

## Fourth International Research Workshop

# “Archetypes of Sustainable Development”

3 - 5 February 2021

Virtual

## Workshop Report





## Organizing committee (OC)

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# 1 INTRODUCTION

The workshop “Archetypes of Sustainable Development” is the 4th of a series of workshops on “Archetype Analysis in Sustainability Research” started in 2017 in Bern, Switzerland (Oberlack et al. 2017).

The first workshop served to initiate a community of researchers working with archetype analysis; the second one in Berlin aimed at building the basis for a shared epistemological and methodological understanding of archetype analysis. In that occasion, the workshop organizers promoted a [special issue](#) in *Ecology & Society* to pave the way for the development of a scientific groundness of archetype analysis in sustainability research, publishing three pivotal methodological articles as well as new insights on the use of archetype analysis through 13 dedicated studies. The third workshop aimed at consolidating the academic network capitalizing the traction on archetypes research, which led to the preparation of the fourth workshop, originally planned to be held in Stockholm, at the Stockholm Resilience Centre.

Building on the growing interest raised in the previous workshops, the fourth workshop had the specific aim of continuing the expansion of the community and advancing thematic discussions. The workshop was planned to explore different emerging themes across participants in a bottom up way (e.g. archetypes of climate change adaptation, or farming systems etc.), with discussions finally geared around the themes of land use and governance, scenarios, validation and methodological advances. In fact, parallel to the workshop organization, the organizing committee (OC) launched a [Focus issue](#) on Archetypes of Sustainable Land Use and Governance in the journal *Environmental Research Letters*. This was the occasion to consolidate and further advance research on archetypes in one of the most common themes within the research community. The workshop offered an occasion to discuss and provide feedback to researchers who were interested in submitting their work to the Focus Issue through dedicated presentation and discussion sessions, more extensively reported in the following sections of the report.

The **main objectives** of the workshop were:

1. Present cutting-edge research on archetypes in sustainability research (including discussing on-going Special Issues).
2. Consolidate archetypes of sustainable development to address key sustainability challenges, including land use, climate change, food systems, and biodiversity, and spark collaborative follow-up activities.
3. Define good practices and approaches to archetypes validation (collaborative paper).
4. Co-design the research agenda on archetypes of sustainability 2021-25.

Another specific feature of the 4th workshop was the online format, which heavily shaped the structure and outcomes of the interactions. Given the travel restrictions put in place to cope with the COVID-19 pandemic, the 4th workshop was held completely online.

## 2. Agenda

### Wednesday, Day 1: Introduction and presentations

Time (CET)	Room 1	Room 2	Room 3
13.30 - 14.00	<b>Welcome and introduction</b>		
	<ul style="list-style-type: none"> <li>- Welcome (Luigi Piemontese)</li> <li>- Overview of previous workshops and the evolving archetypes community (Christoph Oberlack)</li> <li>- Overview of the workshop agenda &amp; workshop rules (Simona Pedde)</li> <li>- Using wonder.me for the coffee breaks (Jonas Chastonay)</li> </ul>		
14.00 - 15.00	<b>Intro participants (tour de table) - 1 min/1 slide</b> (facilitator: Matteo Roggero)		
15.00 - 15.30	Break		
15.30 - 17.00	<b>Presentation Session 1:</b> <i>Human well-being, ecosystem services and pathways to sustainability: archetypes perspectives</i> (facilitator: Zuzana Harmáčková)	<b>Presentation Session 2:</b> <i>Archetypes of Sustainable Land Use and Governance, part 1</i> (facilitator: Luigi Piemontese)	<b>Presentation Session 3:</b> <i>Archetypes of collective action and local governance</i> (facilitator: Matteo Roggero)
17.00 - 17.15	<b>Plenary: Closing and outlook to Day 2</b> (Luigi Piemontese)		
18.00 – 19.00	<b>Overview of archetype analysis in sustainability research</b> (optional) (Klaus Eisenack and Christoph Oberlack)		

