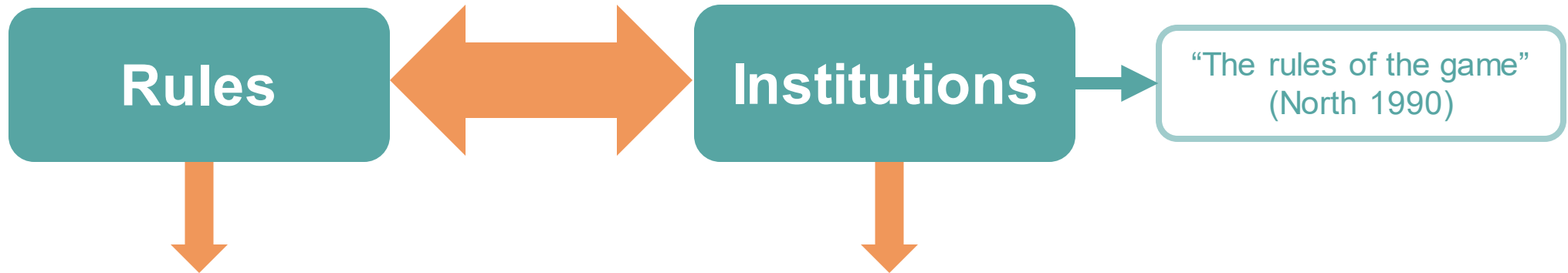


Taxonomy of Rules: An auto-training tool

Authors:

Estévez-Moreno, Laura X.; Tenza-Peral, Alicia; Lacosta García, F. Javier; Lare David, Ismael; Suárez Marín, Andrea; Pérez Ibarra, Irene

Rules and institutions



Explicit or tacit rules, norms, or strategies that indicate to actors what they can, must, or must not do in certain situations or within specific contexts, or parameterize features of systems in which actors interact

(Crawford and Ostrom 1995; Ostrom 2005; Searle 2005; Frantz and Siddiki 2021)

Rules

Rules in form

- Codified in written form.
- Policy documents, regulations, legislation, charters, statutes, organizational bylaws, etc.
- Result of legal procedure.
- With normative validity according to the legal system.
- Not always known by actors.

“On the books”

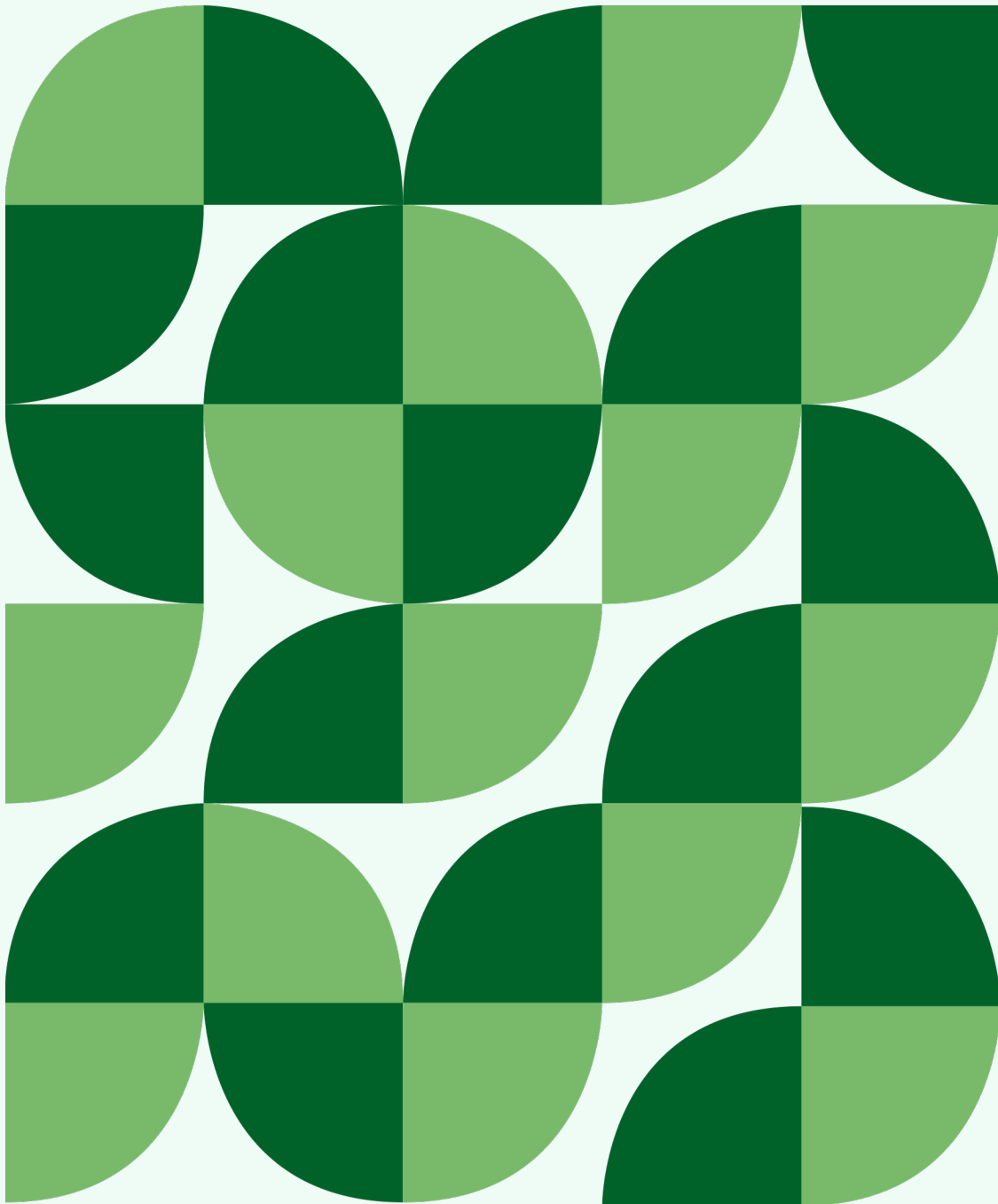
Varying degree of overlap where both are present

