

BIO-REGIONAL 3.0 – FOLLOW UP



Greetings

- 1) apologies for delayed response – following our last meeting, there was intensive activity on the <http://Peri-cene.net> – and then a growing entanglement with COP26 – (my role is to analyse-visualize the ‘collective climatic intelligence’...

- 2) some invitations to follow up –
 - **Resilience 3.0** & how to cope with 2, 3 or 4 degrees: **Oct 14th** – with the Manchester climate festival on <https://www.manchester.ac.uk/climate-festival/>.
 - Bio-regional city planning & design – **Oct 20th** - <https://www.clppct.unifi.it/vp-250-the-bioregional-city-planning-design.html>

- 3) a few notes on the results of the May workshop and some proposed next steps – (attached summary of outputs & follow up)
 - a) Compendium of bio-regional initiatives & classification of types (RT)
 - b) Mapping of overlaps with related concepts – peri-urban hinterland: urban-rural linkage: metro-scapes: food regions & food democracy: landscape types & climatic biomes: territorial approach: (JR)

 - c) This **Bio-region 3.0** model can then be applied to **deeper** system layers – here summarized in the ‘STEEPC’ format - each of these is a research / policy agenda
 - **Social** systems – new forms of social learning and enterprise, community development;

- **Technical** systems – potential for digital enabled platforms, finance, socio-eco value chains;
 - **Economic** systems – producer-consumer cooperatives, inter-generational markets, socio-eco investment;
 - **Ecological** systems – multi-scale adaptive ecosystem diversity, agro-ecology & forestry, permaculture;
 - **Political** systems – participative inclusive multi-level governance, policy & planning,
 - **Cultural** systems – creative arts, archetypes & myths, eco-education
 - **Urban-territorial** systems – finally the inter-connection of urban, peri-urban, rural & global hubs with local & bio-regional principles.
- d) We need to ask the critical counter-questions to strengthen the concept & its application... with the deeper layers here as a guide, can we envisage the darker sides (or is the bio-region concept by definition always positive??) (JR)
- Bio-regional thinking linked with political repression (e.g. early Nazis)
 - Bio-regional national parks as cash generators based on dispossession of indigenous
 - Bio-regional food systems - local means vulnerable to drought, famine, pests, storms etc
 - Bio-regional food systems as commodities of international agri-business - transition pathways needed
 - Bio-regional thinking in non-productive zones under climate pressure
 - Bio-regional role in the typical realities of inequality, corruption, alienation etc
- e) Strong linkages between bio-regional & education / research, with models such as San Diego – can this go mainstream in the education world?? (KP)
- f) Many countries (e.g. UK) are asking about the future of agriculture, land-use, ecosystems etc – is the bio-regional model strong enough to provide practical models, cost-effective, socially robust, politically feasible?? (AM & DF)

All to discuss in the next sessions....

All best J

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From: R Thayer <rlthayer@ucdavis.edu>

Sent: 01 June 2021 21:26

To: Keith Pezzoli <kpezzoli@ucsd.edu>; Joe Ravetz <joe.ravetz@manchester.ac.uk>; Alberto

Matarán Ruiz <mataran@ugr.es>; David Fanfani <david.fanfani@unifi.it>

Subject: Re: Bio-regional 3.0 meeting follow up

Hey, Guys,

It was a real treat to participate with such a diverse group of folks on the subject of bioregional culture, planning, and design. I remain convinced that, if done right, the bioregional focus has much to offer, even in this world of crises.

As an emeritus professor, I haven't quite the same tools to work with as I did in past bioregional efforts, and I cannot claim to be anywhere close to an expert on any bioregion other than my own, the Sacramento Valley, North America. Our region is beset by extreme drought and fire, with almost the entire 100-mile range of mountains just 15 miles west of my house having been burned by wildfire in the past eight years.

