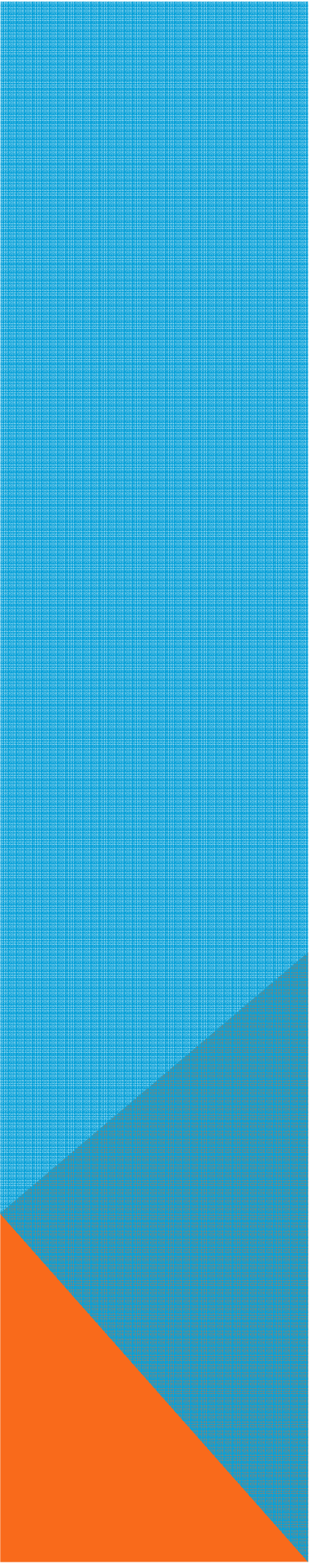


The background features a large blue shape on the right side, which is a trapezoid with a diagonal cut. On the left side, there is a solid orange triangle pointing towards the center. The blue area has a fine, grid-like texture.

# **OSTROM'S LEGACIES: A CRITICAL APPRECIATION AND REVISIONIST VIEW**

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**NATIONAL UNIVERSITY OF SINGAPORE**





# ADVICE FOR PHD STUDENTS

## 1. Where do you get your research questions?

- Gold mining
- Zeitgeist
- $1 + 1 = 3$
- Challenge convention
- Aha and so what? Big vs. small theory
- Practical questions: differentiation?

## 2. What methods do you use?

- Its the question!
- Carpenter's tool box (lab, nat ex, econ, GT, GIS, ABM, RTC, HIA, AN, etc.)
- Intuition
- Description, prediction and prescription? Carpenter's tool box (lab, nat ex, econ, GT, GIS, ABM, RTC, HIA, AN, etc.)

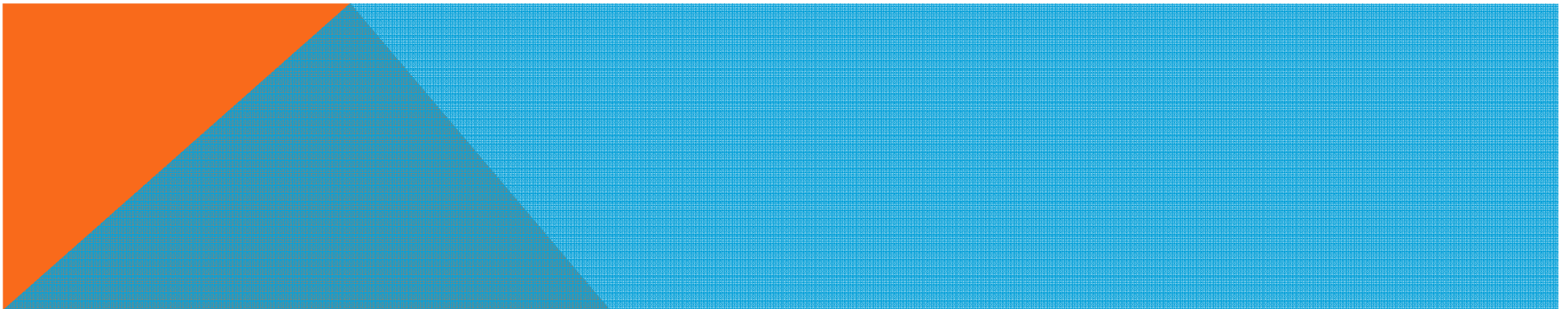
Horse barn / Engage the phenomena / 10K

Its an Ergodic world!