Both types of rules can be analyzed using the same analyses

Rules in use

- Institutions that **actually** govern or shape the behavior or actors in an action situation.
- Social norms, cultural practices.
- Written or unwritten form: Tacitly understood, actors refer them if asked to explain and justify their actions.
- Known by actors.

“The lived practice of everyday life”



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the European Union



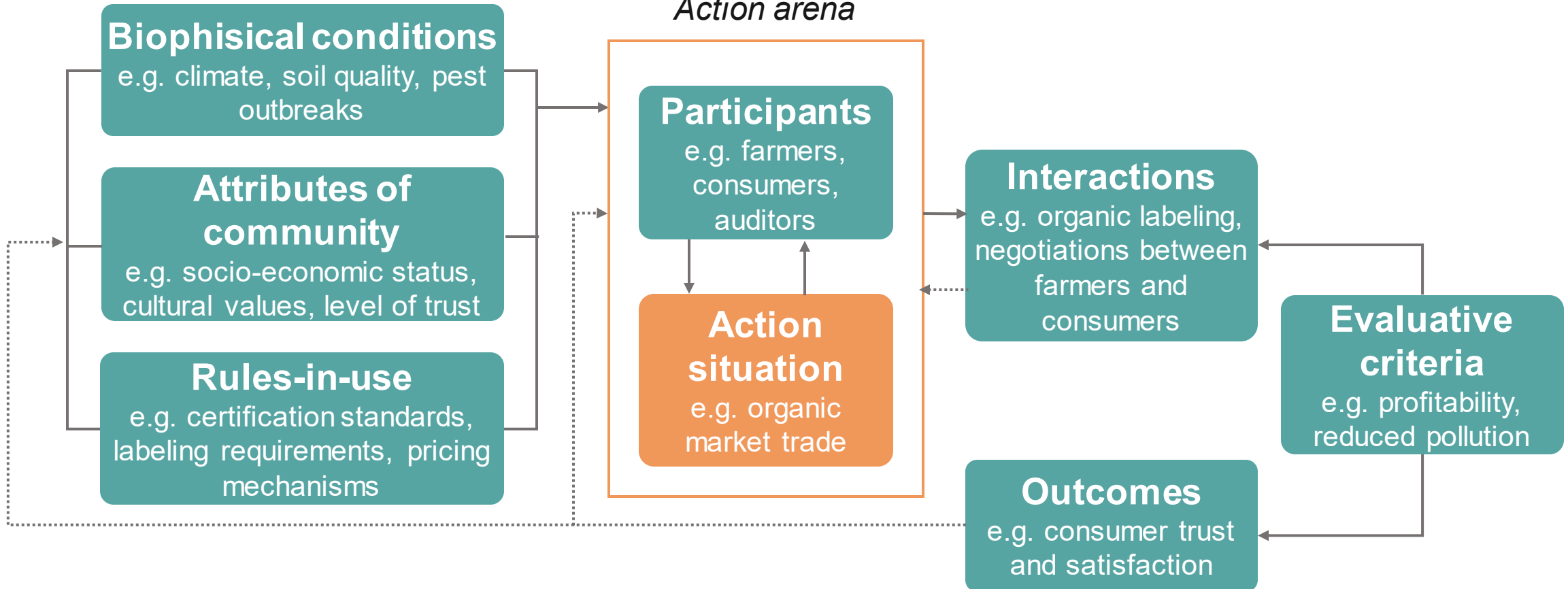
European Research Council
Excellent Science

