Centre for Systems Solutions

ACTIVITY REPORT

2023

In 2023, we brought to the end 2 projects: CASCADES: Cascading Climate risks: towards Adaptive and resilient European Societies (2019-2023), and SDG-pathfinding: Co-creating Pathways for Sustainable Development in Africa (2021-2023).

We also kick-started 5 new projects: PLUS Change: Planning Land Use Strategies: Meeting biodiversity, climate and social objectives in a changing world (2023-2027), NetZeroCities (2023-2027), MEFadapt: Identifying, understanding, and adapting to transboundary climate risks in the global minerals–energy–food complex (2023-2027), IKI JET Innovation Regions for a Just Energy Transition (2023-2025), Food Alert (2023-2024). Altogether we were engaged in 10 projects!

We created 5 new captivating experiences: Climate Science Crisis Simulation, Arctic Security Simulation, Up to You Simulation, (After)Fantasy Simulation, and Food Alert Crisis Simulation. The World's Future once again turned out to be our most popular simulation!

This year 3 change-makers joined our team, which means that our team increased from 17 people in December 2022 to 20 in 2023!

Current project partners:
Action and Initiative Group for Alternative Development (GAIA)
Adelphi Research Gemeinnützige GmbH
Autobahn and highway financing stock corporation (ASFiNAG)
Asian Institute of Technology (AIT)
Austrian Foundation for Development Research
Austrian Institute of Technology
Baltic Studies Centre (BSC)
Bankers Without Boundaries
CARTIF Technology Centre Centre for Studies and Expertise on Risks, the Environment, Mobility and Urban Planning (CEREMA)
Centre for International Information and Documentation in Barcelona (CIDOB)
Chatham House
Climate Action Network International (CAN International)
Climate Alliance
Common Thing Foundation
Constantine the Philosopher University in Nitra (UKF)
Dark Matter labs
DeepBlue (DBL)
Democratic Society
Demos Research Institute
Department of Emergency Situations, Ministry of Internal Affairs (DSU)
EIT Urban Mobility
Energy Cities
EURAC Research Centre (EURAC)
Euregio Meuse-Rhine
Euro-Mediterranean Center on Climate Change Foundation (CMCC)
Eurocities
European Centre for Development Policy Management (ECDPM)
European Policy Center
European Regions Research and Innovation Network (ERRIN)
Federal Institute of Technology Zurich (ETH)

FI Group
Finnish Environment Institute (SYKE)
Flemish Land Agency (VLM)
Frankfurt School of Finance and Management
Fraunhofer Institute
Fundation Tecnalia Research & Innovation (Tecnalia)
German Aerospace Centre (DLR)
German International Cooperation Society (GIZ)
Global Change Research Institute CAS (CzechGlobe)
Île-de-France Region
Institute for European Environmental Policy
The International Association of Public Transport (UITP)
International Creative Projects B.V. (Biobased Creations)
International Institute for Applied Systems Analysis (IIASA)
International Institute for Sustainable Development (IISD)
International Labour Organisation (ILO)
International Society of City and Regional Planners (ISOCARP)
International Trade Union Confederation (ITUC) – Just Transition Centre
Istanbul Metropolitan Municipality (IMM)
Istanbul Technical University (ITU)
KnowlEdge Srl (KE Srl)
Konrad Lorenz Institute for Evolution and Cognition Research (KLI)
Leuphana University Lüneburg
LGI Sustainable Innovation
Local Governments for Sustainability (ICLEI)
Material Economics
Mazovia Region
Metabolic Institute
National Research Institute for Agriculture, Food and Environment (INRAE)
Netherlands Red Cross (NRC)
North West Croatia Energy Agency (REGEA)
Open & Agile Smart Cities
Peri-Urban Platform Europe (PURPLE)
Phronesis SA
Plan4all Hub
Potsdam Institute for Climate Impact Research (PIK)
Polytechnic University of Milan
Prospero
The Province of Lucca
RDA Green Karst
Red Cross Red Crescent Climate Centre (RCCC)
Resilience Advisors Network (RAN)
Resilient Cities Network
Rhodes University
Rogers Foundation for Person-Centered Education
Royal Netherlands Meteorological Institute (KNMI)
Rupprecht Consult
Sciences Po University
South Moravian Agency for Public Innovation (JINAG)
South Pole
Stanisław Brzozowski Association

Stichting VU
Stockholm Environment Institute (SEI)
Stockholm University
Tallin University of Technology (TalTech)
Technical University of Catalunya (UPC)
Technical University of Madrid
TNO Netherlands Organisation for Applied Scientific Research
University of Bucharest
University of Ljubljana
University of Twente
University of Vienna (UNIVIE)
University of York
Viable Cities
Vienna University Children's Office
Vienna University of Economics and Business(WU)
VTT Technical Research Centre of Finland
Wuppertal Institute for Climate, Environment and Energy

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Special Thanks

We would like to express great appreciation to Jan Sendzimir. Our organization wouldn't be the same without his support and creativity. Not only was he one of its main ideators but has also offered assistance in implementing its mission.

We would also like to thank our project partners, supporters, members of CRS association, and volunteers. Your time and expertise have enabled us to achieve the successes outlined in this report. It is your efforts that assist us in continuing our mission of enhancing science-policy integration and promoting social dialogue on sustainable development.

We also extend our thanks to all the moderators and facilitators who use and promote our simulations, as well as all simulation users and participants of our workshops and webinars. Your continuous engagement, creativity, and curiosity help us to broaden our perspectives, improve the tools we offer, and make them more impactful.

We are immensely grateful to everyone who is part of our Social Simulations community. None of this would be possible without you.

Projects

NetZeroCities

Partners:
Austrian Institute of Technology
Bankers Without Boundaries
CARTIF Technology Centre (CARTIF)
Centre for Studies and Expertise on Risks, the Environment, Mobility and Urban Planning (CEREMA)
Climate Alliance
Dark Matter labs
Demos Research Institute
EIT Urban Mobility
Energy Cities
European Regions Research and Innovation Network (ERRIN)
Eurocities
Frankfurt School of Finance and Management
Fraunhofer Institute
Fundation Tecnalia Research & Innovation (Tecnalia)
Institute for European Environmental Policy
LGI Sustainable Innovation
Local Governments for Sustainability (ICLEI)

Material Economics
Metabolic Institute
North West Croatia Energy Agency (REGEA)
Open & Agile Smart Cities
Polytechnic University of Milan
Resilient Cities Network
Rupprecht Consult
South Pole
Tallin University of Technology (TalTech)
Technical University of Madrid
The Democratic Society
The International Association of Public Transport (UITP)
TNO Netherlands Organisation for Applied Scientific Research
Viable Cities
VTT Technical Research Centre of Finland

Project description:

NetZeroCities plays a key role in the EU's Mission of "100 Climate-Neutral and Smart Cities by 2030". The project functions as a service-oriented platform backed by top-tier experts. It assists European cities by offering the support and solutions necessary to achieve their Net Zero goals in a socially inclusive manner. It is a driving force behind the efforts of 112 Mission cities to develop carbon-neutral strategies, improve their capacity for systemic change through innovation, and provide a platform for dedicated services and expertise.

