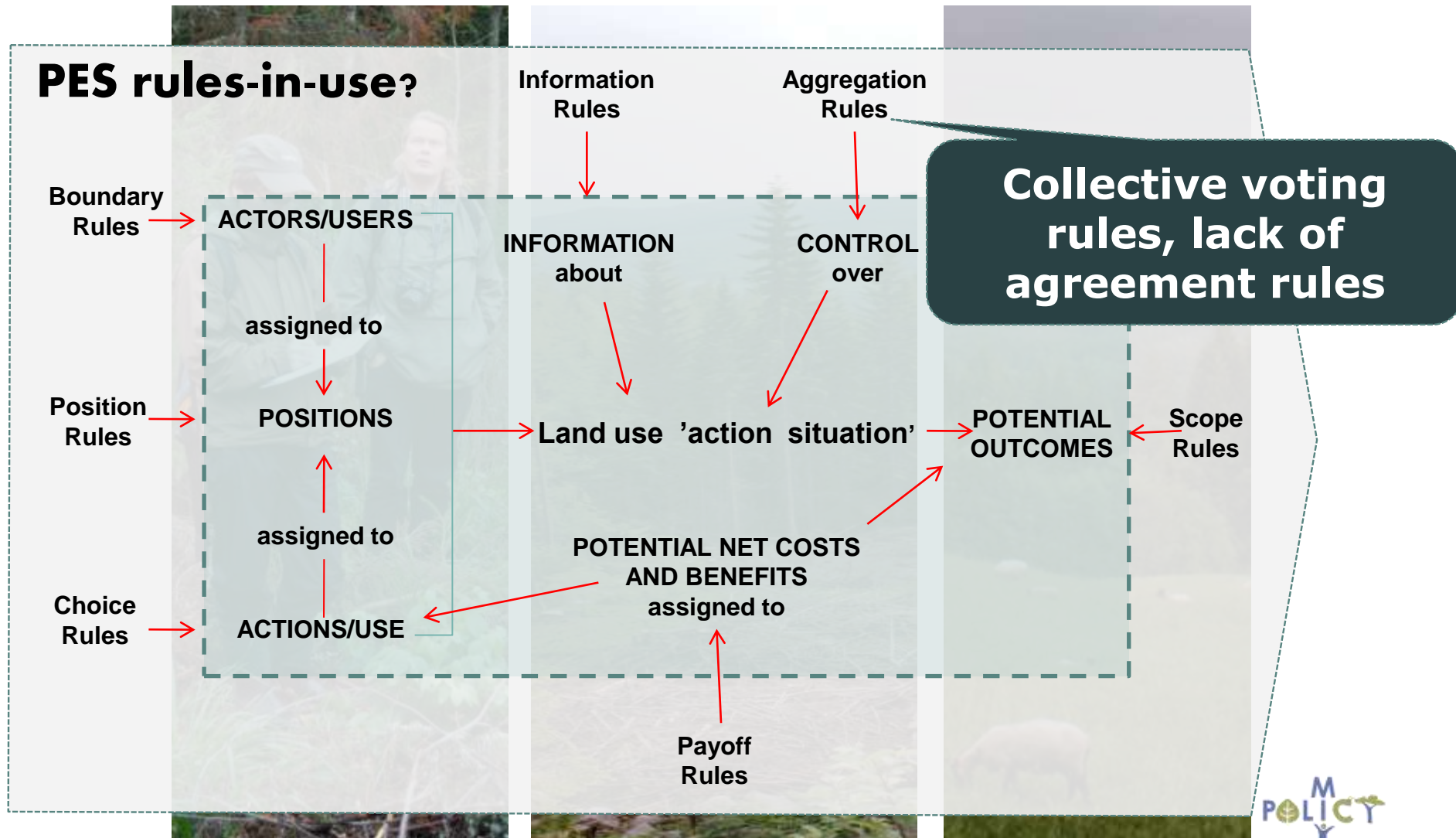
**Info access and disclosure rules**  
e.g. anonymous societies as PES participants; monitoring info availability.