Resilient
Rules

Typology of rules

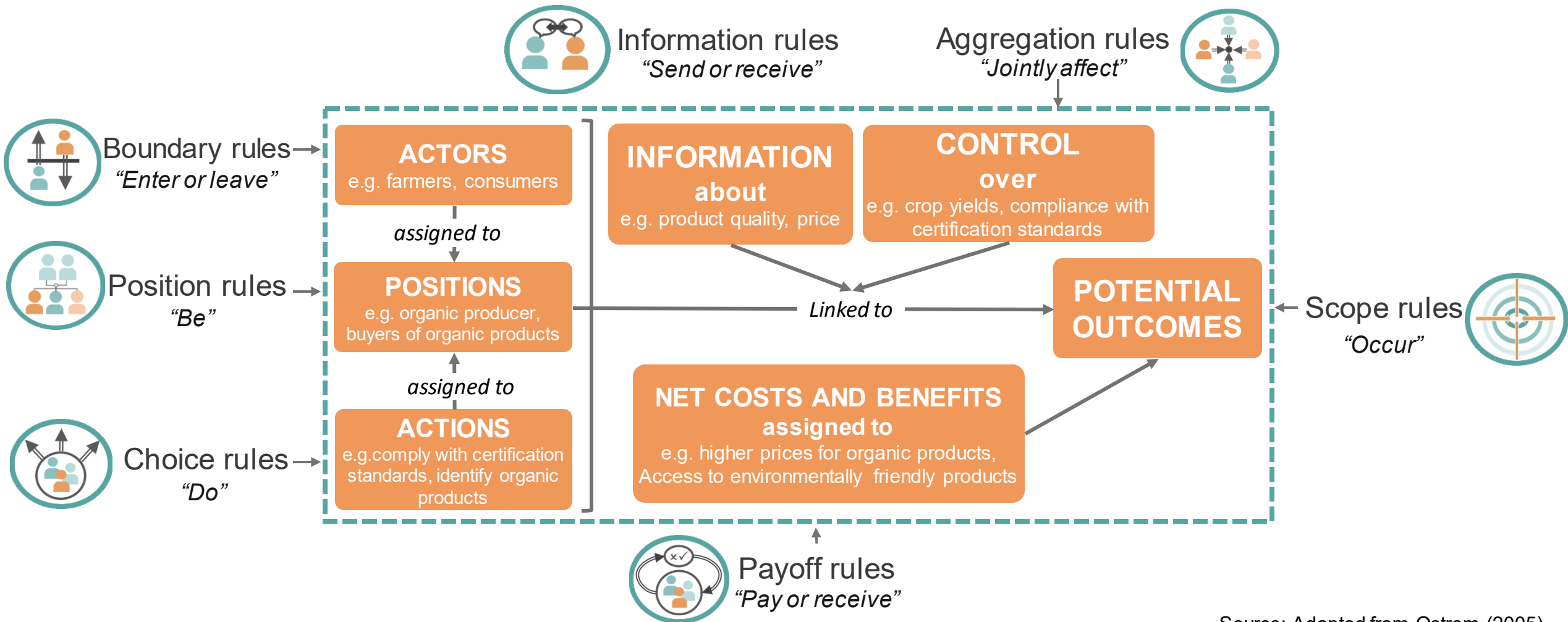
IAD framework

Exogenous variables



Source: Adapted from Ostrom (2005).