Through tailored online and in-person workshops and social simulations, our goal is to help cities understand the complexity of current climate neutrality challenges and goals. We aim to assist cities in building the necessary knowledge that enables them to formulate action plans, achieve their climate-neutral objectives, build resilience, and break down silos.

This project has received funding from the European Union's Horizon 2020 research and innovation program.

Duration: 2023-2026 (SGA1) and 2024-2027 (SGA2)
Website: netzerocities.eu
Contact: Sophia Ruiz Vasquez
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Key events:

November

NetZeroCities Winter School

In late November, Noam Obermaister participated in the NetZeroCities Budapest Winter School, which aimed to strengthen connections between Mision cities working toward

carbon neutrality. The event focused on supporting cities in designing and refining Climate City Contracts (CCCs) through collaborative, practice-based workshops.

PLUS Change: Planning Land Use Strategies: Meeting biodiversity, climate and social objectives in a changing world

Partners:
Global Change Research Institute CAS (CzechGlobe)
International Society of City and Regional Planners (ISOCARP)
Konrad Lorenz Institute for Evolution and Cognition Research (KLI)
International Creative Projects B.V. (Biobased Creations)
Stichting VU
Plan4all Hub
Peri-Urban Platform Europe (PURPLE)
Baltic Studies Centre (BSC)
University of Ljubljana
KnowlEdge Srl (KE Srl)
Stockholm University
Constantine the Philosopher University in Nitra (UKF)
Leuphana University Lüneburg
The Province of Lucca
RRA Zeleni kras
Euregio Meuse-Rhine
Mazovia Region
Flemish Land Agency (VLM)
South Moravian Agency for Public Innovation (JINAG)
Île-de-France Region

Project description:
PLUS Change is an EU-funded Horizon project that aims to create strategies and decision-making processes for land use, addressing issues related to climate change, biodiversity, and human well-being. By bringing together a diverse range of stakeholders and incorporating case studies from across Europe, the project focuses on understanding the relationships between urban, regional, and peri-urban areas. The overarching goal is to generate knowledge and drive transformative change towards a sustainable world.

The Centre for Systems Solutions is one of 23 consortium partners, involving transdisciplinary expertise from the sciences, social sciences, humanities, and arts. Our 12 Practice Cases are real-world examples of land use decision-making and action within a geographic area, and include Amsterdam (the Netherlands), Nitra City (Slovakia), Flanders (Belgium), Kaigu Wetland (Latvia), Park Ela (Switzerland), The Province of Lucca (Italy), Green Karst (Slovenia), Three Countries Park (Germany, Belgium and the Netherlands), South Moravia (Czechia), Surrey (United Kingdom), Ile de France (France), and the Mazovian Region (Poland).

Throughout the project, we adopt a transdisciplinary perspective to understand how values, knowledge, governance, powers, and roles of different actors interact to influence land use decisions. We strive to recognize the diverse needs and values

associated with land use, considering the consequences of effective interventions and good governance. Our approach to land use planning takes a long-term, dynamic perspective, considering social and physical changes over time, trade-offs, synergies, and expected/desired climate and biodiversity trends. The transfer and exchange of experiences and knowledge between different practice cases and land use domains play a crucial role in achieving the goal of inducing positive change. By learning from different perspectives and experiences, the project strives to create a more sustainable and climate-friendly approach to land use, benefiting both the environment and the communities.

Specifically, our organization will design and develop policy simulations that support the co-construction of transformation pathways for sustainable land-use strategies under Work Package 4, which the Centre for Systems Solutions also leads.

This project has received funding from the European Union's Horizon Europe research and innovation program under Grant Agreement No 101081464.

Duration: 2023-2027
Website: pluschange.eu
Contact: Paolo Campo
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Key events:

July

PLUS Change Kick-Off Meeting

In the middle of June, Piotr Magnuszewski attended the project kick-off meeting in Prague.

During the kick-off meeting, project partners presented 11 case studies and a multiplier case, outlined the work, and planned future activities. The PLUS Change adopts a social perspective to understand how values, knowledge, governance, powers, and roles of different actors interact to influence land use decisions.

Our organization will produce policy simulations with the goal of including individual behavior patterns in the decision-making processes for land use. In the course of the meetings, Piotr presented how the simulation will be used to enrich the project's findings.

For more information follow the project on LinkedIn and Twitter.

CASCADES: Cascading Climate risks: towards Adaptive and resilient European Societies

Partners:
Potsdam Institute for Climate Impact Research (PIK)
Stockholm Environment Institute (SEI)

Adelphi Research Gemeinnützige GmbH
Euro-Mediterranean Center on Climate Change Foundation (CMCC)
Federal Institute of Technology Zurich (ETH)
University of York
Finnish Environment Institute (SYKE)
Centre for International Information and Documentation in Barcelona (CIDOB)
Chatham House
European Centre for Development Policy Management (ECDPM)
Vienna University of Economics and Business (WU)

Project description:

CASCADES project aimed to identify how the risks of climate change to countries, economies, and peoples outside Europe might cascade into Europe. It did so by analyzing how these risks interact with major challenges facing European societies. We were working with a diverse range of stakeholders – both within and outside Europe – to address these risks from a multitude of approaches.

The main objective of CASCADES, within four years, was to analyze the trade, political and financial channels through which climate change impacts might cascade into Europe from the outside, significantly altering Europe's risk exposure. The project's ambition was to support the design of a coherent European policy framework to address these risks.

We led the stakeholder involvement process and were responsible for developing policy simulations (the Arctic Future in 2020, the Raw Materials in 2021, the Future of Food in 2022) and a multiplayer social simulation – the Cascades Game.
The simulations were applied as part of the CASCADES Core Workshops, demonstrating their utility as educational tools to communicate research findings, but most importantly to co-develop policies with relevant stakeholders.
The Cascades Game was developed to promote findings from the project and to secure the project's impact beyond its lifetime. Its main topics are policy learning, education, and awareness raising. The setting of the game is stylized, i.e. it can work as a metaphor for given problems.
As the CASCADES project concludes, the insights and tools developed will continue to inform and shape global strategies for climate resilience.

The project received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No. 821010.

Duration: 2019-2023
Website: cascades.eu
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Key events:

May

Arctic Security Simulation in Helsinki

We had the pleasure to run a Simulation Workshop at the "Policy implications of Arctic cross-border climate change impacts" seminar, organized together with the Finnish Environment Institute (Syke) and Finnish Institute of International Relations (FIIA). The seminar was held in Helsinki on May 30, as part of a series of events held in several European cities in 2023, disseminating the results of the CASCADES project.

Arctic Security Simulation took participants to the year 2041 in the Arctic. Assuming various roles in the European Arctic Regional Task Force, players negotiated policies to mitigate security risks and cascading climate impacts that would affect the far north in the near future.

The event gathered highly engaged specialists - decision-makers, advisors, researchers, and activists. It was an excellent opportunity to examine the broad dimensions of climate change impacts on international relations in the Arctic.

October

CASCADES Final Conference – tackling cross-border climate impacts

In mid-October, a diverse assembly of 150 scientists from around the globe convened for the CASCADES final conference dedicated to the issue of cross-border climate impacts and risks. Over three days, participants from various disciplines collaborated to enhance understanding and response strategies for these emerging global challenges.