### Thursday, Day 2: Presentations and discussions

Time (CET)	Room 1	Room 2	Room 3
9.00 - 9.30	<b>Opening</b> (facilitator: Christoph Oberlack)		
9.30 - 10.45	<b>Presentation Session 4:</b> <i>Archetypes of Sustainable Land Use and Governance, part 2</i> (facilitator: Tomas Vaclavik)	<b>Presentation Session 5:</b> <i>Scenario-development and methodological advances in archetype analysis</i> (facilitator: Simona Pedde)	<b>Presentation Session 6:</b> <i>Archetypes of rural development</i> (facilitator: Klaus Eisenack)
10.45 - 11.15	<b>Coffee Break</b> <a href="https://www.wonder.me/r?id=80269777-8393-4578-b511-bf3d3dc7bd6e">https://www.wonder.me/r?id=80269777-8393-4578-b511-bf3d3dc7bd6e</a>		
11.15 - 12.30	<b>Validation</b> (facilitator: Matteo Roggero)	<b>Ecosystems and ecosystems-based adaptation</b>	<b>Future scenarios</b> (facilitator: Simona Pedde)

		(facilitator: TBD)	
12.30-14.00	<b>Lunch break</b> <a href="https://www.wonder.me/r?id=80269777-8393-4578-b511-bf3d3dc7bd6e">https://www.wonder.me/r?id=80269777-8393-4578-b511-bf3d3dc7bd6e</a>		
14.00-15.00	<b>Validation</b> (facilitator: Matteo Roggero)	<b>Ecosystem and ecosystems-based adaptation</b> (facilitator: TBD)	<b>Future scenarios</b> (facilitator: Simona Pedde)
15.00-15.30	<b>Coffee Break</b> <a href="https://www.wonder.me/r?id=80269777-8393-4578-b511-bf3d3dc7bd6e">https://www.wonder.me/r?id=80269777-8393-4578-b511-bf3d3dc7bd6e</a>		
15.30-16.00	<b>Plenary: Synthesis of day 2</b> (Luigi Piemontese & Simona Pedde)		

### Friday, Day 3: Discussions, Research Agenda and closing

Time (CET)	Room 1	Room 2	Room 3
9.00-9.15	<b>Opening</b> (facilitator: Luigi Piemontese)		
9.15-10.00	<b>Methodological advances</b> (facilitator: Klaus Eisenack)	<b>Sustainable land use/gov and agriculture</b> (facilitator: Luigi Piemontese)	<b>Open space for emerging topics</b> (facilitator: TBD)
10-10.30	<b>Coffee Break</b> <a href="https://www.wonder.me/r?id=80269777-8393-4578-b511-bf3d3dc7bd6e">https://www.wonder.me/r?id=80269777-8393-4578-b511-bf3d3dc7bd6e</a>		
10.30-11.30	<b>Methodological advances</b> (facilitator: Klaus Eisenack)	<b>Sustainable land use/gov and agriculture</b> (facilitator: Luigi Piemontese)	<b>Towards a Research Agenda 2021-25</b> (facilitator: Christoph Oberlack)
11.30-12.00	<b>Coffee Break</b> <a href="https://www.wonder.me/r?id=80269777-8393-4578-b511-bf3d3dc7bd6e">https://www.wonder.me/r?id=80269777-8393-4578-b511-bf3d3dc7bd6e</a>		
12.00-13.00	<b>Final plenary</b> (facilitator: Christoph Oberlack)		

