



**Global
Challenges
Foundation**

Emergent Dynamic Governance Ecosystems (EDGE project)

Author

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The submission is a proposal for increasing the world's governance variety, in order to enhance the wellbeing of all species. Formed as an action learning organisation in eight regions that models the regulations, decision-making paths, control mechanisms and appointment processes that it wants to research and propagate more widely. The organization is open to institutions at any level, with proactive engagement of research, business and civil society organizations with proven commitment to ecological and social well-being. The EDGEs – assemblies of organisations, networks and initiatives – use shared decision making processes and information systems to achieve common goals and hold governments and corporations to account. They are to gradually evolve into a global network of multi-scalar EDGEs able to operate from community to international scales. The submission takes example from NGOs and technology platforms showing certain of the characteristics of evolving organizations with emergent features.





1. Abstract

“The risks we face today are so dangerous and so global they’ve outrun the international system’s ability to deal with them.” *Global Challenges Foundation*

“Only variety can absorb and control variety.” *Ashby’s Law of Requisite Variety (1)*

INTRODUCTION

There are growing calls for ‘Strengthened civil society engagement with the United Nations’ (2). The Secretary-General has pledged to make cooperation with Civil Society Organisations (CSOs) “a key element in solving global problems.” (2). Two approaches are needed to achieve this: firstly, the UN must reform how it engages CSOs; and secondly, CSOs need to organise more effectively and build capacity to become a more powerful force for change.

I explore how we can pursue the second approach, by making use of the widest possible range of existing organisations, resources, processes, models, frameworks and scientific understanding to develop complementary local to global participatory governance and collaboration frameworks for action towards a sustainable future. The proposal seeks, in cybernetic terms, to increase our ‘governance variety’.

I propose an action research project with eight initial themes. The emergent governance system will be the result of at least fifteen years of local to global co-design, co-creation and eco-social entrepreneurship involving thousands of people conducted in three five-year phases. The process is designed to allow the system to demonstrate its own evolution, and move relentlessly towards its goal of local to global human health, social justice and environmental well-being.

The model suggests the ‘patterns, relationships and underlying processes’ (3) that could enable a new multi-nodal (4), multi-scalar governance approach to emerge. I have called this new approach ‘Emergent Dynamic Governance Ecosystems’. Ethically aligned EDGEs have already started to form and are making considerable progress. There are more sustainability focussed CSOs, eco-social enterprises, and participation-friendly local governments than ever before, and with new information technology available, new organisational frameworks are being assembled that support enhanced ‘collaborative advantage’ (5).

In lieu of effective leadership from key nation-states and corporations, and indeed because of their continued intransigence and blocking of progress towards sustainability, this proposal seeks to mobilise and empower a ‘coalition of the willing’. The EDGE project will research and promote mechanisms that bring CSOs and local government together at the local/bioregional (6) scales, and help to assemble new sustainability-focused national, continental, international and thematic EDGEs that can provide strategic support to local work, and hold corporations and nation-states to account when they deviate from agreed norms.

EDGE PROJECT SUMMARY

Institutions

The EDGE project is an open-source, participatory action research (7) challenge, facilitated by eight continental teams, one international team and a project coordination team. Teams will be supported by EDGE Champions within CSOs,



networks and research departments. Work will be conducted within a charitable legal form – the organisation will be named ‘The EDGE Research Initiative’ (TERI).

Because TERI adopts an action research approach, that is to say, learning by doing, it will simultaneously become a vehicle for the creation of the Emergent Dynamic Governance Ecosystems that it is proposing as a response to the question “how do we run the world in a way that enhances well-being for all species?” It will, therefore, need to model the regulations, decision-making paths, control mechanisms and appointment processes that it wants to research more widely.

TERI will be open to institutions at any level of recursion (8), subject to their adoption of TERI’s rules. Initial phases will limit active engagement to CSOs, businesses and business networks with proven commitment to ecological and social well-being, city, mayoral, and bioregional networks. The institutional frameworks of the various Emergent Dynamic Governance Ecosystems that arise from TERI’s work will be designed by participants.

Regulations /decision-making

TERI follows sociocratic principles (9):

1. Consent governs policy decision-making

Policies are agreed once there are no remaining ‘paramount objections’ to a proposal. Objections are used to strengthen proposals.

2. Organizing in circles

TERI will be organised as a series of semi-autonomous activity circles that report to ‘higher level’ circles (i.e. a recursive/nested structure.) Circles have agreed ‘domains’ which describe the parameters within which they can work autonomously towards the organisation’s aims.

3. Double Linking

Two people from each circle act as feedback loops to connect strategic and operational levels in the organisation.

4: Elections by consent

Individuals are elected in the same manner as all other decisions, i.e. via open proposals by circle members.

Policies on environment, employment, financial accountability, etc. will follow best-practice standards. TERI’s founding document shall make clear its goal of governance for sustainability.

Control mechanisms

TERI will work within the law as applicable within each nation-state that it is located in. Accountability mechanisms will include audited accounts, online open project monitoring processes, and detailed research (published under Creative Commons licenses (10)), that establish the extent to which it is achieving its goals. Accountability is key to EDGEs, so detailed accountability mechanisms will be researched and designed during the first phase and refined in subsequent phases.

How key individuals and decision-making bodies are appointed

Once funds, resources and CSO support is in place, a board will be established



with expertise in collaboration and governance, who shall appoint two senior staff to act as operational leaders for TERI. Multilingual staff will be hired and assigned to eight continental teams and one international coordination team using employment best practice. There shall be a gender balance within TERI, with senior staff always being gender balanced. Continental teams will establish advisory boards in their first year of operation.

Sociocratic representation connects teams to a General Circle that shall meet quarterly online and annually in person. Members are appointed to the General Circle (and other circles) using sociocratic election processes. All roles have written terms of reference and review periods.

Once TERI is in place, it has a clear mission: research and develop Emergent Dynamic Governance Ecosystems (EDGES) for action towards human and ecological well-being.