The conference marked the final event of the EU sister projects "CASCADES" and "RECEIPT," signifying a collaborative milestone in the field of climate research. By fostering a multidisciplinary dialogue and leveraging innovative tools. The conference underscored the importance of integrated approaches to tackling the complex, cross-border nature of climate impacts.

A highlight of the conference was the interactive policy simulation demonstration led by Piotr Magnuszewski which was summarizing the CRS' achievements within CASCADES project. We have also presented a poster "Exploring climate futures with Policy Simulations" showing all outputs we created within the project (policy simulations and educational game). Moreover, Piotr designed and facilitated an interactive final session of the conference.

PARATUS: Promoting disaster preparedness and resilience by co-developing stakeholder support tools for managing the systemic risk of compounding disasters

Partners:
University of Twente (UT)
University of Vienna (UNIVIE)
DeepBlue (DBL)
German Aerospace Centre (DLR)
Technical University of Catalunya (UPC)
EURAC Research Centre (EURAC)
The Netherlands Red Cross (NRC)
International Institute for Applied Systems Analysis (IIASA)
FI Group (FI)
Royal Netherlands Meteorological Institute (KNMI)
Red Cross Red Crescent Climate Centre (RCCC)
Istanbul Technical University (ITU)
University of Bucharest (UB)
ASFiNAG GmbH
Istanbul Metropolitan Municipality (IMM)
Asian Institute of Technology (AIT)

Department of Emergency Situations, Ministry of Internal Affairs (DSU)
The Resilience Advisors Network (RAN)

Project description:

The Centre for Systems Solutions is among 19 partners realizing the project PARATUS under the call HORIZON "CL3-2021-DRS-01-03: Enhanced assessment of disaster risks, adaptive capabilities and scenario building based on available historical data and projections".

It is coordinated by the University of Twente and aims to develop an open-source platform for dynamic risk assessment that allows the analysis and evaluation of multi-hazard impact chains, risk reduction measures, and disaster response scenarios in light of systemic vulnerabilities and uncertainties.

PARATUS will first conduct forensic analysis on historical disaster events, augment historical disaster databases by taking into account hazard interactions and sectoral impacts, and exploit remote sensing data by artificial intelligence methods. Building on these insights, PARATUS will then develop new exposure and vulnerability analysis methods that enable systemic risk assessment across sectors (e.g. humanitarian, transportation, communication) and geographic settings (e.g. islands, mountains, megacities). These methods will be used to analyze risk changes across space and time and to develop new scenarios and risk mitigation options together with stakeholders.

Centre for Systems Solutions is leading the co-development of serious games (social simulations and augmented reality games) together with the Red Cross Red Crescent Climate Centre. Both organizations apply unique methods to communicate the project's findings in an inclusive and engaging way. Our organization is responsible for creating social simulations, which will help to better capture the social aspect of decision-making and related uncertainties.

The results will provide stakeholders with a range of tools for risk reduction planning in dynamic multi-hazard environments.

Duration: October 2022 - September 2026
Website: paratus-project.eu
Contact: Michalina Kułakowska
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Key events:

July

PARATUS Summer School

Michalina Kułakowska took part in the PARATUS Summer School organized by the University of Vienna. The event was an opportunity to get an insight into the complex impact chains of multi-hazard events (e.g. the implications of earthquakes in Turkey, storm events in the Caribbean, or large cascading events on emergency response in Romania).

Michalina demonstrated the Pantano High Water social simulation developed for PARATUS. In this fictional reality, participants taking on roles of scientists and policymakers, had to plan actions and vote on policies in order to mitigate the consequences of floods. The overall conclusion of participants was that there are many decisions one may take, and cooperation may not always be easy, but people's safety

and lives are impacted by any decision taken by policymakers and scientists. The simulation fits into PARATUS framework since it helps stakeholders learn from the past and adapt to changes.

Nomination to the Polish Smart Development Award 2023

The Centre for Systems Solutions was nominated to the Polish Smart Development Award 2023 in the category "Project of the Future" with the PARATUS Project.

The Award annually recognizes individuals and organizations that implement innovative projects for a better future and communicate their work in a unique way.

November

Updates from the General Assembly after the first year of PARATUS Project

The PARATUS General Assembly took place in Antalya, Turkiye. During two days of collaborative discussions and updates on the work on each Project's Work Package, we gained new insights on the progress in research in the application case studies areas - the Caribbean Islands (multi-hazard and preparedness planning), the Alps region (cross-border transportation), Turkiye (earthquake megacities) and Romania (civil protection).

As far as the Work Package 3 (Adapting to Changes) is concerned, we discussed the possibilities of further development of social simulations and an augmented reality tool. We also brainstormed how to best include these tools in the project outputs in order to increase stakeholder engagement and magnify the impact of the research beyond the PARATUS project.

During the General Assembly, Michalina Kułakowska and Weronika Adamczak held the Evacuation Challenge Game. The game, linked with the PARATUS context, introduces challenges related to disaster response and evacuation, specifically in the context of a diverse cultural and linguistic environment. Project Partners took on roles of both citizens and rescue team members and were faced with difficulties faced by first responders!

Food Alert

Partners:
Sciences Po University
Chatham House
European Policy Center
Prospero.ag
National Research Institute for Agriculture, Food and Environment (INRAE)

Project description:

Project Partners designed Food Alert as a practical and direct means to help bridge the gap between policy analysis and practical application. It is targeted at those directly involved in the complex process of transforming food systems.

The first edition of Food Alert simulates a climate-triggered crisis affecting EU food supplies. The Food Alert crisis scenario was developed collaboratively with partners from various private, governmental, and academic organizations who formed the Food Alert Technical Working Group and proceeded through a series of co-designed working sessions.
Based on the developed crisis scenario, the Food Alert crisis simulation workshop, scheduled to take place on February 1-2, 2024, in Brussels, Belgium, is being designed for policymakers and experts in the topic of European food, agriculture, and disaster response. Based on genuine potential threats to the EU food system, this expert workshop will simulate a food emergency impacting all 27 EU member states and its 447 million citizens. The exercise will immerse participants in the co-creation of potential policy responses to mitigate crisis scenarios, examining current policy and institutional arrangements, along with short-, medium-, and long-term policy responses. The exercise will identify strengths, weaknesses, opportunities, and threats associated with current EU food system structures and capabilities in the event of an actual food crisis.

The Food Alert project is partially inspired by the vision of food systems transformation presented during the UN Food Systems Summit of 2021. It also builds upon the earlier work performed within the CASCADES EU Horizon project and other EU-funded projects linked to climate impacts and EU food system resilience. Each of the six Food Alert partners and supporters provide a wealth of expertise and experience linked to food and agriculture that, collectively, enriched the process.

The project's initial phase was funded by EIT Food and the Ministry of Agriculture, Nature and Food Quality of the Netherlands.

Duration: 2023-2024
Website: foodalert.socialsimulations.org
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Education to Citizenship

Partners:
Common Thing Foundation
Stanisław Brzozowski Association
Phronesis SA

Project description:

The Education to Citizenship project is focused on developing and consolidating civic education tools for adults. It is financed from the EEA Funds and coordinated by the Common Thing Foundation.