That said, bioregional approaches hold considerable promise to address climate, pandemic, and urban-rural polarization. I do think that we in the academy must periodically "get out and interact" with cross sections of bioregional residents, whether through non-profit organizations, land trusts, watershed stewardships, farm-to-fork efforts, wildfire prevention/climate mitigation non-profits, local renewable energy cooperatives, etc. We may need to bite our tongues (so to speak) to avoid political combat and focus only on common, bioregion-wide challenges.

The climate emergency is urgent. The Klamath River accords I wrote about in my chapter in *Bioregional Planning and Design*, having been a hard-fought and excellent example of bioregion-wide negotiations between Native Americans, coastal salmon fishermen, and upstream potato farmers, is now dangerously close to falling apart because of the extreme West Coast drought. The fish are dying because the river flow is weak and the water too warm, and the farmers upstream will not have enough irrigation water, either. It's now a bioregional tinderbox. To deal with such crises effectively requires widespread negotiations and agreement on resilient and sustainable strategies, and our bioregional approaches have a steep hill to climb in the process.

It is very appropriate that bioregional efforts are gestated in the cities and academic institutions. The late Peter Berg, creator of the Planet Drum Foundation in San Francisco, was a pioneer in establishing urban bioregional theory and practice. However, we will have to work hard to effectively reach beyond our urban-centric comfort zones to reach out and incorporate effective stakeholder actions that are bioregion-wide.

Finally, please extend my invitation to your colleagues and students to send email questions my way as individuals. I enjoy such "bioregional one-on-ones" since retiring. That type of correspondence is something I can still contribute, even though I no longer have money, and office, or grad students!

Ciao,

Rob

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Emeritus Professor

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Re: WEBINAR: Bio-Regional Territorial Approaches to Rural-Urban Integration in Combating Climate Change.
The Collective Quest for Resilience

Hey Rob,

I agree with what you are saying -- It is encouraging that the United Nations is linking urban-rural polarization/relations to the climate emergency...two crises that must be solved together.

I've been in rural Maine for the past ten days and will stay here until July 2. It is a combined study-listen-and-learn trip + vacation. The study part includes checking into the status of forest conservation here, including total emersion in the forestlands and meeting people. My wife's ill brother lives here....we helped him build a small cabin in Parkman, Penasquitos County (one of the most rural, least populated countries in Maine). We purchased a small piece of land near her brother, to build a camp.

My wife and I have been helping an old man, with lung problems, clean out his small 400sqft cabin home where he lives in the forest. Inside his cabin is a one-inch thick layer of chicken poop and feather dander. For lack of a proper outside chicken coop, the chickens were running loose in his shack for seven weeks; not a pretty sight.

The experiences here are a good way to learn, feel, smell, see and hear the meaning of rural; including cultural heritage and struggle. Kind people generously, emotionally sharing the most fascinating stories of life and living close to land and animals. Of course, it ain't all rosy. Good and bad are entwined like a braided hemp rope blood-sucking ticks and deer flies are nothing to romanticize about, nor the grinding poverty, and injustices exacerbated by climate change and ecological destruction.

I float the idea here with farmers that we need better ways to help shape, improve urban-rural relations. They get it, with varying degrees of doubt and hope

Keith

Keith Pezzoli, Ph.D. ([personal website](#))

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On Jun 1, 2021, at 9:31 AM, Keith Pezzoli <kpezzoli@ucsd.edu> wrote:

Dear Joe,

I just ordered a copy of your Deeper City book. It contains content that can help my students in Urban Studies and Planning conceptualize their capstone research projects. I am writing a guide for them and want to point to your book and the fertile field of Bioregional 3.0. an emergent crop of "Bioregional Imaginaries" for the 21st century. Rob has a good chapter in his LifePlace book, Ch5, on this kind of framing titled "Imagining." He has a wonderful hypothesis embedded in that chapter that speaks to "Creating Art of the Life Place." I love it. For another view of imagining as something we gotta get better at --churning ideation into art and actionable stories, See this website from Harvard Univ that speaks to this concept of "imaginaries," I find it useful, even if a bit dense with academic jargon: <https://sts.hks.harvard.edu/research/platforms/>

I am writing now to see how you plan to follow up on some of the suggestions that came up at the meeting you convened last week. Was it Rob that suggested we find a way to identify, list, share in some fashion exemplary bioregional 3.0ish initiatives on the ground; or was it David and Alberto?