2. Description of the model

EMERGENT DYNAMIC GOVERNANCE ECOSYSTEMS (EDGES)

A. DEFINITIONS

Before describing the EDGE model in detail, it is important to define my interpretation of governance, EDGES, and some of the proposals' underlying principles.

Governance

..."the processes of interaction and decision-making among actors involved in a collective problem that lead to the creation, reinforcement, or repetition of social norms and institutions." (11)

..."the way that rules, norms and actions are structured, sustained, regulated and held accountable." (11)

... or more simply, the ability to 'shape the flow of events'(12).

Thus key elements that must be present in order for effective governance to be in place are:

- Processes of interaction and decision-making
- Defined actors
- Collective problems or challenges
- Associated actions and responses
- Mechanisms for response stimulus and reinforcement
- Agreed social norms
- Institutions that can maintain these elements and their relationships

The world is not governed by the United Nations alone, but through a process of interaction between multiple governance nodes acting semi-autonomously at multiple levels of recursion from local to global for both geographically defined areas (e.g. the UK) and thematic areas (e.g. the chemicals industry).



Looking at the above governance elements in that light, we can give examples of real-world elements that may be needed to govern the world in all its complexity. In order to amplify governance potential, all the following elements need to be in place for multiple levels of recursion, that is to say, for local, regional, national, continental, and international levels:

Processes of interaction and decision-making: online (virtual) and face to face (physical) environments and processes for decision-making and co-production.

Defined actors: everyone from families, farmers, community groups, city planners, CSOs, donors, faith groups, researchers, businesses, etc.

Collective problems or challenges: e.g. desertification, climate change, extreme poverty, etc, as specified and understood for different geographical and thematic areas.

Associated actions, responses and solutions: demonstrator projects and initiatives, research findings, information systems, expert diagnostics, knowledge bases, network maps, best practice manuals, training and capacity building, solutions libraries, games, models and simulations.

Mechanisms for response stimulus and reinforcement: state policy, budgets and donor funds for development projects and capacity building programmes (i.e. paying for responses and solutions above), plus accountability / awards/ transparency campaigns that reinforce sustainable behaviours, and discourage unsustainable behaviours and policies.

Agreed social norms: sustainability goals and behaviours as characterised in popular culture e.g. permaculture ethics, and more formally by international agreements e.g. the Universal Declaration of Human Rights, Convention of Biological Diversity, Sustainable Development Goals, etc.

Institutions that can maintain these elements and their relationships: in this proposal Emergent Dynamic Governance Ecosystems – EDGEs – working in a complementary manner with existing national and international governmental institutions.

Defining EDGEs

“Life did not take over the globe by combat, but by networking” *Lynne Margolis (13)*

I define Emergent Dynamic Governance Ecosystems as assemblies of groups, organisations, networks and initiatives that choose to work together for collaborative advantage using shared decision making processes and information systems. They may or may not adopt a shared legal form.

They are emergent because the properties they exhibit are not known before they emerge, i.e. the resulting capabilities of the now connected entities are more sophisticated and powerful than the entities were when operating individually.

They are dynamic because they are characterised by constant change, activity and process development, and because they act as a force that stimulates change within wider governance systems.



They are governance systems because they are focussed on achieving collective long-term goals.

They are ecosystems because they are collections of separate organisational entities that choose to have relationships with each other, i.e. they agree to receive outputs of information and materials from each other.

EDGEs already exist to some extent, e.g. the World Federation of Engineering Organisations – 90 nations, 20 million engineers (14), Via Campesina – 200 million peasants, 164 organisations in 79 countries (15) and Ecolise – three networks, 38 organisations in twenty countries (16).

I argue that the full potential of networked governance is not yet fully realised, since (amongst other factors) recent technological advances e.g. Linked Open Data (17) and asynchronous decision making platforms such as Loomio (18), are not yet widely adopted, and the full enormity of the global emergency, e.g. climate change, ecosystem collapse, has not yet been fully realised.

The focus of TERI is to develop advanced EDGEs with a specific governance goal, namely to enhance human and ecological well-being at multiple recursions, and to develop, through action research, mechanisms that enable collaboration, information sharing, strategic goal setting and effective coordinated and uncoordinated action within and between ethically aligned EDGEs.

When ethically aligned EDGEs combine at local to global scales, a new form of purposeful networked human organisation becomes possible. This is by its nature, unknowable at this point, or in this context of this essay, an emergent new shape.

B. A SELECTION OF UNDERPINNING CONCEPTS, PRINCIPLES AND APPROACHES

EDGEs are inspired by nature, in particular the process known as **'symbiogenesis'** (3), a key factor in the evolution of living systems in which different organisms combine and develop new life forms. Another useful concept is that of **stigmergy** (19), in which simple actors are able to co-create complex systems through interaction with signals in their environment. TERI seeks to design symbiogenetic and stigmergic processes that enable self-organisation towards shared goals.

TERI also draws inspiration from Stafford Beer's **Viable Systems Model** (8) that is based on the human body. It is a form of managerial **cybernetics** that seeks to manage complexity through a systematic mapping of organisational functions, **recursions** and system **invariants**. Whilst this approach is too abstract for some, and a more conversational approach to organising is preferred, the author believes this systematic approach can add significant value and help steer organisational dialogue in useful directions.

In terms of increasing governance 'variety' (the number of potential states of a system), Warren McCulloch's **'principle of redundancy of potential command'** which states that 'power resides where information resides' (20), suggests the need for open information systems that enable distributed action towards governance goals. EDGE proposes a multi-nodal approach, and within the multi-nodes, clustering will emerge. This celebrates and uses the diversity of capacity within CSOs, businesses and research institutions. Thematic EDGE networks will bring together knowledge, research, education and delivery capacity, and develop and



articulate necessary goals. Each node becomes a potential command centre for action on sustainability.