# QUESTIONS

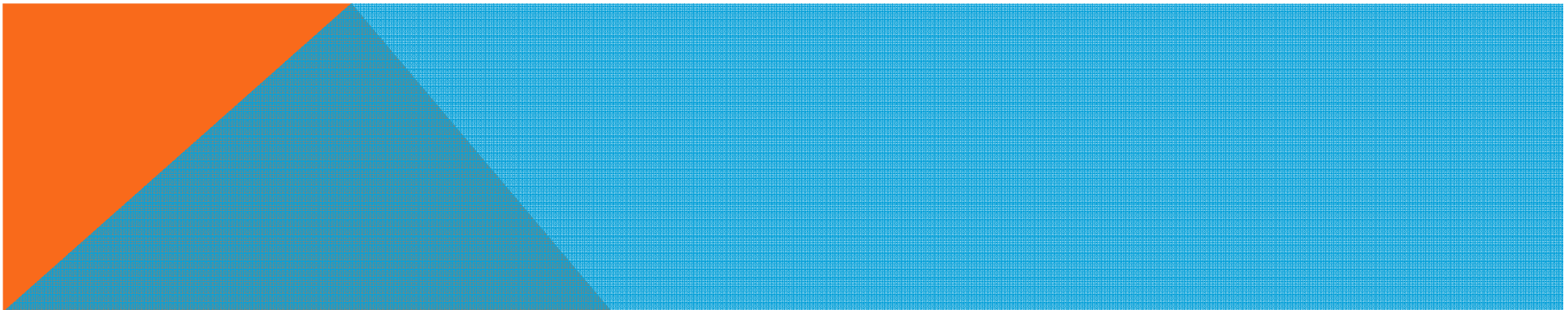
Can we generalize Ostrom's institutional design principles for long-lived commons?

How justified is Ostrom's critique of privatization as a solution to the tragedy of the commons?



# MY CLAIMS

1. Studies generalizing Ostrom's design principles are flawed
2. Ostrom is justified for her critique of the Leviathan solution to the tragedy of commons
3. ....but a rethinking is needed of her critique of private property rights and markets.



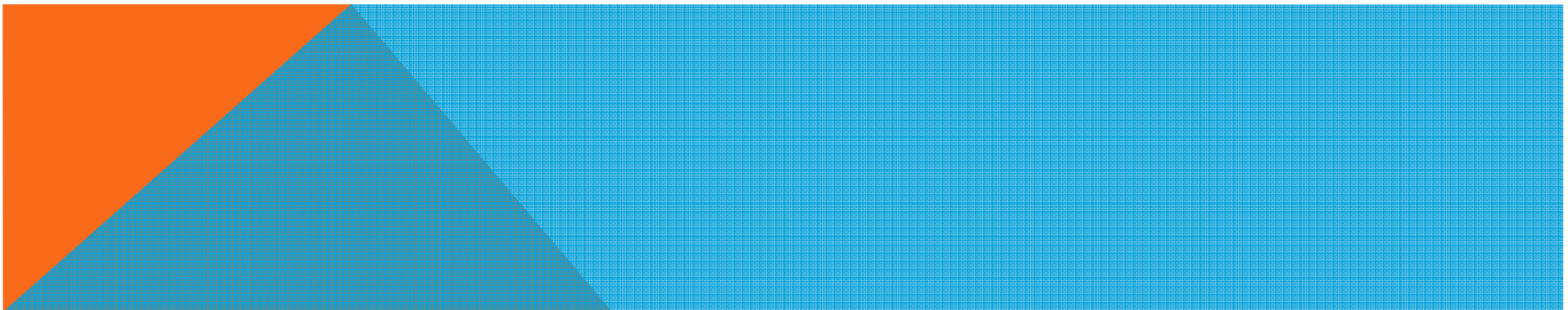
# THE COMMONS DEBATE

Hardin (1968) – common property resources (atmosphere, oceans, forests, pasture, water resources, wildlife, urban commons) → Tragedy of the commons