In any case, great idea. I suggested that we compile an additional list that highlights some of the best global networking efforts underway--ones that pay attention to interlinking/federating progressive localism that embraces a land ethic, including bioregional sensibilities attuned to planetary biospheric opportunities and constraints. One example I ran across that may merit us putting it on such a list is <https://regencommunities.net/>. Not sure, I need to study it more carefully.

With respect to creating lists, perhaps we can call them asset maps (if geolocated with metadata and relational linkages), I have a project about to launch along such lines. I mentioned it briefly last week during our BR3.0 convening. We call it the AGILE network. Last night i finished the near-final concept document, see attached. It is not yet fully vetted, so this is for your eyes only right now (Rob, David and Alverto too). I am wondering if the methods noted in the attached AGILE doc, now fully funded by the UC Office of the President, Global Food Initiative might be useful to us as we try and build upon your vision of rallying/inspiring BR3.0 colleagues around the world for knowledge-to-action, wisdom-building, synergistic purposes.

Perhaps our CA statewide AGILE ecosystem of green infrastructure equity projects, involving community-university partnerships engaged in research-to-action, can have some kind of global counterpart. Perhaps that is a bit too ambitious, and we should first look to find ways of adding value to an emergent network of this sort already growing legs ---one of the challenges being to identify and couple alternative sociotechnical and socioecological imaginaries. I talk some about this in the last page of the attached concept doc.

let me know what you think,

Keith

Dear David,

Thank you for this excellent initiative to create a cultural and « bioregional » bridge between the North American legacy and the European approach of Bioregional Planning and Design in a cosmopolitan spirit.

I was recently in touch with Judy Goldhaft (Planet Drum Foundation) who is also planning with young volunteers to organize an international bioregional gathering, you may want to contact her : mail@planetdrum.org

As far as I am concerned, I will be honored to participate in your conference (on October 20) under the suggested title : L'Île-de-France en 2050 : Une confédération de biorégions résilientes (*Beyond Paris Metropolis : A confederation of self-sufficient bioregions in 2050*). My organisation is not ADEME but Institut Momentum. I also teach in Sciences Po Paris.

Congratulations for your double volume published lately by Springer which I read with interest.

Best,

Agnès

Le 1 juin 2021 à 16:43, David Fanfani <david.fanfani@unifi.it> a écrit :

Dear Colleagues,

As an initiative to “celebrate” the teaching activities beginning of our Bachelor and MSc courses in Urban and Regional Planning of Florence University we yearly organize a national/international conference addressing topics related to the heritage enhancement and places focused approach to planning that mainly features our disciplinary identity. This year, starting from the recently edited volumes Bioregional Planning and Design (D.Fanfani & A.Mataràn eds.), that aims to create a cultural bridge between European and North American legacy in this field of studies, we would like to deepen such a dialogue inviting some scholars and “researchers in action” to account for their latest reflections and bioregionally-inspired experiences. We really think It could be a very enriching experience either for us and for our students.

Considering that the current pandemic outbreak, at least, allowed us the practical awareness that we can realize very interesting exchange moments despite the distance, thus we decided to tap into this opportunity and to organize an international webinar with a world ranging set of important scholars and planners from worldwide. Moreover we conceive this moment as a step forward to the creation of a cosmopolitan bioregional inspired allegiance to promote bioregional approach. That also following the first move unfold with the recent exchange webinar held in the virtual space of the "Collaboratorium" for City 3.0 Future wise conversation (<https://sites.manchester.ac.uk/synergistics/conversations/>) .