### 3. Sharing knowledge within a broader research community

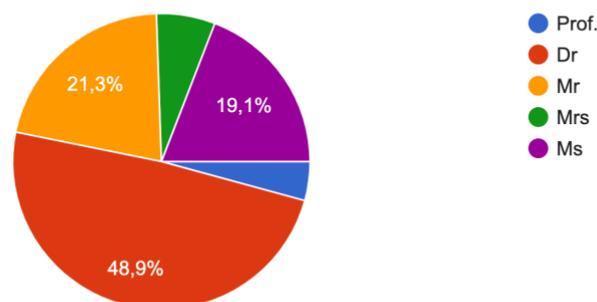
During the planning phase of the workshop, the organizing committee launched a preliminary survey to capture some key information and better target the design of the workshop to make it more interactive and effective. 47 people responded to the survey showing their interest in participating in the workshop. Since the workshop was originally planned for 20 to 30 people, that was a sign of the increasing interest in archetype analysis and a sign of a positive engagement of previous activities.

The online format enabled the participation of participants located across different time zones (e.g. from Australia through China, Europe and Africa to Northern and South America).

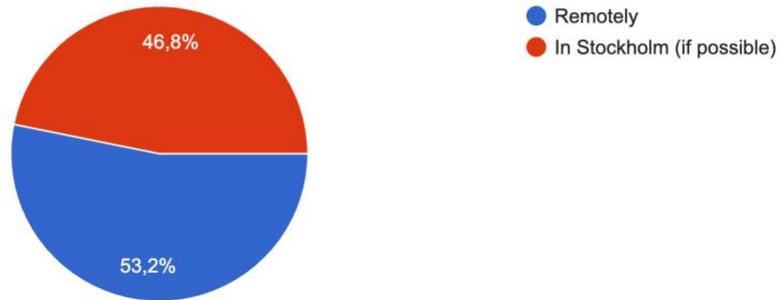
The workshop eventually included more than 30 people, but it is hard to make an exact account of the actual attendance of participants given the highly flexible mode of the zoom meeting where people could log in and out as they wanted.

However, looking at the statistics collected in the survey (see the graphs below), more than a half of the respondents were opting for remote participation, which made the zoom meeting a concrete opportunity to hold a more inclusive and flexible workshop.

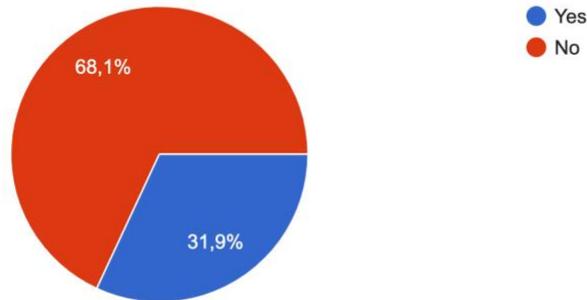
Title:  
47 risposte



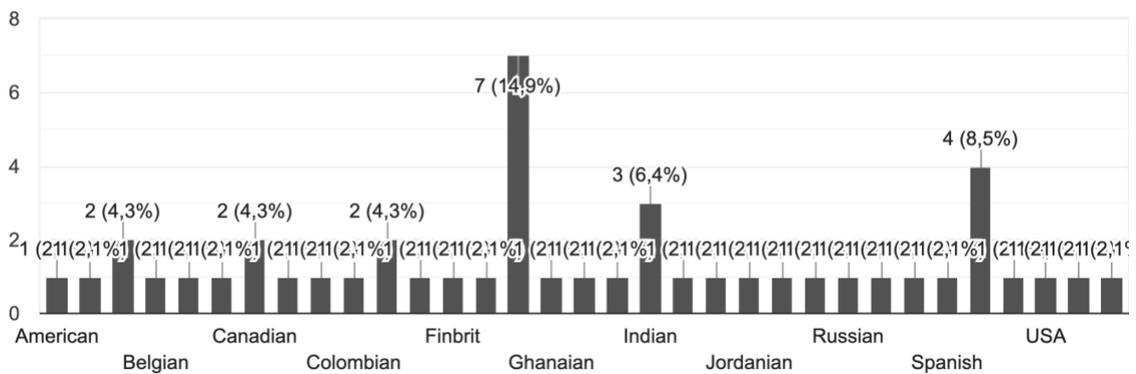
Please indicate whether you intend to participate remotely or attend the Workshop in Stockholm  
47 risposte