- Solution: privatization or centralized state control

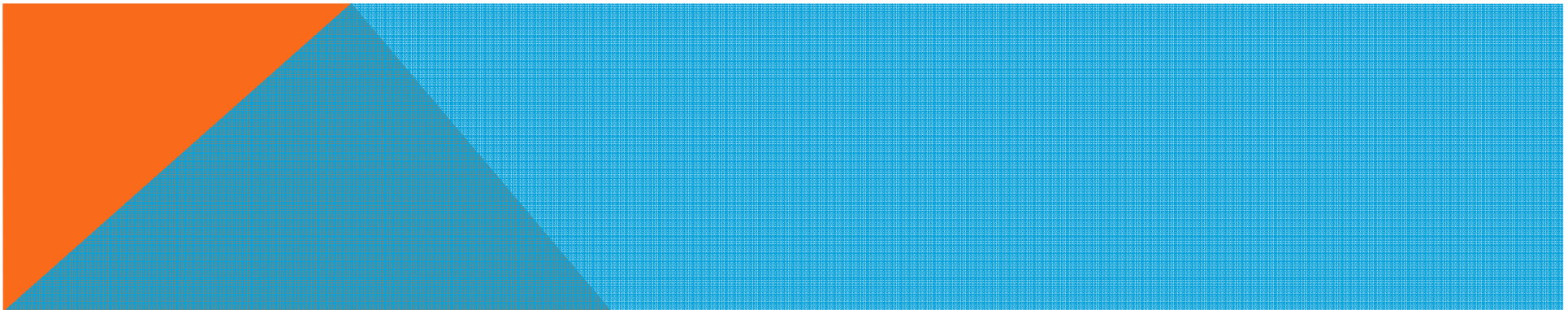
Ostrom (1991)

- critiqued privatization and leviathan solutions.
- Resource users can bargain with each other to design institutions to govern the commons without need for privatization or centralized government control.



# OSTROM'S 15 EXAMPLES OF COMMONS

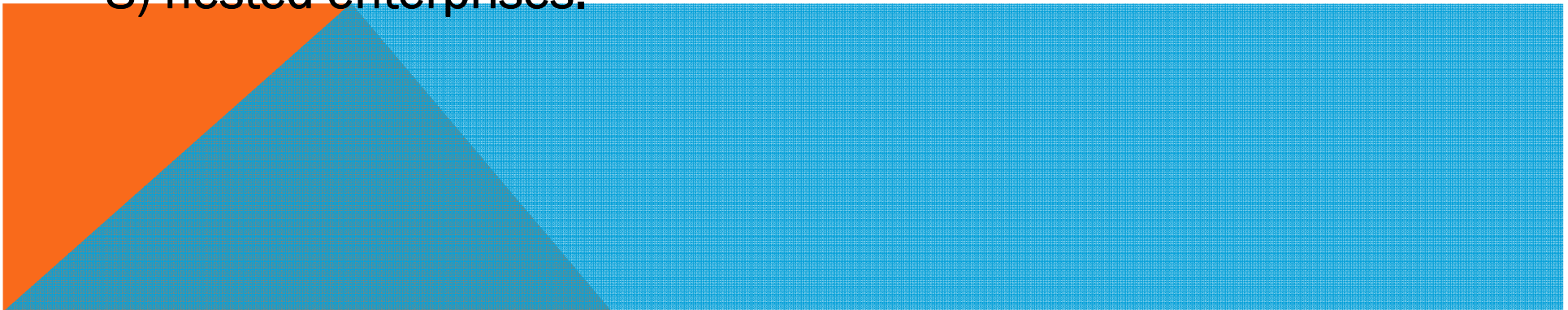
- Swiss meadows
- Japanese mountain meadows
- Irrigation societies Philippines and Spain
- Underground water in California
- Fisheries in Turkey and Sri Lanka
  