The internal structure of an action situation



Source: Adapted from Ostrom (2005).

Typology of rules



Position (POS)

Create positions



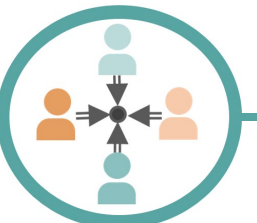
Boundary (BOU)

Affect how participants are assigned to or leave positions



CHOICE (CHO)

Affect the assignment of particular action sets to positions



Aggregation (AGG)

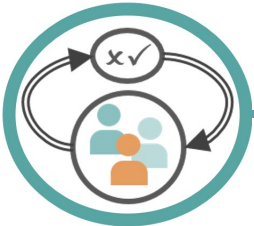
Determine whether a decision of a single participant or of multiple participants is needed prior to an action at a node in a decision process

Typology of rules



Information (INF)

Affect the level of information available in a situation about actions and the link between actions and outcome linkages



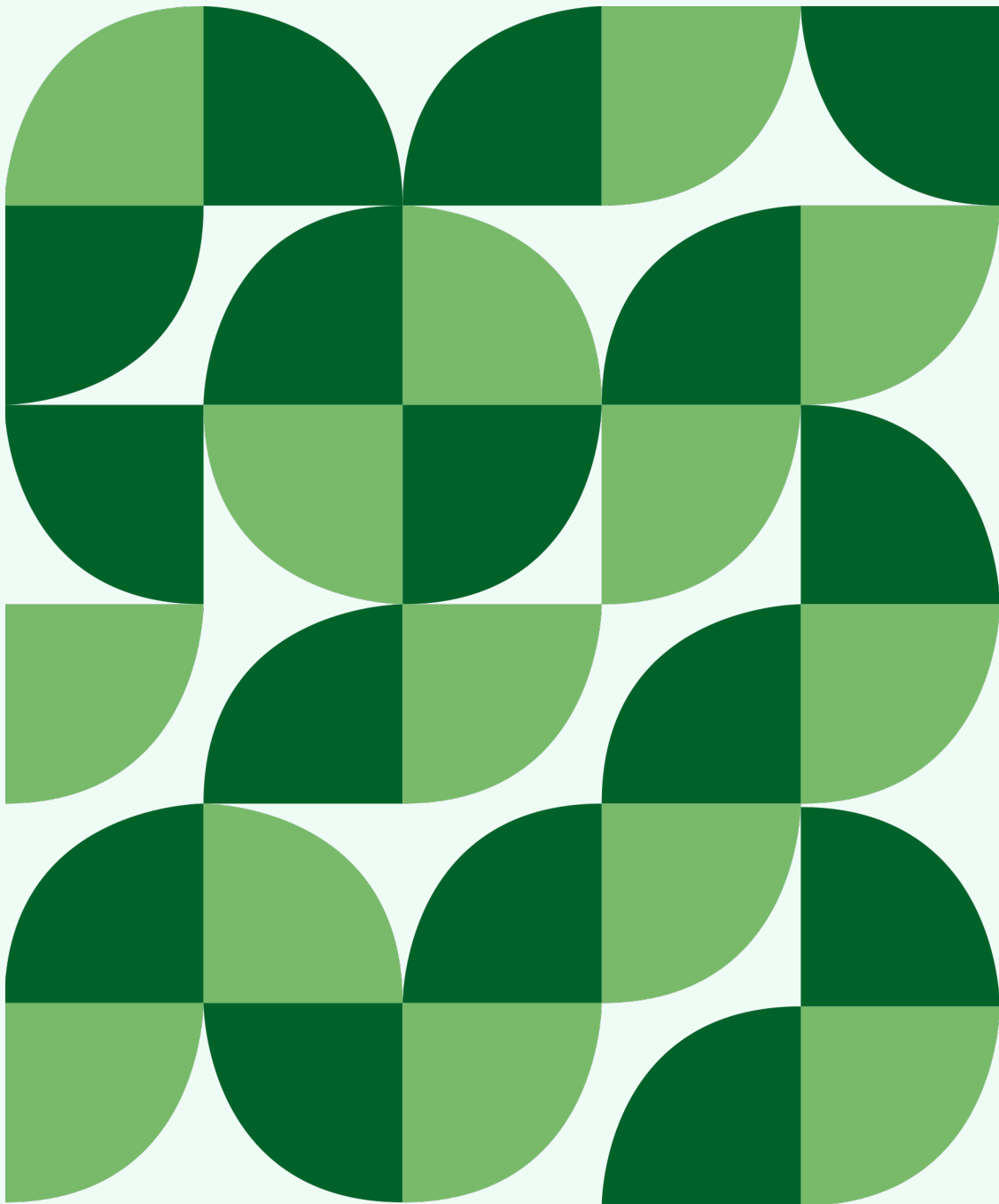
PAYOFF (PAY)