Finally, **permaculture** (21) is a huge inspiration, from the perspective of systems design, ecological principles and the articulation of an inclusive ethical framework. The principle of **'use and value diversity'** is particularly relevant. There are many approaches available to solve critical challenges and fulfil key functions. For example, multiple approaches to city level sustainability planning are being developed and trialled. TERI does not choose one, but celebrates and evaluates them all and supports learning between them so as to accelerate the development of a mix of successful strategies that will be appropriate in a variety of contexts. Instead of saying 'this is the solution to global governance', this response says 'here are some promising elements that if combined and refined through a process of action research, could help appropriate global governance solutions emerge'. 'Apply self-regulation and accept feedback', 'design from patterns to details' and 'integrate not segregate' are some of the other principles that have influenced this submission.

C. DEFINING THE OVERARCHING MODEL, APPROACH AND WORK OF TERI AND ITS TEAMS

Mission of 'The EDGE Research Initiative' (TERI)

To research and develop Emergent Dynamic Governance Ecosystems (EDGEs) – multi-nodal, multi-scalar, complementary governance frameworks for collective action towards human and ecological well-being.

Approach and aims

An open source, participatory action research project with eight themes.

Goal articulation: learning how to promote, popularise and operationalise positive social norms and sustainability goals and behaviours within society at large and legal entities in particular.

Actor Mapping: learning how to identify and map organisations, networks and initiatives already working towards shared goals, i.e. identifying existing sustainability focussed EDGEs, and potential actors that can form new EDGEs.

Solution Mapping: identifying and mapping the knowledge and capabilities needed to the achieve the goal, i.e. the associated actions, responses and solutions that are already available to tackle identified challenges, and identifying opportunities to share and extend these where gaps exist.

Participatory decision-making: identifying and mapping successful participatory processes of interaction and decision-making.

Mechanisms for action: identifying the mechanisms for response stimulation and reinforcement that promote and develop positive actions that help to achieve the goal.

Accountability: identifying organisations, networks and mechanisms that discourage and reduce negative actions and policies that undermine progress towards the goal.



Information systems: Identifying and developing information systems that help us to: understand collective problems or challenges; develop appropriate responses and decide next steps; and celebrate progress at multiple levels of recursion. To identify information systems and technologies that are being used within existing EDGEs and that have potential to support new EDGEs to form.

EDGE development: Learning how to facilitate the development of new collective institutions that can maintain these elements and their relationships – EDGEs – and operate them effectively within a range of cultural contexts.

TERI structure

One project coordination team will manage finance, employment, reporting, planning, etc. One international team and eight continental teams (Europe; North America; Latin America; North Africa and Middle East; Sub-Saharan Africa; Central Asia; South and South-East Asia; Australasia Pacific) will work on the eight action research themes, primarily through partnerships with EDGE Champions within existing CSOs, networks and research departments within their region. Each team will be registered in their country of operation as a legal entity with charitable status. TERI works using sociocratic principles and processes (9).

TERI timeline

The initiative is proposed as taking place over three five year phases:

Phase I:Initiation and preparation

Project initiation and recruitment of project coordination team.Detailed project planning.Initiate one international and eight continental teams that each: identify, link and engage key research institutes, EDGE exemplars and EDGE Champions (the initial ‘community of enquiry’); and design and initiate programmes of action research around the eight key research themes with partners.Develop information technology resources for TERIMake ongoing findings available in a variety of formats and languages within both TERI and partner information systems. Evaluation and celebration of initial phase of work.Co-design second five year phasePublic communication of progress, invitation to Phase II.

Phase II:Development of new EDGEs

Put findings from Phase I into action, develop and share key resources and processesFacilitate the development of new EDGEs at multiple levels of recursion within each continental team and one international team.Evaluation and celebration of Phase II.Co-design Phase III.Public communication of progress, invitation to Phase III.

Phase III:Action for local to global sustainability

Connecting new and existing EDGEs at multiple scales.Supporting the widespread uptake of EDGE platforms and approaches.Evaluation and celebration of final planned phase.

If TERI has been successful, future phases will concentrate on scaling up and scaling out EDGE processes to engage a high percentage of the global community in an emergency plan for rapid social and environmental regeneration to counter unprecedented global challenges.



TERI requirements

Project coordination team
International research and facilitation team
Eight continental research and facilitation teams
EDGE champions (working within existing research institutes, CSOs etc)
Information technology and communication platform development
Collaboration budgets (meetings, workshops, partnership development, pilot projects)
Learning systems, working space and resources (journal access, office space etc)

Resourcing TERI is challenging. This proposal suggests 10 teams working over 15 years. A conservative estimate suggests a budget in the realm of \$50 million. With creative approaches and the participation of research institutes and aligned CSOs, much could be achieved with a smaller budget, indeed much is already being achieved with virtually no budget. The EDGE proposal is an articulation of a newly emerging pattern of organisation and collaboration. Working intelligently to support these emergent processes can allow relatively small funds to provide significant benefits.

TERI aims and activities in detail

“The purpose of the system is what it is doing.” *Stafford Beer (8)*

The functions and responsibilities of the one international and eight continental teams are to conduct participatory action research programmes in a fully transparent and open manner, under the eight initial themes, namely: goal articulation, organisation mapping, solution mapping, participatory decision-making, mechanisms for action, accountability, information systems, EDGE development.

Participation in TERI

Participation is voluntary. All participating organisations agree to adopt core values and sustainability objectives into their governing documents (if not already in place), and to monitor and report on their progress towards achieving them.

A note about recursions

TERI recognises and seeks to enhance multi-level governance. Recursions are different levels of ‘nested’ organisation that have the same key organisational functions at each level. Like Russian dolls, recursions fit inside each other. Each level can be characterised by a number of invariants and patterns which allow the understanding and management of complexity.

In this proposal, different levels have different priorities. TERI’s role is to increase the capacity of each level to deliver its priorities:

Individual / Family / Household: to be capable, motivated and responsible for contributing towards social and environmental well-being in their family, household and wider community. No formal governance role, but ideally contributes to higher level activity and implements sustainability best practice into their household / lifestyles / business / farm. TERI seeks to develop EDGES that can provide high quality information, advice and support for individual and household behaviour change and adoption of ecological practices.