- Divided into successful/ robust / fragile cases



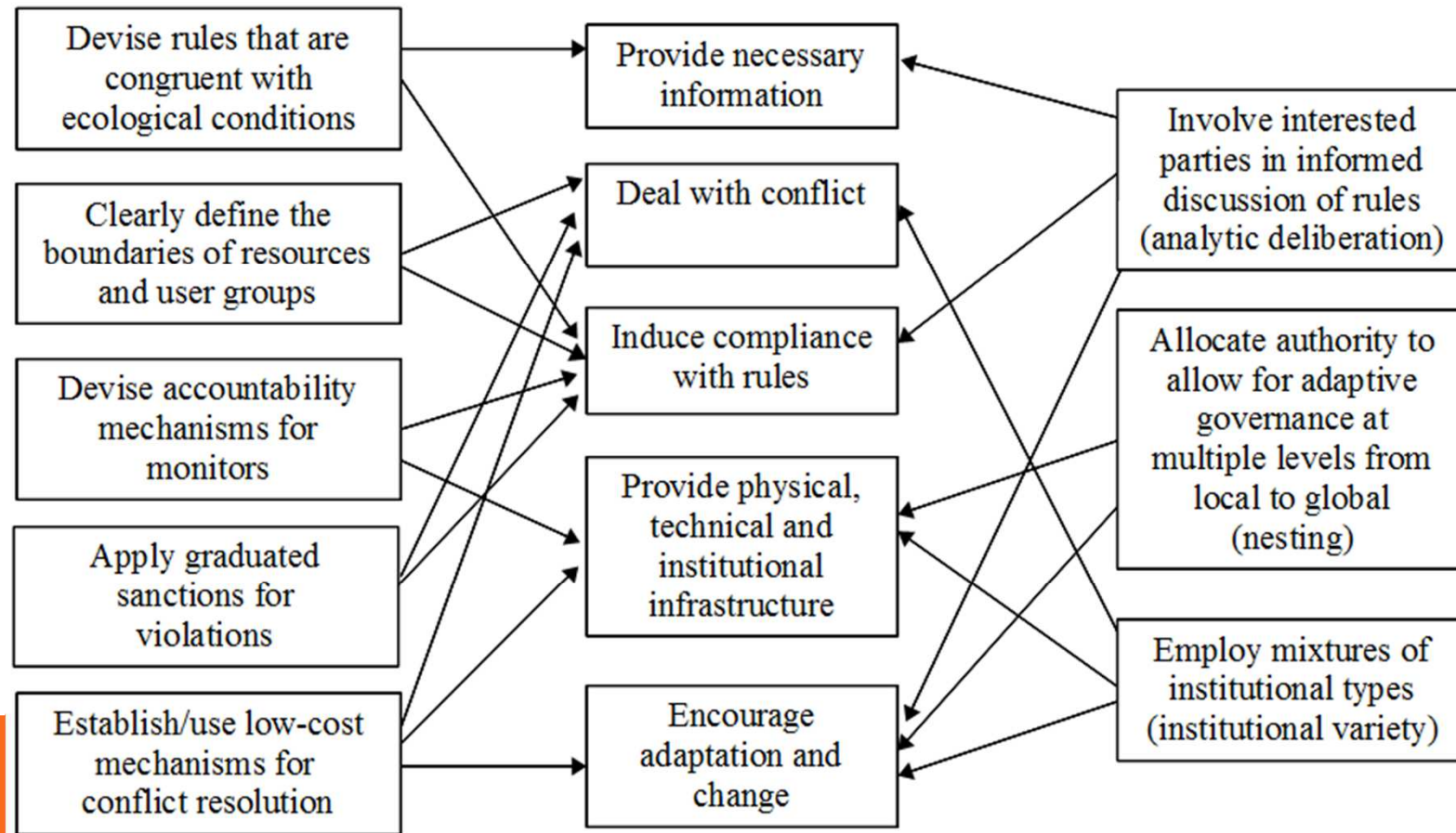


# OSTROM'S DESIGN PRINCIPLES

- 1) well-defined boundaries;
- 2) congruence between appropriation and provision rules and local conditions;
- 3) collective-choice arrangements;
- 4) monitoring;
- 5) graduated sanctions;
- 6) low cost conflict-resolution mechanisms;
- 7) minimum recognition of rights; and
- 8) nested enterprises.