Affect the benefits and costs assigned to outcomes given the actions chosen



Scope (SCO)

Affect which outcomes must, must not, or may be affected within a domain



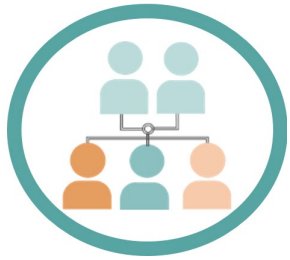
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Excellence in Independent Research

**Resilient
Rules**

Taxonomy of rules



Position rules (POS)

Defines positions and entities with specific authority and roles, and specifies the allowable number of participants per position or entity

Categories

Definition

Sub-Categories

Definition

Creates, defines, and otherwise eliminates positions and entities in an action situation

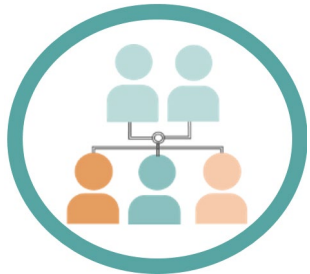
Number

States the number of actors who hold a position

Lower bound, upper bound

Function

Defines the functions, rights, responsibilities, duties, and obligations associated with each position or entity



Position rules (POS)

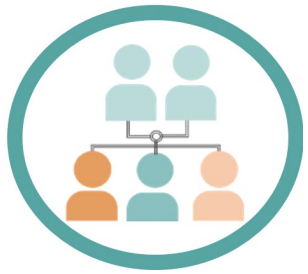
Defines positions and entities with specific authority and roles, and specifies the allowable number of participants per position or entity

Examples

The Governing Board comprises the President, the Vice president, the Secretary, and the Treasurer

The guard is responsible for overseeing the proper use of the grazing lands

Local groups must include at least seven producer members and three non-producer members



Position rules (POS)

Defines positions and entities with specific authority and roles, and specifies the allowable number of participants per position or entity

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The Governing Board comprises the President, the Vice President, the Secretary, and the Treasurer

POS.def

Number

States the number of actors who hold a position

Lower bound, upper bound

Local groups must include at least seven producer members and three non-producer members

POS.num.low

Function

Defines the functions, rights, responsibilities, duties, and obligations associated with each position or entity

The guard is responsible for overseeing the proper use of the grazing lands

POS.fun

Sub-Categories

Rules Examples



Boundary rules (BOU)

Defines who is eligible and outlines the process for assignment to and withdrawal from a position.

Categories

Definition

Sub-Categories

Eligibility

Defines the eligibility criteria for entering a position

Membership/residency, personal (ascribed, acquired), resource

Entry

Describes the process of entering a position

Control, multiple, past, procedure (elapse, fee), succession

Exit

Describes the process of leaving a position

Control, procedure (elapse, fee), time



Boundary rules (BOU)

Defines who is eligible and outlines the process for assignment to and withdrawal from a position.

Examples

Members of commissions appointed by the Assembly shall serve for three years

Board Members must have at least 5 years of experience serving on a nonprofit Board

Except for direct relatives of a founding member, membership requires a financial contribution



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Sub-Categories

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BOU.eli.per.acq

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Control, multiple, past, procedure (elapse, fee), succession

Except for direct relatives of a founding member, membership requires a financial contribution

BOU.ent.fee

Exit

Describes the process of leaving a position

Control, procedure (elapse, fee), time

Members of commissions appointed by the Assembly shall serve for three years

BOU.exi.tim



Choice rules (CHO)

Specify permissible and restricted actions and infrastructures, requirements for resource contributions and allocations, procedures for monitoring, and the organization and conduct of meetings.