# Information rules institutional interaction





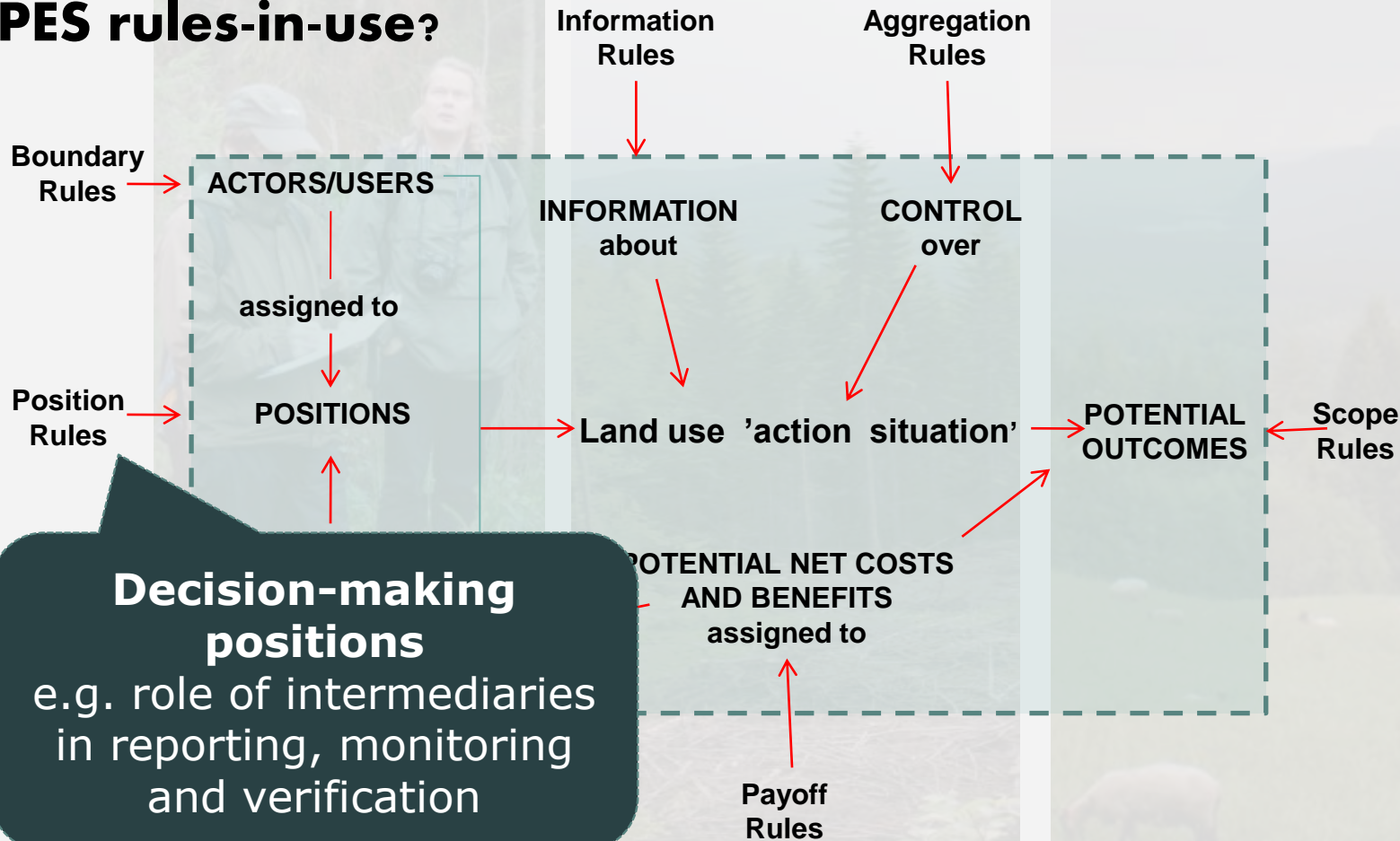
# Aggregation rules



Source: adapted from Ostrom, E., 2005. Understanding Institutional Diversity.

# Position rules

## PES rules-in-use?





# Position rule: role of intermediaries

FONAFIFO (Public PES authority)

?

Ident-  
ification

Recruit-  
ing

Applic-  
ation

Monitoring

Reporting

Disemburse-  
ment

Verification

?