# OSTROM'S COMPLEX MECHANISMS

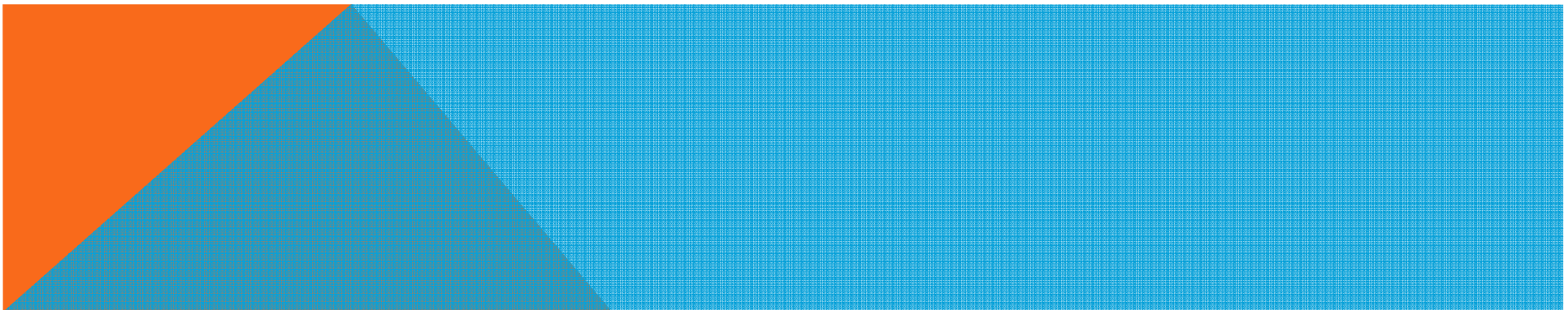


# STUDIES ON OSTROM'S DESIGN PRINCIPLES

## COX ET AL, (2010)

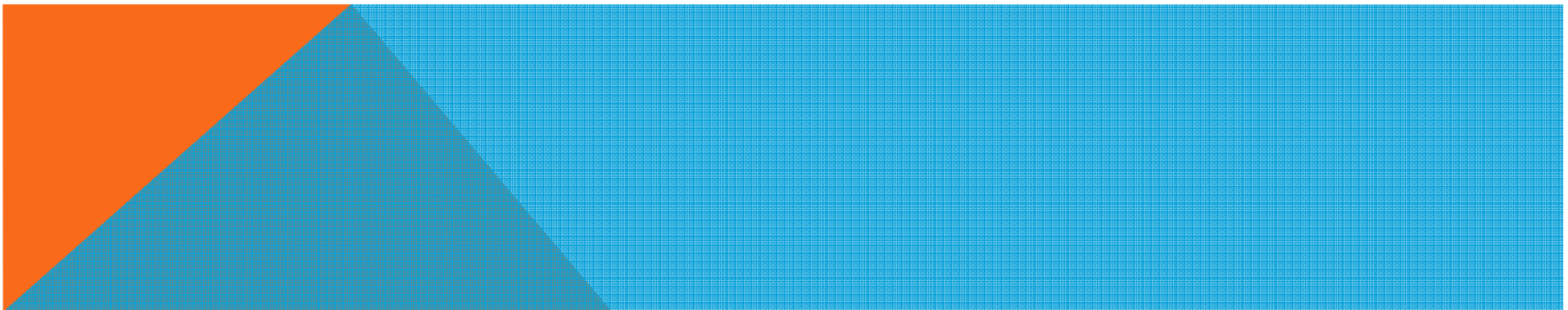
168 case studies (irrigation, fisheries,  
ground/surface water,

Many design principles have statistically  
significant effects on outcomes of the  
commons and by implication has some  
external validity.