Sub-Categories

Definition

Categories

Definition

Sub-Categories

Specifies what specific positions are required, permitted, or prohibited to do

Actions

Infrastructure

Establishes the type, quality, and quantity of natural and physical infrastructure (such as materials, private or public infrastructure, tools, and technology) that are required, permitted, or prohibited

Criteria, type
(material,
economic)

Describes the forms and models of resource sharing and distribution allocation

Allocation

Meeting

Describes all aspects related to meetings, gatherings, assemblies events, courts, etc.

Participation
(attendance,
behavior),
setting (location,
time (duration,
frequency,
timing), type

Criteria, type
(action,
economic,
material)

Establishes the contribution and input to be made by the actor who hold a position in terms of time, resources or effort in a given activity

Contribution

Monitoring

Describes the monitoring process for compliance with actions and outcomes



Choice rules (CHO)

Specify permissible and restricted actions and infrastructures, requirements for resource contributions and allocations, procedures for monitoring, and the organization and conduct of meetings.

Examples

Shepherds must keep their sheep enclosed overnight during the spring months

Livestock producers must meet every six months at the association's office

Farmers must not use tractors to prepare the land in mountain plots

Farmers must dedicate one day per month for the maintenance of the communal irrigation channels

Farmers have the right to receive, equally, the profits derived from the use of the community's renewable natural resources

The guard must patrol the forest to detect any cases of timber theft



Choice rules (CHO)

Specify permissible and restricted actions and infrastructures, requirements for resource contributions and allocations, procedures for monitoring, and the organization and conduct of meetings

Rules examples

Shepherds must keep their sheep enclosed overnight during the spring months

CHO.act

CHO.all.cri
CHO.all.typ.eco

Profits from the community's renewable resources shall be equally shared among farmers.

Farmers must dedicate one day per month for the maintenance of the communal irrigation channels

CHO.con.cri; CHO.con.typ.act

Categories

Actions

Infrastructure

Allocation

Meeting

Contribution

Monitoring

Rules examples

Farmers must not use tractors to prepare the land in mountain plots

CHO.inf

CHO.mee.tim.fre; CHO.mee.loc

Livestock producers must meet every six months at the association's office

CHO.mon

The guard must patrol the forest to detect any cases of timber theft



Aggregation rules (AGG)

Defines the decision-making procedure to be followed at a node within a decision process, whether by an individual participant or a group, prior to executing an action

Categories

Definition

Sub-categories

Conflict

Defines the process to be followed in cases of decision appeals or conflict resolution

Node

Defines the existence of a decision node and the positions involved in it

Power-sharing

Establishes the distribution of power and the treatment of actors, taking into account both symmetry and asymmetry in decision-making

Weight

Procedure

Defines the decision-making process

Agreement (lack), condition, form



Aggregation rules (AGG)

Defines the decision-making procedure to be followed at a node within a decision process, whether by an individual participant or a group, prior to executing an action

Examples

In case of conflicts over water distribution, the parties must negotiate directly within a maximum of 5 days. If no agreement is reached, the conflict will be submitted to a mediator.

Local leaders are assigned a variable number of votes, depending on the population size of the region they represent

If a quorum exists, approval shall require the affirmative vote by half plus one

The annual update of fine values is decided by the attendees of the general assembly



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Definition

Sub-categories

Rules examples



Information rules (INF)

Govern the flow and use of information, determining what information is available, how it is accessed and shared, and how it is used to inform decision-making

Categories

Definition

Sub-categories

Network

Establishes the communication network

Node, subject (accuracy)

Setting

Outlines how information is communicated and delivered

Channel, format (language), time (frequency, timing)



Information rules (INF)

Govern the flow and use of information, determining what information is available, how it is accessed and shared, and how it is used to inform decision-making

Examples

Beekeepers shall report the presence of beehives by placing banners of a minimum size of 1m x 1m along the main road

The president shall send the written invitation to the members in all the dialects spoken in the community

The farmer whose livestock has been attacked by wild animals must report the incident immediately and provide accurate details and evidence (e.g., photographs)



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Categories

Definition

Sub-categories

Rules examples

Network

Establishes the communication network

Node, subject

INF.net.nod; INF.net.sub;
INF.set.for; INF.set.cha

INF.net.nod; INF.set.for;
INF.set.for.lan

INF.net.nod; INF.set.sub;
INF.set.tim.tim;
INF.net.sub.acc

Setting

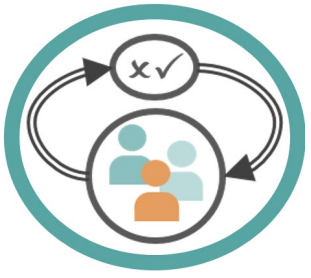
Outlines how information is communicated and delivered