Is your participation contingent to travel support?  
47 risposte



Nationality  
47 risposte



Since one of the major opportunities provided by the workshop is traditionally the informal interactions and the convivial setting that promotes scientific creativity and collaboration, the workshop provided virtual coffee breaks, by using an original web tool called “Wonder”, that was specifically set in a Stockholm-based virtual street setting (Fig 1). The technical assistants Jonas Chastonay and Leonie Schmid were key in supporting the facilitation of the technical

aspects of the workshop, including proposing the use of Wonder. The coffee breaks were indeed held in an original and effective way, although the wide time zone difference and the intensity of a 3-day workshop left marginal moments for a much needed informal connection, which is the weak point of the online setting compared to the previous, in person, archetypes workshops. On the other hand, the online setting also allowed for a wider participation, even for just a couple of sessions, of researchers otherwise too busy to participate in a full workshop or too remotely located. This hopefully contributed to a broader reach of the archetype field and potentially triggered interest in participating in future archetype activities.

In the next sections, we report the main notes taken during the different moments of the workshop using a shared [common workshop document](#).



**Fig 1.** Snapshot of the Wonder environment set in Stockholm (rooms named after the city's main places).

### 3.1 Most interesting insights and emerging questions from the introductions and presentations

Available presentations are stored here:

[https://drive.google.com/drive/folders/1\\_DNyg5tX293yZ4eT1gxIEmHXXK4CYjn-O](https://drive.google.com/drive/folders/1_DNyg5tX293yZ4eT1gxIEmHXXK4CYjn-O)

#### Day 1

- Tour de Table: really interesting group of people
- From the presentation session 2: it would be good to think of how to include the time component in the archetypes, especially when they are about transformation/transition (archetypes of change or change of archetypes?)
- There are some interesting advances in QCA that allow accounting for time and emergence. Here a presentation on trajectory based QCA

[https://www.youtube.com/watch?v=178vfezkZiM&feature=emb\\_logo](https://www.youtube.com/watch?v=178vfezkZiM&feature=emb_logo) and here the associated paper <https://bit.ly/3pMNqET>

- Session 1:
  - **meaning**: different understandings of archetypes as clusters and/or building blocks
  - **causality**: discussion of archetypes as an approach reconciling different approaches to understand and assess causality
  - **scales**: discussion on how to embed cross-scale processes and influences in archetypes
  - **governance aspects**: discussion of the role of social networks/institutional inventories in ATAna: how to take into account causality within these networks (not just their descriptive characteristics)? how to move from network descriptions to the characterization of processes/mechanisms?
- There is missing regular information about “quality metrics” of presented archetype analyses (clear, that’s not easy yet, but it is important and should become standard in future archetype analyses).

## Day 2

- Systems dynamics modelling with path dependence -> archetypal paths or mechanisms / archetypal interventions
- How to diagnose dynamic mechanisms, when it is empirically difficult to easily find whether a mechanism is really at work in a case?
- How to prove that a pattern is indeed caused by the identified configuration of attributes, instead of just accidental or other (hidden) outcomes or cofactors?

# 4. Thematic in depth-discussions and emerging topics

## 4.1 “Validation”

The discussion on “archetypes validation” started in the 3rd workshop and continued at the 4th workshop, with the concrete objective of drafting a paper during the group discussion sessions. The work is currently led by Matteo Roggero and Luigi Piemontese.

Main insights from the Validation group:

- We considered different types of validity. Different validity issues/strategies for different methods, but also overall/general challenges/strategies to validity.
- Challenges may be significantly different between validating patterns and validating mechanisms.
- Looking at validation from the resource point of view: validation can be costly; involves trade-offs in research design.
- Inclusion and process: application validity brings in legitimacy issues (stakeholders perspectives; expert elicitation).
- Consolidation: sharing experiences and results; consolidated archetypes literature/ research. Validating the 100th paper of archetypes of sustainable land use will be easier.

