Simulation Games
as tools for
handling cognitive
and social complexity
in the context of
sustainability transition

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IIASA
“Complexity is your enemy. Any fool can make something complicated. It is hard to make something simple.”
Keep It Simple
RPT: GLASS OF RED WINE EQUIVALENT TO HOUR OF GYM TIME
Complexity
POLITICS

JUMP IN!

BIG BUSINESS

PRO-LIFE

PRO-CHOICE

PRO

UNIONS

DEMOCRATS

REPUBLICANS

ATF

MILITIAS

LAND LORDS

ENVIRONMENTALISTS

TENANTS

NON-SMOKERS

SINGER
Everything should be made as simple as possible, but not simpler.

Albert Einstein
Games?
Seriously?
Hell yeah!!!
Świdnica
Poland
Why *games* work well for serious *goals*?
challenge
immersion
emotions
learning by doing
systems thinking
Empathy Machine
Social Simulation ...

... not a Game
Think and decide

YOUR GOALS
Social Simulation =

Model (including the Game World) +
Roles (including their Rules) +
Interactions (emerging through Play)
Models describe how things work.
Roles

simulating experience
... constrained by rules
Interactions

Roles

Model

Game World

Rules
FRESHWATER - LAURENTIA

POLLUTION
Each pollution token block and water token must be picked.
At the end of each round pollution is removed.

AGRICULTURE

ENERGY

DOMESTIC
The World’s Future Game

What have you learned?

The dynamics of decision making across the roles within systems/contexts. Reinforced interconnectedness of decisions/policies and adaptive nature of systems.

Policy making is messy based on imperfect understanding of the system and incentives, imperfect information of what others are doing. That said, a common understanding of the goals (i.e. SDGs) can help align actions and achieve greater coherence & better outcomes
ANSWERS

SIMPLE BUT WRONG

COMPLEX BUT RIGHT

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PREPARE FOR THE END OF THIS WORLD
Unfortunately, this is how the brain works:

Sir! We are receiving information that conflicts with the core belief system!

Get rid of it.
BRACE YOURSELVES

WE MAY EXPERIENCE SOME TURBULENCE DUE TO A NEW WAVE OF COGNITIVE DISSONANCE
WHAT IF I TOLD YOU

That you can change your mind based on new information
The Nexus Game

Managing transboundary river with respect to the water, food and energy supply and demand
Thanks to the Nexus Game I’ve learned about cross-sector decision-making processes and how water, energy, food, ecosystems, climate change are intricately linked.

Can playing this game affect policy with regard to Nexus challenges?

Yes, as an eye-opener for people in the 3 sectors as well as for people outside the sectors; highlighting the need for multipurpose development of water resources.
Water-Food-Energy Nexus Game

Qualitative study of effects observed by participants (evaluation questionnaire)

Learning from the game:
Systems thinking – 25
Governance, leadership, cooperation – 20
Other: economics, technologies, spatial issues, attitudes, skills, uncertainty

Potential game effects on policy:
Improve cross-sectoral and trans-boundary collaboration – 12
Better decision-making – 12
Engage stakeholders in dialogue – 8
Simulation experience
Experiencing complexity of policy development and implementation for sustainability
... leading to Reflection
Understanding multiple perspectives
Gaining system perspective: big picture
"Serious Games offer themselves as one way to expand the possibility space of games [...] in a way that resists simplicity, that embraces complexity, and puts players in the meaningful roles, that engender the empathy we need to understand our world in the coming century."
Let's play!