Within the project, three partners from Poland and one partner from Norway (Phronesis SA) will create an innovative training program for civic educators working with local communities. The project plans to run courses for civic educators at two levels: basic and advanced. Participants in the events will be civic educators working or planning to work with communities, especially those of marginalized backgrounds.

The aim of the events organized by the Polish project partners – the Common Thing Foundation, and the Stanisław Brzozowski Association (Krytyka Polityczna) – will be to disseminate the results of the project: a program of courses, an educational game, and a

manual.

The Centre for Systems Solutions took the lead in developing an innovative educational game (social simulation).

Duration: February 2022 - January 2024

Contact: Michalina Kułakowska
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Key events:

April

Education to Citizenship second meeting in Warsaw

The Education to Citizenship project held its second meeting at the Stanisław Brzozowski Association (Krytyka Polityczna) in Warsaw. The gathering focused on the initial test phase of (After)Fantasy simulation with project partners. This innovative social simulation aims to engage participants in critical thinking and civic education through the exploration of a fantastical world. The meeting provided an opportunity for partners to share insights, challenges, and successes encountered during the first project months. Additionally, significant attention was given to analyzing the lessons learned from the execution of the project's first Basic Course.

The Warsaw meeting served as a platform for reflection and refinement, emphasizing the importance of iterative learning and adaptation in educational endeavors. With a commitment to continuous improvement and collaborative innovation, the Education to Citizenship project remains steadfast in its mission to empower individuals with the knowledge and skills needed to actively participate in democratic societies.

Education to Citizenship Study Visit in Oslo

In April, our team took part in a study visit to Norway as part of the project "Education to Citizenship". The study visit was hosted by the project partner – Phronesis SA.

Over the course of three eventful days, we embarked on an immersive journey focused on civic education and community engagement. The main topic of the meetings was how community organizers can use dialogue methods for change and facilitative leadership.

The meetings during the visit revolved around three themes:
- dialogue and facilitation as participatory approaches,
- a philosophy and politics of participation,
- pedagogical models for civic education.

During the visit to a local school, Michalina Kułakowska from our team led a test of our new social simulation – (After)Fantasy. We are very happy to have fruitful conversations with our partners and excited to develop a community organizing game that will present the topic of civic engagement.

June

Education to Citizenship Workshop in Katowice

Another series of project-related workshops was held in Katowice, Poland. This time around, the workshops focused on team building and leadership skills. During three days of training, participants also got a chance to play a demo version of a community organizing game – (After) Fantasy.

Based on the participants' reactions and their level of engagement, we may assume that they enjoyed the tool. The social simulation was refined based on the received feedback.

Education to Citizenship Workshop in Warsaw

One more round of project-related workshops took place on the last weekend of June in Warsaw, Poland. The workshops were held at the Jasna 10: Społeczna Instytucja Kultury Krytyki Politycznej NGO.

Similarly to the workshops in Katowice, the session in Warsaw was focused on team building and leadership skills. Importantly, participants also got a chance to play a demo version of a community organizing game – the *After Fantasy*.

November

Education to Citizenship Dissemination event

At the turn of November and December, we organized a unique two-day workshop *Education to Citizenship – Feel the Magic of Collaboration!* in EkoCentrum, Wrocław. The workshop featured (After)Fantasy simulation and demonstrated that complex problems can be addressed through engaging and interactive methods.

The workshop attracted participants from non-governmental, education and public sectors, interested in exploring participatory and community organizing methods through unconventional, action-based learning. The participants praised the workshop for introducing a new tool that embraces cooperation and helps to consolidate gained knowledge. Moreover, several participants mentioned that the event was a great opportunity to exchange experiences.

December

Education to Citizenship Final Partners Meeting

The final project meeting for the Education to Citizenship partners took place in Oslo, Norway. Representatives from four partner organizations gathered to share their experiences and reflect on the project's successes and challenges through an After Action Review. This process allowed for a comprehensive assessment of what worked well and what could be improved in future endeavors.

Despite obstacles encountered along the way, there was a palpable sense of achievement as the team celebrated the significant developments made throughout the project duration. The project's "fruits" include the finalization of (After)Fantasy Simulation (available in Polish and English) and an online publication of the "Civic Education in Action" Handbook (available only in Polish).

(After)Fantasy Simulation is a board game social simulation, where players learn to cooperate, overcome crises, and co-organize activities. The Handbook is a guide for civic educators, activists, teachers, and whoever else wants to learn about democratic activism or interactive education.

"We have examined various approaches to civic education through experiencing and acting. The community organizing, dialogue formula, and simulation games described here are a way to build a more conscious society that is truly civic. In times of crisis - in the context of the global pandemic, the war in Ukraine, and the fight for the rule of law – we particularly clearly see that citizenship is the

paramount value."

– the authors of the "Civic Education in Action" Handbook

The meeting in Oslo served as a platform for acknowledging the hard work and dedication of all involved, while also providing an opportunity to discuss strategies for sustaining the project's impact in the long term.

Make Europe's Future Sustainable

Partners:
Austrian Foundation for Development Research
Rogers Foundation for Person-Centred Education
Vienna University Children's Office

Project description:

In the project Making Europe's Future Sustainable! a simulation-based learning program for schools, a comprehensive game-based learning and teaching program on sustainable development for cross-curricular education in secondary schools is being developed.

The learning program fosters citizens' competencies among Europe's youth, making them more aware of global challenges and encouraging them to become active changemakers. The learning program provides solutions for high-quality and innovative open-access digital learning resources. To ensure that approach, all resources are being developed in cooperation with teachers and school students involving a diverse range of participants.

The program consists of a set of resources: 1)"Up to You" Simulation, wherein the game-based, immersive approach enables students to discover the interconnected nature of SDGs; 2) the Teachers' toolkit, which offers practical training material for teachers to use the simulation; 3) digital learning materials, consisting of videos (live-action and animation), interactive elements (quizzes, scenarios), dossiers, infographics and background listening/reading; and 4) a policy and implementation manual, providing a testbed for the interaction between the formal and non-formal education sector and aims to link open schooling and **SDGs**. The central location for all these resources is being developed as 5) an online learning platform.

The project Making Europe's Future Sustainable! A simulation-based learning program for schools is a project co-funded by the European Union within the Erasmus+ program.

The project consortium is composed of the Austrian Foundation for Development Research, the Centre for System Solutions, the Rogers Foundation from Hungary, and the Vienna University Children's Office from Austria.

Duration: May 2022 - July 2024

Contact: Aleksandra Solińska-Nowak
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Key events:

June

Up to You! in a local high school in Wrocław

On June 19, 2023, we held the second test of Up to You! simulation in secondary school No. 10 in Wrocław. The event gathered 15 students aged 15-16. Some of them had previous experience with the simulation so were able to observe the differences between the versions. Their valuable feedback proved that the introduced changes were fitted to the audience's needs, and the tool might be now considered a great complement to the school curriculum.

Up to You! simulation is a key element of the Sustainable Development Goals learning program for European youth aged 14-19.