- Outlook: consolidate it in a perspective article (coordinator: Matteo, various session participants wish to contribute); additional expertise in scenarios is needed.

## 4.2 “Future Scenarios”

The group took detailed notes in the [Common Workshop Document](#), pages 11-16.

Some of the key insights from day 2 include:

- distinguishing the purpose of the analysis/scenario: (1) scenario analysis of designing scenarios for *decision-making* (e.g. transformative purpose); (2) quantitative scenarios that use models; meant to *predict* the future or deeper understanding of processes; (3) find out *common patterns* among scenarios.
- time and scales: classifying the end point of scenarios is more easily done than classifying entire pathways.
- How can a global scenario be consistent with a local-level scenario? archetypes as building blocks ⇒ cross-check the building blocks that fit or not fit across levels/scales.
- top-down scenario building exercises might constrain local-level scenario building; in IPBES, the world has a stronger emphasis on local-level scenarios ⇒ running into the challenge of aggregating this.
- note on telecoupling: archetypes that go beyond a single place.
- concrete idea for a paper: building block analysis of global SSPs and do in parallel with new UK scenarios ⇒ checking consistency.
  - option for application of SSPs: implications for UK

The group continued on day 3, developing an outline for a joint article around “Linking global SSP scenarios with national-level SSP scenarios through archetypes”.

## 4.3. Methodological advances

Two groups discussed methodological advances in terms of:

- 1) Dynamic archetype analysis; and
- 2) Criteria for good archetype analyses to be reported in presentations / papers.

Key insights from the discussion on **dynamic archetype analysis** are:

- Archetype analysis becomes dynamic if it has an explicit treatment of time.
- There’s a key conceptual difference between describing patterns that change over time (dynamic archetypes) as opposed to finding patterns of mechanisms (static archetypes of dynamic phenomena); Both perspectives have their merit.
- Key issues for further discussion involve:
  - Levels of abstraction for time;
  - Role of temporal sequence and causal order;
  - Increased data requirements;

- Role of time in available AT Analyses (implicit, explicit);
- “Animating” static analyses: change of patterns caused by new data;
- Actual value-added of introducing dynamics in ATAna.
- A group will consolidate further, with Norman as a point person.

The discussion on reporting **archetype analyses in papers and presentations** provided the following takeaways:

- Addressing validation is central to communicating archetype results in a paper / presentation.
- There’s a difference between validating the patterns and validating the (causal) mechanisms linked to such patterns (measurement error vs. inference).
- Research design choices may or may not lead to results that fit the intended storyline for a paper / presentation:
  - Archetypes may emerge from studies not aimed at identifying archetypes;
  - Archetype analyses may find no archetypes / a single pattern.
- Role of inclusiveness in research design:
  - Involvement of stakeholder for validation purposes.
- Further discussion could address:
  - Quality criteria tailored to early-stage researchers;
  - Quality criteria for data-limited contexts;
  - Guidelines for researchers new to the concept;
  - Archetype events for early-stage researchers.

#### **4.4. Archetypes of sustainable land use and governance**

The group discussion on sustainable land use and governance embraced a range of cross-cutting topics, such as the use of archetypes for transferability of solutions and cross-scale archetypes, as well as specific archetype topics such as “farming systems archetypes” and “archetypes of deforestation frontiers”. The discussion started with listing the different topics of interests and general discussions in a larger group and then slip in the two specific topics.