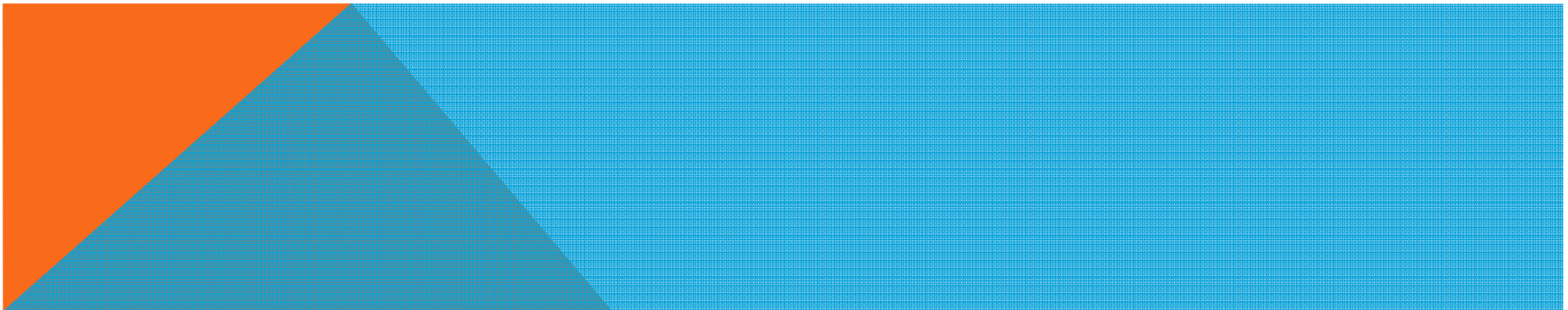
# STUDIES GENERALIZING OSTROM'S DESIGN PRINCIPLES ARE FLAWED

- Confirmatory bias / halo effect
- Specification / identification problems
- Multi collinearity
- Selection bias
- Endogeneity



## Q# 2: IS OSTROM JUSTIFIED ON HER CRITIQUE OF PRIVATE PROPERTY TO GOVERN THE COMMONS?

“(Ostrom) has challenged the conventional wisdom that *common property* is poorly managed and should be either regulated by central authorities or privatized.” - Nobel Prize Citation

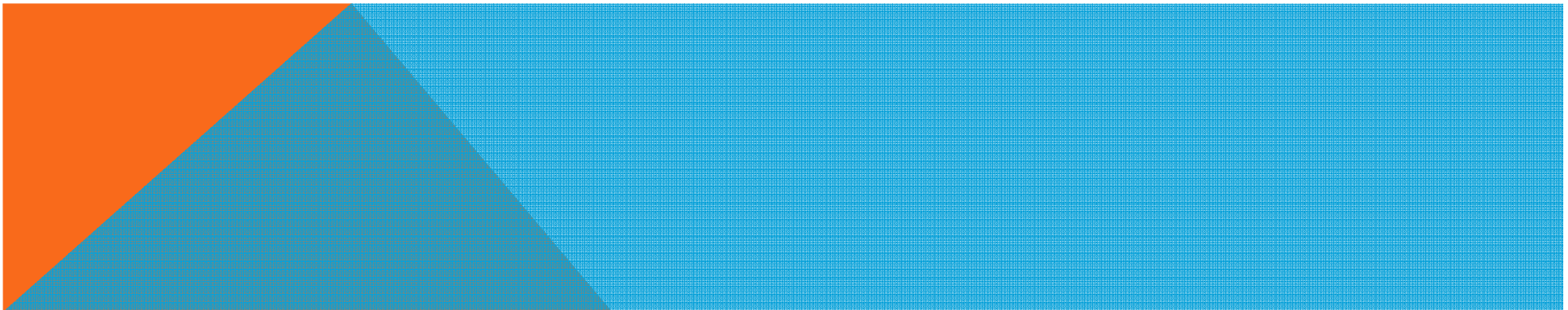


# COMMON PROPERTY VS. PRIVATE PROPERTY

	Excludable	Non-excludable
Rivalrous	Private goods	Commons
Non-rivalrous	Club goods	Public goods