September

E+Future Meeting in Wrocław

On September 25, 2023, we organized the 5th transnational partner meeting in the project Making Europe's Future Sustainable! A simulation-based learning program for schools. It was held in our office in Wrocław where we hosted partners from Austria (Austrian Foundation for Development Research and Vienna University Children's Office) and Hungary (Rogers Foundation for Person-Centered Education).

The meeting aimed to summarize our work on project results (which include the Up to You! Simulation, Teacher's Toolkit, Learning Materials, E-learning Platform, and a "What we recommend" manual) and to plan multiplier events and dissemination activities for 2024. The meeting helped us organize our work, update our goals, and prepare for new challenges.

SDG-pathfinding: Co-creating Pathways for Sustainable Development in Africa

Partners:
International Institute for Applied Systems Analysis (IIASA)
National Research Institute for Agriculture, Food and the Environment (INRAE)
Action and Initiative Group for Alternative Development (GAIA)
Rhodes University

Project description:

The SDG-pathfinding project aimed to bridge the gaps in the approaches to research on the interactions between sustainable development goals (SDG) and to refine the SDG analytical frameworks to incorporate the social and governance dimensions, which are instrumental in the implementation of sustainable development models. Specifically, the project aimed to develop a framework linked with appropriate tools and capacities to understand and manage SDG interlinkages and support a sustainable development pathway for African countries that is adapted to local capacities and priorities.

An important aspect of the project was the integration of the method called the Collaborative Systems Mapping of Sustainable Pathways (CoSMoS) with the existing participatory tools and methods used by the project partners. The method was co-developed in an earlier project with IIASA. CoSMoS is accompanied by cards which are used during in-person participatory systems mapping sessions. An online version of the tool was developed as an add-on to the Miro online collaboration platform in response to the COVID-19 pandemic.

During the COVID-19 pandemic, we trained our partners on how to conduct a CoSMoS workshop using the online tool and then provided them with additional support, such as printed cards, as well as digital layouts of the cards for printing, which were then used for in-person workshops.

In the SDG-pathfinding project, we were actively collaborating with partners from the International Institute for Applied Systems Analysis (IIASA), the National Research Institute for Agriculture, Food and the Environment (INRAE, France), Action and Initiative Group for Alternative Development (GAIA), Senegal) and the Rhodes University (RU, South Africa).

Duration: June 2021 - December 2023
Website: iiasa.ac.at/projects/sdg-pathfinding
Contact: Paolo Campo
e-mail: paolo.campo@systemssolutions.org

Key events:

September

Collaborative Design of Pathways to Sustainability – a guidebook for designing and running in-person workshops

Together with the International Institute for Applied Systems Analysis (IIASA), the National Research Institute for Agriculture, Food and the Environment (INRAE), Action and Initiative Group for Alternative Development (GAIA) and the Rhodes University, we created a guidebook on Collaborative Systems Mapping of Sustainable Pathways (CoSMoS). With a focus on bridging the gap between science, policy, and society, CoSMoS offers a unique approach to scenario planning by incorporating stakeholder engagement and strategic insight development.

One of the key challenges in scenario planning is the misconception that stakeholder engagement merely involves providing expert input or feedback on research results. However, for scenario efforts to truly inform policy development, stakeholders must be empowered to develop robust strategies within their sphere of control. Through the CoSMoS process outlined in the guidebook, stakeholders representing specific decision units can gain strategic insights by building upon selected real-world structures and processes.

Whether directly involved in policy development or indirectly impacted by various crises, the method emphasizes positive, active, and inclusive approaches to co-creating sustainability pathways towards desired futures. The guidebook serves as a comprehensive manual, explaining underlying assumptions, comparing CoSMoS with

similar tools, and providing instructions for adapting, designing, and running new CoSMoS workshop sessions.

IKI JET Innovation Regions for a Just Energy Transition

Partners:
German International Cooperation Society (GIZ)
Climate Action Network International (CAN International)
International Institute for Sustainable Development (IISD)
International Labour Organisation (ILO)
International Trade Union Confederation (ITUC) – Just Transition Centre
Wuppertal Institute for Climate, Environment and Energy

Project description:
The project, funded by The International Climate Initiative (IKI) is embedded under the "Interregional Platform Component". The project aims to support countries in developing plans for a just transition from coal to renewable energy and to promote other sustainable economic activities, with a focus on the regional level. In the target regions, social dialogue and innovation processes are central to triggering a regional dynamic toward sustainable development, encompassing energy, structural, and labor policies. The project engages governments, industry, employers, trade unions, communities, civil society, and academia in developing pathways to low-carbon, resilient energy systems, sustainable local economies, and decent jobs at the local level, in line with the Paris Agreement and the International Labor Organization's Just Transition Guidelines. It also supports interregional peer-to-peer exchange, learning, and policy dialog within an international network of coal regions in Latin America, Africa, and Asia, facilitated by information sharing through a knowledge hub.

Together with the Wuppertal Institute, CRS will support learning and dialog processes by tailoring knowledge to the needs of regional actors. It will develop and implement accessible and innovative learning formats, such as social simulation games that promote engagement and understanding.

The project is co-financed by the International Climate Initiative of the German Federal Ministry for Economic Affairs and Climate Action (BMWK) and the European Union. All project results are available at the IKI JET Knowledge Hub.

Duration: 2023-2025
Website:international-climate-initiative.com/en/project/innovation-regions-for-a-just-energy-transition-22-i-418-global-g-innovation-regions-for-just-transition/
Contact: Michalina Kułakowska
e-mail: michalina.kulakowska@systemssolutions.org

MEFadapt: Identifying, understanding, and adapting to transboundary climate risks in the global minerals–energy–food complex

Partners:
Stockholm Environment Institute (SEI)
Stockholm University

Project description:

MEFadapt aims to improve our understanding of transboundary climate risks (TCRs) and of how best to reduce, manage, and govern them in just, legitimate, and effective ways.

The project focuses on one type of TCR: the disruption of global supply chains of minerals, energy, and food, the associated second-order climate risks, and the effect of these disruptions on climate adaptation policies. It builds on an unparalleled existing database on trade and global supply chains, including analyses of millions of per-shipment declarations, billions of maritime transport records, and global subnational agricultural and mineral production. The project takes an innovative data-driven and stakeholder-based mixed-method approach, including quantitative modeling, network and policy analyses, case studies, and scenario frameworks.

Our organization is responsible for designing and executing stakeholder workshops intending to develop multilevel policy and governance pathways for reducing risks and exposure. The activities will make use of the data processed by the project activities, and build on previously developed governance concepts and scenarios.

MEFadapt is funded by the "Climate adaptation across borders - cross-border challenges and measures" by FORMAS.

Duration: 2023-2027
Contact: Piotr Magnuszewski
e-mail: piotr.magnuszewski@systemssolutions.org

October

MEF Adapt Kick-off meeting

At the end of October, Piotr Magnuszewski, took part in the MEFadapt kick-off project in Denmark, together with partners from Stockholm Environment Institute and Stockholm University.

These workshops will utilize the processed data from the project's activities and build on previously developed governance concepts and scenarios.