- Farming systems (Luigi, Cecily, Luca (+ Diana Sietz, Tomas))
  - top down vs bottom up approach to farming systems archetypes identification
  - comparison/integration of the two at an intermediate level
  - archetypes at different resolution – Different numbers/split of landscape archetypes to understand level of landscape detail at which can predict practise
  - split case studies - have bottom-up approach for half. And use other half to test the remaining top-down archetypes
  - identify the farming practises to look at?
  - Pntial sources case studies (WOCAT, field work data, Rothamsted sub-saharan projects?, CEH, Meta-analysis or literature review?)
- Archetypes of deforestation frontiers, telecoupling, shifting cultivation
  - middle-range theories (archetypes of frontiers) as a boundary object
  - implications in up-wind and down-wind regions
  - what motivations deforestation in specific area

- shifting cultivation: which transitions are more common where? what are the drivers and consequences of SC transitions?
- common ground: forest frontiers – archetype analyses inform different aspects of dynamics in frontier areas
- conservation frontiers ⇒ pre-emptive forest clearing

## 5. Outlook and Action Plan

### 5.1 Towards a new research agenda

Some of the key insights and suggestions for a new common research agenda on archetypes of sustainable development include:

- Need for multi-method archetype projects with cross-validation on the same question (e.g. forest frontiers)
- Programmatic approach to archetypes
  - archetypes of X, Y
    - e.g. archetypes of forest frontiers, ...
  - common boundary object for multiple studies and projects
  - Need of ‘new’ case studies to validate archetypes (--> coordinated research programme(s) on archetypes of sustainability?)
- Archetype approach to conservation approaches; archetypes of transition processes
- Work with and consolidate quality criteria; hand-on guidelines for doing ATana
- We should do more ATanas on marine issues / get more involved with these communities
- Many more ideas and suggestions in the notes of the group discussions.

### 5.2 Action plan

The Workshop participants identified 23 follow-up actions. An updated meeting among ca. 15 participants was held on May 28, 2021.

	Activities	Coordinators	Next milestones	Update May 28, 2021
1	Workshop Report	Workshop co-organizers (Luigi, Simona, Matteo, Christoph, Diana)	everyone: put ideas into this document for ca. 2 weeks  then consolidatio	available soon

			n into a workshop report	
2	Summary for GLP WG	Workshop co-organizers (Luigi, Simona, Matteo, Christoph, Diana)		completed
3	Validation: Perspectives article	Matteo and Luigi  Dominic, Kara participation: 'validation group' Norman interested in participatory validation, Richard Diana		planned for ERL special issue (by end August)
4	Special Issue on Archetypes of Sustainable Land Use and Governance (ERL)	Christoph, Luigi, Simona, Diana, Tomas, with about 15-20 papers expected for submission	Elaboration and submission of papers by 30 September 2021	continuing
5	Archetypes of Forest Frontiers: Focused one-Day workshop (e.g. early May)	Ana, Agnes, Dominic, Christoph, others interested? Norman, Geoff	meeting among co-organizers	unclear progress
6	farming systems AT: Top-down / bottom-up combined approaches to identify spatial farming systems archetypes (in East Africa?)	Luigi, Cecily, Luca, Diana Sietz, Tomas, Christoph?, Geoff, Sabine		beginning phase (2-3 meetings happened, initial outline exists; interested colleagues get in touch with Luigi, Cecily or Luca)
7	Follow-up meeting regarding state of our action plans and archetypes (ca. May/June)	Luigi, Simona, Matteo, Christoph, Diana, Klaus and All		we do this now
8	Archetypical patterns across marine and terrestrial systems	Kara, Klaus, others interested?	Links to archetypical processes below	not started yet, idea: thematic session for the 5th Archetypes Workshop; Klaus in contact with an