With this aim we would be greatly pleased and glad for your positive answer to our invitation as speaker to the Conference according to the preliminary program which draft is attached to this e-mail. We are obviously fully available to all your suggestions about organization, title and focus changes about the speech topics we suggested in the program.

Looking forward for an your positive answer we send you our best regards and wishes

David Fanfani (Urban Bioregion Design Research Unit)

Daniela Poli (MSc in Planning and Design of Territory and Cities Director)

Claudio Saragosa (Bachelor in Planning, Landscape and Urban design courses director)

David Fanfani

Phd., Associate Professor in Urban and Regional Planning
Architecture Department-DIdA, Florence University

Coordinator of the Research Unity "Urban Bioregion Design"

RAW OUTPUTS FROM WHITEBOARD

WHICH PRIORITIES TO WORK ON?

Understanding and Improving our Bioregional Imagination: The challenge ahead is epistemic and technical, its about activating wisdom. But it may be capturing hearts and minds is going to be vital. Giving rise to an attractive convocational narrative that identifies common ground, shared aspirations, strategic vision, ethics, principles and protocols. And doing so on concert with a land ethic and new means of living and being. (RT)

WHAT ARE THE SEEDS OF TRANSFORMATION

Urban Agriculture in the form of community garden and food forests. Here is a link to an asset map of edible plants located in a diverse range of foodscapes

https://suave2.sdsc.edu/main/file=senseq_Foodscape_Survey.csv&view=grid

1. Transitioning to Regenerative and Just Bioregional Development: Couple human and natural systems in planning, design, and development that is socio-ecologically and culturally rooted in a historically-informed bioregional ethos. This includes co-evolving land ethics and land management needed to improve urban-rural relations.
2. Democratizing Science, Policy-making, and Planning: Establish trusted community-university relationships and projects that propagate bi-directional flows of knowledge, learning, and resources--among students, researchers, and diverse community participants--in equitable, inclusive, and demos-strengthening ways.
3. Fostering Equity in Information and Communication Technologies: Bridge the digital divide between universities and underserved communities in matters of public concern and justice. This includes creating new means of cyber-social connectivity for well-informed participatory planning; effective research communication using data visualization and storytelling; and inclusive decision-making processes that are equitable and diverse.

2 LOOP CHANGE MODEL

- It also depends of the kind of problem or challenge: if it is about making the transition of a rural area towards the circular bioeconomy it is impossible to transform with all people on the room.....
- Some times the experts "capture" the discussions and limit the possible options
- don't invite everyone to the room???
- some agents of change.... 'experts'
- could the Salford waterways be an example to run with & learn from??
- does eco-renovation mean eco-gentrification??
- 10 year citizens assemblies?? will they still come?
- or can we design a new system of governance, based on continuous participation of all stakeholders?
- e.g. entrepreneur discovery process EDP

COMMENTS TO ROB THAYER

- on Keiths fried ice... in the UK there is more biodiversity in the suburban gardens than the intensive landscape in the hinterland
- is it about regions inside larger regions or is it about non matching borders of overlapping bioregions by each attribute? Maybe its both?
- the word region comes from something like 'ruler' - could a bio-region be an economic concept as much as physical territory?
- Linked to comment below - counties are coarse units to understand these "divides" - it's interesting to see agricultural output per county because not all "rural" places are earning all their income from agriculture or resource extraction
- our EU project is looking at 'transitions' in regional development & policy - can we frame the bio-regional as a dynamic transition concept
- this looks like a urban-rural divide - isnt the reality more complex & inter-connected...
- many rural residents live basically urban lifestyles & economies?
- This is a resistance to globalization and colonialities of modernity.
- open hand is great but how to respond to forces of aggressive conquest & extraction?
- payment for ecosystems services seems to work well if they are specific and identified... .how to work at the systems level?
- in much of rural USA the landscape is a commodity for a industrial agri-business model? how should this be a working landscape?