Forest owner





**PES as a policy mix within a  
policyscape**

**Conclusions**







# What have we left out?

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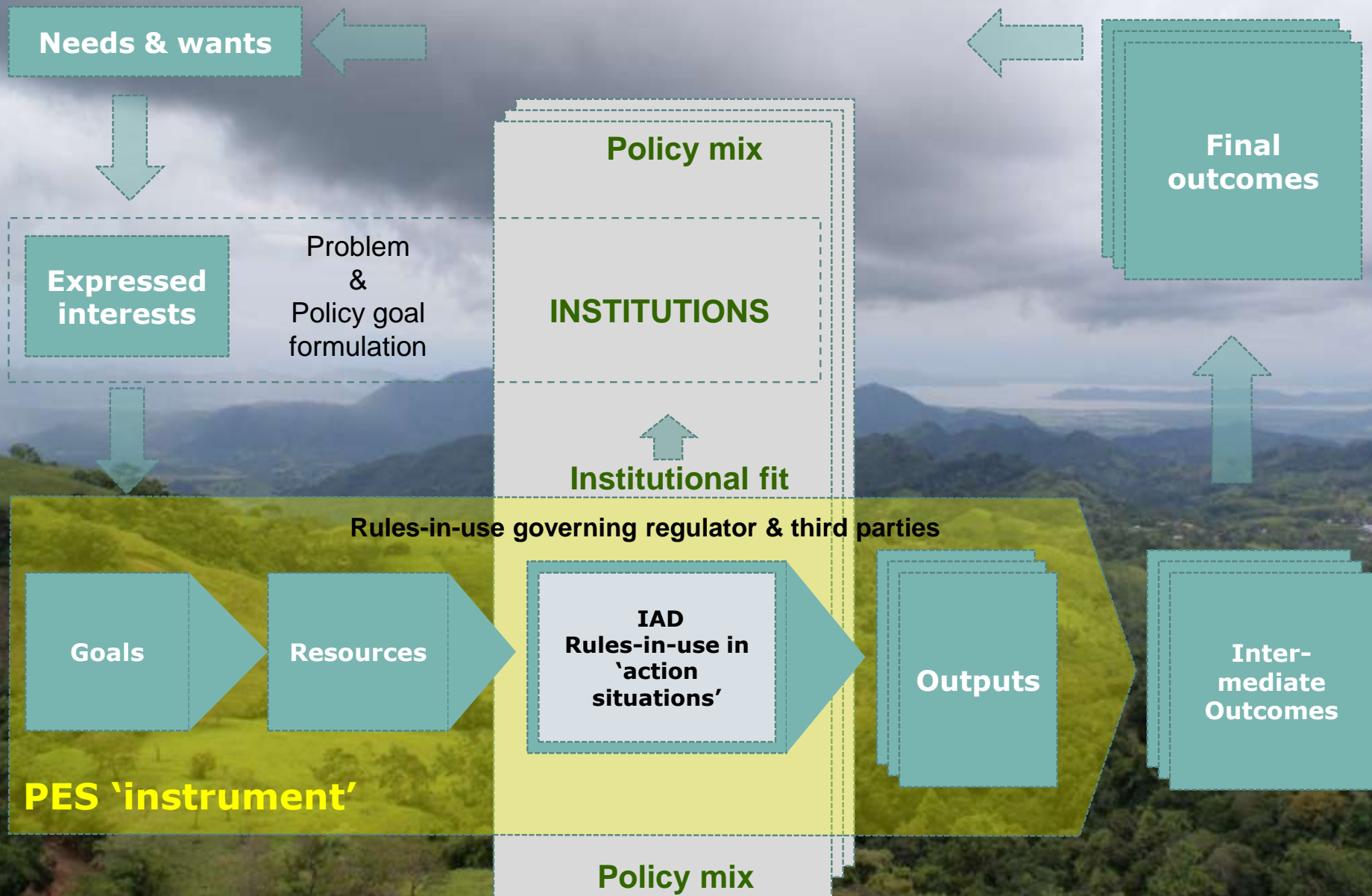
Rules-in-use governing the policy process & evolving from contestation of interests

Rules-in-use interdependence.  
«Classification is not causation either...»

Rules-in-use shifting transaction cost between actors

Perceptions and motivational structure of landowners facing formal versus informal rules-in-use

# Rules-in-use governing PES...interacting with other resource regimes...within a landscape





# PES as a mix of rules-in-use

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... governing the landuser decision of the forest owner directly

... governing the landuse decision indirectly through rules for the regulator and third parties

...together define PES as a 'policymix' in itself, within a 'policyscape'.

**Rules-in-use as potential entry points for the analysis of PES' multiple interactions with other instruments.**



## References:

Barton, D.N., E. Primmer, A. Chacón-Cascante, D. Caixeta Andrade (2014) Cross case comparison of payments for ecosystem services in forest(PES) in Santos, R., P. May, D.N.Barton, I.Ring (eds.) Comparative assessment of policy mixes across case studies – common design factors and transferability of assessment results

Porras, I., Barton, D.N, Miranda, M. and Chacón-Cascante, A. (2013). *Learning from 20 years of Payments for Ecosystem Services in Costa Rica*. International Institute for Environment and Development, London.





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