				interested network
9	Research Agenda 2021-25: Perspectives article?	tbd (research agenda)	take forward for next meeting/ workshop	Item for the next workshop -> by then we know also what papers will be in the Special Issue as well
10	Communication (website, twitter, ...) Archetypes email list: <a href="mailto:archetypes.thaer@lists.hu-berlin.de">archetypes.thaer@lists.hu-berlin.de</a>	<a href="http://www.archetype-analysis.net/">http://www.archetype-analysis.net/</a> tbd @AT_Analysis update in emails: <a href="mailto:Simona.pedde@futureearth.org">Simona.pedde@futureearth.org</a> (my WUR email is discontinued)	To get to the mailing list, write a mail to: Ines Jeworski < <a href="mailto:i.jeworski@hu-berlin.de">i.jeworski@hu-berlin.de</a> >	New (but simple): <a href="http://www.archetype-analysis.net">www.archetype-analysis.net</a> <3
11	Winter / Summer school ?	tbd (Sergio, Klaus, et al.; futured)		formal application futured  Methods school/primer in archetype analysis at IASC Conference (deadline Sep 1st)
12	Reapplication for GLP working group (by end of April 2021)	Diana, Klaus, Christoph, others interested?		Reapplication happening by end of May; invitation to join as co-coordinator
13	EU COST proposal ?  EJP Soil Programme <a href="https://ejpsoil.eu/">https://ejpsoil.eu/</a>	tbd		Idea is futured Deadline in spring
14	Paper on Dynamic Archetype Analysis	Norman; Juan, Regina, Zuzana, Klaus, Rongyu, Richard, Fanny, Simona (tentatively), Ana, Kara, Alcade, Agnes, Diana	Follow-up: - collecting candidate ATs to start with - call (convened by Norman; invite everyone from SSP and archetypical	on-going discussions

			processes papers,too)	
15	Paper on archetypical processes (could be integrated into another paper - conservation?)	(Matteo), (Norman),(Dominic), (Alcade), Ana, Kara, (Agnes) (Regina), (Diana) (Richard)	Follow-up meeting after Dynamic Archetypes Analysis meeting? (Norman to convene?)	on-going discussions, likely in line/combined with 14.
16	Paper on SSPs (animating static archetypes theme)	Norman, Simona, Klaus, Alcade, Zuzana, Fanny (tentatively) Diana (happy to receive more details)	Follow-up meeting, 16 Feb at 4pm Central European Time	We had several first follow-ups till end March, but we have pick from it - mostly timing (needed an extension) - then engage other co-authors  Combined with 14 & 15?
17	Conservation processes archetypes	Ana, Dominic, Agnes, Kara, (Norman), Diana		Integrated with row 8 (thematic session at 5th Workshop)
18	Proposal writing			e.g. Horizon Europe ("ATs of xxx", e.g. farming system ATs, green deal, circular economy)  exchange about experiences with writing proposals, which include archetypes  <b>online discussion:</b> Invitation via mailing list  <b>Autumn/Winter 2021</b>
19	New projects?			
20	Regular get together	Christoph		virtual pub? e.g. first Wednesday in month  wonder.me

21	5th Archetypes Workshop	Regina and Zuzana (co-hosts) co-organizers tbd	follow-up call (ca. May/June)	<ul style="list-style-type: none"> <li>- Date: spring/early summer 2022?</li> <li>- online/in person format</li> <li>- thematic sessions, e.g. on marine archetypes? + conservation processes ATs</li> <li>- make a survey among Workshop participants on validation (or other topics?)</li> </ul> <p>Organizing team tasks:</p> <ul style="list-style-type: none"> <li>- meeting with the previous organizers for experience exchange in early September</li> <li>- using the archetype mailing list to keep everyone in the loop</li> <li>- survey about opinions and preferences for the next workshop will be sent via mailing list</li> </ul>
22	IPBES archetypes	Klaus, Zuzana		pre-autumn 2021
23	Interim-meeting in October	Zuzana		October 2021

# 6. ANNEXES

## 6.1 Schedule of Presentations

Wednesday, 3<sup>rd</sup> February 15.30-17.00h CET

### **Presentation session 1: Human well-being, ecosystem services and pathways to sustainability: archetypes perspectives**