The kick-off meeting started our collaboration, aiming to use data insights and stakeholder input to create strong, adaptable policies for managing complex transboundary climate risks.

Games4Sustainability

Project description:

The Games4Sustainability (G4S) recognizes the power of games and simulations as a tool for learning and engagement, and it leverages this power to promote awareness, learning, and action towards achieving sustainable development goals.

The Games for Sustainability platform is a guide to games and social simulations that can be used in sustainability education and transition planning contexts.

The G4S blog collects a variety of success stories on how sustainability professionals, academics, and organizations make use of social simulations and games in their areas of activity.

The Gamepedia, a subsection/subpage of G4S, meanwhile, enables users to find a perfect match for their needs from among 100+ games and simulations, which are categorized by The Sustainable Development Goals they address.

Contact: Michalina Kułakowska
e-mail: contact@games4sustainability.org ; michalina.kulakowska@systemssolutions.org
media (add clickable buttons): https://twitter.com/games4sustain |
https://www.facebook.com/Games4Sustainability
https://www.instagram.com/games4sustainability/
https://www.youtube.com/channel/UCF2ozszThjur7AY_8lGbn8Q

Development of the Centre for Systems Solutions in Poland

Project description:

The project, implemented thanks to financial support from the Sendzimir Foundation, includes the following activities: development of social and policy simulations and other systems thinking tools to improve sustainable development education, workshops to facilitate dialogue on the management of adaptive social and ecological systems, data collection and analysis, financial and administrative management, and IT services.

Project coordinator/contact: Magdalena Liszka
e-mail: magdalena.liszka@systemssolutions.org

The project offers basic funding to ensure the functioning of CRS office and administration infrastructure. Among others it enables the organization of CRS retreats as well as internal courses.

January - December

After Action Reviews - what we gained from them

In 2023 many members of our team were working remotely; therefore, the After Action Reviews remain an important part of our organization culture. The process helps us review and evaluate all the projects, events and simulations produced and implemented by the participating members and project partners throughout the year. To guarantee that the review is as effective as possible, the coordinators and/or organizers of the activities under review are tasked with gathering feedback on all their aspects, including their preparation, development and implementation.

Sharing competencies with others

In 2023 we organized a lot of internal online workshops and webinars. Our team members facilitated occasional "Share your competencies" workshops on using WordPress, Miro and Zoom or facilitating one of our simulations. Occasionally we also met during internal webinars about different methodologies used for our projects, for example Policy Simulations or Discourse Narratives.

CRS team meetings

To keep the whole team updated on the projects' progress, and communicate our needs, and announce upcoming events, we hold Monday online meetings. It usually starts at 10.30 am on the Zoom platform. Every week a different member of the team runs the meeting and introduces any changes on a virtual projects' board. We also update the Google calendar and set up new goals for the upcoming days.

CRS Annual Retreats

We keep two team retreats a year. One is usually organized in the summer, and the other in the winter, near the year's end. Each time we select a new venue and enrich working sessions with hiking or sight-seeing tours.

The summer retreat was organized between July 6-7 in Glinno, Lower Silesia. It was a great trip, where aside from intense group discussions and thematic workshops, we had time for some team bonding and breaking through bushes.

The winter meeting, on December 14-15 in Pieszyce, Lower Silesia, was dedicated both to the discussion about our strategy and to the end-of-year celebrations.

On both retreats, we spent at least 8 hours each day on brainstorming discussions. We touched on the development of our new social simulations (planning how to make them more immersive and engaging) as well as the progress of our organization and plans for the future.

Social & Strategic Simulations

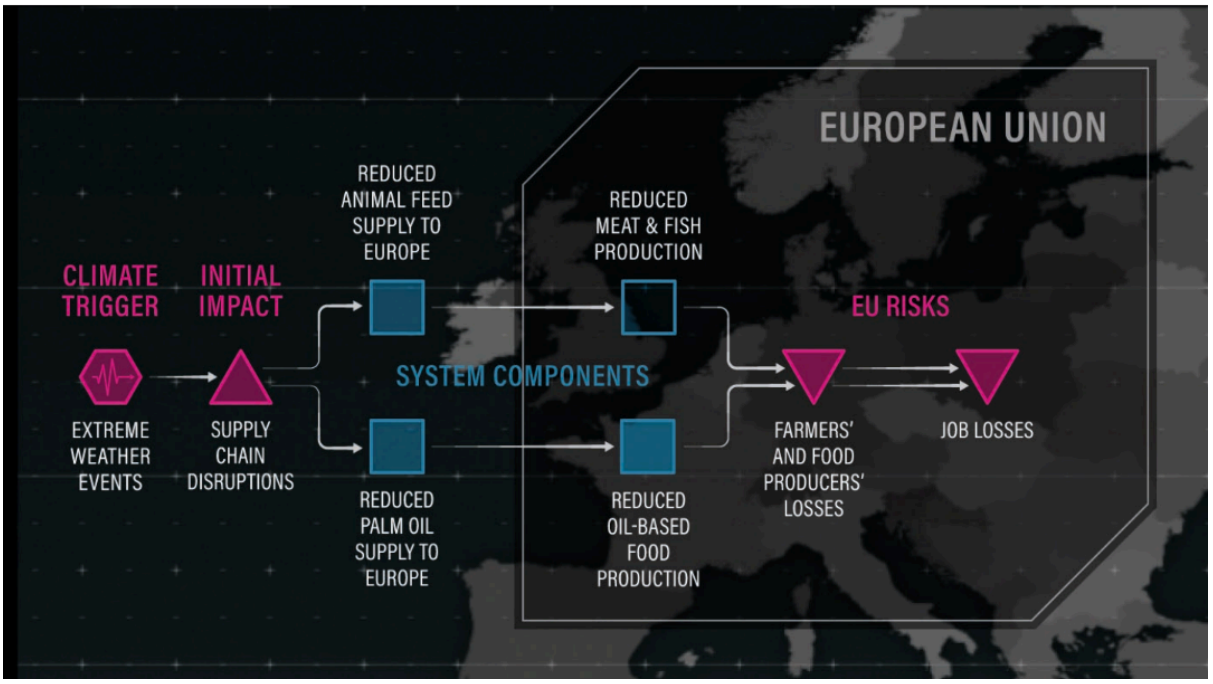
Food Alert Crisis Simulation

The Food Alert policy simulation uses the crisis scenario to immerse participants in the co-creation of potential policy responses, mitigate the impacts of future food crises in Europe, and closely examine current policy and institutional arrangements and policy response frameworks.

In the Food Alert crisis scenario, extreme, but plausible, events are set to represent the undesirable outcomes of climate impacts, political decision-making, and other socio-economic factors. It was developed collaboratively with partners from various private, governmental, and academic organizations who formed the Food Alert Technical Working Group and proceeded through a series of co-designed working sessions. By bringing together the experience, expertise, and insights of individuals from various food-related fields, these sessions ensured that the scenarios were comprehensive, and realistic, and evidence-based, covering a wide range of potential crises that Europe may face.