Village / Settlement: formal governance processes usually in place. Priorities – meet local needs in ways that enhance ecological well-being. Building, energy,



food, water and sanitation systems need to be maintained, designed, developed, improved and these provide opportunities to move towards more sustainable approaches. TERI seeks to understand and promote effective sustainability orientated participatory governance frameworks in multiple cultural and climatic zones, and provide information resources for development of settlement level sustainability.

City: as for 'settlement', plus, with the scale of cities, more complex participation processes are needed. TERI seeks to understand and promote participatory city scale planning processes that can mobilise resources towards sustainability objectives. Action research challenges include engagement of business, citizens and Local Government into more coherent and open planning processes.

Bioregion: the challenge at this scale is how to govern and plan for land use that meets local resource needs whilst enhancing and regenerating ecological functioning. Watershed and catchment partnerships, bioregional groups and large scale holistic planning and permaculture design. Action research challenges include how to bring multiple land owners into shared land governance agreements.

Household to bioregional scales are about practical governance for action on sustainability. TERI's goals at these levels of recursion are to optimise and enhance these processes and identify effective strategies to develop local EDGEs.

Nation: Priorities are to support the emergence and functioning of bioregional nodes – securing resources and support for local, city and bioregional work. Knowledge, information brokerage, movement building and connecting between regional nodes. Holding national institutions and corporations to account and advocating supportive policy frameworks.

Continent: similar to national recursion – plus making strategic links between national and continental scale EDGEs, creating supportive policy frameworks. Continental scale EDGEs also have important ecological and social justice oversight roles – ensuring that ecosystems that straddle nation-states are managed as whole systems, and that humanitarian challenges in one or more nation states are addressed.

World: similar to continental recursions – plus holding transnational institutions and corporations to account; making strategic links between continental scale EDGEs, creating supportive policy frameworks.

Nation to world levels are about enabling effective action at local levels, information and knowledge brokerage, policy formation, movement building, holding transnational corporations and institutions to account, and building cooperation initiatives with institutions.

TERI does Action Research

“Action research involves actively participating in a change situation, often via an existing organization, whilst simultaneously conducting research. Action research can also be undertaken by larger organizations or institutions, assisted or guided by professional researchers, with the aim of improving their strategies, practices and knowledge of the environments within which they practice. As designers and



stakeholders, researchers work with others to propose a new course of action to help their community improve its work practices.” (7)

Whilst methodologies vary, a typical project cycle includes:

1. Developing a community of enquiry.
2. Stating the challenge(s) or the ‘significant practical issues’ faced by the community of enquiry, initial data gathering, feedback of results of data gathering, joint action planning for the interventions to be trialled.
3. Action phase in which planned interventions are tested.
4. Observation phase in which the results of the action are measured and evaluated.
5. Re-statement of the new challenge(s) and then into the next cycle of learning.

These five action research stages apply within each of TERI’s thematic area.

1. Goal articulation

Learning how to promote, popularise and operationalise positive social norms and sustainability goals and behaviours within society at large and legal entities in particular.

Identify and map organisations, networks and initiatives that are: communicating and popularising key international agreements and charters, translating into popular language, articulating and popularising sustainability goals; developing new common language phrasing and legally appropriate wording to support the adoption of sustainability goals into existing organisational formats (primarily CSOs and businesses), primarily via the aims within their founding documents; changing the purpose of a variety of legal formats (e.g B Corporations (22)) towards explicit goals of social justice and environmental sustainability; awarding criteria based social and environment business marques / certification by business sector (e.g. Eco-hotels awards/ Global Sustainable Tourism Council).

Action research on how to further embed sustainability objectives into organisations of a variety of formats. Link ongoing findings from each continental team and collate conclusions / best practice / case studies in a variety of popular and academic formats.

2. Actor Mapping

Learning how to identify, map and cluster organisations, networks and initiatives already working towards shared goals, i.e. identifying existing sustainability focussed EDGEs, and potential actors that can form new EDGEs.

Identify, map and link sympathetic nodes and super-nodes (within multiple geographic and thematic recursions) with particular attention to participatory city planning initiatives, INGOs, CSOs, eco-social business networks and eco-social business award bodies, aligned research institutes and departments.

Learn how to develop Linked Open Data (17) accessible datasets and other information sharing mechanisms for visualisation and mapping of thematic and geographic clusters by TERI, participating organisations and new EDGEs.



Action research on social network analysis tools that can identify nodes and super-nodes, relationship gaps and opportunities and create shared understanding of potential network development paths.

Feed results into Theme 8: EDGE development.

3. Solution Mapping

Identifying and mapping the knowledge and capabilities needed to achieve the goal, i.e. the associated actions, responses and solutions that are already available, and identifying opportunities to share and extend these where gaps exist.

This theme is critical to the aim of massively increasing ‘governance variety’ and enhanced sustainability decision-making capacity. It seeks to identify and link organisations and networks developing evidence based options and solutions for every level of recursion – primarily household, community, business, city and bioregional action on sustainability.

Includes learning resources, tailored online solutions libraries, games and diagnostic tool-kits and expert systems, visualisations of exemplar systems, how-to guides, positive psychology, case studies, links to active groups, projects, suppliers and support networks, grassroots education and training, schools and colleges programmes.

Huge resources already exist, and there are organisations collating them. Link these organisations and develop solution mapping and delivery focussed EDGEs.

Explore Open Badges (23) (including linked business accreditation for eco-social awards) as mechanism to bring many resources into a common format and create opportunities for coordinated peer to peer training and self-directed learning networks across EDGEs.

Solution mapping case study: permaculture design

“Permaculture is an approach to meeting human needs while increasing ecosystem health.” *Rafter Sass Ferguson (24)*

Permaculture is inspired by natural principles and its practitioners use a variety of participatory design processes to assemble culturally and climatically appropriate elements and techniques that solve local challenges. Over forty years, permaculture has developed solutions to a wide range of sustainability challenges, and its polycultural approach to agriculture and land management is now at the forefront of carbon sequestration practice. Permaculture’s goal is explicit: care of the Earth, care of people, limits to consumption and redistribution of surplus. Permaculture can therefore be considered as a general model and process for decision making that generates solutions, and with its ethical goals, it is an ideal popular component of a local to global governance for sustainability paradigm.