Time: Wed, 3<sup>rd</sup> Feb, 15.30-17.00 CET

Facilitator: Zuzana Harmáčková

1. *Using archetypes to illuminate bright spots of wellbeing and the use of 'wild' nature across seven low- and middle-income countries.* Geoff Wells et al.
2. *A reef social-ecological system archetype model to study ecosystem service provision.* Kara E. Pellowe, Stockholm Resilience Centre.
3. *Archetypes of pathways towards sustainability in global drylands: Nesting archetype analysis within a larger-scale research project.* Zuzana Harmáčková, Ana Paula Aguiar, Andrea Downing
4. *Archetypes of telecouplings in forest frontier landscapes and their impacts on ecosystem services and human well-being in Myanmar, Laos and Madagascar.* Christoph Oberlack et al.

### **Presentation Session 2: Archetypes of Sustainable Land Use and Governance, part 1**

Time: Wed, 3<sup>rd</sup> Feb, 15.30-17.00 CET

Facilitator: Luigi Piemontese

5. *Farming System Archetypes for modeling impacts of agricultural policies.* F. Langerwisch, T. Vaclavik, Palacky University Olomouc, Czech Republic
6. *Understanding the emergence of differentiated environmental institutions via qualitative comparative analysis (QCA): the case of the OTBN regulations in the Argentinian Chaco ecoregion.* M. Graziano Ceddia et al.
7. *Archetypes of shifting cultivation transitions.* Dominic Martin et al.
8. *Sustainable intensification of agriculture in Uganda: quantifying large-scale investments for small-scale farmers.* Piemontese Luigi, SRC/University of Florence

### **Presentation Session 3: Archetypes of collective action and local governance**

Time: Wednesday, 3<sup>rd</sup> Feb, 15.30-17.00 CET

Facilitator: Matteo Roggero

9. *Creating the Urban Commons to Overcome Food Access Barriers: Lessons from Washington DC.* Sabine O'Hara
10. *Urban mitigation paths: A crisp-set QCA of 37 cities.* Jan Fjornes, Matteo Roggero
11. *Capability of the conflict management in contributing sustainable community-based forest management: Galician communal forests.* Ignacio J. Diaz-Maroto

**Thursday, 4<sup>th</sup> February 9.30-10.45h CET**

**Presentation Session 4: Archetypes of Sustainable Land Use and Governance, part 2**

Time: Thursday, 4<sup>th</sup> Feb, 9.30-10.45 CET

Facilitator: Tomas Vaclavik

12. *Deforestation frontiers archetypes, global and regional perspectives in tropical dry forests and woodlands.* Ana Buchadas & Matthias Baumann

13. *Multi-level archetypes to characterise British landscapes, farmland and farming practices.* Cecily Goodwin, Luca Butikofer, et al.

14. *Multi-process soil erosion assessment in EU agricultural soils.* Panos Panagos et al.

**Presentation Session 5: Scenario-development and methodological advances in archetype analysis**

Time: Thursday, 4<sup>th</sup> Feb, 9.30-10.45 CET

Facilitator: Simona Pedde

15. *Comparison: a key to archetype discovery.* Juan Rocha, SRC

16. *Steering the SDGs in the Swiss national context: An integrated scenario and network analysis.* Norman M. Kearney and Myriam Pham-Truffert

17. *Linking socioeconomic and environmental scenarios across scales: a way forward with archetype analysis.* Simona Pedde

**Presentation Session 6: Archetypes of rural development**

Time: Thursday, 4<sup>th</sup> Feb, 9.30-10.45 CET

Facilitator: Klaus Eisenack

18. *Archetypes of poverty-environment traps.* Steven Lade, Jamila Haider, Gustav Engström and Maja Schlüter

19. *Patterns of rural collective action in contemporary China: An archetype analysis of rural construction land consolidation.* Rongyu Wang

20. *Archetypes of governance and sustainable management of European temperate forests.* Ignacio J. Diaz-Maroto

## 6.2 Registered participants

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