COMMENTS TO KEITH PEZZOLI

could bio-regionalism be a reactionary force pushing towards inequality & exploitation? (JR)

does the digital by default extract more than it grows, in the bio-region context (JR)

i wonder if bio-regional thinking looks quite different in land-extensive N America - compared to intensive NW Europe & similar

also we had an early visit from City Uni NY, they were asking where is the bio-region there

some lower income areas resist GI as they think it leads to gentrification & they may be forced to move

if in the UK we look for indigenous bio-regions there are multiple layers over 40000 years, not easy to say where is the 'true' one

COMMENTS TO DANIELA POLI

here we are looking at new forms of peri-urban, post pandemic, which redefine the previous ideas of urban & rural

if the water shed, food shed, energy shed, market shed are all different - does this get very complex to manage??

self government - does this work best for localized regions with clear boundaries? what about more complex geographies

some people argue that 'eco-system services' is another form of commodification / exploitation

EU is very focused on net zero & Green new deal - does the bio-regional speak to that?

COMMENTS TO ALBERTO MATARAN

meaning the bio-regional thinking, and the policy / investment models which come from it, are networked

there is much focus on localities - how about an alternative 'modalities' which may be national or global interests?

we could discuss the move to online shopping and the power of Amazon , at the expense of local centres

ECONOMIC PATHWAYS

- if we start from the social structures
- can we frame the bio-regional agenda as a social co-evolution which then combines the ecosystem
- poor rural workers feed middle class urban
- rich urbanites then move to the rural areas
- land reform is at the centre of the bio-regional agenda - a very political
- .. and merge into the rich rural landowning society
- I agree absolutely. And Indonesia has a peculiar experience - The agrarian reform provides legal access for small farmers to lands, but at the same time it is too small to support a profitable farming. This is now causing small farmers to leave this sector (as peri-urbanisation is bringing in new non-farming sectors)
- In the U.S., suburbs and city hinterlands are getting poorer, cities are getting richer - peri-urban areas are becoming low- or middle-class income housing stock
- In Mexico it's similar, but the same populations become "urbanized" as they move out of farm-based livelihoods
-
- There needs to be a revaluation of the value of agriculture and food - as Robert Thayer - rural development

- if large amounts of food can be urban food, does that change the agenda for urban bio-regions
- at the moment is urban food is more like a social cultural activity - if we feed Manchester from local sources then the landscape would be covered with intensive production

RESEARCH & EDUCATION

- map & inventory of bio-regional projects & agendas -with many different names
- but such a mapping raises the question of scope & boundary.... e.g. what is bio-regional & what is ecological economics
- is it possible to make an explicit connection from this to education & learning programs
- maybe a first useful step would be to explore & deconstruct the scope & boundary questions - (this could make a good journal paper)
- i notice there is great interest from all parts of society on the interconnections - social, ecological, markets, governance etc.... existing disciplines & sectors don't manage this well
- research & evaluation on the impact of bio-regional practices - focus on production distribution & consumption - different in every country (Cristina)
- workbench kind of thing... bio-regional platform / workbench.. e.g. foodscape gallery,
- e.g. regenerative communities networks...
- how to capture 'bio-regional imagination' / 'imaginaries'

PREVIOUS NOTES

Greetings and welcome to the **Bio-regional 3.0** – a leading **Conversation** in the ‘Laboratory for collective intelligence’.

The *bio-region 3.0* concept is based on a ‘collective bio-regional intelligence’, with mutual learning and co-production from a wider community and deeper layers of value...



Date: Thursday 27th May – timing for Europe / N. America axis (CEST times)

1745: virtual coffee at the 3D Eco-wise gallery – <https://hubs.mozilla.com/meeV34u>

- (Everyone is invited to introduce themselves on the chat.)