The scenarios initiate in four distinct geographic areas: Mediterranean (North Africa and Southern Europe), Southeast Asia (Malaysia and Indonesia), Latin America (Brazil, Argentina, and Paraguay), North America (USA and Canada), and Eastern Europe (Romania, Bulgaria, and Hungary). Each region is affected by various climate triggers which initiate a chain reaction of cascading impacts, affecting food producers, retailers, buyers, and consumers alike. While the diagram focuses on the consequences of these

events for Europe, it was crucial to explore the events' origins, as their impacts extend beyond their geographic boundaries.



Food Alert Diagram

The Food Alert crisis scenario provided a conceptualization of how a succession of crisis events may play out, driven by a wide range of hazards (both globally and within Europe) that may affect the EU food system. The crisis scenario was developed using the conceptual framework for cross-border impacts of climate change proposed by Carter et al., (2021) by a group of experts from different disciplines who formed the Technical Working Group. Subsequently, the scenario was translated into a visual storyline (in the form of a video) to be used to challenge another group of experts and practitioners through a policy simulation. In the simulation follow-up session, new policy ideas will be brainstormed and suggested for further consideration.

Website: foodalert.socialsimulations.org/
Number of players: 20-65
Duration: 3 - 6 hours
Languages: English, Polish
Requirements for face-to-face workshop: workshop room, with tables; a mobile phone or a tablet with you as it will be used for communication during the simulation. Make sure that your phone has the latest version of Chrome (Android) or Safari (iOS) installed.

Up to You!

Up to You! is a multiplayer, social simulation game designed for players aged 14 and up, but it's suitable for anyone seeking valuable lessons and fun. The simulation focuses on the development of three fictional countries: Rosa, Magnolia, and Triland, each managed by various ministries responsible for different sectors like Economy & Trade, Water &

Environment, Society & Workforce, and Education & Research. These ministries handle tasks ranging from building infrastructure and protecting the environment to addressing social needs and advancing technology.

The responsibilities of the roles are predefined by the system, whose key elements (society, environment, and market) respond to players' decisions. However, the simulation does not impose specific goals or tasks; players set their own objectives and strategies, either engaging in international cooperation or remaining isolated from other nations' managing resources sustainably or exploitatively, etc. The direction and outcomes of the simulation are entirely in the players' hands.

Up to You! simulation was created as part of the project *Making Europe's Future Sustainable! A simulation-based learning program* and is funded by the European Union within the Erasmus+ program. A consortium composed of the Austrian Foundation for Development Research, the Rogers Foundation from Hungary, and the Vienna University Children's Office from Austria is implementing the project from May 2022 until July 2024.

Website: https://uptoyou.socialsimulations.org/
Number of players: 9 - 36
Duration: 15 minutes - 4 hours
Languages: English, Polish, German, Hungarian
Requirements for online workshops: Smartphone with iOS or Android system. PC with Windows or MacOS. Chrome, Firefox and Safari are recommended.

Requirements for a face-to-face workshop: workshop room, with tables; printing and cutting ID (character) cards; a mobile phone or a tablet with you as it will be used for communication during the simulation. Make sure that your phone has the latest version of Chrome (Android) or Safari (iOS) installed.

(After)Fantasy

The simulation places players in a fantastical world where they are surrounded by beasts and races not known in the real world. Though at first glance the world in the simulation is completely different from what we are used to, the situation serves as a metaphor for the reality we live in. A mysterious Threat attacking the community stands for global and local challenges that we are facing nowadays. This makes it easier to engage various groups in the simulation and creates a safer space free of political influence.

Diversity of role backgrounds, varied priorities, and unresolved conflicts affect decision-making processes. Resources, including time, money, goods, space, and even information, are spread across various roles. Players experience shocks that affect group stability, test different decision-making styles, and develop leadership and group-building abilities.

The goals given or created by players are not focused on winning – the real win in the simulation is about experience, understanding, and participation in processes and interactions. (After)Fantasy simulation ends with an obligatory debriefing, building a bridge to real-life situations or challenges so that the experiences from the simulation can be applied to activities beyond the simulation.

The *(After)Fantasy* simulation was created as part of the "Education to Citizenship" project, which received funding of EUR 171,017.00 from Iceland, Liechtenstein, and Norway under the EEA Grants. Simulation has been developed in partnership between the Common Thing Foundation, the Centre for Systems Solutions, and the Stanisław Brzozowski Association (Krytyka Polityczna).

Website: https://afterfantasy.socialsimulations.org/en/afterfantasy_main/
Number of players: 9 - 18
Duration: 2 - 4 hours
Languages: English, Polish
Requirements for face-to-face workshop: workshop room, with tables; printing and cutting cards.

Climate Science Crisis Simulation

Trust in experts is not a given. In crises, scientists' credibility can become contested. From one day to another, scientists can suddenly become public figures, the targets of blame and abuse, and can inadvertently make controversies worse. In the age of misinformation, and when trust in experts is low, dangerous beliefs can spread across society like wildfire. The trustworthiness of scientists and trust in science should not be taken for granted. This simulation brings these challenges to life in a fictional scenario.

The Climate Science Crisis Simulation was co-designed with PERITIA partners, including principal investigators.

The simulation is set in 2030, in an alternative world similar to our own. In this alternative world, the *Pangean Union* faces a protracted crisis of trust in climate science and expertise. This crisis of trust is triggered by a whistleblower's revelations and allegations about a start-up funded by a large oil company, which they say is performing stratospheric aerosol injections (i.e. solar geoengineering) at scale. The whistleblower expresses concerns about the legality and effects of these experiments presented as research. Through ensuing misinformation spreading across the *Pangean Union*, failed attempts by scientists to reassure the public, and further revelations, the *SolarGate* controversy reaches epic proportions. Participants are shown a video depicting these events, containing various narrative and storytelling devices.

Website: https://sciencecrisis.socialsimulations.org/
Number of players: 8-24
Duration: 2 - 4 hours
Languages: English
Requirements for online workshops: a computer with the latest version of Google Chrome or Mozilla Firefox, an internet connection, a webcam, and a headset.

Requirements for face-to-face workshops: a mobile phone or a tablet with you as it will be used for communication during the simulation. Make sure that your phone has the latest version of Chrome (Android) or Safari (iOS) installed.

Arctic Security Simulation

The simulation is set in the year 2041. In the backdrop of increased marine traffic in the Arctic Ocean, the uncertainty of international relations, and the race towards a green energy transition proceed. The polar territories of Finland, Sweden, Norway, and Greenland open up as an exciting new frontier for extracting rare earth elements necessary for technology development.

Taking on roles of different policymakers, scientists, activists, and business people, faced with a series of dramatic events, participants are invited to join the prestigious European Arctic Regional Task Force. Within this setting, they explore the complex and multifaceted future realities of the European Far North. They are then entrusted with the responsibility of negotiating and formulating policies to mitigate mounting security risks and enhance resilience in the region. Each storyline in the simulation is presented using a series of professionally made videos, news articles, social media accounts, and other materials, such as maps or infographics. The storyline was created based on available scientific data on the subject matter and consulted with experts from the field.

During the simulation, participant discussions are conducted within two working groups, discussing two facets of Arctic developments and challenges: *Transpolar Trade Routes* and *Rare Metals Mining in the Arctic*.