Whilst the majority of permaculture design’s to date have focussed on home, community and farm scale implementations, there are a growing number of examples of watershed and regional designs. Permaculture is accessible, solutions orientated, engages youth well, inspires local action and can be applied at any scale. Its widespread adoption via bioregional EDGEs would enable a huge increase in ecological innovation, human well-being and work towards SDGs.



4. Participatory decision-making

Identifying, mapping and testing successful participatory processes of interaction, planning and decision-making.

Since the vast majority of action towards sustainability needs to be delivered locally (i.e. settlement to bioregion) with proper consideration of local circumstances, it makes sense to increase the capacity and effectiveness of community, city and bioregional decision-making processes.

The historic UN precedent for this was the Local Agenda 21 process that included Local Government as delivery partners. It is estimated that over a million sustainability focussed CSOs formed since 1992 as a result, who went on to start a huge number of local sustainability initiatives in support of their local government departments.

Developing effective local partnerships (local EDGEs) will be a key area of TERIs action research. The resilience.io process developed by The Ecological Sequestration Trust (25) has plans to scale to thousands of cities and has ambitious funding mechanisms described with organisations such as the Commonwealth already keen to engage (25). If we can identify even just twenty or so similarly promising mechanisms for participatory local planning, help them learn in the context of each other and make these widely accessible to local government and their local support CSOs, the effect could be transformational.

There is a huge amount of work in this area and new approaches include: The Ecological Sequestration Trust's resilience.io process; Metroflows (26); FWAG's Integrated Local Delivery approach (27); Participatory City (28); Oui Share (29); etc. Academic and donor led initiatives towards understanding and building this capacity include the EU's Horizon 2020 Nature Based Solutions research programme (30), the Belmont Foundation's Sustainable Urbanisation Global Initiative (31).

Promising old approaches include the 'commons', as researched by Eleanor Ostrom et al (32), which are having a major resurgence via networks and organisations like the Peer to Peer Foundation (33).

Action research in this theme: Identify and test local / city / bioregional 'operations rooms' and 'environments for decision making' – participatory community processes, city and bioregional processes, and international processes that seek to enhance collective goal formation, coordinated project development and communications (include both online (virtual) and face to face (physical) and blended (virtual and physical) environments for decision-making and participatory co-production); Test online communication and policy development platforms (e.g. Liquid Feedback (34)) within TERI and new EDGEs.

5. Mechanisms for action

Identifying the mechanisms for response stimulation and reinforcement that promote and develop positive actions that help to achieve the goal.

This theme is about making the money and resources work, that is, the collation, testing and development of EDGE financial mechanisms that can provide consistent and significant funds for sustainability and social justice actions.



Obviously a wide range of funding mechanisms are in place for CSOs at multiple levels. Different levels of recursion have different opportunities. At the local level mutual aid is key: use of income sharing, solidarity funds, worker / member / housing cooperatives, cooperative consortiums, tithes from from (re-designed) regenerative farms, enterprises and households.

At city / bioregional-scale and beyond, investor support and local government programmes can assemble large scale funds for significant project development (eg. Roadmap 2030 – TEST / resilience.io platform & Commonwealth). For geographical EDGES, affiliate schemes could secure financial contributions from locally certified eco-social enterprises promoted within the solution libraries.

EDGES are forming around Solidarity Economy (e.g. RIPPES (35)), community wealth building, new economics, all of which put people and planet before shareholder profit. Linking these ‘new economy’ EDGES at national and international levels to bioregional and city scale development has the potential to massively increase local financial well-being and the funds available for local investment in sustainability actions. When linked to regenerative agriculture and land use strategies at farm and bioregional levels, multiple forms of capital can start to reinforce each other.

Donor EDGES are starting to form (e.g. Agroecology Fund brings together 19 donors (36)) and their impact increases when connected to similarly aligned delivery EDGES (e.g. Via Campesina.)

Identifying the EDGES, organisations and research institutes developing these financial mechanisms, and testing them within the emerging EDGES identified in research themes 2, 3 & 4 is a key activity.

6. Accountability

Identifying organisations, networks and mechanisms that discourage and reduce actions and policies that undermine progress towards the goal.

Track 1: Global Witness. Use of global information technology, communication channels and social media to exert moral pressure on governments and corporations that are acting in ways that are against sustainability objectives. Identify key organisations e.g. Not on Our Watch, Amnesty International, Greenpeace. Support mutual learning between them (tactics and strategies) support the development of a Global Witness focussed EDGE with prioritised collective campaigns, or in the initial phases, greater awareness of each other’s activities and sharing of information.

Use networks identified in themes 1, 2 & 4 to amplify Global Witness focussed messages and campaigns in coordinated phases amongst members.

Track 2: Eco-social Law. Development of proposals to strengthen national and international law and governance towards sustainability goals. Identify key organisations proposing and supporting the development of law to protect ecological and social justice (e.g. Ecological Law and Governance Association (37)). Support them to connect with other similarly focussed organisations, and research departments. Link policy proposals to relevant EDGES that can support through communications and campaigning to encourage their adoption.



7. Information systems

1: Identifying and developing information systems that help us to: understand collective problems or challenges; develop appropriate responses and decide next steps; and celebrate progress at multiple levels of recursion.

2: identifying information systems and technologies that are being used within existing organisation's, research institutes, and EDGEs and that have potential to support new EDGEs to form.

“Information is that which changes us” *Stafford Beer (8)*

There are two different challenges within this theme.

Firstly, identifying organisations and research departments that are developing publicly accessible information systems, people friendly indicators, monitoring and reporting systems that are helping to highlight key social and environmental issues and improve decision making. Ensuring that identified organisations and networks (i.e. in theme 2,3,4) are aware of relevant information systems and can use and contribute to them e.g. the UNEP Live information system (38), with the aim of moving towards collective high quality information that can integrate scientific and other knowledge for local to global well-being, and assessment of critical geographic and thematic challenges. Move towards information systems designed to give feedback on current state compared to desired state – algedonics – at each level of recursion – to enable allocation of resources towards support for those areas. Specific topic and sector information diagnostic and knowledge bases to be covered in research theme 4.