Channel, format (language), time (frequency, timing)

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Payoff rules (PAY)

Assign rewards or sanctions to specific actions or outcomes

Categories

Definition

Sub-categories

Cause

Specifies consequences for actions or outcomes

Action, outcome

Consequence

Assign rewards, sanctions or warnings to specific actions or outcomes

Reward, sanction, warning

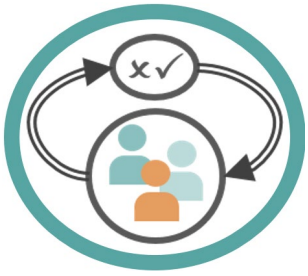
Criteria

Set the criteria for determining the nature, magnitude, and mode of consequences

Type

Set the type of consequences

Action, economic, emotional (external, internal), legal, material, physical, positional, spiritual



Payoff rules (PAY)

Assign rewards or sanctions to specific actions or outcomes

Examples

Annual payment to farmers is adjusted based on the plantation of trees

Users who do not reduce their water consumption for agricultural activities to the allowable level will receive a written warning

Members who achieve the sustainability target will be celebrated by being lifted on shoulders during the annual parade

Local leaders who have all their group's documentation in order may be promoted to Regional Coordinators

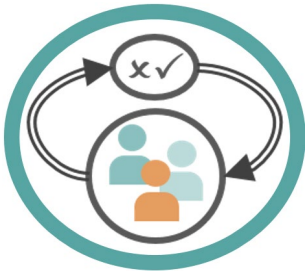
Farmers who trample on another farmer's crops must dedicate a week to repairing them, under the supervision of the affected party

The amount of the penalty for using forbidden infrastructure is based on the member's income

Farmers who have met their annual harvest goals for a period of 5 years will be given a tool kit.

Farmers who pollute the river will not receive blessings from the gods

If I allowed my animals to encroach upon my neighbors' cultivated plots, I'd feel guilty



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Cause	Consequence	Criteria	Type
PAY.act	PAY.rew	PAY.cri	PAY.typ.eco
PAY.out	PAY.war	—	—
PAY.out	PAY.rew	—	PAY.typ.phy
PAY.out	PAY.rew	—	PAY.typ.pos
PAY.act	PAY.san	—	PAY.typ.act
PAY.act	PAY.san	PAY.cri	PAY.typ.eco
PAY.out	PAY.rew	—	PAY.typ.mat
PAY.act	PAY.rew	—	PAY.typ.spi
PAY.act	PAY.san	—	PAY.typ.emo. int



Scope rules (SCO)

Defines the boundaries and goals of the system and specifies the domain over which the rules apply

Categories

Definition

Sub-Categories

Definition

Specifies the definitions, designations, and descriptions of activities, infrastructure, resources, and symbols

Domain

Sets the spatial, temporal, social, and legal domain, as well as the resources and activities to which the rules apply

Activity, legal, resource, social,
spatial, temporal

Goal

Defines the goals of the rules

Action, outcome



Scope rules (SCO)

Defines the boundaries and goals of the system and specifies the domain over which the rules apply

Examples

Communal natural resources include grazing land, forest, and water

Land reserved for expanding infrastructure needs to be kept clear of solar panels

Reducing the amount of organic waste going to landfills is the goal of all regulations.



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SCO.def

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Sets the spatial, temporal, social, and legal domain, as well as the resources and activities to which the rules apply

Activity, legal, resource, social, spatial, temporal

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SCO.dom.spa

Goal

Defines the goals of the rules

Action, outcome

Reducing the amount of organic waste going to landfills is the goal of all regulations.

SCO.goa.out

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Supporting sources:

- Arahuetes de la Iglesia, D., Tenza-Peral, A., Estévez-Moreno, L.X., Martín Suárez, A., Lacosta, F.J., Lare David, I., Pérez Ibarra, I. (2025) A comprehensive taxonomy of rules for nuanced analysis of governance systems. . Manuscript submitted for publication in *Policy Studies Journal*
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