The Arctic Security Simulation was designed for, and facilitated at, the Helsinki CASCADES project 2023 Roadshow entitled "Policy implications of Arctic cross-border climate change impacts". The event was organized by the Finnish Environment Institute (Syke) and the Finnish Institute of International Relations (FIIA).

Website: https://arcticfuture.socialsimulations.org
Number of players: 20-27
Duration: 2 - 4 hours
Languages: English
Requirements for online workshops: a computer with the latest version of Google Chrome or Mozilla Firefox, an internet connection, a webcam, and a headset.

Requirements for face-to-face workshops: a mobile phone or a tablet with you as it will be used for communication during the simulation. Make sure that your phone has the latest version of Chrome (Android) or Safari (iOS) installed.

Other events:

January

February

Conformity and tradition are more important than environmental values in constraining resource overharvest

A recent study conducted by a team of researchers, including members of the Centre for Systems Solutions, suggests that values related to tradition and conformity have a more significant impact on resource governance than pro-environmental values or exposure to nature.

The study employed a combination of observational and experimental techniques to examine the relationship between personal values and collective action in resource governance. One of the methods applied was the Forest Management Game. The researchers engaged participants from eight forest-dependent sites in Uganda and Bolivia in the game. Each session gathered eight players who collectively managed a fictional forest over 15 rounds. In each round, players had to make decisions on the number of forest patches they wanted to harvest. They could also monitor other players' actions or impose sanctions on their "opponents".

Results and implications
Contrary to initial expectations, the study found that pro-environmental values were not strongly associated with resource governance behavior. Instead, the values of tradition and conformity demonstrated a negative and significant association with harvesting behavior in the game. This suggests that values emphasizing norm development and rule-following play a more influential role in resource governance than previously assumed.

The results suggest that understanding and incorporating local values when developing incentives and policies can lead to better outcomes in resource management. Local institutions that align with the values held by resource users may be more effective in promoting sustainable practices. In cases where such institutions are absent or inadequate, it may be necessary to develop new institutions that address the importance of tradition and conformity, particularly in settings where these values are highly valued.

Full article can be accessed here.

Updated Deep Sea Mining Simulation – in workshop

In early February, Piotr Magnuszewski and Paolo Campo moderated an online Workshop on the Deep Sea Mining (DSM) Simulation.

DSM Simulation is an immersive experience, where participants assume roles to discuss different aspects of deep-sea mining. The simulation provides the arguments and the context so that everyone can make their own opinions and decisions on a final recommendation: should deep sea mining take place or should there be a moratorium on it?

With a big update of the materials and facilitation completed in 2022, the Simulation provided a platform for engaging and enriching discussions.

Participants actively engaged with the topics presented for discussions and provided us with precious feedback about the simulation tool itself.

The DSM Simulation was developed by our team in collaboration with Olga Mironenko, and financial support from Balaton Group and Sustainable Ocean Alliance.

March

April

May

Trust in science – social simulation for PERITIA Project

We created a simulation about trust in science for the closing event of the PERITIA Research Project. The event 'Research Insights for European Policymaking' took place at the European Parliament's Info Hub in Brussels at the beginning of May. It was organized by the European Parliament Science Media Hub (STOA), the European Science-Media Hub, and the European Federation of Academies of Sciences and Humanities (ALLEA).

Our team together with the experts from the PERITIA project designed a social simulation drawing upon the research of Prof. Maria Baghramian, Prof. Catherine Holst, Dr. Kirstie Hewlett, and Prof. Bobby Duffy. The effect of the cooperation is the *Climate Science Crisis Simulation* set in the *Pangean Union* – a simulated world in which participants have to address the crisis of trust in climate science and expertise.

It all starts with revelations and allegations about a start-up funded by a large oil company, which they say is performing stratospheric aerosol injections (i.e., solar geoengineering) at scale. Through ensuing misinformation spreading across the *Pangean Union*, failed attempts by scientists to reassure the public, and further revelations, the *SolarGate* controversy reaches epic proportions.

[video]

Participants were shown a video depicting these events, containing various narrative and storytelling devices. The audience was then told that the events in the video were from 2029 and that on the current day (04 May 2030) they were going to take part in the *Regain Trust Conference* – an invitation-only, fictional conference organized by the *Pangean Commission* to discuss policies and measures to address the damage caused by *SolarGate* and – more importantly - to prevent crises of trust in expertise, in the future.

The World's Future in Saudi Arabia

Piotr Magnuszewski led an immersive 5-day course in the second half of May at the King Abdullah University of Science and Technology (KAUST) in Saudi Arabia. This course was a vital component of the Foundations of Sustainability micro-credential program. Partnering with KAUST Academy and the King Abdullah Petroleum Studies and Research Center (KAPSARC), the course aimed to equip participants with the knowledge and tools necessary to navigate the complex landscape of global sustainability challenges.

At the heart of the workshop was the World's Future simulation, offering participants a dynamic platform to engage with high-level leadership roles in a world mirroring our own. Throughout the simulation, participants grappled with the intricacies of sustainable development, experiencing the tension between short-term gains and long-term sustainability. Like navigating a congested highway, the simulation underscored the importance of strategic decision-making and collaboration in achieving sustainable outcomes.

Participants were challenged to apply critical thinking and creative problem-solving skills, drawing upon technical knowledge and historical insights into the global sustainability movement. By incorporating the framework of the Sustainable Development Goals (SDGs), participants were empowered to develop multifaceted solutions that integrate environmental, social, and economic dimensions. Upon completion of the course, participants emerged with a robust skill set, ready to communicate science-based sustainability solutions and drive meaningful change in their respective fields.

June

Interactive kick-off session at the Sustainability Research & Innovation Congress in Panama

Piotr Magnuszewski led an innovative workshop in collaboration with Future Earth and Belmont Forum focused on the topic of "Social simulations to co-create sustainable futures: using stories and interactions to engage stakeholders from government, business, science, and society". This workshop was part of a larger grant proposal initiative addressing "Integrated approaches to Human Migration/Mobility in an Era of Rapid Global Change".

It took place at the prestigious *Sustainability Research & Innovation (SRI) Congress* in Panama. The Congress is recognized as the world's largest transdisciplinary gathering for the global sustainability community. The workshop provided a dynamic platform for exploring novel methodologies to tackle complex sustainability challenges.

July

August

September

November

Social Simulations - a transformative tool for project management

In a recent workshop that took place at the Project Management Institute Poland Chapter in Warsaw (Poland), participants interested in gaining new insights into project management explored how social simulations can be used to navigate the complexities of change.

Social Simulations can help managers
Effectively managing VUCA (volatility, uncertainty, complexity, and ambiguity) requires a nuanced approach that incorporates adaptive strategies, structured frameworks, and comprehensive tools to navigate the ever-changing landscape of organizational challenges.

During the workshop, Piotr and Michalina suggested that the leaders of complex change initiatives should take into account stakeholders' diverse worldviews and the unpredictability of the social and environmental contexts. Tools like *Discourse Analysis* and *Systems Mapping* can help organizations in addressing VUCA in their work areas. The integration of these methodologies with the established Project Management (PM) and Change Management (CM) tools facilitates organisations' resilience and risk intelligence.