1800 CEST: Part A : panel discussion & dialogue

- Joe Ravetz (Univ of Manchester). Introduction to meeting: Outline of ‘collective bio-regional intelligence’.
- David Fanfani (Univ Firenze): *bio-regional planning & design - great book, what next?*
- Amy Lerner / Keith Pezzoli (UCSD): *bio-regional thinking in a globalized economy*
- Adriana Arias (UABC Mexicali): *bio-regions across water-regions across borders*
- Rob Thayer (UC-Davis): *bio-region practice for a landscape in crisis*

Questions & discussion – N American perspectives

- Gianluca Brunori (Univ. Pisa): *sustainable food-regional democracy*
- Daniela Poli (Univ. Florencia): *urban & peri-urban bio-regions & eco-regions*
- Alberto Mataran (Univ. Granada): *bio-regional realities in development & globalization*

Questions & discussion – European perspectives

Ways forward

(break)

1930 CEST: Part B: interactive workshop with potential co-authors

- Review of presentations on the whiteboard.
- Sub-groups in themes: suggested as:
 - Bio-regional governance – who decides?
 - Bio-region & climate change
 - Bio-region & food-energy-water nexus
- Next steps: research, publication, policy advice, other??

2030: virtual cocktails & viewing results at the 3D Eco-wise gallery –

QUESTIONS TO ADDRESS

Each speaker is invited to focus on key questions –

- How would a **bio-regional 3.0** work in practice on the ground?
- What are the possible implications of the pandemic & what can we learn from this?
- Which pathways could lead towards such a **bio-regional 3.0**?
- how to take it forward: funded **research, publication (book / special issue / other), policy development**?

IN a world of climate chaos and global disruption, the bio-regional seems the way to go – with a circular economy of resources, food-health democracy, sustainable ecosystems which avoid future pandemics, and liveable communities.

But – all around, powerful forces push in other directions – global finance and supply chains, international migration, extraction and privatization of water / energy / materials... Meanwhile city-regions and peri-urban sprawl face every kind of natural disaster – fire, flood, drought, heat, storm, tide and cyclone.

So the bio-region has never been so crucial and so challenging. We need to raise the game, to explore the potential of social innovation, policy learning, social-eco-enterprise, all adding up to a '**collective bio-regional intelligence**'. So this workshop focuses on key questions –

- How would a **bio-regional 3.0** work in practice on the ground?
- What are the possible implications of the pandemic & what can we learn from this?
- Which pathways could lead towards such a **bio-regional 3.0**?
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Previous work:

- this work builds on the edited book – [Bio-regional planning & design](#)
- also the new book [Deeper-City-Collective-Intelligence-and-the-Pathways-from-Smart-to-Wise](#)
- the work of the San Diego Centre – <https://bioregionalcenter.ucsd.edu/>
- a scoping session at UABC Mexicali - <https://www.facebook.com/fadmexicali/>
- previous workshop in this series - [Green new deal 3.0](#)

Materials: background and related events: [bio-regional & eco-urban materials](#)

Registration: <https://www.eventbrite.com/e/bio-regional-30-tickets-145276593201>

We look forward to discussion leading towards action...

BIO-REGIONAL 3.0 - CONCEPTS

Here are some notes on the meaning and the practice of a Bio-regional 3.0. This draws on the synergistic methods and example 'pathways', from the peri-urban project <http://peri-cene.net> - and the new book: [*Deeper-City-Collective-Intelligence-and-the-Pathways-from-Smart-to-Wise*](#)

The first challenge of any bio-regional model is to emerge and survive, against the massive challenges of globalization and extraction - financial, political, social, technological etc. To do this we look wider, further and deeper;

- **Wider communities** of stakeholders are involved – beyond the usual elite of political economic & technological.
- **Further scope** of problems & responses: not only today's direct problem fix but long term, strategic, life-cycle thinking.
- **Deeper layers** of logic, meaning and value: beyond the technical and economic calculus, to include social, psychological, cultural and of course ecological – see below.