Secondly, identify organisations, networks and initiatives that are working on technology and patterns for effective online collaboration (e.g. Tech for Good (39), Enspiral (40), Super Global (41)) and share recommendations for good practice that can be used to support EDGE development, training and improvements.

8. EDGE development

Learning how to facilitate the development of new collective institutions that can maintain these elements and their relationships – EDGEs – and operate them effectively within a range of cultural contexts.

This will be take place within themes, and as a result of mapping work in theme 2. It will include: identifying, expanding and amplifying existing EDGEs within and across civil society, eco-social businesses and local government; and, identifying opportunities to develop new EDGEs within and across civil society, eco-social businesses and local government.

A series of sustainability focussed EDGEs are already consciously working to develop emergent structures and participatory networks, including the Transition Towns Network, CASA, Global Eco-village Network, Via Campesina, Permaculture CoLab, Ecolise, Climate Action Network, RIPESS, De-Growth Movement, and many more. There is an appetite for change and innovation is already happening. TERI seeks to learn from and support this emerging work.

D. CURRENT AND EMERGING CHALLENGES AND RISKS

The EDGE project manages current and emerging challenges and risks by engaging



many more people in solving them. This is done at appropriate geographical and organisational levels by: increasing ‘governance variety’; through the research, development and promotion of local-city-bioregional scale participation platforms and EDGEs; and making high quality evidence based solutions and solution development approaches widely accessible through EDGE online resources and capacity building programmes.

EDGEs shift norms and goals towards sustainability objectives. Changing the “mindset or paradigm out of which the system — its goals, power structure, rules, its culture — arises” (42) is a powerful point of leverage in any system. If humanity is to make it through the 21st century, it will probably because it has learnt to ‘work with nature’ and each other in ways that are collaborative, peaceful and that enable everyone to meet their basic needs and human rights. Relentless, bold and ongoing articulation of these goals and their inclusion into the legal documents of organisations, quality marks and awards, and annual reporting are key elements in the EDGE strategy.

It is widely acknowledged that many of the most pressing global challenges require local action, e.g. to deliver climate change policies, farmers must adopt carbon sequestration soil management practices, housing associations must increase energy efficiency measures, etc. By increasing the capacity of CSOs to work together they can increase their positive impact in the world and provide unique assistance to communities, local and national government and UN agencies.

E. HOW TERI AND THE EDGE PROPOSAL MEETS THE (RE-STATED) TASK

To design a governance model or framework.

In a way that:

Can be implemented within the foreseeable future;

EDGEs are already forming. Emergent collaborations abound, and the desire for change is huge. An enormous amount of work is already being done. TERI seeks to recognise, value, celebrate and enhance this work.

Is acceptable to major states and the wider international community;

EDGEs already exist and nothing within TERI constitutes a threat to democratic states or the international community. TERI opens up the potential for enhanced collaboration between CSOs, nation-states and international institutions. EDGEs are complementary to governmental processes at all levels. The objective is not to replace existing nation states or international governance structures, but rather to strengthen the local to global governance capacity of CSOs and eco-social businesses.

Is acceptable to civil society;

EDGEs enhance and celebrate the work of civil society and puts it at centre stage of governance for sustainability.

Does not rely on time-consuming and controversial changes in the political system of individual states;

No changes required in political systems. Ability of TERI to form EDGEs is limited within repressive and undemocratic states, and states with minimal civil society institutions.



Involves a minimum of limitations to the sovereignty of nation-states;
No limitations of sovereignty are required. EDGEs will be better able to hold nation-states and corporations to account.

Involves only such limitations as are necessary to ensure that national decisions do not seriously harm the vital interests of inhabitants of other countries, or of humanity as a whole;
No limitations are imposed. State and corporate actions that seriously harms the interests of other countries, or of natural ecosystems will be held to account and made visible through ‘soft power’ communication, lobbying and campaign mechanisms.

Does not deal with the internal affairs of individual states;
TERI, it’s members and EDGEs will act within applicable law at all times.

Galvanizes decisive international action on global challenges;
EDGEs are co-designed with the express purpose of galvanising decisive action on pressing challenges facing humanity and our environment.

Generates solutions and the resources needed to effectively implement them.
Multiple strategies for application at multiple scales and by multiple actors will be collated, communicated, popularised and supported by TERI via online platforms, diagnostic systems, awards, education and training programmes and practical action hosted by EDGEs. Engagement with local government provides a key mechanism to resource emerging solutions.

So that:
The international community can address the most pressing threats and risks to humanity.

3. Motivation

1. CORE VALUES

TERI seeks to research, develop and facilitate the emergence of EDGEs that are explicitly guided by and acting for: the good of all humankind and by respect for the equal value of all human beings; respect for nature, natural ecosystems and the intrinsic value of all living beings – this includes setting limits to the use and exploitation of natural resources so that nature can sustain itself; and the equitable distribution of financial and other resources to enable further care of people and planet. EDGE organisational performance will be the measure of how well they are achieving ‘Earth Care, People Care, Fair Shares’, i.e. how well the values and goals are enacted in the world.

Articulation of core values and the constitutional adoption of them within all participating organisations is central to the proposal. All participating organisations will include appropriate statements in their constitution/founding documents and work to ensure that these are understood and enacted throughout their group/organisation/network. Multiple generic formats will be developed to suit different forms of organisation and to be culturally appropriate. They will be based on existing best practices.



Core values will be expressed in both ‘popular’ formats (such as permaculture’s “Earth Care, People Care, Fair Shares” ethical framework), and through the adoption and enhancement of existing international agreements (such as the Earth Charter, Biodiversity and Human Rights agreements etc) within the explicit goals of EDGEs.