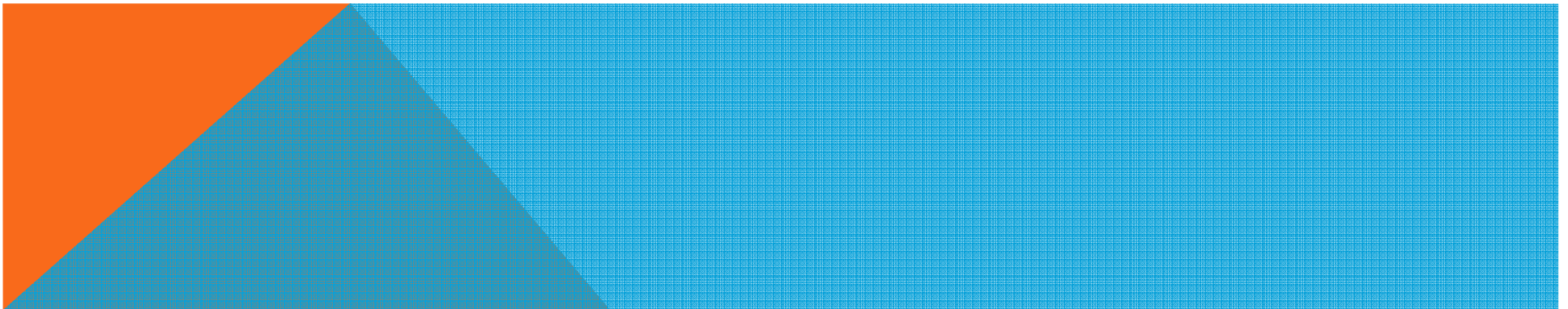
Source: Ostrom and Ostrom, 1977

**EXCLUDABLE: RIGHTS ARE DEFINED, UNITIZED, MONITORED, ENFORCED, TRADED**



## OSTROM'S CRITIQUE OF PRIVATE PROPERTY

“...even when particular rights are unitized, quantified and salable, the resource system is still likely to be owned in common rather than individually.”



## MY ARGUMENT

SUCCESSFUL EXAMPLES BY OSTROM ARE ACTUALLY  
**PRIVATE PROPERTY, NOT OPEN ACCES COMMON  
PROPERTY** → CONSISTENT WITH EXPECTATIONS OF  
STANDARD MODEL

UNSUCCESSFUL EXAMPLES (GROUND WATER,  
FISHERIES) ARE COMMON PROPERTY → CONSISTENT  
WITH EXPECTATIONS OF STANDARD MODEL

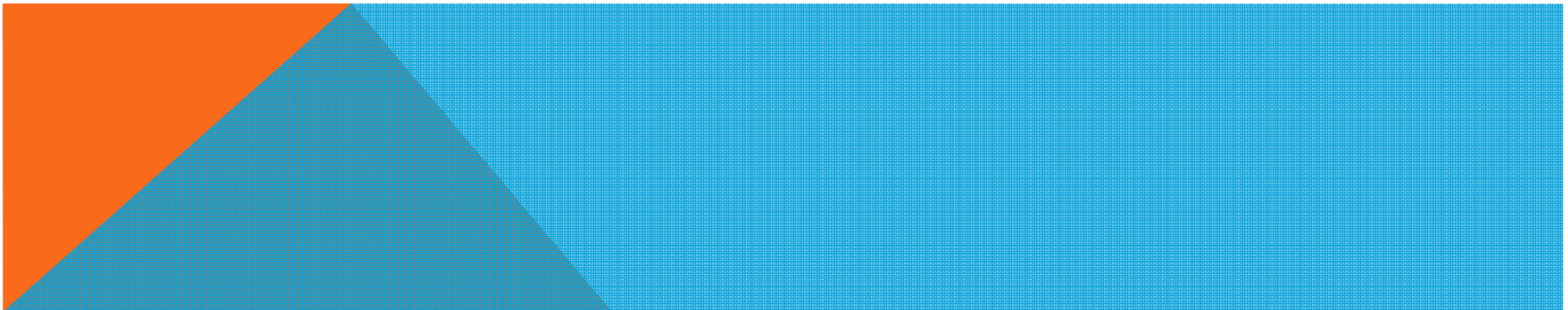


See Table 1



## FINALLY → OSTROM'S DESIGN PRINCIPLES → PRIVATE PROPERTY

- 1) well-defined boundaries;
- 2) congruence between appropriation and provision rules and local conditions;
- 3) collective-choice arrangements;
- 4) monitoring;
- 5) graduated sanctions;
- 6) low cost conflict-resolution mechanisms;
- 7) minimum recognition of rights; and



## .....FINALLY, WHAT ABOUT COLLECTIVE ACTION PROBLEMS IN THESE PRIVATE PROPERTY?

- supply of institutions,
- credible commitment and
- problem of mutual monitoring
  
- **STANDARD MODEL:** As value of resource increases, there will be a demand for institutions to protect them.
- rights owners will find ways to supply institutions (through self-regulation, private policing or by demanding external protection) to capture benefits