Then we can explore different modes of system organization, not only material but cognitive (building on ecological complexity, panarchy, dynamic adaptive systems):

- **'Bio-region 1.0'** takes a linear frame for problems and solutions: looks for direct cause-effect linkages (for example the flows of material resources and recirculation at the regional level);
- **'Bio-region 2.0'** follows an **evolutionary** frame of problem and solution: one of markets, innovation and survival of the fittest (e.g. for a circular economy to work in practice needs incentives, competitions, etc).
- **'Bio-region 3.0'** takes a co-evolutionary linear frame of problem and solution: where a **collective bio-regional intelligence** can enable learning, strategic thinking, innovation and co-production, between a **wider** stakeholder community, for **further** horizons, with **deeper** layers of meaning & value. (e.g. for a circular economy to work, and provide economic returns, social livelihoods and ecological stewardship, needs all such values to be integrated).

This **Bio-region 3.0** model can then be applied to **deeper** system layers – here summarized in the 'STEEPCU' format -

- **Social** systems – new forms of social learning and enterprise, community development;
- **Technical** systems – potential for digital enabled platforms, finance, socio-eco value chains;
- **Economic** systems – producer-consumer cooperatives, inter-generational markets, socio-eco investment;
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- **Political** systems – participative inclusive multi-level governance, policy & planning,
- **Cultural** systems – creative arts, archetypes & myths, eco-education
- **Urban-territorial** systems – finally the inter-connection of urban, peri-urban, rural & global hubs with local & bio-regional principles.

PATHWAYS FROM HERE TO THERE

A **pathway** is generally a linked set of actions and knowledge, which over time can move towards a desired goal – systems change leading to transformation.

- A **functional pathway** is about tangible problems with direct solutions: e.g. building a flood defence wall for a known extreme event.
- An **adaptive pathway** (or ‘*synergistic pathway*’) responds to real-life challenges: with typical risks and uncertainties, controversies and conflicts, social inequalities & traumas, events and contingencies, corruption and other structural barriers. To respond and succeed in the face of such challenges, we need to grow the **collective intelligence**: this includes mutual learning, co-creation and co-production, between a **wider** community, with a **further** scope of causes-effects, and with **deeper** layers of value and meaning.

These are examples in progress with the peri-urban project <http://peri-cene.net>

- **Socio-ecological-finance pathways**, (Manchester, UK): new forms of business model for green space & landscape management, linked to national Environmental Land Management program
- **Agro-ecological-democracy pathways**: new patterns of farm production, distribution & consumption, based on rural livelihoods combined with climate adaptation (Andhra Pradesh, India):
- **Eco-urban micro-design pathways**: new forms of decentralized water capture & cooling for arid climates with extreme heat, (Doha);
- **Socio-eco governance for stewardship pathways**: new forms of grassroots consensus & synergy forming for peri-urban planning & ecological land management (Toronto, CA).

OUTSTANDING QUESTIONS INCLUDE:

- How to draw the boundaries of a bio-region (clear in some cases but not in many others)?
- How to include for urban centres / agglomerations, generally a result of national / global dynamics?
- Should a circular economy be multi-scaled, from local to global, whichever is more effective?
- How to include for specialization or comparative advantage e.g. in agriculture or manufacturing? (is a world of bio-regions really a bio-world??)
- If markets alone are not enough to organize the production of bio-regional resources, what kind of governance can best do this?

PROGRAM NOTES:

We aim for a collaborative meeting of minds – not only talk but a process leading towards action... a *Collaboratorium / Lab for collective intelligence* at the frontiers.

Part 1: Link - <https://zoom.us/s/7977052056>

- JR will introduce. We have 5-7 minutes (7 max) per panel speaker, as the session is all about synergies & inter-connections.
- Great if the panel can send slides before, so we can mount them in the workspace.
- Great if the panel can address the 3 questions as far as possible, from your perspective, with examples.

Part 2: the core of the project (but optional for busy people...). here we work from the presentations, to critique & debate, to a set of pilots for R&D testing. For this we use a unique 1-2-3 combination:

- **1D** – standard chat lines & text
- **2D** – online whiteboard – link to follow
- **3D** – a unique experimental virtual space, the *Eco-wise garden* - <https://hubs.mozilla.com/meeV34u>