

PROBLEM OF COLLECTIVE ACTIONS*

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*Content is from chapter 1 & 2 of Elinor Ostrom (1990), *Governing the Commons*.

Can a group of rational economic agents work together to produce an outcome/output from which everyone benefits without interference from external actors?

Examples:

- Resource users harvest natural resource sustainably.
- Two suspects in two separate interrogation room.
- Villagers establish a local financial group or other community organizations.

THREE INFLUENTIAL MODELS REGARDING COLLECTIVE ACTIONS

Garrett Hardin (1968)

The Tragedy of the Commons

Dawes (1973, 1975)

The Prisoner's Dilemma Game

Mancur Olson (1965)

The Logic of Collective Action

THE TRAGEDY OF THE COMMONS



Each herder receives a direct benefit from his own animals and suffers delayed costs from the deterioration of the commons when his and others' cattle overgraze. ...

“Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons”

(Hardin 1968, p. 1244)

THE PRISONER'S DILEMMA GAME

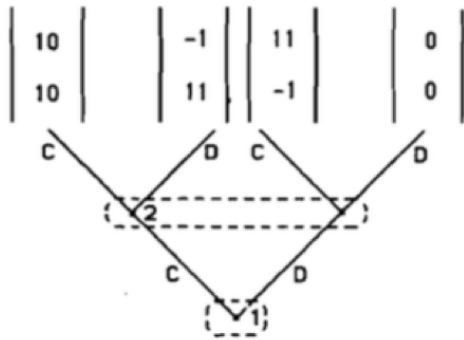


Figure 1.1. Game 1: The Hardin herder game.

“Quite simply, these paradoxes cast in doubt our understanding of rationality and, in the case of the Prisoner’s Dilemma suggest that it is impossible for rational creatures to cooperate. Thus, they bear directly on fundamental issues in ethics and political philosophy and threaten the foundations of social science...”

Campbell 1985, p.3

Paradoxes of Rationality and Cooperation

THE LOGIC OF COLLECTIVE ACTION



“The idea that groups tend to act in support of their group interests is supposed to follow logically from this widely accepted premise of rational, self-interested behavior. In other words, if the members of some group have a common interest or objective, and if they would all be better off if that objective were achieved, it has been thought to follow logically that the individuals in that group would, if they were rational and self-interested, act to achieve that objective...”

(Olson 1965, p.1)

THE LOGIC OF COLLECTIVE ACTION



... unless the number of individuals is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, *rational, self-interested individuals will not act to achieve their common or group interests.*"

(Olson 1965, p.2; emphasis in original)

AT HEART OF THESE MODELS

Free-Rider Problem

Garrett Hardin (1968)

The Tragedy of
the Commons

Dawes (1973, 1975)

The Prisoner's
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Mancur Olson (1965)

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AT HEART OF THESE MODELS

Free-Rider Problem

“Whenever one person cannot be excluded from the benefits that others provide, each person is motivated not to contribute to the joint effort, but to free-ride on the efforts of others. If all participants choose to free-ride, the collective benefit will not be produced.”

Ostrom 1990, p.6

THE ONLY WAY?

Leviathan (enforcement
from powerful external
actors such as government)
as the only way

vs

Privatization
as the only way

What are the weaknesses of these options ?

WEAKNESS OF LEVIATHAN OPTION

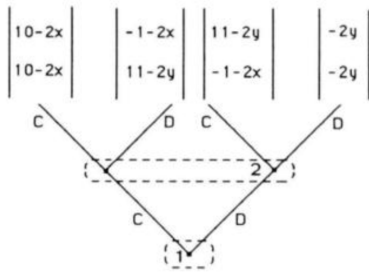


Figure 1.3. Game 3: The central-authority game with incomplete information.

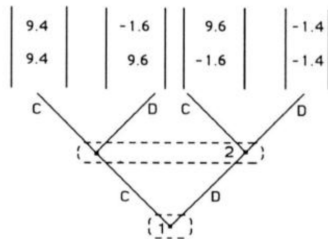


Figure 1.4. Game 4: An example of the central-authority game with incomplete information.

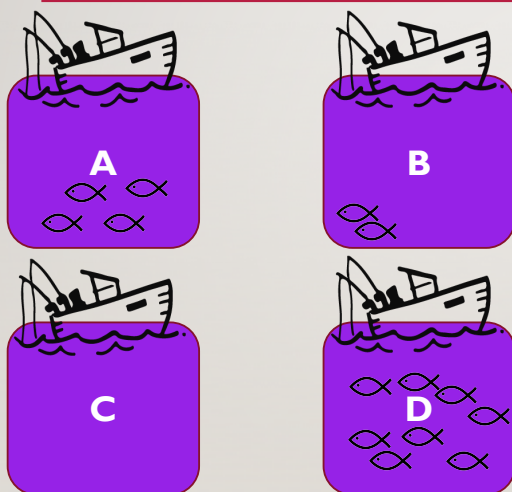
y = Probability that the central agency will punish defections (correct response)

x = Probability that the central agency will punish cooperative actions (erroneous response)

If the central agency has complete information, then $x = 0$, $y = 1$.