The permaculture ethics as defined by Bill Mollison in the Designers Manual (43), embody both the core values and the higher level goal. In the words of Ghandi, the ‘means are the ends’(44). Care of the Earth, Care of People, limiting population and consumption to within the Earth’s carrying capacity and redistributing surpluses towards further Earth and People Care describe at a high level the key mechanisms required (care, living within nature’s limits / ecological capacity, redistribution of resources to enable further care) and gives a clear picture of the goal – a healthy world in which humans coexist harmoniously with each other and all the other species on earth. Often summed up as ‘Earth Care, People Care, Fair Shares’, the permaculture ethics are simple enough to engage anyone anywhere, as demonstrated by 40 years of popular grassroots education. They create a framework that enables ‘simple actors’ to take independent actions that collectively build a new socio-ecological system (a stigmergic process) i.e. they put the core values into action.

Central to the sociocratic approach is the explicit discussion and reference to shared values within the ‘circle of activity’ that people are engaged in. All sociocratic circles within this model would work within the wider shared ethical values as described above.

EDGEs are non-coercive and voluntary ecosystems of organisations who choose freely to work together. Agreement to participate, is an agreement to adopt and champion its core values. It is a coalition of the willing, focused on local to global well-being.

2. DECISION-MAKING CAPACITY

Civil society is already acting across the world towards sustainability goals and to alleviate environmental disasters and extreme poverty. This is through a massively varied programme of work which goes from local capacity building to international humanitarian and development work. CSO goals are already broadly aligned, although there a wide range of approaches and frequent disagreements about the most effective change-making strategies. Nonetheless, CSO’s have demonstrated a significant capacity to work together towards core values and shared goals (e.g. SDGs) at local to global levels.

EDGEs move from a ‘command and control’ top-down organisational approach to decision making, typical of nation-states and corporations, to a ‘cohesion and autonomy’ approach which maps opportunities to achieve shared goals through distinct individual and collaborative action by different players that are able to retain their unique identity and share their unique capabilities within a broader alliance and process.

Specifically, EDGEs will develop and use agreed transparent frameworks for decision-making, initially proposed to be based on sociocratic lines. Ongoing training and a growing group culture will allow for more efficient decision-making.



Recursive organisation with Linked Open Data and shared information systems, allows distributed responsibility and decision-making, and increases the 'redundancy of potential command(20)' – the power to act is bestowed by having the information to act.

EDGEs seek to massively increase effective decision-making capacity towards personal, social, economic and environmental sustainability within the wider population. To support ecological and ethical decision-making, existing training programmes that support skills development in these areas will be extended and made widely accessible via schools, colleges, grassroots education, and online with Open Badge global certification.

TERI will work closely with and learn from initiatives that are: enhancing participation and decision-making capacity at city/bioregional level; that are piloting virtual and actual operations rooms/environments for decision-making that bring information together to enhance decision-making capacity; and developing knowledge bases, solutions libraries, and expert diagnostic systems that allow household, group, community and company action towards sustainability.

Finally, because TERI is working to assemble a 'coalition of the willing' – organisations that choose freely to participate, decision-making is not held back by vested corporate or nation-state agendas that share different goals. The goal is already agreed, which frees decision-making to concentrate on identifying effective strategies for its implementation.

3. EFFECTIVENESS

TERI and the resultant EDGEs will be capable of handling global challenges and risks and can ensure a high level of implementation of its decisions. There are four main arguments for this.

Firstly, the majority of global challenges and risks require local action and behaviour change. EDGE supports effective local action and decision-making in two ways. Firstly TERI is an action research process that seeks to bring together the many different to global groups, organisations and networks that are already delivering practical action towards sustainability into new EDGEs that are more powerful and sophisticated than the individual organisations can be. A significant proportion of work on SDGs and humanitarian assistance is already conducted by CSOs. Enhancing the capacity of CSOs to work together within EDGEs is likely to increase their overall capabilities and reach, especially when EDGEs link at multiple levels of recursion.

Secondly by collating and developing critical resources to enable action for sustainability – e.g. training, solutions libraries, awards, action learning and knowledge transfer across regions – TERI and the resultant EDGEs will increase the capacity of many more individuals, groups and organisations to make decisions and take action on local to global challenges. Secondly, a more coherent and inter-connected local to global civil society ecosystem will be better able to work in partnership with local government, national governments and international institutions such as the United Nations. An example of this is the Disaster Relief Committee which brings together 13 UK aid agencies and has raised £1.4 Billion for 69 appeals. They are in direct contact with the Department



for International Development and often have their appeals matched pound for pound. Their motto is ‘together we’re stronger’ and the 13 agencies now work closely together to use their combined capabilities in ways that best match the needs of any specific disaster (45).

Thirdly, CSOs and EDGEs can (and already do) hold government and international institutions to account, and in this process, work to ensure that commitments that have been made, become actions that are implemented. EDGEs cannot stop nation-states going to war or conducting programmes of ethnic cleansing or withdrawing from key international agreements, nor can they force governments to sign up to international treaties and fulfil their SDG commitments. But then neither can nation-states or the UN at this point. The building of soft power through CSO eco-social business collaboration within ethically aligned EDGEs has significant potential to shift the goals and public consensus in ways that governments are more likely to respond to, especially when EDGEs and responsible governments work together.

Finally, from an organisational process perspective, TERI will trial sociocratic processes within itself and resultant EDGEs. This includes mechanisms for role and action reviews and will be complemented by more advanced monitoring processes that show progress towards agreed goals and actions.

4. RESOURCES AND FINANCING

The EDGEs that emerge from TERI’s action research, are designed to: engage the resourcefulness and creativity of billions of people, as householders, community groups, city officials and planners, eco-social businesses, and CSOs; make better use of existing resources and resource flows within CSOs and eco-social businesses; and develop new resource flows through linking eco-social enterprises that tithe small percentage of profits to local EDGEs.

New EDGEs will support CSOs to design and collaborate around transformational agendas and access new donor funds. There is a shift in donor funding towards collective funding (e.g. The Agroecology Fund (36)) and open fund evaluation (360° initiative (46)), and making substantial funds available for collaborative projects (ie Macarthur \$100 million challenge (47)). Increasing numbers of donors are looking for transformational initiatives.