If the central agency has incomplete information, then supposed that $x = 0.3$, $y = 0.7$.

WEAKNESS OF PRIVATIZATION



Privatization has no problem regarding incentives and information.

The problem occurs when ecological variability is taken into account, for example, migration of fish, or variability of rainfall.

AN ALTERNATIVE SOLUTION

In the absence of external enforcers, what would rational economic agents do to create a binding contract and commit themselves to a cooperative strategy ?

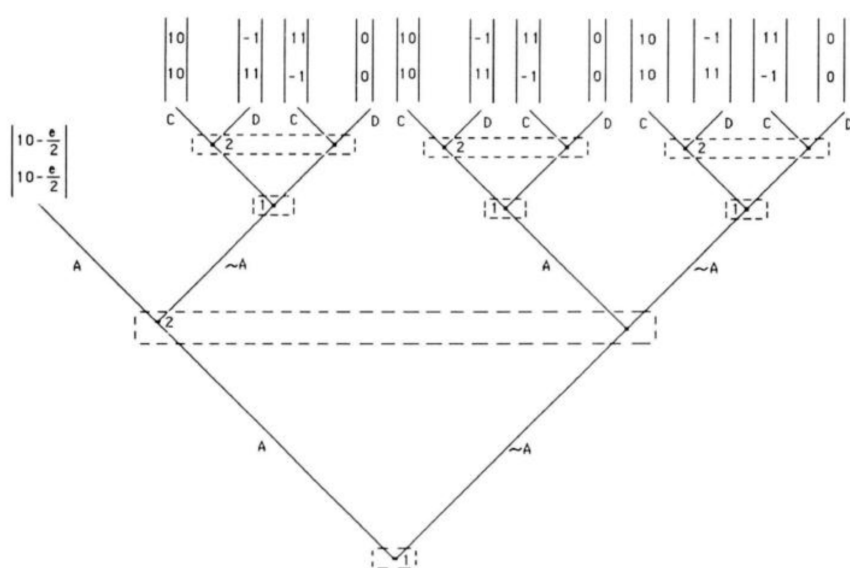


Figure 1.5. Game 5: Self-financed contract-enforcement game.

e is the cost of enforcing an agreement.

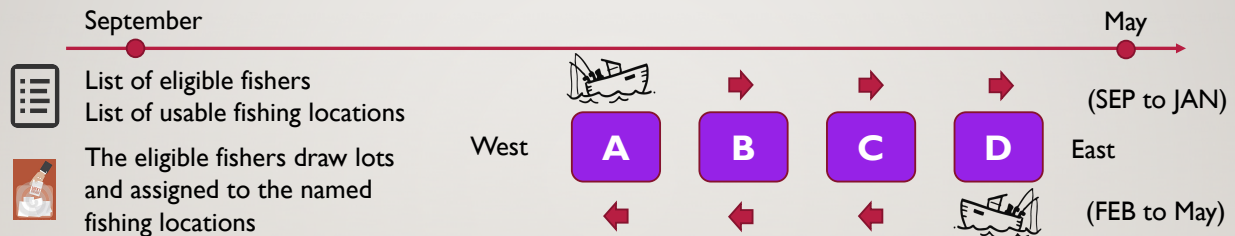
C = Cooperate; D = Defect

A = agree ; ~A = disagree

Both actors can always disagree with the agreement and end up in the tragedy of the commons scenario, unless the agreement is fair and acceptable for both.

The enforcement can be done by the resource users themselves or they can share the cost of hiring private enforcer.

AN EMPIRICAL ALTERNATIVE: LOCAL FISHING COOPERATIVE, ALANYA, TURKEY IN 1970S



THREE PUZZLES TO BE SOLVED

Problem of Supply of Institution

- Institution is a public good, which is another dilemma. How can rational economic agents solve this dilemma?
- One has to signal to others that they want to cooperate.
- Trust and Sense of community

Problem of Credible Commitment

- People may say that they would commit to the rules. But when they face certain situation, they might decide to break the rules...
- How could the members believe that other will commit?
- Without credible commitment, no one would follow the rules.

Problem of Mutual Monitoring

- How could the system be set to encourage mutual monitoring?