EDGEs at local level will build bio-regional wealth and well-being through enhanced participatory governance and investment from international finance institutions (e.g. insurance and ethical investment industry), using innovative mechanisms such as those being developed by The Ecological Sequestration Trust’s resilience.io platform (25), as well as through the adoption of the multiple strategies developed by cooperatives, the solidarity economy and community wealth building networks.

EDGEs will enable high-quality decision-making at household, community, city and bioregional levels in particular, through the provision of high-quality knowledge bases and solutions libraries, curated and facilitated to be culturally and climatically relevant and accessible. Improved decision-making and project design will enable better use of resources at every spatial level, increasing wealth and reducing poverty and systemic challenges. In particular, widespread adoption of permaculture design approaches will enable a transition to more



productive and resilient landscapes, which can reduce global challenges and increase farmer and community well-being.

Each node in an EDGE brings its own resources into the process, i.e. the process uses the existing resources (human, financial, physical, social, intellectual, etc) that are already available to participating organisations and networks, and draws in new resources via project proposals, the development of new eco-social enterprises and commons and from active engagement with the United Nations, Commonwealth, European Union, research institutes, other international institutions, financial investors, governments and businesses where this does not compromise the goals and integrity of the EDGE project.

The process of financing The EDGE Research Initiative (TERI) is more problematic. It will initially depend on a combination of significant donor support, collaboration with innovative researchers, engagement of significant emerging EDGES, a creative approach to making this challenge more widely known and developing mechanisms to collate and undertake the action research in collaborative ways. Ultimately, a successful EDGE Research Initiative would be an incredibly cost-effective approach to delivering global peace and sustainability, and be considerably cheaper – approx. 13% – than the cost of a single modern jet fighter (e.g. Lockheed Martin F-22 Raptor at US\$377million (48))

5. TRUST AND INSIGHT

TERI will develop best practice guidelines for EDGE accountability during its three action research phases, and ensure that the virtual representation of the emerging network of local to global connected EDGES enables a clear understanding of thematic and geographic network relationships, current activities and opportunities for engagement. The process is underpinned by the use of Linked Open Data and shared information systems, transparent sociocratic structuring of teams and working groups, open accounting and reporting of financial and project information.

Action research into creating high-quality online ‘environments for decision-making’ will be applied within EDGE designs and TERI to ensure that participants can understand and engage with current actions, plans, situations and resources.

Open Badges will provide free access to the critical skills needed to engage with EDGE online platforms, especially decision-making approaches (e.g. sociocracy), with peer to peer training, videos and support for individual and group learning.

The participatory nature of EDGES ensures that people can engage at multiple levels, either through work within a member organisation or as part of one of the many ‘meta-systemic’ teams (eg a city level EDGE using a resilience.io platform). Being part of the process and developing relationships with other people is ultimately what will build trust and insight.

6. FLEXIBILITY

TERI seeks to learn from ecological/living systems theories such as symbiogenesis, emergence and stigmergy. Change is designed into its fundamental processes, exactly because this is a key characteristic of highly effective emergent processes



– “self-organisation and emergence acquire their full potential in dynamical systems, that is, systems that change over time.” (3)

Consequently, TERI is designed as a phased action research project. Its basis is that of continuous adaptive learning. TERI adopts sociocracy which stresses the importance of reviewing of its structure, roles and areas of activity. TERI is open-source and ‘Creative Commons share-alike’, inviting revisions, upgrades, re-use, re-imagining and local adaptation.

TERI has a focus on key functions (research themes), with active trialling and experimentation on multiple approaches to delivering that function (e.g. TEST platform / Bioregional Office / Integrated Local Development model, Participatory Rural Appraisal, Holistic Management Goal Setting all used and tested to see how best to create effective bioregional planning and action). Some will be more appropriate in certain contexts. Functions are universal but can be delivered flexibly using culturally appropriate mechanisms. It’s not a one size fits all approach, but a deliberately and explicitly adaptive process that uses what works best in different situations. TERI uses and values diversity.

7. PROTECTION AGAINST THE ABUSE OF POWER

The greatest abuse of power is currently initiated and delivered by Governments and Corporations. This is not surprising since they are the most powerful organisations, have huge resources and long-term historical links to powerful interests that have relentlessly pursued personal power and wealth at the expense of those around them.

Whilst some CSOs are subject to corruption and bureaucratic self-indulgence, there is no historical record of a CSO starting a war, committing genocide, systematically destroying natural systems or subjecting other humans to slavery, torture or cruel and inhumane treatment. These acts are commonplace for Governments and Corporations throughout history.

With this context, TERI has two responses:

Firstly, to research, design and facilitate the emergence of powerful EDGEs that can hold government and corporations to account through data sharing, transparency initiatives and popular communication campaigns that build public pressure for change.

Secondly, to design mechanisms that ensure that EDGEs are themselves fully held to account, work within the law of nation-states that they operate in, and uphold the core values and goals that they commit to as part of their voluntary association with the EDGE that they are working within.

8. ACCOUNTABILITY

TERI adopts a sociocratic approach, which it is anticipated would become more widely adopted by new EDGEs through the three action learning phases. In sociocracy, accountability is ensured through a number of mechanisms, including setting review dates for actions and roles to ensure that people/organisations report on progress or challenges faced, and are held accountable for their actions (or lack of). Review dates are also set for policies to ensure that the impact,



outcomes and consequences of those policies are measured and understood and can be modified to remove any negative impact.

Double linking between circles of activity via representation by members of higher and lower level circles ensures that each team operates within its stated domain of activity and towards the agreed aims. Online open reporting systems will also be used to provide real-time information where this is appropriate and periodic reporting by TERI teams.

Accountability is one of one of the key TERI research themes, and participating actors will be able to draw from the shared expertise and practical approaches to developing internal and external accountability mechanisms within participating organisations and EDGEs.

It is anticipated that a specific accountability focussed EDGE would form through this process at the international level of recursion that would bring together key current players, share learning and data, support shared public campaigns and be better able to hold nation-states and corporations to account, via increased lobbying and public pressure generated by the combined ecosystem of international and continental EDGEs.



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